

INECE

International Network for Environmental Compliance and Enforcement

8th International Conference on Environmental Compliance and Enforcement

5–11 April 2008
Cape Town, South Africa

Proceedings

8th International Conference on Environmental Compliance and Enforcement

5–11 April 2008
Cape Town, South Africa

Conference Sponsors:

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United States Embassy, South Africa
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City of Cape Town
South Africa National Parks
Table Mountain National Park
Kirstenbosch National Botanical Garden

PROJECT MANAGEMENT AND CONFERENCE SUPPORT

Durwood Zaelke
Director

INECE Secretariat

2300 Wisconsin Avenue N.W., Suite 300B

Washington, DC 20007

phone: +1.202.338.1300

fax: +1.202.338.1810

email: zaelke@inece.org

Davis Jones
U.S. Environmental Protection
Agency
jones.davis@epa.gov

Henk Ruessink
Netherlands Ministry of Housing,
Spatial Planning and the Environment
henk.ruessink@minvrom.nl

Tim Whitehouse
INECE Secretariat
twhitehouse@inece.org

Alexandra Viets
INECE Secretariat
aviets@inece.org

Jo Gerardu
INECE Secretariat
gerardu@inece.org

Mohamed Rida Derder
INECE Secretariat
ridaderder@msn.com

Thomas Higdon
INECE Secretariat
higdon.thomas@gmail.com

CONSULTANTS

Ken Markowitz
Akin Gump Strauss Hauer & Feld
LLP
kmarkowitz@akingump.com

Marcy Markowitz
Chief Executive Officer
Earthpace, LLC
mjm@earthpace.com

Meredith Reeves
Senior Project Manager
Earthpace, LLC
mreeves@earthpace.com

Dimitar Koparov
Database Administrator
Earthpace, LLC
dkoparov@earthpace.com

Michael Frizzell
INECE Secretariat
inece@inece.org

Sheryl Ozinsky
Local Event Planning Consultant
sherylozinsky@iafrica.com

8TH INTERNATIONAL CONFERENCE ON ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT

CONFERENCE PROCEEDINGS

5-11 April 2008
Cape Town, South Africa

Editors:

Mr. Jo Gerardu, INECE Secretariat
Mr. Davis Jones, U.S. Environmental Protection Agency
Ms. Meredith Reeves, Earthpace LLC
Mr. Tim Whitehouse, INECE Secretariat
Mr. Durwood Zaelke, INECE Secretariat

Executive Planning Committee:

| | |
|--|--|
| Justice Antonio Herman Benjamin (Co-chair), High Court of Brazil | Dr. Bakary Kante, United Nations Environment Programme |
| Ms. Angela Bularga, Regulatory Environment Programme Implementation Network | Dr. Paul Leinster, Environment Agency of England and Wales |
| Dr. Bill Clark, Nature and Natural Parks Protection Authority, Israel | Mrs. Catherine McCabe (Co-chair), United States Environmental Protection Agency |
| Mr. Paul Cuillerier, Environment Canada | Dr. Ladislav Miko, European Commission |
| Mr. Mihail Dimovski, Environmental Compliance and Enforcement Network for Accession | Mr. Akio Morishima, Institute for Global Environmental Strategies (IGES), Japan |
| Dr. Hilda Farkas, European Union Network for the Implementation and Enforcement of Environmental Law | Mr. Antonio Oposa, Jr., The Philippines Secretary Romina Picolotti, Ministry of Environment, Argentina |
| Dr. Brendan Gillespie, Organisation for Economic Co-operation and Development | Justice Adel Omar Sherif, Supreme Constitutional Court of Egypt |
| Dr. Marco Gonzalez Pastora, Central American Commission for Environment and Development | Mr. Kunihiro Shimada, Ministry of Environment, Japan |
| Mr. Markku Hietamäki, Ministry of Environment, Finland | Dr. Supat Wangwongwatana, Asian Environmental Compliance and Enforcement Network |
| Mr. Donald Kaniaru, Kenya | Mr. Gerard Wolters (Co-chair), Netherlands Ministry of Housing, Spatial Planning and the Environment |
| | Mr. Durwood Zaelke (Director), INECE Secretariat |

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7 Cornwall Crescent, Notting Hill, London W11 1PH
Tel: +44 (0)20 7792 0075 Fax: +44 (0)20 7792 1055
email: info@cameronmay.com
Website: <http://www.cameronmay.com>

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Muratie Wine Estate

PREFACE

These proceedings give an overview of the breadth of issues discussed at the International Network for Environmental Compliance and Enforcement's Eighth Conference held in Cape Town, South Africa, from 5-11 April 2008. The theme of this conference was *From Concepts to Action: Successful Strategies for Environmental Compliance and Enforcement*.

This volume contains the *Conference Statement*, the main speeches and reports from the panels and workshops, a summary of the main outcomes of the conference, the papers submitted, and a summary of the participant evaluations of the conference. This body of work helps to underscore the importance of the rule of law, good governance and sustainable development, as well as the urgent need for humankind to give the highest priority to protecting environmental resources and pursuing sustainable development.

The Eighth International Conference brought together people from national, state, and local government agencies, international and non-governmental organizations, and the private sector. Participants came from all parts of the world, from both developing and developed countries. The conference served to affirm the benefits of environmental compliance and enforcement, to highlight the progress made by the network, and to press for further actions to improve environmental compliance and enforcement everywhere.

On behalf of the Executive Planning Committee and the Secretariat staff, we look forward to your continued and productive use of INECE's conference materials. For additional information about the conference, including the agenda, the video of Professor Wangari Maathai's remarks, conference presentations, and background papers, please visit the conference home page at <http://www.INECE.org/conference/8/>.

Comments and suggestions may be sent to the INECE Secretariat by email at inece@inece.org, by fax at 1-202-338-1810, or by mail to 2300 Wisconsin Avenue N.W., Suite 300B, Washington, DC 20007.

The Editors

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1. REPORTS FROM THE CONFERENCE

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CONFERENCE OUTCOMES

CAPE TOWN STATEMENT

Co-Chair and Executive Planning Committee Final Conference Statement
8th International Conference for Environmental Compliance and Enforcement
Cape Town, South Africa
5-11 April 2008

INTRODUCTION

1. At this 8th International Conference of the International Network for Environmental Compliance and Enforcement (INECE), 177 participants from more than 60 developing and developed countries gathered in Cape Town, South Africa, to affirm the benefits of environmental compliance and enforcement, to highlight progress made by the network, and to press for further actions to improve compliance and enforcement around the world.
2. INECE is the only global network that develops, promotes, and implements practical activities to strengthen environmental compliance and enforcement at all levels of governance – local, national, regional, and international. The network links environmental compliance and enforcement efforts of more than 4,000 practitioners – inspectors, prosecutors, regulators, parliamentarians, judges, and representatives from international and non-governmental organizations and the private sector – through capacity building, awareness raising, and enforcement cooperation.

FROM CONCEPTS TO ACTION: SUCCESSFUL STRATEGIES FOR ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT

3. The INECE Co-Chairs and Executive Planning Committee affirm their commitment and call on inspectors, regulators, legislators, judges, networks, negotiators, the media, businesses, prosecutors, scientists, engineers, financial experts, international organizations, and non-governmental organizations to realize the following actions that will be integrated into a post-conference program of action:
 - a. *Communicate* that environmental compliance and enforcement programs create value across all areas of society: public value through strengthened rule of law, protected ecosystem goods and services, and improved human health; and private value through increased investor confidence, reduced

business risks, stimulated innovation, increased competitiveness, and new jobs and markets.

- b. *Encourage* the development and growth of environmental compliance and enforcement networks in the Sub-Saharan region of Africa.
- c. *Promote* transnational and intergovernmental cooperation for the management and protection of newly established transboundary conservation parks in Sub-Saharan Africa.
- d. *Enhance* judicial sector competency and build civil society and public capacity to adjudicate environmental disputes and enforce local and national environmental laws in tribunals, courts, and arbitration panels, particularly those in Sub-Saharan Africa.
- e. *Build* an informal community of practitioners that strategically manages environmental compliance and enforcement programs.
- f. *Encourage* the use of performance measurement, including indicators of effective environmental compliance and enforcement.
- g. *Enhance* national capacity for detecting violations, emphasizing practical tools, including technological developments, to strengthen compliance and enforcement programs.
- h. *Improve* national compliance with, and enforcement of, laws protecting biodiversity and habitat, and develop further tools to enhance international compliance with multilateral environmental agreements.
- i. *Support* the further development of networks, such as the Network for Environmental Compliance Training Professionals and the Seaport Network to build capacity and curtail the illegal movement of goods, including hazardous waste, chemicals, ozone depleting substances, and flora and fauna.
- j. *Develop* recommendations for compliance and enforcement strategies and mechanisms for addressing climate change within existing and future climate regimes.
- k. *Promote* compliance with measures that restrict emissions that contribute to climate change, including greenhouse gases, ozone depleting substances, and black carbon (or soot), and that protect carbon sinks and reservoirs, including forests and soils, with emphasis on measures that maximize co-benefits, such as improvements in public health and ecosystem services.

- l. Apply* environmental compliance and enforcement tools to protect ecosystems and their services as a basis for climate change adaptation.

CONCLUSION

4. Environmental protection is nothing less than protecting the very sources of life – land, air, water, and ecosystems. These also form the basis of all economic activities. As such, these environmental resources must be given the highest priority in the global agenda of humankind. The laws that conserve, protect, and restore these elements of life must be implemented and their compliance assured. The rule of law is the basis for good governance and sustainable development.

ACKNOWLEDGMENTS

5. The INECE Co-Chairs and the Executive Planning Committee gratefully acknowledge the assistance and support of the South African Department of Environmental Affairs and Tourism, South African National Parks, and the City of Cape Town. We deeply appreciate the generous hospitality provided by our South African hosts and the message of inspiration and resolve provided by Nobel Peace Prize Laureate Wangari Maathai.
6. We also thank our sponsors and partner organizations, including the U.S. Environmental Protection Agency; the Netherlands Ministry of Housing, Spatial Planning and the Environment; the United Nations Environment Programme; the Environment Agency of England and Wales; Environment Canada; Finland's Ministry of Foreign Affairs; the International Fund for Animal Welfare; the British High Commission; the Danish International Development Agency; the U.S. Department of State; the European Commission; the World Bank; the Organisation for Economic Co-operation and Development; the Natural Resources Defense Council – China; and the Asian Environmental Compliance and Enforcement Network, as well as the embassies of the United States and The Netherlands.

SUPPLEMENTAL ANNEXES

7. Leaders of the various substantive tracks at the Cape Town conference are invited to work with the INECE Secretariat to prepare supplemental annexes corresponding to the strategies described above.

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RECOMMENDATIONS FOR INECE

FROM THE 8TH INTERNATIONAL CONFERENCE ON ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT, CAPE TOWN, SOUTH AFRICA

During the Conference's panels, interactive workshops, and discussions, participants urged INECE to support projects that demonstrate how strengthening compliance programs can create value; both public value, in the form of better protection of public health and ecosystem services, and private value, in the form of improved competitiveness of firms and accelerated technological innovation. Underlying Conference discussions was a renewed urgency about the need to raise awareness of the importance of environmental compliance and enforcement; strengthen capacity to implement and enforce environmental requirements across the regulatory cycle; and to develop and support networks for enforcement cooperation.

Conference participants underscored the need for INECE to continue to support the development and growth of regional compliance and enforcement networks. Such networks are critical for leveraging best practices and expertise, building capacity, and responding to transboundary challenges. The 8th Conference helped advance these efforts with the formation of the Sub-Saharan African Network for Environmental Compliance and Enforcement. This informal regional network was founded at the Conference by environmental compliance and enforcement officials and experts from Botswana, Cameroon, Ghana, Kenya, Nigeria, South Africa, Tanzania, and Uganda. The objective of the network is to enhance environmental compliance and enforcement in the countries of Sub-Saharan Africa by sharing information and experience.

Conference participants recommended that INECE promote successful environmental compliance and enforcement practices relevant to climate mitigation and adaptation and to build capacity for assuring compliance with national environmental requirements that have climate co-benefits – such as protecting the world's forests, limiting illegal trade in ozone depleting substances, and controlling emissions of carbon dioxide and black carbon particulates. Participants encouraged INECE to facilitate expert groups to help ensure the integrity of existing and emerging greenhouse gas market platforms and to evaluate specific language on compliance mechanisms that could be considered in the international climate treaty negotiation process.

Participants provided valuable input into ongoing thematic projects. Recommendations addressed issues associated with the development of a Seaport Environmental Security Network; INECE's training program for Customs and Environmental Officials; its work on supporting country pilot projects to design and implement environmental compliance and enforcement indicators; and on the content of the *Principals of Environmental Compliance and Enforcement Handbook*

and Statement. Participants also recommended that INECE continue to develop its new International Network for Environmental Compliance Training Professionals, which will enable information sharing and exchange of training best practices and materials.

Participants contributed important comments regarding the need for INECE to help build support for the enforcement of laws to protect biodiversity and ecosystems. Because a number of organizations are already working in the areas of forest protection, illegal logging, and combating the smuggling of flora and fauna, participants suggested that INECE could work in partnership with these organizations to highlight the need for countries around the world to redouble their efforts to combat organized crime's growing influence in habitat and species destruction.

To support the implementation of these and other recommendations that can be found throughout these Proceedings, participants recommended that INECE refine and expand the capabilities of its web site to better support communication and collaboration among participants, facilitate regional and topical networking, provide more direct access to training materials and other resources, and introduce films and other new media content to users.

The Conference concluded with an open session for participants to express any ideas related to the Conference or to the activities of INECE. Participants raised a number of important issues and ideas, including suggestions on improving communications with other environmental organizations, expanding efforts to include students and youth groups in INECE activities, promoting greater involvement of the private sector, and increasing the visibility of INECE activities.

SUMMARY OF THE INECE REGIONAL CONFERENCE FOR SUB-SAHARAN AFRICA

On 5 April 2008, INECE hosted a Regional Conference for compliance professionals from the sub-Saharan Africa region, in cooperation with South Africa's Department of Environmental Affairs and Tourism. Over 85 environmental compliance and enforcement officials and experts from Botswana, Cameroon, Ghana, Kenya, Nigeria, South Africa, Tanzania, and Uganda, along with invited international experts, engaged in strategic discussions on advancing the implementation of environmental compliance and enforcement in the region.

The Regional Conference focused on the issue of pollution control and waste management. During session one, Melissa Fourie and Sabelo Malaza of South Africa's Department of Environmental Affairs and Tourism (DEAT) discussed proactive compliance monitoring and enforcement of pollution and waste legislation and permits. In session two, Stephen Kisamo, Lusaka Agreement Task Force; Jacques du Toit, Gauteng Department of Agriculture Conservation and Environment; and Elizabeth Mrema of the United Nations Environment Programme shared their experiences with designing and implementing strategies to facilitate cross-border wildlife cooperation. Session three panelists -- Robert Heiss, U.S. Environmental Protection Agency; Nancy Isarin, AMBIENDURA; and Jenny Van Houten, the Netherlands Ministry of Housing, Spatial Planning and the Environment -- explored ways that enforcement cooperation can help limit illegal transnational movements of hazardous waste through ports.

Participants at the Regional Conference considered the types of tools necessary for strengthening environmental enforcement capacity in the region, including the benefits of a regional enforcement network. Guest speakers, including Angela Bularga, Organisation for Economic Co-operation and Development; Elisea Gozun, Asian Environmental Compliance and Enforcement Network; Nawzat Ali, Legal Adviser to the Minister of Environment, Jordan; and Mihail Dimovski, Environmental Compliance and Enforcement Network for Accession, shared their experience in identifying regional priorities across environmental compliance and enforcement programs.

In the final session of the Regional Conference, participants broke into three groups to discuss accomplishments and common priorities among enforcement programs in Sub-Saharan Africa and to explore opportunities for collaboration. Areas of commonality identified by participants included illegal trade in animals and animal products (e.g., abalone, elephant tusks, etc.); waste management; industrial pollution (air, water, and land); inadequate capacity to manage porous borders; inadequate inter-agency collaboration among police, customs, natural resources departments, judiciary, and other enforcement officials; protecting water bodies; and managing the impacts of the petroleum and mining sectors on the environment.

Participants strongly supported forming an informal regional network to share information and ideas. They identified the positive impacts of such a network to include: facilitating enforcement cooperation; supporting legislative and policy development; enabling information exchanges, including capacity building materials and progress reports on compliance and enforcement; motivating the adoption of good practices; and harmonizing environmental standards in the region. Participants emphasized the need to contact organizations already doing important environmental work in the region in order to explore potential partnering opportunities and the possibility of leveraging resources. Examples of such organizations include the Southern African Development Community, whose work on environment has included coordination of environmental norms; the Basel Secretariat Regional Centres; the Lusaka Agreement Task Force; the UNEP Regional Seas Program; and the Southern African Customs Union.

Following the Regional Conference, the participants reconvened on 10 April 2008 and agreed to establish the Sub-Saharan African Network for Environmental Compliance and Enforcement.

Participants agreed that the objective of this network would be to enhance environmental compliance and enforcement in Sub-Saharan Africa by sharing information and experience. Participants agreed that the network should be divided into four subregions, each of which should have a subregional focal point:

| Subregion | Subregional Focal Point |
|------------------|--------------------------------|
| Eastern Africa | Kenya |
| Southern Africa | South Africa |
| Central Africa | Cameroon |
| West Africa | Ghana |

The countries that have designated national focal points include: Kenya (Mr. Benjamin Langwen, NEMA), Uganda (Dr. Henry Aryamanya Mugisha, NEMA), Tanzania (Eng. Bonaventure Baya, NEMC), South Africa (Sabelo Malaza, Director: Compliance Monitoring, DEAT), Botswana (Desire Rubadiri), Ghana (Mr. Jonathan Allotey, EPA), Nigeria (Dr. Ngeri Benebo), and Cameroon (Horline Njike, Last Great Ape).

Initial activities of the network will include identifying key documents to share with other members (training materials, policies, legislation, information on technology, inspection report formats and other templates, case studies); contacting focal points in countries not represented at Conference and inviting them to join the network; and, facilitating information exchange via the INECE web site. To register to participate in the network, please send your name, organization, contact information, and email address to inece@inece.org.

SPEECHES AND REMARKS

WELCOMING REMARKS

HON. MARTHINUS VAN SCHALKWYK¹

¹ Minister of Environmental Affairs and Tourism, South Africa

INTRODUCTION

I am honoured to welcome you to this 8th International Conference of the International Network for Environmental Compliance and Enforcement, and to open this conference. On behalf of the South African government and our department, the Department of Environmental Affairs and Tourism, it is also my pleasure to welcome you to our beautiful country.

Ladies and gentlemen, in 2008 the regulation of our environment has to be a matter of international importance and international cooperation. For some time we have lived in a world where our impacts on the environment are so significant that they are felt across international borders. Climate change is an obvious example of the influence that we can have on the health and well-being of people on the other side of the world, without their consent or acceptance of the risks imposed.

GLOBAL PERSPECTIVE

Today we live and operate in a global market where every imaginable product is traded internationally. In addition, major new and rapidly growing markets have dramatically increased the demand for natural resource-based commodities.

Inevitably, some of these products traded across the globe include environmental contraband - both threatened and endangered species and products as well as hazardous materials and waste. And the illegal trade in environmental contraband, which is more often than not committed by highly organised crime networks, is extremely profitable. We know that crime syndicates make as much as US\$30 billion from the illegal dumping of hazardous waste, the smuggling of hazardous materials, and the abuse of scarce natural resources.

With the explosion of the internet, international trade in environmental contraband has rapidly become very easy for traders, and has created a daunting new challenge for compliance and enforcement. A recent study of the International Fund for Animal Welfare (IFAW), in a one-week survey of the online trading

website eBay, found over 9,000 wild animal products and specimens and live wild animals for sale, predominantly from species protected by law.

Strong international environmental agreements like the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), coupled with adequate domestic legislation to implement CITES, constitute only the first step. Just like the illegal trade in drugs and weapons, this kind of criminal activity cannot be countered without comprehensive and committed international cooperation and information-sharing. Our colleagues from Interpol play a key role in facilitating this exchange.

Ladies and gentlemen, as regulation of the transport and disposal of hazardous waste and materials are tightened all over the world; the illegal trade in such materials has also taken off, often with tragic consequences. The fatal September 2006 incident in Abidjan in Ivory Coast where toxic waste was dumped by a local contractor working for an international commodities company is just one example of what can go wrong when local compliance and enforcement is not strong enough to stand up to the pressure of international criminal activity.

However, the problem does not only lie with countries where the waste ends up. Indications are that far stricter control is required of the potential exporters of waste. A 2005 report by the European Network for the Implementation and Enforcement of Environmental Law (IMPEL) based on a joint enforcement operation in 17 European seaports found that 48% of waste shipments were illegal under EU regulations.

I am therefore of the view that far more attention needs to be given to compliance and enforcement of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. This is particularly crucial in the context of the 20 to 50 million metric tonnes of electronic waste generated worldwide every year.

International cooperation on environmental compliance and enforcement can also assist in raising the bar in countries where environmental crime does not receive the attention it deserves.

It is for these reasons that I am inspired to see that the International Network for Environmental Compliance and Enforcement is a strong and vibrant network of compliance and enforcement specialists from every corner of the world. If this means that all national governments represented here today are prioritising the implementation of environmental compliance and enforcement programmes, both domestically and in terms of their international obligations, we have surely come a long way towards effective international cooperation on environmental compliance and enforcement.

THE SOUTH AFRICAN PATH

Ladies and gentlemen, in 1998 South Africa passed its framework environmental legislation, the National Environmental Management Act. Although this Act entrenched important principles for sustainable development, environmental management, and protection, it did not provide for comprehensive powers to enforce this legislation. Whilst enforcement of environmental legislation was carried out, particularly in the context of our wildlife and marine resources, there was no coordinated, central network of Inspectors with similar training and powers. Therefore in May 2005, we brought into effect legislation that established the Environmental Management Inspectorate, commonly known here in South Africa as the “Green Scorpions.”

Our Inspectors have worked hard to change the common perception in South Africa that government lacks the will to enforce our environmental legislation. Today, there are 866 Inspectors in 15 institutions across our country.

GREEN SCORPIONS’ ACHIEVEMENTS

I have just been given results from our second annual National Environmental Enforcement Report. The report indicates how dramatically the reporting of illegal activity, the enforcement of environmental legislation, and actual enforcement results have increased over the past 2 years. Let me share with you a couple of highlights from this report.

- Inspectors were investigating more than 1,756 criminal dockets or case files in 2007-8;
- Reported arrests by the Green Scorpions have increased from 898 in 2006-7 to more than 2,612 in 2007-8;
- Reported convictions of environmental criminals have increased from 134 in 2006-7 to 746 in 2007-8.

Unquestionably we still need more Inspectors, and better trained and better equipped Inspectors. In addition to this, Inspectors will be the first to acknowledge that formal partnerships with other enforcement agencies are key to successful enforcement.

I remain concerned to see the discrepancy between the number of criminal dockets and arrests, and the actual number of convictions on environmental criminals. This indicates an urgent need for more effective investigations and for increased support from our National Prosecuting Authority for the prosecution of environmental crime.

Pursuant to some months of negotiation, our Department is on the verge of signing a formal Standard Operating Procedure with the South African Police Services. This Procedure will allow Environmental Management Inspectors to carry their own criminal dockets or case files, and to hand those over for prosecution to the National Prosecuting Authority. Although this will add to our Inspectors' responsibilities, it will also allow for the more effective and efficient prosecution of environmental crime.

CONCLUSION

Co-Chairs of the INECE Secretariat, Honourable Ministers, delegates, in 2008 the environment - both here in South Africa and internationally - faces unprecedented threats and challenges. These include increased urbanization, increased demand for rapid development and economic growth, all of which continue to contribute to the largest environmental threat of all - climate change. A global commitment to compliance and enforcement will be crucial for the successful implementation of international agreements on combating climate change.

There can be no question that, without enforcement of compliance, environmental legislation is worth no more than the paper on which it's written. I wish you a productive conference that will improve our understanding of effective compliance and enforcement. I also wish you a rewarding stay here in our beautiful Mother City.

I now declare this 8th International Conference of the International Network of Environmental Compliance and Enforcement formally open. Thank you.

OPENING REMARKS

GERARD WOLTERS¹

¹ Inspector General for International Enforcement Cooperation, Netherlands Ministry of Housing, Spatial Planning and the Environment (VROM)

DAY-CHAIR'S CONFERENCE OPENING STATEMENT

WELCOME

Dear Minister, distinguished guests, honored speakers and panelists, ladies and gentlemen, dear friends!

On behalf of my co-chairs, Deputy Assistant Administrator of the United States Environmental Protection Agency - Ms. Catherine McCabe – and Justice of the High Court of Brazil - Antonio Benjamin - and all the members of the Executive Planning Committee of the International Network for Environmental Compliance and Enforcement - it is my privilege to welcome you to the 8th INECE International Conference for Environmental Compliance and Enforcement.

It is important that we have this conference.

It is important that so many enforcement professionals from different countries participate.

It is important that we have eminent speakers in panels and workshops, and that we have inspiring discussions and conversations.

The most important, however, is that this conference leads to concrete new activities and actions. Concrete new activities that help us all to improve our day-to-day compliance and enforcement work – in our countries, in our region and on a global scale.

Therefore the overarching theme of this conference is: Linking Concepts to Action: Successful Strategies for Environmental Compliance and Enforcement

THANKS TO OUR HOSTS

As we open this wonderful conference, I would like to express our deep gratitude to the government of South Africa for hosting this conference. South Africa is widely recognized not only as a wonderful tourist and conference destination, but also as a warm and inviting country with a commitment to the protection of the environment.

We are especially grateful for the support of the Department of Environmental Affairs and Tourism and to the municipality of Cape Town in many organizational and logistical issues.

A RENEWED SENSE OF URGENCY

We come to this conference with a renewed sense of urgency in our work. It is now evident that how humans interact with the environment will be one of the critical issues of the 21st century.

Most indicators of global environmental quality continue to decline, and new threats have emerged. Today's world faces increased vulnerability to climate change, increased pollution, and the loss of natural resources. These hazards threaten to undermine the many advances by human society in recent decades and the rich values that have been present for many centuries.

Poor environmental management and criminal actors continue to cause a loss of biodiversity, reduction in natural capital, and the worldwide proliferation of waste. Air and water pollution persist to cause significant health risks, particularly to many people in the developing world today.

Corruption, poverty, and mass migration to the cities make these problems even more complex ones. Global warming, unless we take effective action, could cause irreversible and possibly catastrophic environmental consequences as well as international instabilities and conflicts.

Helping to drive many of these trends is the big demand of materials and energy in many developed countries and growing economies. This adds to the depletion of natural resources and the international spreading of pollution. The environmental impact of these phenomena is sometimes not well understood by consumers because they occur far from their community. On the other hand, people elsewhere do experience the negative consequences of a deteriorating environmental quality and personal health.

ABOUT INECE

Given these disturbing trends, what can this conference achieve? How can we work to address these problems, which in many ways seem so hard to solve? Part of the answer is found in the core mission of INECE.

Eighteen years ago, approximately 20 countries attended the first International Conference for Environmental Compliance and Enforcement in Utrecht, The Netherlands. Since that beginning, INECE's efforts have grown in size, stature, and importance.

INECE is now a global network of more than 4,000 compliance and enforcement professionals from more than 140 countries who are working in governmental organizations, the judiciary, international institutions, NGOs, and academia.

What unites the INECE community is our shared commitment to the rule of law and sustainable development. Our goals are to:

- (1) raise awareness of the importance of compliance and enforcement;
- (2) develop networks for enforcement cooperation; and
- (3) strengthen capacity to implement and enforce environmental requirements.

Weak compliance with and enforcement of environmental laws undermines the rule of law and sustainable development. These failures highlight the need for societies to continually improve the management of their environment, including strong efforts to assure compliance with environmental laws.

INECE is about global networking. But global networking is only possible in the presence of regional and domestic networks. Therefore INECE advocates and stimulates the development of environmental compliance and enforcement networks at different levels. Networks are instruments to join and multiply forces.

THE RULE OF LAW AND SUSTAINABLE DEVELOPMENT

Compliance and enforcement are essential elements of the rule of law and good governance.

As the number of environmental institutions, laws, and regulations has increased, continuing environmental problems are often symptomatic of problems involving governance and compliance with existing regulation.

This is not only true with domestic laws, but also with our multilateral environmental agreements, which are growing in number and importance. Compliance and enforcement are both individual and collective responsibilities. This refers to the domestic levels, but (more and more) to the international level. The only effective way forward is multiplying our forces through cooperation and joined action, together, together with our professional colleague-enforcers, with the judiciary, with the responsible players of industry and with citizens. Building on international expertise and experience, exchanging good practices and sharing intelligence, and disseminating know-how through training and education are all instruments to make progress and improve together. Ultimately, this all has to result in concrete and visible compliance and enforcement projects.

Compliance and enforcement are, regrettably, too often the weakest elements in the regulatory chain. We need dedication and leadership to improve on this and make law work. This conference serves to motivate and inspire us all to raise the profile of compliance and enforcement for the sake of a healthy and safe environment and a future for coming generations.

THE IMPORTANCE OF THIS CONFERENCE

We have here a rich base of information and a talented group of attendees on which to draw for our discussions and actions. Nearly 200 experts, coming from more than 60 countries and 100 organizations, with a broad and diverse professional and cultural background, have come to this conference. This offers us all a unique international opportunity to benefit from.

During this week, we will be fortunate to hear from some of the leading thinkers, policy makers and practitioners on important environmental enforcement and compliance issues and experiences, and to see for ourselves some of the important work that is occurring in and around Cape Town.

The success of this conference will be judged by our ability to crystallize our work around meaningful, timely and practical action-oriented outcomes and initiatives. It is through the conference workshops that we will act together to develop such outcomes and initiatives in the areas of:

- strategic management of environmental compliance and enforcement programs;
- detecting noncompliance;
- transboundary compliance and enforcement;
- biodiversity, ecosystems, and enforcement;
- climate change and compliance; and
- creating a culture of compliance.

The concrete outcomes and recommendations will be part of the conference proceedings and serve as an important collective roadmap for action to address and solve environmental compliance and enforcement issues, now and in the future.

CLOSING

I would like to thank the Secretariat for their tremendous work in organizing and preparing this conference. Also I want to express thanks all our colleagues - here in

South Africa and elsewhere - who took time out of their busy schedules to put to paper their experiences and lessons for our conference proceedings and those who have otherwise volunteered to help make this conference possible through panel and workshop sessions. Of course, we are grateful to the sponsors and partner organizations that made this event possible.

Environmental degradation is a global problem. We have all come to this conference with a firm belief that compliance and enforcement, good governance, and the rule of law are the foundation for sustainable development. For this sake, let all of us be committed to learn from each other and to come to action.

In this light, I want to again express our deep appreciation on behalf of all of us to our host country and the city of Cape Town for their gracious hospitality, and for providing such an exciting location for this conference.

South Africa is a country that is well known for its environmental richness and the protection of these values. As the Minister van Schalkwyk has just indicated in his speech, the ambitions and concrete activities with respect to compliance and enforcement are having results. This has been an important consideration for INECE to choose South Africa, and in particular the beautiful city of Cape Town, as the venue for our 8th international conference. We anticipate that this occasion could be instrumental to serve as a starting point for leadership and activities that result in the further development of regional environmental compliance and enforcement network initiatives. May the successful launching of the NECEMA network in the North African Maghreb region in the afterglow of the previous INECE conference serve as an inspiring example for similar developments in this region. The very successful regional INECE conference that took place last Saturday, and its follow-up, will hopefully serve as an important first move for progress in that direction.

I trust we will have an inspiring conference that stimulates us all to a lot of action – not only these days, but sustained action for the future.

Thank you all!

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CONCLUDING REMARKS

WANGARI MAATHAI¹

¹ Nobel Peace Prize Laureate, on Good Governance and Sustainable Development.

Honorable delegates: It gives me great pleasure to send you this message at this eight international conference. I'm so sorry that I could not join you due to other situations but so happy to be part of this conference. I want to welcome you most warmly to Cape Town, a beautiful city.

I know how important it is for us to have laws that protect the environment. But I want to agree with my friend Durwood Zaelke that even more important is to comply. Here in Kenya we have been fighting so hard for many years to force not only the private companies, individual entrepreneurs, but even the government to comply with the laws that are in our books. For without compliance, we cannot have sustainable development. Compliance is part of good governance. It's part of having a rule of law, having an effective rule of law. Without that, you cannot have sustainable development. The two of them are important; one is not going to be effective on its own. We need both of them at the same time.

You should be very proud of the organization because you are here focusing on an extremely important area. I know that many of you are lawyers and you understand the value not only of the letter, but also of the action. I understand that one of the areas you are focusing on is climate change as part of your theme for this year. Now, climate change remains one of the greatest challenges on the planet, not only for environmentalists, not only for climatologists, but for all of us. As we all know, it's one thing to sign the treaty, it's one thing to be part of the Kyoto Protocol, but it's a completely different thing to go home, domesticate the treaty or the agreements and make efforts to have the treaty complied with, especially in the area of protecting forests.

As you know, we are very concerned about the forests because we are informed that 20 percent of our climate emissions are from cutting forests. And this is particularly of concern in Africa, where the majority of our people still use firewood and still need to clear forests and clear vegetation in order to make room for agriculture. Forests are extremely important for Africa. They really must be protected and they must be in the next treaty.

We're saying that if we cannot protect the standing forests, why should we plant? Why should we be planting when others are cutting? It doesn't make any sense. And why don't we want to appreciate the role that the standing forests and vegetation are playing in mitigating climate change? I think we want to push for this, and I'm hoping that more and more people are recognizing the value of our standing forests.

It's for that reason, I'm very proud to be the Goodwill Ambassador of the Congo forest ecosystem, and I hope that we shall continue to fight especially for this forest, for the Amazon forests, and for the great forests in Southeast Asia. These are indeed, as we all know, our biggest and most precious carbon sinks. And we really ought to protect them and appreciate them. It can't be more important to plant an extra tree than to protect the one that is already standing.

Now it's one thing to have laws and contracts that protect these forests, but as I have already said, much more important is to raise awareness on the need to comply. If we do not comply, it does not matter how many laws we make, it doesn't matter how many volumes we write. We're just talking and we're just filling our libraries and our archives. For many years I've been advocating for people to not only say what they believe in international conferences, in United Nations conferences, in NGO conferences, and even in government board rooms. There is a lot of talking, but very little action and very little complying with the laws that we have already in our books.

I want to thank your organization for trying to raise this awareness, for it is extremely important. And I want to know that although I am not in Cape Town with my body, my spirit is with you. And I want to ask you to continue this work and to count me and the organizations that we are devoted to, such as the Green Belt Movement, and the work for the Congo forests and so many other work that we are trying to do with the rest of the world, count us as one of you as we try to push not only the letter but also the compliance.

I send you my very best wishes and hope that you will have an extremely successful conference, such as you have not had before, for you are in one of the best countries in Africa, in what I think is one of the most beautiful towns and cities in Africa. And so I hope that you will be inspired and motivated to come up with the best document but also to go home extremely motivated to not only carry out what you believe, but also make sure that the rest of us, the rest of the world, complies. Best wishes and bon voyage.

Video speech presented on 11 April 2008 at the 8th INECE Conference

SUMMARY OF PANELS

PANEL 1: CREATING VALUE THROUGH COMPLIANCE AND ENFORCEMENT

Moderator: Greg Sullivan, Brisbane City Council, Australia

Panelists: John Cruden, Deputy Assistant Attorney General, Environment and Natural Resources Division, Department of Justice, United States

Joanne Yawitch, Deputy Director General, Department of Environmental Affairs and Tourism, South Africa

Brendan Gillespie, Head, Environment and Globalisation Division, Organisation for Economic Co-operation and Development, Environment Directorate

Rapporteurs: Jo Gerardu, INECE Secretariat

Peter Murtha, Environmental Protection Agency, United States

Summary Report:

This panel explored how strengthening compliance with environmental requirements creates both public and private value — public value by protecting public health and sustaining ecosystem services and private value by improving competitiveness of firms, accelerating technological innovation, and leveling the playing field.

John Cruden provided five main themes: (1) the necessity for a “level playing field” to ensure fair competition; (2) the emphasis on the rule of law; (3) making sure an enforcement program includes public health benefits in addition to environmental benefits (with an eye on disadvantaged communities who may receive unequal environment impacts); (4) the need for a strong and independent judiciary; and (5) the need for international cooperation.

Joanne Yawitch provided the perspective of a developing country with a rapidly growing economy, and emphasized the need to find the appropriate balance point between expanding the economy in a country with a high (greater than 20%) unemployment rate while still protecting environment, a particularly difficult task given South Africa’s heavy concentration of inherently dirty extraction

industries. Ms. Yawitch recognized that in the process of rewriting South Africa's constitution after the end of apartheid, environmental values — including freedom from environmental harm and the right to a sustainable environment — were incorporated in the Bill of Rights. Ms. Yawitch explained that the threat of enforcement has been essential in South Africa in getting businesses to obtain their necessary permits.

Brendan Gillespie previewed the results of a paper he will be delivering in November 2008 titled "Environmental Compliance Assurance: Some Trends in OECD Countries and Major Emerging Economies." Mr. Gillespie pointed out that generally OECD countries are not on track to meet their environmental objectives and that enforcement is the key to addressing the gap. He further pointed to trends that are helping enforcement become more effective, including cross-media integration and regulatory simplification, the growing importance of compliance promotion as a complement to enforcement, risk-based targeting of inspections, and better indications to measure performance. Finally, he indicated a shift away from criminal enforcement in favor of more quickly concluded administrative enforcement methods, which are better able to recoup any economic gain by the violator.

PANEL 2:
COMPLIANCE MECHANISMS FOR CLIMATE PROTECTION AFTER 2012

- Panelists: Hon. Romina Picolotti, Secretary of Environment and Sustainable Development, Argentina
- Kunihiko Shimada, Principal International Policy Coordinator/
Principal International Negotiator, Ministry of Environment,
Japan
- Jan van den Heuvel, Director, DCMR Environmental Protection
Agency, The Netherlands
- Moderator: Kenneth Markowitz, Consultant to INECE Secretariat; Senior
Counsel, Akin Gump Strauss Hauer & Feld LLP
- Rapporteur: Meredith Reeves, Earthpace, LLC

Summary Report

The world's best hope for combating climate change lies in securing broad commitment to a successor agreement to the Kyoto Protocol before the current compliance period expires in 2012. In December 2007, the international community embarked on a two-year negotiation process under the Bali Roadmap with the goal of realizing a "shared vision for long-term cooperative action, including a long-term global goal for emission reductions." Within such an agreement, well-designed compliance mechanisms are critical to ensuring environmental benefits and economic efficiency. This panel session explored compliance mechanisms for the successor global framework and the role of national, state, and local actors in enforcing monitoring, reporting and verification programs to promote accountability and efficiency under any regulatory approach to greenhouse gas management.

During the plenary presentations, the three speakers identified the global, national, and local challenges associated with ensuring compliance of climate laws and policies and sought to guide the INECE community towards identifying the best theory and practice of environmental compliance and the innovative strategies that could help shape the new global climate mitigation and adaptation framework.

Secretary Romina Picolotti emphasized the need for any climate agreement to maximize co-benefits, such as the protection of ecosystem services. Secretary Picolotti discussed the importance of identifying areas of cooperation between developed and developing countries, similar to the recent successful consensus to accelerate the phase-out of ozone-depleting hydrochlorofluorocarbons in a way that promotes climate mitigation under the Montreal Protocol. The Secretary

illuminated the role for INECE in advancing compliance mechanisms to support national emissions mitigation regulations and discussed the importance of building capacity to help vulnerable populations adapt to the effects of climate change.

Kunihiko Shimada advocated for a balanced approach between mitigation and adaptation under a post-2012 agreement. Mr. Shimada described the commitment of parties under the United Nations Framework Convention on Climate Change to “promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases” and discussed the need for public and private sector actors to fulfill this commitment through increased support for climate technology research and development and increased diffusion and dissemination of such technologies.

Jan van den Heuvel described national and sub-national measures to support climate protection, emphasizing the role of local authorities in promoting compliance with and enforcing existing laws that have climate co-benefits, such as air quality regulations, renewable electricity standards, greenhouse gas emissions permitting, and laws protecting forests and other carbon sinks. As part of the European Union reduction commitments under the Kyoto Protocol, countries may set local targets in line with the national targets. For The Netherlands, a formal agreement between the municipalities and the Ministry of Housing, Spatial Planning, and the Environment commits local governments to working cooperatively to meet The Netherlands’ reduction target. Achieving progress towards climate change mitigation will only be achieved through cooperation among all levels of government – from negotiators participating in the international treaty dialogue to national governments adopting comprehensive targets to state and municipal authorities leveraging their extensive knowledge about locally-appropriate transportation and land use regulatory options.

**PANEL 3:
REGIONAL ENFORCEMENT COOPERATION FOR
THE PROTECTION OF BIODIVERSITY**

Moderator: Ladislav Miko, Director, Directorate B: Protection of the Natural Environment, Environment DG, European Commission

Panelists: Rosalind Reeve, Associate Fellow, Chatham House, Kenya
Samuel Wasser, Professor, University of Washington, United States
Julius Kipng'etich, Director, Kenya Wildlife Service

Rapporteurs: Louis Kotze, North-West University, South Africa
Anel du Plessis, North-West University, South Africa

Summary Report:

This panel discussed how the illegal trade in flora and fauna is a grave threat to biodiversity, especially in Africa. Panelists emphasized how general enforcement cooperation is necessary at a regional level to enhance the efficiency of enforcement efforts. Especially critical is ensuring that the staff is properly trained and have the correct tools and the appropriate information not only to do their jobs locally, but also to work with neighboring countries and with trading partners.

Rosalind Reeve highlighted statistics on the illegal trade in wildlife, timber trade, and fisheries. She noted that the illegal trade in wildlife and environmental commodities is growing and that the major drivers include China's economic boom and the increased involvement of organized crime. Regional cooperation in combating this trade varies from region to region and there are gaps in the sectors covered. For example, no network exists for forest enforcement cooperation. For fisheries, several regional mechanisms exist under Regional Fisheries Management Organizations (other examples include North Pacific Anadromous Fish Commission and Commission for the Conservation of Antarctic Marine Living Resources). West Africa has a surveillance operation-coordinating unit. East Africa has no significant cooperation and Kenya has no marine enforcement, highlighting that the situation in Eastern Africa is generally not good. Regions with networks include North America, South East Asia, Europe, and parts of Africa. Ms. Reeve felt that Africa's Lusaka Agreement Task Force countries should be expanded to include more African countries and existing efforts such as the Forest Law Enforcement and Governance process should be strengthened.

Samuel Wasser noted that illegal trade in wildlife is booming and involves a high profit and low risk. He observed that species at risk are often in high demand

and that free trade fuels this demand. There is heavy involvement of organized crime. The supply side is the most effective place to contain illegal trade and he proposed that enforcement be directed to these areas. DNA-based methods have been developed to track elephant gene categories in order to trace ivory crime back to its source. He spoke of two separate strings of seizures in Singapore/Malawi and Hong Kong/Cameroon. In looking at these seizures, the primary issues the research team assessed were (1) whether the poaching targeted specific populations for intense exploitation and (2) whether the ivory was shipped from the country where it was poached? His team used DNA methods to track ivory via Singapore and Malawi back to its source in Zambia and found similar poaching methods: tusks are gathered quickly from a localized area. This implies that outside targeting takes place with a goal of rapidly smuggling the tusks to another country. The DNA tracking highlighted the need for strong regional strategies to combat illegal ivory trade. A particular focus is required to coordinate activities and share data. Mr. Wasser suggested that the Lusaka Agreement Task Force could provide a vital path forward.

Julius Kipng'etich gave an overview of the two thousand staff member organization. KWS faces various challenges especially where Kenya borders other countries, such as Somalia, where smuggling is common. He noted that approximately 1.2 million arms are in the wrong hands. The numbers of elephants and rhinos have declined significantly from the 1960's as the result of poaching. The Service has very few vehicles and airplanes to assist in control. Its mandate covers water, fisheries, and power production, among other issues. However, collaboration has resulted in successes such as better control at airports in Nairobi, increased seizures, and a closer working relationship with the Kenyan judiciary in the enforcement of environmental laws. Wildlife plays a vital role in the GDP growth of the country and Kenya needs to be part of broader enforcement networks, such as INECE.

The panelist concluded that forestry, wildlife, and fisheries sectors are under heavy stress; and that science should feed into efforts to protect these resources. INECE should concern itself with summarizing ongoing trends and bringing to light the challenges faced in enforcing laws designed to protect these important sectors. Public education should be a critical component of this effort.

PANEL 4: CAPACITY BUILDING WITHIN A DEVELOPMENT FRAMEWORK

Moderator: Paul Leinster, Director of Operations, Environment Agency of England and Wales

Panelists: Mark Jardine, South African Department for Environmental Affairs and Tourism

Bonaventure Baya, Director General, National Environment Management Council, Tanzania

Dr. John Seager, Head of Science Strategy, Environment Agency of England and Wales

Benjamin Langwen, Director of Compliance and Enforcement, National Environment Management Authority, Kenya

Elizabeth Maruma Mrema, Senior Legal Officer and Chief, Division of Environmental Law and Conventions, UNEP

Alberto Ninio, Senior Counsel, World Bank

Rapporteurs: Jo Gerardu, INECE Secretariat

Catherine Lorenzen, Environment Agency of England and Wales

Summary report:

This panel provided a forum for panelists and participants to share experience from recent projects on which approaches to capacity building have been successful and can serve as best practices and which approaches have been less successful. Panelists also discussed the possibility of stronger international coordination to improve delivery of sustained, joint support in building capacity for environmental protection at the country and regional levels.

The first three presentations were by representatives from the environmental protection agencies of South Africa, Tanzania, and England and Wales. Their presentations served to share practical experience on approaches to capacity building. These were followed by presentations by UNEP and the World Bank, giving perspective as multilateral organizations.

During the presentations and discussions, many recommendations and best practices emerged. For example, to help ensure the long-term sustainability of projects, capacity strengthening initiatives need to be demand-led: The beneficiary

organisation has to be in the lead in defining what a capacity strengthening project or programme should look like.

There is a strong need to develop indicators for measuring the impact of capacity building; often capacity building initiatives are short-term in character. Reporting to donors ends up focusing on inputs and immediate outputs such as the number of workshops held or the number of delegates trained. The long-term impacts, which are more difficult to measure, receive less attention, yet these are most important. Capacity building requires more than one training session. It is necessary to return after a few months and ask the former participants how the workshop influenced their personal abilities and how it influenced the organisation. This is also a method of measuring the effects of training.

Panelists suggested the need to ensure that donors make the link between supporting local environmental protection and climate change. There is a lot of funding available for initiatives supporting climate change mitigation and adaptation. 'Old' environmental issues, such as protecting biodiversity, risk losing the attention of donors.

The panel also found that environmental protection agencies are often weak in resources, making it difficult to articulate environment as a national priority. In the face of increasing direct budget support by donors, it becomes crucial for agencies to be able to play a strong role in determining national priorities, particularly in national budget negotiations.

A final point made by the panel was that environmental professionals need to be motivated to work for government agencies. In many countries working for the environmental protection agency is not seen as prestigious and is not well paid, which affects staff recruitment and retention.

**PANEL 5:
GLOBAL ENFORCEMENT COOPERATION ON CHEMICALS
AND OTHER HAZARDOUS SUBSTANCES**

Moderator: Catherine McCabe, Deputy Assistant Administrator, Environmental Protection Agency, United States

Panelists: Jonathan Allotey, Director, Environmental Protection Agency, Ghana

Dr. Iwona Rummel-Bulska, Principal Legal Officer and Chief of the Environmental Law Branch, UNEP

Walker Smith, Director, Office of Regulatory Enforcement, Environmental Protection Agency, United States

Bert Wijbenga, Chief of Police, Flevoland Police, The Netherlands

Arwyn Jones, National Enforcement Manager, National Enforcement Service Environment Agency of England and Wales

Rapporteurs: Jo Gerardu, INECE Secretariat

Tim Whitehouse, INECE Secretariat

Summary Report:

This panel explored why global cooperation is necessary to combat illegal trade in chemicals, hazardous wastes, and environmentally-regulated products. Panelists discussed compliance issues associated with the import and export of ozone depleting substances; non-conforming pesticides; PCBs in transformers or ships; hazardous waste; electronic waste; scrap metal contaminated with radiation; and non-road engines and motor vehicles.

Jonathan Allotey, Director of Ghana's Environmental Protection Agency, talked about import problems in Ghana. These include the importation of mislabeled products containing ozone depleting substances, illegal pesticides, and polychlorinated biphenyls (PCBs). Electronic wastes coming in from Europe as used products are also problematic.

Dr. Iwona Rummel-Bulska, Principal Legal Officer and Chief of the Environmental Law Branch of UNEP, talked about the Probo Koala incident in Abidjan, Cote d'Ivoire, in August 2006. This incident highlighted significant gaps in the Basel Convention and in the ability or willingness of countries to cooperate on tracking suspect shipments of hazardous waste. The incident resulted in deaths, massive

displacement of people, and the formation of a new government in Cote d'Ivoire. The facts of this case are detailed in a paper submitted as part of the Conference Proceedings.

Dr. Rummel-Bulska highlighted the problem of dumping used electronic equipment in Africa. She said that 50 million metric tons of electronic wastes are generated globally, and much of it finds its way to Africa as charitable donations. Between 25% and 75% are useless. In Nigeria alone, about 500 containers full of electronic waste pass through the port of Lagos.

Walker Smith, Director of the Office of Civil Enforcement at the United States Environmental Protection Agency talked about the United States' focus on non-compliant imports. She talked about efforts in four areas: pesticides, chlorofluorocarbons, scrap metal, and non-compliant engines. Specific products discussed were pesticide chucks, silly string, radioactive steel, and engines. She pointed out that 48,000 engines have been seized recently for not being compliant with the Clean Air Act.

Bert Wijbenga, Chief of Police of the Flevoland Police Force in The Netherlands, pointed out that environmental crimes provide some of the easiest ways to make money. He noted that environmental crimes are not victimless. He underscored the need for:

1. Specialized full-time detectives for environmental crimes.
2. Improving the intelligence by which operations are led.
3. Introducing the possibility of anonymous reporting.
4. Mandatory training for all officers working in environmental crimes.

Arwyn Jones, Programme Manager for the Environment Agency for England and Wales, noted that this is a hugely complex problem that will grow as trade grows. He pointed out the need for clarity as to where the problems lie and to include stakeholders in the solutions.

**PANEL 6:
GOOD GOVERNANCE AND THE RULE OF LAW**

Moderator: Alex Wang, Project Director, Natural Resources Defense Council, China

Panelists: Justice Suryakant Sharma, Punjab & Haryana High Court, India

Lawrence Sperling, Senior Adviser, Bureau of Oceans, Environment and Science, State Department, United States

Antonio Oposa, President, The Law of Nature Foundation, The Philippines

Rapporteur: Gustaaf Biezeveld, National Prosecutors Office, The Netherlands

Summary Report:

Justice Suryakant presented good governance and the rule of law in the context of sustainable development. In his view, good governance can be defined as decision-making in a manner essentially free of abuse and corruption and with due regard to the rule of law. Rule of law is the *sine qua non* for good governance. Essential to this is a fair legal framework, enforced impartially as well as with full protection of human rights, particularly those of minorities. These require an independent judiciary and an impartial and incorruptible police force.

Perhaps the most important application of the rule of law is the principle that governmental authority is legitimately exercised only in accordance with written, publicly disclosed laws, adopted and enforced in accordance with established procedural steps that are referred to as due process. The principle is intended to be a safeguard against arbitrary governance, whether by a totalitarian leader or by mob rule. Thus, the rule of law is hostile both to dictatorship and to anarchy.

Justice Suryakant felt sustainable development is the method that governments must adopt to set a balance between the pressures that are forced upon both developed and developing countries. Changes in the world's economic, political, and social systems have brought unprecedented improvements in human living conditions in both developed and developing countries, but these changes have also brought new uncertainties and challenges. Signs of breakdown are everywhere in the form of disintegration of families; destruction of indigenous societies; degradation and annihilation of plant and animal life; pollution of rivers, oceans, and the atmosphere; crime, alienation, and substance abuse; higher unemployment; and a widening gap in incomes and capabilities.

Justice Suryakant concluded his presentation by saying that the art of sustainable development is to preserve order amid change and to preserve change amid order. This can be achieved only by making people 'sit up' and not 'sit down.' Our only hope for a better and sustainable world is human ingenuity, but it can not flower in a vacuum and has to be managed with a cohesive approach.

Mr. Lawrence Sperling focused his presentation on the relation between rule of law and the environment in a globalized world. Mr. Sperling noted that before the World Summit on Sustainable Development in Johannesburg in 2002, the focus of most nations and politicians had already shifted to security and the global war on terror due to 9/11. Globalization has led to more decentralization and demands for greater accountability in governments. It has also lead to a greater quest by some countries for resources and an increase in illegal smuggling, as well as daunting new global problems such as climate change.

Mr. Sperling cited the book, *Illicit: How Smugglers, Traffickers and Copycats are Hijacking the Global Economy* (2005) by M. Naim, to illustrate how smuggling operations have moved away from fixed hierarchies and toward decentralized networks: "away from controlling leaders and toward multiple, loosely linked, dispersed agents and cells, away from rigid lines of control and exchange and toward constantly shifting transactions as opportunities dictate. It is a mutation that governments in the 1990's barely recognized and could not, in any case, hope to emulate."

He also cited the *International Crime Threat Assessment 2000* by the U.S. Government, which characterized environmental crime as one of the fastest growing and most profitable areas of international organized crime with an estimated economic value of \$22-31 billion annually, including \$10 billion in wildlife trafficking.

He concluded his presentation with some suggestions to INECE. On the operational level, the network should address the full enforcement continuum in a comprehensive way, because the chain is only as strong as the weakest link. It should also build ground-level cooperation with the full range of agencies, because all are in the same boat. In his view, INECE should confront corruption and build in outcome measurements, or indicators, that feed back into marketing efforts. Above all, INECE should keep up the great work it has been doing.

Antonio Oposa showed an impressive documentary about the natural beauty of The Philippines and how it is endangered by the short-sighted behaviour of man. He followed the film with a parable about a man who had saved an enormous amount of money over 82 years. After his death, the inheritance he left was wasted in less than ten days. Oposa's main message was that man would ultimately realize that he can not eat money. Man is dependent on the vital organs of the Earth and its natural resources. It is in his own interest to protect the environment and to change his mindset, attitudes, and practices. If man is the problem, man also is the solution. He concluded his presentation by mentioning his initiative on global legal action on climate change.

SUMMARY OF WORKSHOPS

TRACK A: STRATEGIC MANAGEMENT OF ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT PROGRAMS

During the workshops in Track A, facilitators and participants explored approaches to strategic management of environmental enforcement and compliance programs in different countries and discussed challenges of ensuring the accountability of governmental institutions for the results of these programs.

1A DOING WHAT'S IMPORTANT: FOCUSING ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT PROGRAMS ON THE RIGHT PROBLEMS AND PRIORITIES

Facilitators: Michael Stahl, Environmental Protection Agency, United States

Eugene Mazur, Organisation for Economic Co-operation and Development

Wijarn Simachaya, Pollution Control Department, Thailand

Rapporteur: Susan Bromm, Environmental Protection Agency, United States

BACKGROUND

Three questions framed the workshop discussion:

- How can an enforcement and compliance agency establish priorities?
- What are the barriers to doing so?
- How does an agency maintain a cadre of well-trained inspectors who are experts on the types of facilities they inspect?

THE WORKSHOP DISCUSSION

The following key points emerged from the discussion. First, resource constraints require countries to establish priorities. Second, many bases exist for the establishment of priorities, including sector specific, compliance history, geographic area, environmental impact and risk assessment. Third, some

countries have highly sophisticated scoring systems for establishing priorities (e.g., the United Kingdom), while others use less formal criteria (e.g., Japan).

Pertinent sub-issues were also discussed. Participants observed that although there are various means to establishing priorities, it is unclear whether one method leads to better results than others. Moreover, barriers to establishing priorities include: institutional resistance (people are often tied to old ways) and lack of information (e.g., in order to do comparative risk assessments).

Participants acknowledged the challenges to maintaining a well-trained cadre of inspectors. For example, in some countries, there is high turnover (due to industry drawing experienced staff away from government jobs) and, in others, retirements result in a loss of institutional knowledge. Countries are taking various steps to deal with this challenge. The Netherlands, for example, encourages retiring staff to transfer their knowledge and experience, while other countries and to provide training to inspectors to develop and maintain expertise.

THE OUTCOMES

1. The benefits of establishing priorities include the better, more focused use of resources and better environmental gain from actions taken.
2. Countries currently employ a variety of approaches to establishing priorities although there is no agreement as to a clearly preferable approach. Approaches range from sophisticated scoring systems to considerations such as history of noncompliance, environmental impacts of the violations (or benefits to be gained by achieving compliance), environmental effects on the facility, geographic area, affected population, etc.
3. Different problems have different solutions. Strategies should be written to define types of tools to be used in setting priorities. OECD may come out with a recommendation on how best to set priorities by this November.
4. The greatest benefit occurs when using the priority focus as a basis for describing accomplishments in terms of environmental benefits and improvements to human health.

2A MORE EFFECTIVE REGULATION – IMPROVING EFFICIENCY AND CUTTING RED TAPE

Facilitators: Elisea Gozun, Asian Environmental Compliance and Enforcement Network

Catherine Wright, Environment Agency of England and Wales

Joe Woodward, Department of Environment and Climate Change,
New South Wales, Australia

Rapporteur: Ross Galbraith, Environment Canada

BACKGROUND

The facilitators of this workshop sought to create an understanding of the terminology and principles of effective and efficient regulation through discussion and case studies. Specifically, the workshop goals included:

- Identifying how more efficient regulation could help deliver improvements for people and the environment.
- Reaching consensus on how INECE could further advance and disseminate concepts of better regulation.

THE WORKSHOP DISCUSSION

At the outset, participants made several general observations, including that environmental regulation is an evolving process. Further, compliance with environmental requirements can be achieved through a whole range of tools and techniques. In order to best tailor the most appropriate approach, decisions on the extent to which alternative approaches to inspection and/or enforcement are appropriate should be taken locally to take account of the environmental priorities, the maturity of the regulatory systems, and available resources.

The discussion honed in on better regulation principles, including:

- Holding business accountable for meeting their environmental responsibilities.
- Using a range of tools to bring about environmental compliance from command and control to alternative approaches to compliance and enforcement.
- Targeting the level of effort based on what works best for the particular issue.
- Employing approaches that are able to bring about the desired change quickly and to effectively respond to mounting environmental pressures, especially climate change.
- Promoting transparency in dealings with business and communities.
- Encouraging community involvement through consultation, education, media, public disclosure, and inclusion in monitoring and/or reporting.
- Using of performance indicators to assess the effectiveness of regulatory measures;
- Tackling poor environmental performance through the supply chain.

- Exempting businesses from regulation as appropriate, e.g., where there is no environmental benefit.
- Re-enforcing and rewarding good performance.

Facilitators discussed specific cases demonstrating alternative approaches to regulation. For example, public disclosure of environmental performance and compliance assistance was provided to hog farmers in the Philippines, and in Botswana, the community was engaged in enforcement. The United Kingdom promotes simplified environmental permitting regulations and reporting on business performance, while in Australia, CEOs are made accountable for their self-monitoring and audit returns. In South Africa, self-reporting by industry is under consideration.

Other participants stated the need for laws and regulations to be drafted in a manner such that they are capable of being adapted according to changing conditions. It was also observed that consultation with CEOs of regulated sectors during the drafting stage of regulation may have the effect of producing more effective regulatory processes that balance market-based incentives with command and control instruments.

Similarly, consultation with the public can assist regulators in determining their priorities in relation to optimizing risk-based responses to environmental problems. This approach may be effective in creating optimal synergies between national priorities and local issues by promoting public support for the given regulatory approach.

Regulations must support best industry practices and regulatory processes must be open and transparent. This approach will strengthen the extent to which the regulations help support continuous environmental improvement

In order for continuous improvements to occur, regulators may need to develop performance indicators in order to ensure that regulations are, in fact, producing the desired outcomes. Some countries have moved to a system to rate the regulated community. A rating system may provide efficiency in terms of incentivizing industry to improve their performance (e.g. fewer inspections, more opportunities for self-monitoring). Self-monitoring may be an approach that is appropriate in certain circumstances, but the framework for such activities must be correctly designed and should incorporate sufficient checks and balances. Similarly, positive reinforcement mechanisms should recognize those regulated parties that perform at superior levels.

Finally, where possible, regulators should attempt to use multi-media/agency approaches that minimize the perceived or real degree of interference to industry and should ensure that regulations are flexible enough to adapt to advances in technologies, processes, and procedures.

THE OUTCOMES

The workshop participants recommended areas for further work and collaboration within INECE. The top priority was to develop a program focused on alternative tools to inspection and enforcement, including identifying the alternative tools, assessing how and when to use these alternative approaches, and sharing global best practices. Two specific approaches identified for further consideration were: (1) self-monitoring and (2) promoting environmental compliance across the supply chain. It was further suggested that the first steps should be sharing information between network members and highlighting relevant documentation.

3A USING PERFORMANCE INDICATORS TO LEAD ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT PROGRAMS

Facilitators: José Pablo González, Environmental Prosecutor's Office, Costa Rica

Elisea Gozun, Asian Environmental Compliance and Enforcement Network

Michael Stahl, Environmental Protection Agency, United States

Rapporteur: Davis Jones, Environmental Protection Agency, United States

BACKGROUND

Mr. Stahl distributed copies of the INECE document, *Performance Measurement Guidance for Compliance and Enforcement Practitioners, Second Edition* as background for the workshop. The *Guidance* presents common definitions and best practices for identifying, designing, and using environmental compliance and enforcement indicators (see <http://inece.org/indicators/>). Mr. González discussed work in Central America to develop model indicators for the region using the *Guidance* methodology to achieve common measures. Mrs. Gozun shared her experience in the Philippines and with AECEN in developing and promoting indicators in Asia.

THE WORKSHOP DISCUSSION

The INECE indicators methodology, developed by practitioners, presents a menu of different indicators that may work or could be adapted to work in a variety of situations. However, there is a need to balance the importance of the indicator and the feasibility of measuring it. As Albert Einstein famously observed, "Not everything that is important can be measured... Not everything that can be measured is important." For example, development of a statistically valid compliance rate would require inspections of 80% of the facilities, or to randomly select a target number of facilities. However, inspectors resisted the indicator because they did not see value of inspecting facilities where they did not suspect problems.

In the Philippines, most indicators were purely input and output indicators with very few that showed outcomes. However, one advanced program, managed by the Laguna Lake Development Authority, implemented a system of user fees for water services and assessed how compliance with the fees resulted in changes to the water quality of the lake. Input indicators included staff assigned, the funds allocated to the program, as well as equipment and vehicles assigned. The output indicators included the number of permits issued, the fees collected, and the number of inspections conducted. The intermediate outcomes expected are reductions in: (1) the pollutant load, (2) the percentage of wastewater discharged instead of recycled, (3) water use and (4) amount of company investments in wastewater treatment plants or pollution prevention. The final environmental outcome will be measured by changes in the level of biological oxygen demand and other common water quality indicators.

Indicators can help manage program resources and the efficiency of operations. In Finland, inspectors have to review complaints within a certain time period and determine the validity of the report and what else should happen as a result. They are expected to meet the response time limits in 97% of the cases. Managers can review the individual inspector's compliance with the timeliness as part of their periodic job evaluation, and managers can report on performance of the unit. This provides accountability within the agency and ability for headquarters to evaluate regional offices.

Some measures can drive odd behavior. For example, a measure that sets a target for the minimum number of enforcement cases in a given year may lead to prosecution of marginal cases solely to meet the target. The US Environmental Protection Agency (USEPA) no longer sets targets on number of cases, but does require targets for inspections in a year. In some cases, USEPA is relating pollution reductions that stem from enforcement actions directly to health effects. For example, USEPA took the total pounds of pollution reduced by enforcement actions against coal fired power plants and used a risk model to equate pollutant levels with health impacts. This brought significantly increased publicity of the enforcement cases, but is only possible for certain types of cases.

THE OUTCOMES

Several individuals in the group requested specific support from INECE:

1. Uganda, Kenya, South Africa, and Tanzania all asked for specific assistance with the development and review of their measures.
2. China would like expert INECE participation in a pending upcoming meeting on enforcement measures.
3. INECE could develop and share a very short list of intermediate outcomes that could be implemented and tracked at the country and/or regional level.

4A IDENTIFYING TRAINING NEEDS AT A STRATEGIC LEVEL

Facilitators: Machteld Brokerhof, Ministry of Housing, Spatial Planning and the Environment, The Netherlands

Angela Bularga, Organisation for Economic Co-operation and Development

Marcia Mulkey, Environmental Protection Agency, United States

Grant Pink, Department of the Environment, Water, Heritage and the Arts, Australia

Angelique van der Schraaf, Ministry of Housing, Spatial Planning and the Environment, The Netherlands

Rapporteurs: Machteld Brokerhof, Ministry of Housing, Spatial Planning and the Environment, The Netherlands

Grant Pink, Department of the Environment, Water, Heritage and the Arts, Australia

BACKGROUND

The workshop was designed to highlight the importance of designing and operating sound training programs with an emphasis on conducting training needs analysis. The workshop goals were:

- Review training vocabulary.
- Significantly improve understanding of the conceptual framework for good training programs and gain new ideas and tools for developing their own training strategy.
- Present detailed approach for conducting a Training Needs Analysis and apply the Training Needs Analysis process as a workshop exercise.
- Present strategic overview of the factors that influence training needs, including economic, demographic, cultural and technological factors, as well as environmental and governmental legislation.
- Develop a lasting product from the workshop, which could be used as part of further training.

THE WORKSHOP DISCUSSION

Ms. Mulkey's presentation started with the screening of an 11-minute DVD titled "The Cycle of Environmental Enforcement Training," (see <http://inece.org/trainersnetwork/>) containing the training lifecycle methodology as used by US EPA's National Enforcement Training Institute. The training lifecycle is comprised of six parts: Analyze, Design and Develop, Deliver, Evaluate, Revise, and Review. The Analyze phase includes several types of analysis, namely: Needs, Task, Gap, and Resource.

The importance of Knowledge, Skills, and Abilities in training programs was highlighted and its relevance at a micro level was demonstrated by a provision of training designed and developed for field officers who were required to inspect refineries. Ms. Mulkey also made reference to the principle of thirds when designing training programs: a third of the time should be spent on delivery, a third on discussion, and a third on evaluation and feedback by participants. Often evaluation and feedback are overlooked in a rush to get to the next topic. This is problematic as it does not enable participants to consolidate their learning nor does it allow trainers to pick up on nuances of the participant group and make necessary modifications to the course. In closing, Ms. Mulkey mentioned that the new International Network for Environmental Compliance Training Professionals should be seen as a resource to participants as this Network may assist with information and advice in respect of generic and specific training packages, together with coordinating such assistance.

Ms. van der Schraaf then presented an interactive PowerPoint presentation entitled "Needs Analysis." The presentation incorporated theoretical underpinnings of training programs while continually reinforcing the practicality and ultimate usability of customized training programs. The presentation detailed the process of using a Strategic Knowledge Map. This Map assisted participants to more strategically identify important themes that tend to influence environmental compliance and enforcement in their countries. The Map was also used for an exercise involving participants who were placed into three groups and required to individually identify five to seven themes that they felt should be considered as part of a departmental training program. Participants then placed their themes/issues into one of the four quadrants in the Map based on matters of current and future importance. This exercise demonstrated that irrespective of the size, structure, or commodity regulated by individual agencies, there were common themes in the types of courses needed, including legislation, generalist courses, specialist courses, capacity building, and raising awareness.

Ms. van der Schraaf also outlined a second practical tool: the "Individual Knowledge Chart." The Chart was presented to the participants to use to assess the existing level of knowledge in their organization. By then combining the Map and the Chart, participants were able to identify their organization's knowledge

gap, enabling progress towards development of a tailor-made curriculum for the practitioners in the three years to follow.

THE OUTCOMES

There was much discussion around the clear benefits associated with taking a more strategic and planned approach to designing training programs. It is recommended that these concrete action items generated by the workshop be used as the catalyst to put learning into practice:

1. There was substantial interest, stemming from the exercise, in receiving further assistance with respect to analysis, evaluation and prioritization, with a number of participants seeking templates/forms or documents that could assist them in this regard.
2. With reference to the Strategic Knowledge Map, there is recognition that training may not be able to solve all of our problems, but is able to assist us in identifying many of them and on a more strategic level.
3. With respect to the Individual Knowledge Chart, it is critical that training programs address the needs of the individual, and therefore content and delivery should be primarily driven by the needs of the participant, not to suit the convenience of training providers.

5A PERFORMANCE-BASED MANAGEMENT FOR ENVIRONMENTAL AND ENFORCEMENT PROGRAMS

Facilitators: Mihail Dimovski, Regional Environmental Center for Central and Eastern Europe

 Réjean de Ladurantaye, Environment Canada

 Michael Stahl, Environmental Protection Agency, United States

Rapporteur: Marcia Mulkey, Environmental Protection Agency, United States

BACKGROUND

The workshop presented a framework for identifying important environmental problems and priorities, developing strategies to address those priorities, and measuring and evaluating effectiveness. In discussing these broad concepts, the workshop participants assessed the possibility of establishing an INECE internet forum for discussion of strategic management (using the INECE Indicators internet forum as a model) as well as a potential guidance document.

THE WORKSHOP DISCUSSION

The facilitators presented a series of materials:

Mr. Stahl discussed USEPA's Concepts and Principles of Strategic Management. His presentation covered definitions, rationales, best practices, and the importance of the evolution of performance indicators. The main pillars of strategic management are 1) focusing on important problems; 2) focusing on use of effective tools; and 3) providing for assessment of effectiveness.

Mr. de Ladurantaye described Canada's project on Inspections, which focuses on improving understanding of the organization's effectiveness and productivity using the "three stage" INECE indicators methodology. This project involved a large geographic area, many inspections, and hundreds of laws; inconsistency and non-uniformity were major concerns. A significant initial challenge was data quality, with considerable data incompleteness and variability among regions. Performance comparisons among regions were considered separately for each regulatory area and significant differences were identified among the regions. Examples of data collected by the program include a comparison of the nature of inspections (field vs. other) and the percentage of inspections detecting violations. The program also observed differences in violator performance after initial, second, and third inspections. The lessons from this project, particularly with regards to data collection, were useful for participants to understand the high quality of information necessary to support the types of indicators that can help improve program performance.

Mr. Dimovski described the Regional Environmental Center for Central and Eastern Europe Indicator Project. This project developed indicators to evaluate the performance of these ten countries and to benchmark based on best performances. The project started with budget/investment parameters and moved on to other indicators including: the time invested in certain types of inspections, efforts in identified prevention systems, inspection prioritizations, incidents, appealed cases and several others. After considering a very long list of potential indicators, some were selected to assess inspectorate performance and some to assess legislative implementation. Challenges included a lack of common understanding about the interpretation of results (e.g., do a large number of inspections indicate success or failure?). Efforts are being made to move beyond activity measures. The results so far have been very helpful to individual countries in budget deliberations, especially by comparing to similar countries.

The group discussions probed the idea of an INECE Web-based forum on Strategic Management and Priority Setting, as well as Guidelines on the subject. The group was supportive of the project. Mr. Dimovski felt that such guidelines would be very useful in Central and Eastern Europe and encouraged the development of guidelines on prioritization and problem identification that are simple and usable. Mr. Stahl believes that the guidelines could rely heavily on examples, particularly

examples in actual implementation around the world. Ms. Mulkey and Mr. Stahl described the ways in which the strategic management forum could be integrated with the existing INECE forum on indicators.

The group asked questions about the reasons behind USEPA's choice to develop and use a number of outcome indicators for enforcement work. Mr. Stahl and Ms. Walker Smith identified a range of reasons, including the Agency's desire to better understand and communicate its impact, national legislation requiring Government Results and Performance, and management's need for appropriate incentives for smart, effective work.

Mr. Hietamäki of Finland discussed efforts in Europe to develop comparisons across Europe of the differences and inconsistencies in definitions of and implementation of best available technology, applying the approaches described for enforcement to permitting and standard setting.

THE OUTCOMES

Through presentations and discussions, this workshop demonstrated a rapidly developing consensus that strategic management of enforcement and compliance programs is both desirable and necessary in an era of multitudes of statutes, regulated activities, competing expectations, and real and frequently severe limits on governmental resources. Focusing on problem solving, analysis of relevant data, and setting of priorities based on urgency of problems, strategic management allows governments to maximize their efforts and demonstrate their effectiveness. This kind of approach can be applied broadly, as USEPA has done for much of its overall enforcement program, or in a more focused way, as Canada has done for comparing and managing its regional inspection activities. This use for comparison and benchmarking, evident among the Central and Eastern European countries, can be relevant within and among national systems.

This workshop is expected to lead to development of:

1. An INECE internet-based forum on strategic management with a related interest in some kind of standing internet-based opportunity for practitioners to pose open questions in a forum.
2. Guidelines on strategic management of environmental compliance and enforcement programs.

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TRACK B: DETECTING NONCOMPLIANCE

The workshops in Track B explored issues associated with detecting noncompliance. It examined the importance of citizen monitoring and reporting, strategic prioritization models for compliance inspections in different regulatory environments, protocols to address conflicts between organizations during events requiring collection and maintenance of forensics evidence, and techniques used to improve environmental inspections and investigations.

1B CITIZEN MONITORING AND REPORTING

Facilitators: Antonio Oposa, The Law of Nature Foundation, The Philippines

Daniel Taillant, Center for Human Rights and the Environment,
Argentina

Alex Wang, Natural Resources Defense Council, China

Rapporteur: Davis Jones, Environmental Protection Agency, United States

BACKGROUND

Because governmental resources for inspections and monitoring are limited, citizens can play an important role in detecting and reporting noncompliance. Citizens may be better placed to observe violations in their community and have greater motivation to protect their own community. In some circumstances, the direct involvement of citizens may lead to quicker changes in behavior by the regulated community who may be more responsive to neighbors' complaints and the resulting publicity than to a distant government ministry. Many regulatory enforcement agencies are facilitating citizen monitoring and creating tools for citizens to effectively report potential violations. However, mechanisms for public access to information and access to justice, either through responsive government enforcement or direct access to courts, are vital for citizen enforcement efforts to be effective.

THE WORKSHOP DISCUSSION

The facilitators began by introducing three examples of effective citizen monitoring and reporting. The first example was a simple, personal account of a father reporting a speeding driver to the driver's boss, who then reprimanded the chauffeur and changed his behavior, with no police intervention whatsoever. The second example was the citizen's environmental violation hotline in China, which provides citizens with a way to directly report possible violations to the government. The third example, from the Philippines, served to demonstrate how

local mayors can be motivated to improve compliance if informed of the problems in their community in a proactive manner.

For citizens to effectively monitor compliance, they must have a right to information. Effective use of information on pollutant releases and/or noncompliance can help with citizen enforcement actions, but can also motivate companies to change their behavior to reduce the public stigma associated with public disclosure of polluting activities. Sometimes, information collected for one reason can effectively be used for other objectives through public disclosure of the information. However, public disclosure is not effective in countries where people value the “outlaw” or “renegade,” and shaming through the press has little effect. Governments should design strategies to educate the citizens about the available information, publish relevant information in an accessible and readable manner, and engage citizens in the use of such information.

Tools such as telephone hotlines or internet-based complaint systems are useful to get information to the government. However, feedback mechanisms should exist so the complainant can see the response, and compel action by the government if necessary. Public reporting can be problematic when an uneducated population doesn't know how to report or doesn't understand compliance issues. For example, public complaints may be in response to illegal activities, or they may be the result of a desire to stop a legal activity they do not like or want, e.g. complaining about a necessary but unwelcome landfill. Citizens have filed nuisance reports and companies have reported on competitors in order to hamper production. In some cases, complainants may be seen as an enemy by governments because they are showing shortcomings of government activities. In some countries, such as South Africa, the Philippines, and the United States, the law, in certain circumstances, allows informants to be rewarded with a share of the resulting penalty.

Effective citizen monitoring programs require people to be educated about environmental issues and the law. This begins with integrating environmental education into schools and professional sectors. Both domestic and international nongovernmental organizations (NGOs) can play an effective role, and sometimes may need to pool forces so legal NGOs can help guide environmental NGOs in their legal rights and limits. The Center for Legal Assistance to Pollution Victims in China does so by training NGOs on environmental law and taking suits where the government fails to act.

Citizen suit provisions can help ensure that laws are enforced when government agencies fail to enforce the law. Individual domestic laws as well as international agreements may provide these authorities in many countries. These laws should be coupled with “anti-slap” rules that protect the plaintiff from countersuits, claims for libel, or intimidation.

The Secretariat of the Asian Environmental Compliance and Enforcement Network completed a toolkit on public disclosure based on experiences in Asia. They also

evaluated the effectiveness of the Chinese Complaint Hotline and created a manual for nationwide implementation. Those can be shared widely through the network and expanded along with other best practice guidelines.

THE OUTCOMES

INECE should promote basic steps needed for effective citizen monitoring and reporting. INECE can share case studies and document examples from different countries where citizen monitoring and reporting have been effective. They could share citizen suit provisions from different statutes in different countries, and could work with partners to distribute national and international standards for access to information. A network should exist to promote the issues, share contact information with different country experts, and help raise funds for additional training.

2B STRATEGIC TARGETING OF INSPECTIONS

Facilitators: Manon Bombardier, Environmental Enforcement Division,
Environment Canada

Frances Craigie, Gauteng Department of Agriculture, Conservation
and Environment, South Africa

Luc Lebel, Environmental Enforcement Division, Environment
Canada

Rapporteur: Tony Liebrechts, Ministry of Housing, Spatial Planning and the
Environment, The Netherlands

BACKGROUND

Many countries have strategic prioritization models for compliance inspections. Prioritizing inspections is important in order to efficiently allocate resources in a way that reflects societal goals and objectives. These programs vary widely and are based on a number of different factors, which may be regional and context specific. What can one learn by examining the different methods and criteria used by governments to develop inspection priorities?

THE WORKSHOP DISCUSSION

This workshop explored strategic prioritizing models for compliance inspections in Canada (Environment Canada) and South Africa (Gauteng Department of Agriculture, Conservation and Environment). The facilitators outlined the workshop objectives as:

- Providing a forum for dialogue among INECE participants to exchange information, knowledge, and experience on approaches currently being used or developed for targeting inspections.
- Developing a “toolbox” and identifying the key lessons learned and barriers in implementing each tool. The toolbox would allow compliance and enforcement practitioners working in newly established programs to make use of approaches/methodologies developed by others and transfer them to their own country.

The discussions led to an overview of available tools and recommendations to INECE for facilitating further development of prioritizing tools. Participants identified approaches to developing tools both across sectors or regulations and within given sectors.

Examples of tools across sectors or regulations included:

- Matrix based on a number of criteria including risk, compliance rate, expert support:
 - o Prioritizing across a variety of sectors/regulations;
 - o Tiered approach (national priorities, collateral, regional focus).
- Intelligence led (watch list approach).
- Financial benefits for noncompliance.
- IMPEL guidance book for planning of environmental inspections.

Examples of tools within a given sector included:

- Risk-based scoring system against list of criteria.
- Intelligence-led targeting.
- Partnerships with other agencies and other authorities such as customs and police.

THE OUTCOMES

A specific recommendation for INECE is to create an area on the INECE website to share information, good practices, and experiences on the issue of strategic targeting of inspections.

3B EVIDENCE GATHERING AND PRESERVATION

Facilitators: Andy Lauterback, Environmental Protection Agency, United States

Mark Measer, Environmental Protection Agency, United States

Phil Snijman, Consultant, South Africa

Rapporteur: Gene Lubieniecki, Environmental Protection Agency, United States

BACKGROUND

Conflicts often exist between organizations involved in incidents that require collection and maintenance of forensics samples. For instance, during emergencies, the actions of first responders may compromise and/or destroy evidence. Likewise, during crimes involving living organisms, transfer or shipment of the organisms can often create conflict and expense.

THE WORKSHOP DISCUSSION

The workshop discussed protocols to address conflicts between organizations during events requiring collection and maintenance of forensics evidence. Participants discussed the balance and competing interests between the various responsible organizations involved in emergency response, and crimes involving living (and dead) wildlife. Many examples of actual conflicts were discussed. Success stories, where there was excellent cooperation resulting in conviction, were also shared.

THE OUTCOMES

The following protocols/concepts were suggested as ways to address these conflicts: safety comes first; the “police” control crime scenes; train emergency responders regarding forensics needs; have prosecutors present on-scene; have enforcement officers also be the emergency response personnel (cross designation); develop effective communications between potentially responsible parties; have memorandums of understandings outlining responsibilities; and conduct exercises to test protocol. Participants recommended that INECE promote these and other best practices in its training materials and in relevant publications.

4B REMOTE SENSING AND OTHER TECHNOLOGICAL DEVELOPMENTS TO AID ENVIRONMENTAL COMPLIANCE

Facilitators: Richard Charette, Environment Canada

Troy Collings, Department of Natural Resources & Water,
Australia

Gene Lubieniecki, Environmental Protection Agency, United
States

Rapporteur: Tim Whitehouse, INECE Secretariat

BACKGROUND

Many techniques can improve environmental inspections and investigations. A number of tools are necessary to ensure that evidence is gathered and analyzed properly. These tools can be simple, low cost, and easy to use; or they can be expensive, involve complicated technologies and require trained personnel to operate.

THE WORKSHOP DISCUSSION

Workshop discussions focused on a number of techniques for detecting violations and analyzing information. The workshop facilitators provided examples of techniques and tools they use in inspections and investigations for both pollution control and remediation issues as well as wildlife and habitat protection.

Remote sensing is a powerful tool for monitoring the compliance status of regulated entities and gathering evidence for enforcement case development. Remote sensing can involve relatively simple activities such as visual observations, as well as the use of sophisticated technologies such as satellite imagery. The use of remote sensing in any particular situation is dictated by numerous factors including available technologies, resources, and time.

In addition to visual observations and satellite imagery, the use of magnetometers, infrared cameras, and remote sensing techniques were also presented and discussed. In addition, methods such as the use of bullhorns, dyes, and smoke to identify the discharge points of illegal wastewater discharges were discussed.

THE OUTCOMES

Some of the outcomes of the discussions were that INECE should:

1. Explore ways to facilitate the sharing of information on technology used to collect enforcement evidence.

2. Continue to build networks between individuals and organizations, particularly in terms of identifying needs and assisting in the development of needs assessments.
3. Develop a reference library targeted to appropriate programmatic areas.
4. Look for ways to facilitate the equipment exchange.
5. Provide a forum to pose questions/get answers on technology issues.
6. Share strategies to show how technologies will allow inspectors to do more with less. This can act to justify spending the money upfront on technology.

5B COORDINATION AMONG INSPECTORS, POLICE AND PROSECUTORS

Facilitators: John Cruden, Department of Justice, United States

René Craemer, The Netherlands

Prof. Jacobus de Ridder, University of Groningen, The Netherlands

Rapporteur: Peter Murtha, Environmental Protection Agency, United States

BACKGROUND

Effective coordination among inspectors, police, and prosecutors is a critical component of any enforcement and compliance program. All countries face a number of challenges in developing and maintaining this effective coordination. A wide body of experiences and practices now exist which can help minimize potential pitfalls and improve communication and coordination among officers and prosecutors in the preparation and management of court cases.

THE WORKSHOP DISCUSSION

This workshop discussion focused on minimizing potential pitfalls and offering suggestions for improving the communication and team effort between officers and prosecutors in the preparation of environmental cases.

John Cruden set the stage by offering a chart designed to provide common enforcement terminology to help provide clarity to the workshop.

René Craemer provided an in-depth description of recent (i.e., 2005) changes in the Dutch environmental crimes enforcement structure under which 19 Public Prosecutor's Offices were consolidated into a single national office in which the Public Prosecutor had authority over the inspectors in all agencies relevant to the

environment (broadly defined to include pollution, wildlife, livestock, marine, water use, etc.). René pointed out that there are now 420 specialized environmental detectives at the national level dedicated to the investigation of all environmental crimes. René's experience has been that, although the system is imperfect, it nonetheless offers a high degree of coordination and communication and clear lines of authority. In particular, the Public Prosecutor is empowered to determine which cases are pursued criminally and those to be subject to administrative action, and is also authorized to select which priorities to investigate and prosecute. One particular emerging trend from the new system is a focus on criminal networks and associated individuals.

Professor Jacobus de Ridder provided a framework for assessing the areas of potential conflict among prosecutors, police, and inspectors at the nexus between: (1) agency vs. agency; (2) administrative vs. criminal; (3) enforcement vs. prosecution; and (4) all enforcement mechanisms vs. the judiciary. The possibility of friction was discussed from both structural and cultural perspectives.

THE OUTCOMES

Although no specific outcomes were suggested for INECE, the lively discussion that ensued demonstrated that although many potential areas of potential friction, miscommunication, and dysfunction exist, there are many mechanisms that help to overcome these obstacles and lead to successful and mutually satisfactory enforcement outcomes.

TRACK C: TRANSBOUNDARY COMPLIANCE AND ENFORCEMENT

This Track examined a number of environmental issues that require countries to increase their transboundary compliance and enforcement cooperation efforts. The facilitated workshops examined a project to improve cooperation between seaports on monitoring hazardous waste shipments; ways governments and organizations can improve compliance monitoring and enforcement responses against the transboundary movement of environmentally detrimental goods; methods of detecting and responding to vessel pollution; and the importance of developing meaningful ways for countries to cooperate on transboundary water issues.

1C SEAPORT SECURITY NETWORK

Facilitators: Robert Heiss, Environmental Protection Agency, United States

Nancy Isarin, Ambiendura, Portugal

Henk Ruessink, Ministry of Housing, Spatial Planning and the Environment, The Netherlands

Rapporteur: Mark Measer, Environmental Protection Agency, United States

BACKGROUND

The Seaport Security Network was established as an outcome to the 7th International Conference for Environmental Compliance and Enforcement. This network is currently in its planning stages. It will seek to facilitate capacity building and compliance cooperation on issues associated with the trade in environmentally sensitive commodities at seaports. It will focus initially on the transboundary movement of wastes, but could eventually be expanded to other topics such as chemicals and smuggled wildlife.

THE WORKSHOP DISCUSSION

The facilitators outlined the goals of the project as preventing illegal movements of waste by promoting compliance, fostering national and international collaboration, and offering support to field inspectors.

The facilitators noted that three years ago, a project led by the European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) identified a 48% non-compliant rate for exports as part of a targeted inspection effort at specific ports. The facilitators and some participants expressed a concern that similar compliance problems may exist worldwide. Some participants were

concerned that only anecdotal evidence existed on the severity of the global compliance problems, while others expressed concerns that developing countries lack the resources and capacity to identify and deal with non-compliant imports, and that developed countries do not properly track and monitor exports. A lively discussion ensued, during which participants agreed that the issue of exporting and importing non-compliant goods has multiple causes and will require multiple solutions. Further, many participants noted that many of the solutions to these problems lay outside the realm of law enforcement.

THE OUTCOMES

The group proposed a “kick-off” meeting of the INECE Seaport Project to identify strategies and deliverables (e.g. manuals, toolkits) which could improve compliance monitoring and enforcement responses. Participants recommended that the meeting include representatives from exporting and importing countries, that INECE invite the participation of customs agents, and that members of the Seaport Project seek to identify the minimal capacity necessary that developing countries would require to become effective partners.

The group proposed that the facilitators work with interested conference attendees to develop a rough draft of next steps by the conclusion of the 8th International Conference. These next steps may include developing a strategic plan that defines the magnitude of the problem, summarizes existing efforts, and proposes a strategic approach involving not only port inspections, but other techniques and initiatives that could address problems associated with illegal hazardous waste shipments. The next steps document will be posted online at <http://inece.org/seaport>.

2C TRANSBOUNDARY WATER COOPERATION

Facilitators: Maria Comino, Department of Water and Energy, Australia

Alejandro Iza, IUCN Commission of Environmental Law

Laura Yoshii, Environmental Protection Agency, United States

Rapporteur: Meredith Reeves, Earthpace, LLC

BACKGROUND

Water governance can occur at global, basin, national, and local levels. The 1997 Convention on the Protection and Use of Transboundary Watercourses and International Lakes is an example of an international agreement that is intended to strengthen national measures for the protection and management of transboundary surface and ground waters. The World Water Council is an example of an international institution whose purpose is to promote awareness,

build political commitment, trigger action on critical water issues at all levels, and to facilitate sustainable, efficient management and use of water. Examples of regional political efforts to support transboundary water cooperation include: the European Union's 2000 Water Framework Directive, Southern African Development Community (Shared Waters Protocol), United Nations Economic Commission for Europe's 1992 Helsinki Convention. Examples of basin-wide approaches are found in the Mekong, Indus, Senegal, Plata, Amazon, Danube, and Rhine. By far the most common governance approaches are found at the national and local levels.

THE WORKSHOP DISCUSSION

The workshop discussion focused on a number of on-going global activities. The discussions were focused on the level of formalization in the international mechanisms for transboundary water cooperation.

Some critical questions when evaluating international efforts are:

- Is there a formalized legal arrangement in place (convention, treaty, protocol)?
- How is this legal arrangement being implemented?
- What are the constraints for the deficient implementation of these arrangements?
- What can be done to enhance the implementation in terms of public participation, access to decision-making, information, and other mechanisms?
- What is the role of States in facilitating the implementation of the legal arrangements at the basin level? Individually, as well as collectively vis-a-vis other basin States?

What indicators can be used to evaluate the effectiveness of national and sub-national requirements to implement transboundary water agreements?

During the discussion, Meredith Reeves shared the initial outcomes of a pilot water quality legislation survey, developed jointly by INECE, Columbia University's Center for Earth Science Information Network, and the Yale Center for Environmental Law and Policy. Using indicators, the survey asked environmental law professionals in 53 countries to describe the laws, resources, and activities used to assure compliance with water quality and water management requirements.

THE OUTCOMES

One of the outcomes suggested by the workshop participants was the establishment of a collaborative process with the International Union for

Conservation of Nature Environmental Law Programme (IUCN Commission on Environmental Law and IUCN Environmental Law Centre). This partnership could be formalized in a Memorandum of Understanding between INECE and the IUCN Environmental Law Programme.

This initial phase of this collaboration could lead to the establishment of a discussion platform tentatively entitled “Making Water Law Work,” which will look at water law and governance implementation at the transboundary level.

3C TRANSBOUNDARY MOVEMENTS OF ENVIRONMENTALLY DETRIMENTAL GOODS

Facilitators: Arwyn Jones, Environment Agency of England and Wales

Walker Smith, Environmental Protection Agency, United States

Cora Steffens, Province North-Brabant, The Netherlands

Rapporteur: Terry Shears, Environment Agency of England and Wales

BACKGROUND

Most countries have government agencies responsible for ensuring that imported products comply with domestic environmental laws. These laws can regulate products from pesticides to motor engines to refrigerants. Critical to any successful monitoring program is understanding and targeting actions based on risk, and developing cooperative mechanisms between public health, environmental, and customs agencies.

THE WORKSHOP DISCUSSION

The group looked at the challenges faced in regulating the international imports and exports of goods. These challenges include:

- The number of stakeholders.
- The volume of exports/imports.
- Difficulty in defining waste versus products.
- Soliciting cooperation between all regulatory authorities.
- Defining the supply chain so that you know where best to intervene.

The group discussed the types of actions currently undertaken to ensure that goods in commerce meet the appropriate environmental standards. These actions

range from traditional enforcement activities to market-based interventions such as processes, standards, and working with suppliers and retailers.

Finally, the group discussed what is needed to undertake other actions, such as how to properly identify risks and underlying problems in order to define the full range of possible activities and interventions.

THE OUTCOMES

Potential future action was discussed. This could include the use of new technology, such as the use of electronic tagging and forensics, to track waste and improving the flow of information by involving other organizations such as IMPEL. There was a question over whether we needed ‘real-time’ monitoring of movements and a discussion over the possible use of task forces. There should be better alerts between countries and also use of single window technology. There was a need for capacity building, including the level and type. Cultural differences between customs officers and regulators also should be recognized and tackled.

4C ACTIONS AGAINST TRANSBOUNDARY MOVEMENTS OF HAZARDOUS MATERIALS

Facilitators: Gustavo Alanis, Centro Mexicano de Derecho Ambiental, Mexico
 Marta Szigeti Bonifert, Regional Environmental Center, Hungary
 Mihail Dimovski, Regional Environmental Center for Central and Eastern Europe
 Jenny van Houten, Ministry of Housing, Spatial Planning and the Environment, The Netherlands
 Peter Murtha, Environmental Protection Agency, United States

Rapporteur: Robert Heiss, Environmental Protection Agency, United States

BACKGROUND

The proper management of hazardous waste is an important human health and environmental issue. Companies that trade waste across borders for disposal and recycling must generally follow reporting, shipping, and record-keeping procedures. Domestic laws and international agreements dictate these procedures. Close compliance and enforcement cooperation between countries is necessary because the incentives to illegally dispose of hazardous waste are often high and because improperly managed hazardous wastes can harm human health and the environment.

THE WORKSHOP DISCUSSION

The facilitators presented the following workshop goals and questions:

- What lessons were learned from the actions taken, including common elements of success, obstacles overcome, and structural limitations that needed to be dealt with?
- What positive steps can be taken to improve the effectiveness of actions in the future?

Key points guiding the discussion were:

- The definition of hazardous material for varies by country.
- There is a need to determine the scope and extent of transboundary movement of hazardous waste to assess the severity of the problem, but this requires adequate data.
- Customs and environmental officials need to agree on the types of information is needed to be shared among international partners for successful prosecution of a case.
- Officials also should assess, to the extent possible, the incentives for exporters to ship illegally rather than to handle the waste domestically.

A number of cases and situations were discussed during this workshop. These included the towing of a vessel contaminated with PCBs and other wastes from France to Turkey for ship scrapping; the illegal dumping of municipal waste from Germany on farms in the Czech Republic and Hungary; the shipment of powdered milk contaminated with radionuclides that moved from the Ukraine to Greece and was denied entry to Macedonia for six months; and the illegal export of hazardous waste from the United States that was claimed to be product to a fictitious purchaser in Nigeria.

THE OUTCOMES

Participants of this workshop recommended that INECE and its partners consider developing one or more of the following products:

1. Universal targeting standards to guide the inspection of containers that may be involved in illegal transboundary shipments.
2. A compendium of relevant penalty policies and examples of fines and penalties collected in various cases, which could be presented in courts to promote the assessment of adequate penalties.

3. A flyer or other promotional material that advocates for naming responsible persons following the successful prosecution of criminal cases involving illegal shipments, and presents other communication strategies that can help limit transboundary movement of hazardous materials.

5C VESSEL POLLUTION

Facilitators: Ross Galbraith, Environment Canada

Stacey Mitchell, United States Department of Justice

Rapporteur: Susan Bromm, Environmental Protection Agency, United States

BACKGROUND

The International Convention for the Prevention of Pollution from Ships (MARPOL) Annex I deals with oil pollution from vessels. Specifically, it mandates that ocean vehicles may not discharge oily water at sea without running it through their pollution prevention equipment and attaining a level of less than 15 parts per million oil. Noncompliance with this requirement appears to be widespread and has resulted in significant, demonstrably adverse environmental impacts. This workshop explored how international cooperation might lead to better detection and enforcement of MARPOL Annex 1 and examined domestic tools and techniques that have been effective in addressing noncompliance.

THE WORKSHOP DISCUSSION

It is estimated that illegal bypass discharges from ocean going vessels result in 90 percent of oil discharges to oceans. A 2002 OECD study estimated that the annual quantity discharged amounts up to eight times the discharge from the Exxon Valdez. Efforts by the US to enforce the requirements reveal that most cases share the common elements of deliberate discharge of tons of oil, intentional bypassing of pollution equipment, and falsification of records/log books.

Stacey Mitchell presented a case study to highlight the importance of international cooperation in the detection and prosecution of violations of MARPOL Annex I. In addition, it was noted that Interpol's Pollution Crimes Working Group has developed an Investigation Manual on Oil Discharges from Vessels. The Manual provides both a basic tool to aid inexperienced inspectors in the inspection and detection process and also offers more sophisticated tools for more experienced inspectors. The manual can be obtained online through a country's Interpol National Central Bureau. Interpol is currently seeking funding for international training to enhance enforcement of MARPOL.

Ross Galbraith discussed Canada's development of a sophisticated satellite radar detection system. Canada built this program on the foundation established by

its ice program. Canada's program, called the Integrated Satellite Tracking of Oil Pollution (ISTOP) is now using a second-generation system – RADARSAT-2 – that is higher tech and provides better resolution imagery. Canadian courts currently require a visual confirmation of the satellite image, but perhaps this won't be necessary as the satellite imagery and chain of custody methodology improve. Canada is now optimistic that with the passage of new domestic legislation, enhanced detection capability using ISTOP and other tools, and an enforcement memorandum of understanding with the Canadian Department of Transportation, combined with Oil Record Book forensics and the Interpol investigation manual, compliance can be greatly improved.

Interpol's analysis showed that worldwide noncompliance was high and that oil pollution was coming from all kinds of vessels. Interpol's strategy is to target fleets with large numbers of vessels. The US is also giving priority to cases that involve multiple violations within a single fleet.

THE OUTCOMES

The workshop resulted in a number of recommendations for INECE:

1. INECE should strengthen its ties with Interpol, who in turn coordinates with the International Maritime Organization.
2. Interpol's Ecomessage – a system for governments to report major environmental crimes -- has been used successfully in many cases, and INECE should continue to promote its use (see <http://inece.org/topics/crimes/>).
3. INECE should look into training inspectors on vessel pollution as part of its train-the-trainers network and should evaluate how best to support Interpol's training efforts.
4. INECE should survey domestic legislation for the implementation of MARPOL Annex I and survey capacity trends for oil pumpout facilities at ports. There is anecdotal information that pumping facilities have closed at some ports. If accurate, this is a troubling trend as it may be indicative of the effects of widespread noncompliance (i.e., pumping stations are not being fully utilized because of illegal at-sea discharges, causing the pumping stations to no longer be financially viable and resulting in their closure).

TRACK D: BIODIVERSITY, ECOSYSTEMS, AND ENFORCEMENT

During the workshops in Track D, facilitators and participants sought to identify practical actions to improve the implementation and enforcement of regulations related to the protection of biodiversity. The Track paid particular attention to how improper implementation of biodiversity regulations also can affect related areas of environmental policy, including those of ecosystem goods and services and adaptation to and mitigation of climate change.

As part of the activities of this Track, Conference participants were invited to a screening of “Ivory Poaching Wars,” a BBC documentary on illegally taken elephant ivory. The film underscored a further theme of this Track; the increased involvement of sophisticated organized crime in ecosystem destruction and the critical role that enforcement cooperation plays in protecting the wildlife populations being destroyed by poaching and illegal trade.

1D PROTECTED AREAS

Facilitators: Prof. Rudi van Aarde, University of Pretoria, South Africa

Jason Bell, International Fund for Animal Welfare

Rapporteur: Pim Kapitein, Ministry of Agriculture, Nature and Food Quality, The Netherlands

BACKGROUND

Biologists and ecologists have long acknowledged the benefits of large protected areas that provide necessary rangeland for species based on biological needs, rather than on national boundaries. However, challenges, including the availability of usable land and the need for inter-jurisdictional cooperation, have created barriers to their development. This workshop critically evaluated the expanding range of wildlife conservation areas across international boundaries, such as ‘mega parks’ in Africa, and focused particularly on the enforcement challenges of transboundary protected area management.

THE WORKSHOP DISCUSSION

Participants agreed that current conservation models need more dimensions, encompassing social, economic, and legal considerations. These models also need to account for the political realities of the areas and recognize the role for methods to engage local communities.

THE OUTCOMES

The conclusions were that enforcement needed to be constantly brought on the conservation agenda and that this needed to be accomplished through working in partnerships. It was suggested that INECE could promote regional treaties to facilitate enforcement of violations of laws that occurred across borders. In bringing this on the agenda, INECE should approach the Convention on International Trade in Endangered Species of Wild Flora and Fauna and Convention on Migratory Species secretariats to develop common areas of cooperation.

2D SYNERGIES AMONG BIODIVERSITY-RELATED MULTILATERAL ENVIRONMENTAL AGREEMENTS

Facilitators: Elizabeth Mrema, United Nations Environment Programme

Christine Akello, National Environment Management Authority,
Uganda

Rapporteur: Gustavo Alanis, President, Centro Mexicano de Derecho Ambiental, Mexico

BACKGROUND

Synergies among multilateral environmental agreements (MEAs) are possible at the international, regional, national, and local levels. This workshop examined approaches to identifying and leveraging synergies among biodiversity-related MEAs and, on the basis of lessons learned, suggest practical ways for further encouraging synergies, with a focus on national level compliance.

THE WORKSHOP DISCUSSION

Much of the discussion revolved around the need to have partnerships for biodiversity conservation, taking into account water resources management, climate change, and the Millennium Development Goals. The United Nations Environment Program (UNEP) was identified as a key partner in that regard. Some of the specific strategies discussed included working together in the Green Customs initiative, coordination among the national focal points of the biodiversity MEAs, sharing performance indicators, and harmonizing and simplifying reports. Another important topic during the dialogue included the financial challenges associated with protecting biodiversity, including the need to balance the environment and conservation practices with social needs and property rights. Additionally, the relationship between biodiversity and climate change and, especially desertification, was discussed as an important area to address in MEAs.

THE OUTCOMES

There was agreement with respect to the following propositions:

1. There is a need to strengthen laws and policies related to biodiversity protection and preservation. Additional effort is necessary in order for international agreements to be properly implemented at the national level, particularly with regards to institutional arrangements for compliance assurance and cooperation among national focal points.
2. Enforcing national requirements designed to implement biodiversity-related MEAs is a complex process, requiring enforcement officials with expertise in compliance methods and in information management. INECE and its partners should help promote and strengthen capacity building resources for implementing MEAs, particularly in matters related to environmental management and enforcement. A compilation of best practices and further guidance on compliance with MEAs may assist this effort (see <http://www.unep.org/dec/onlineManual/>).
3. Similarly, inspectors must be well-trained and well-paid and operating under a strong institution. INECE and its partners should help promote and strengthen capacity building resources for compliance inspections related to the implementation of biodiversity MEAs.
4. In implementing biodiversity-related MEAs, it is essential that matters related to poverty and its relationship to the environment (including environmental degradation) and development be appropriately taken into account. Similarly, human rights treaties must be taken into account.
5. The relationship between biodiversity, climate change, and desertification has to be taken into account.
6. The United Nations Development Programme may be a potential partner in promoting biodiversity, particularly the area of Small Grant Projects/micro projects related to water pollution, ecotourism, waste management, and ecotoilets.

3D WILDLIFE LAW ENFORCEMENT

Facilitators: Bill Clark, Nature and Parks Authority, Israel

Stephen Kisamo, Lusaka Agreement Task Force, Kenya

Jacques du Toit, Gauteng Dept. of Agriculture, Conservation, and Environment, South Africa

Rapporteur: Frances Craigie, Gauteng Dept. of Agriculture, Conservation, and Environment

BACKGROUND

Growing demand for wildlife – live specimens and their products or derivatives – feeds illegal trade. This workshop explored how the globalization of illegal wildlife crime has attracted the attention of organized crime. Incorporating both a global and African perspective, the workshop discussed suggestions for effective cooperative efforts to suppress this expanding criminal activity.

THE WORKSHOP DISCUSSION

The workshop began with a talk by a ranger from Kenya who gave a personal account of a situation in which several of his fellow Kenyan rangers were attacked and killed by poachers during an operation. He provided insight into the difficulties faced on a daily basis by these officials. This was followed by a presentation by the facilitators of their work and recommendations for improving wildlife law enforcement.

THE OUTCOMES

The recommendations that resulted from both the facilitators' presentations and the contributions of the participants were the following:

1. Training.
 - o Training for wildlife enforcement officers needs to be focused on the correct individuals.
 - o Authorities need to look at programs that include a train-the-trainer component.
 - o Authorities should assess training programs of other enforcement agencies that are involved in investigation of wildlife crimes.
2. Raising awareness.
 - o Examples of products of the various CITES species should be made available for awareness training and use by investigators so that officials involved in these matters are able to recognize these products.
 - o Existing manuals and guidelines should be loaded onto the INECE website to ensure that these resources are shared.

3. Online information tools.

- o Verdicts and prosecutor arguments.
- o Smuggling techniques.
- o Species product layout.

4. Media.

- o There is a need to make use of the media raise awareness of the significant impact that wildlife crime (although we need to be careful about focusing on the value of the products as this could fuel the illegal trade).

5. Research.

- o Encourage nongovernmental organizations to include a diversity of species that are being targeted for illegal trade (such as reptiles) in their campaigns, so that more research can be done internationally and attention and resources can also be diverted to these species.

6. Use of existing enforcement structures.

- o More countries in Africa should get involved in the structures created for co-operation by the Lusaka Agreement and the work of the Lusaka Agreement Task Force.
- o More parties need to be involved in the Interpol Wildlife Working Group and make use of the Interpol Ecomessage system.

4D MARINE ENFORCEMENT: CASE STUDY ON INCONSISTENCIES AND CONSEQUENCES AMONG MULTILATERAL AGREEMENTS ON WHALING

Facilitators: Ambassador Alberto Szekely, Mexico

Stacey Mitchell, Department of Justice, United States

Rapporteur: Ross Galbraith, Environment Canada

BACKGROUND

Despite efforts to advance the international environmental conservation agenda, as articulated formatively in the 1987 Brundtland Report entitled 'Our Common Future,' and latterly through other international conservation mechanisms such as the 1992 Earth Summit in Rio de Janeiro, it is apparent that a 'gradualism' approach to environmental conservation at global scale has not been as effective in

producing the type of anticipated concrete results which many proponents of such an approach had originally foreseen.

THE WORKSHOP DISCUSSION

In 2008, we still face extremely significant challenges vis-a-vis achieving substantive progress on a number of critically important environmental issues; notwithstanding the notable success of certain international efforts, such as the reduction of ozone depleting substances pursuant to the 1987 Montreal Protocol. For example, the UN Framework Convention on Climate Change and the Kyoto Protocol have not succeeded in marshalling the necessary international support required to adequately address the key issue of mitigating highly elevated levels of greenhouse gas emissions which increasingly threaten natural, social and economic capital vectors at global scale.

This has led to the suggestion that international environmental law is failing to fulfill its anticipated and intended role as an effective vehicle of ensuring that the environmental security of future generations is adequately protected. One such example of the failure of our international environmental law to adequately mitigate such risks is inherent in the performance of the International Convention on the Regulation of Whaling; a convention which operates under the auspices of the International Whaling Commission. Since the 1986 International Whaling Commission declaration of a moratorium on commercial whaling, Japan is perceived to have defied and/or marginalized the overarching conservation principle of the International Convention on the Regulation of Whaling by continuing to commercially harvest whales under the scientific research provision in International Convention on the Regulation of Whaling Article 8.

Some consider that Japan's activities in this regard constitute a subversion of international diplomacy. Unlike the Convention on the International Trade in Endangered Species, within which environmental non-governmental organizations play an active and robust role, the International Whaling Commission is not such a forum within which environmental non-governmental organizations have the opportunity to participate other than in the capacity of (non-voting) observers. Many would argue that this inability of environmental non-governmental organizations to substantively engage the International Whaling Commission decision-making process represents a serious impediment to the achievement of its stated goals. This view was reinforced in a report sponsored by the International Fund for Animal Welfare and published in 2006 by a panel of independent international law experts.

THE OUTCOMES

There is a current need to strengthen the integrity of international environmental conventions that operate in an overly political fashion. Empowering environmental non-governmental organization may be the only viable remedy to counter-balance

the lack of resolve of certain governments in this regard. Inherent in the process of environmental non-governmental organization empowerment is the requirement for more effective access to the global media. INECE could foster this process by supporting the preparation of a report on the overall effectiveness of our international environmental conventions. Given that it is not mandated to act as an advocacy organization, one of the highest value contributions that INECE could make would be to provide impartial feedback with respect to which international environmental conventions are deemed to be working well in achieving their stated goals; and, conversely, which are not.

5D HABITAT DESTRUCTION AND REHABILITATION

Facilitators: James Isiche, International Fund for Animal Welfare, Kenya

Julius Kipng'etich, Kenya Wildlife Service

Rapporteur: Tim Whitehouse, INECE Secretariat

BACKGROUND

Meru National Park is located 370 kilometers from Nairobi. It is the third largest wildlife conservation area and elephant habitat in Kenya. It became part of the National Park System in 1967. In the mid-1970s and 1980s, heavily armed gangs of poachers invaded the park. They nearly wiped out all the wildlife and attacked tourist vehicles. The park's elephant population, for example, plummeted from over 3,000 to a mere 251. Rangers were poorly equipped and some were killed. Tourists stopped coming to the park. The infrastructure began to fall apart and Meru continued to be a volatile area until the late 1990s.

THE WORKSHOP DISCUSSION

This workshop examined how successful conservation and management of a national park is reliant on how well authorities are able to secure its land and with it, the integrity and long-term viability of the biological resources of the park. It examined this effort in the context of habitat destruction and rehabilitation in Meru National Park in Kenya.

In the 1990s, when the Kenyan Wildlife Service decided to try and restore Meru, only about 2,000 tourists were coming to the Park. The International Fund for Animal Welfare worked with the service to develop an action plan to restore Meru. Eventually, IFAW and the service signed a Memorandum of Agreement on funding and management of the park. The project worked to restore security in the park, relocate the park headquarters, repair and rehabilitate basic equipment, purchase field equipment, create tourist facilities, construct fences, develop a 20 year master plan, integrate community activities with wildlife conservation, and translocate animals into the park.

A few of the key lessons of this effort are the absolute need for security in order for other program elements to fall into place, the need for donor support and public/private/NGO partnerships, and a formal agreement to show the obligation of all parties.

THE OUTCOMES

A group discussion followed in which participants suggested a number of possible roles for INECE to play in efforts to support the rule of law in parks around the world. The suggestions were to:

1. Collaborate with IFAW on creating a list of “paper parks” (parks that exist in name only) around the world.
2. Look for avenues of cooperation between existing organizations, such as the international federation of park rangers, in which INECE could help fill a niche on promoting exchanges and cooperation on law enforcement matters.
3. Invite international community organizations to create partnerships on the ground and in the field.
4. Examine the concept of buffer areas around parks where development is restricted but on-going traditional activities are allowed to continue and evaluate the types of laws and tools exist to support these efforts.
5. INECE can play a role in developing and promoting enforcement models, particularly those where humans and protected animals are able co-exist in a protected area, such as in South Africa or Zambia. Examine not only successes but failures, also.

TRACK E: CLIMATE CHANGE AND COMPLIANCE

1E NATIONAL MEASURES FOR CLIMATE PROTECTION

Facilitators: Jan van den Heuvel, DCMR Environmental Protection, The Netherlands

Ken Macken, Environmental Protection Agency, Ireland

Rapporteur: Meredith Reeves, Earthpace, LLC

BACKGROUND

This workshop examined the concepts of mitigation and adaptation, considered how national targets could be translated into sectoral and local level targets, and discussed the need to develop measurement tools that deliver reportable and verifiable results.

THE WORKSHOP DISCUSSION

As national, state, and local governments increasingly adopt laws to control climate change and promote energy efficiency, particular attention needs to be given to crafting a sound foundation for the implementation of environmental compliance with these requirements. To ensure that new climate change policies will be effective in achieving their intended results, program designers should assess any new requirement across all stages of the regulatory cycle, including policy development, drafting legislation and regulations, permitting, compliance promotion, compliance monitoring, non-compliance response, and program evaluation.

National emissions reductions targets set at a regional or international level (e.g., through the EU Emissions Trading Scheme) could be broken down on a sector-by-sector basis (e.g., cement, steel) to facilitate implementation, establish a level playing field among regulated entities, and reduce “leakage” of emissions to countries with weaker regulations. One of the most critical design aspects for success in reducing emissions is to develop targets or requirements that are measurable, reportable, and verifiable.

Participants recognized that, in many countries, there is likely to be significant overlap between climate change mitigation and adaptation efforts and existing environmental and energy regulations. Conducting a review of a country’s existing national obligations with respect to climate change may be an effective way to understand the country’s needs and opportunities and may be a way to demonstrate the types of activities already being undertaken that

reduce greenhouse gas emissions. However, participants also recognized that comprehensively assessing existing national obligations could be complex because there are many variables and differing levels of capability and capacity.

THE OUTCOMES

To support the development of national measures for climate mitigation and adaptation, INECE could:

1. Develop a pilot project to design an indicator set for an industry sector.
2. Conduct a review of existing national obligations with respect to climate change, including both binding and non-binding targets.
3. Develop a set of principles regarding the compliance aspects of developing and implementing systems for national climate change measurement.
4. Ensure that environmental compliance and enforcement theory and practice are well represented in climate mitigation and adaptation efforts, particularly those relating to the protection of ecosystems and water resources.

2E TECHNOLOGY TRANSFER AND FINANCIAL ASSISTANCE

Facilitators: Kunihiro Shimada, Ministry of Environment, Japan

Peter Storey, PPL International

Kenneth J. Markowitz, Consultant to the INECE Secretariat;
Senior Counsel, Akin Gump Strauss Hauer & Feld LLP

Rapporteur: Ken Macken, Environmental Protection Agency, Ireland

BACKGROUND

Technology transfer is defined under the UN Framework Convention on Climate Change as practicable steps by developed country Parties and other developed Parties included in Annex II “to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly to developing countries to enable them to implement the provisions of the Convention.” This workshop sought to explore ways that technology transfer and financial assistance for mitigation of and adaptation to the impacts of climate change can have a secondary impact of building capacity for compliance with emissions limits and other climate-related policies.

THE WORKSHOP DISCUSSION

Peter Storey provided a private sector view of what technology transfer means, emphasizing that it lies at the center of current climate change negotiations. His view is that doubts concerning the current extent of technology transfer result mainly from restrictive definitions (and are also possibly partially negotiating position). He informed the group that last year \$3-7 billion worth of investment had occurred, and emphasized the continued need for private sector funding as the public sector cannot provide the amounts required.

Ken Markowitz discussed the necessity of ensuring a meaningful level of technology transfer in order to reach emission reduction goals and environmental improvement targets. He also raised the issue of inadequate enforcement of intellectual property rights in recipient countries potentially limiting the transfer of valuable emissions reduction and clean energy technologies. Building consensus on how to get new and existing technologies to countries that need them most, while protecting the financial interests of those exporting the technologies, will require significant creativity and compromise.

Kunihiko Shimada suggested that a critical need is to be able to measure compliance against the requirements of the three key articles in United Nations Framework Convention on Climate Change and the Kyoto Protocol dealing with this issue. He informed the group that the Expert Group on Technology Transfer is working to develop a suitable performance indicator to measure the impact of technology transfer.

The general discussion then concentrated on a number of issues, including the identification of opportunities to enhance uptake of technologies; methods to ensure appropriate finance is available (particularly at the early stages of trying to introduce a new technology to market); the need to create an enabling environment (removal of barriers and possible scope for incentives); and the need to ensure the resources and skills are available to maintain and operate any new technology.

THE OUTCOMES

To support efforts to facilitate the transfer of technologies and knowledge, participants recommended that INECE could:

1. Develop an environmental compliance and enforcement training program to transfer the network's knowledge to interested countries to help implement the provisions of the UN Framework Convention on Climate Change and the Kyoto Protocol, and case studies highlighting environmental compliance and enforcement best practices relevant to climate mitigation and adaptation through the INECE web site and/or through the United Nations Framework Convention on Climate Change technology transfer clearinghouse TT:CLEAR.

2. Evaluate whether and how to work with the United Nations Framework Convention on Climate Change Expert Group on Technology Transfer as it seeks to develop a suitable performance indicator to measure compliance against the requirements of the three key articles in Framework Convention and the Kyoto Protocol on technology transfer.

3E INTEGRITY IN MARKET MECHANISMS

Facilitators: Howard Leberman, Environment Agency for England and Wales
Edwin Aalders, International Emissions Trading Association

Rapporteurs: Louis Kotzé, North-West University, South Africa
Anél du Plessis, North-West University, South Africa

BACKGROUND

Among the most significant challenges to international harmonization of emissions trading systems is the need to guarantee a high level of compliance with each system's regulations supporting transparency and accountability in the monitoring, reporting, and verification of assets. The facilitators and participants of this workshop sought to identify actions that INECE and its partners could take to build an expert knowledge base on compliance and enforcement best practices necessary for linking emissions trading systems.

THE WORKSHOP DISCUSSION

Building from the findings of INECE's 2007 workshop, "Improving Efficiency, Effectiveness, & International Harmonization of Compliance Activities in Emissions Trading," which explored the role of compliance in assuring trust and integrity within and among emissions reductions platforms, participants discussed the value of market mechanisms to control greenhouse gas emissions and described experiences from their countries and regions (see <http://inece.org/emissions/>).

Discussion centered on the European Union Emissions Trading Scheme (EU ETS), which is designed to help Europe meet its commitment to reduce emissions under the Kyoto Protocol. Phase 1 of the EU ETS, which served as a pilot period, ran from 2005 to December 2007. Running from 2008-2012, Phase 2 of the EU ETS aims to decrease average European emissions by 6% of 2005 levels. The beginning of Phase 2 saw changes of the EU scheme with the inclusion of four non-EU states, the proposed inclusion of aviation, and new rules governing the inclusion of offsets. As the "first off the block," the EU ETS has been the driver for the development of much of the international carbon market; the cumulative value of allowances traded in 2007 was US\$50 billion.

Participants discussed how the scope and complexity of the European market raised significant challenges to international linkages, particularly with US regional initiatives or a possible future national US cap-and-trade program. Participants expressed concerns that little progress has been made on developing a common, global emissions reporting “language” and procedural guidance, possibly due to the shift in program design from scientists and technical experts to governments and policy experts.

Participants further discussed the applicability of the same principles of integrity and accountability in monitoring, reporting, and verification to the voluntary markets. Voluntary mechanisms have few direct penalties for wrongdoings, but an incentivizing ‘carrot’ exists in the form of stakeholder satisfaction.

OUTCOMES

Participants recommended that INECE continue to advance the recommendations of its 2007 workshop on “Improving Efficiency, Effectiveness, & International Harmonization of Compliance Activities in Emissions Trading” and could further:

1. Develop and facilitate technical working groups on (1) Registries, (2) Verification & Accreditation, and (3) Monitoring & Reporting that will conduct independent assessments of best practices, metrics, and terminology; extract lessons from the global trade systems, securities trading, accounting, and the US systems designed to reduce SO_x and NO_x; and provide recommendations applicable to existing and emerging emissions trading schemes.
2. Develop appropriate capacity building tools, such as a web-based inventory of articles and resources.
3. Develop recommendations on administrative rule-making procedures.
4. Coordinate with the International Carbon Action Partnership and other processes.

4E SUSTAINABLE MANAGEMENT OF CARBON SINKS

Facilitators: Kenneth J. Markowitz, Consultant to the INECE Secretariat; Senior Counsel, Akin Gump Strauss Hauer & Feld LLP

Ana Maria Kleymeyer, Ministry of Environment, Argentina

Rapporteur: Dimitar Koparov, Earthpace, LLC

BACKGROUND

As the global community seeks to identify strategies for reducing greenhouse gas emissions, the sustainable management of forests, soil, and other carbon sinks has received significant attention. During the UN Climate Change Conference in Bali, developing country delegates pushed for recognition of the contribution of “reduced emissions from deforestation and forest degradation” (or REDD) through formalizing these reductions as tradable credits under the Kyoto flexibility mechanisms. However, countries purchasing credits under the Clean Development Mechanism have expressed concerns that emission reductions from “avoided deforestation” and from other land use activities are too difficult to objectively quantify. Participants in this workshop evaluated the verification challenges to reducing emissions from deforestation and to protecting other carbon sinks, and identified actions for INECE to build capacity for assuring compliance in this context.

THE WORKSHOP DISCUSSION

Facilitators and participants in this workshop explored the challenges of quantification, evaluation, verification, and monitoring of biological carbon sinks and of generating certified emissions reduction credits from land use, land use change, and forestry (or LULUCF) activities.

Experts suggest that as much as 20% of global CO₂ emissions result from deforestation and, during the December 2007 UN Climate Change talks, there was significant pressure from developing countries to include credits generated through “avoided deforestation” under the Kyoto Clean Development framework. The Climate Conference generated a Decision “recognizing that reducing emissions from deforestation and forest degradation in developing countries can promote co-benefits,” but did not commit to a formal course of action.

Much of the challenge with using credits generated from land use, land use change, and forestry projects lies in the difficulty of assuring compliance with monitoring and reporting requirements to the level of integrity necessary to monetize the credit. Participants discussed the challenges with generating “carbon credit currency” from the protection of carbon sinks, including the immaturity of the measurement framework for assessing carbon sinks. Participants identified particular concerns with measuring short term carbon emissions from forestation, the definitional issue of when a forest becomes a sink, whether a “stable” (mature) forest can still be considered a carbon sink, the permanence of biological carbon sinks, and the relative effectiveness of the major sinks (forests, soils, and oceans).

Participants noted that the use of carbon credits from land use, land use change, and forestry projects has faced opposition from the European Commission, which concluded that these types of projects could undermine the integrity of the EU Emissions Trading Scheme, due to challenges associated with transparency,

measurement, monitoring, and verification of the carbon reductions. Participants also considered the development benefits of forestry and land use credits, while recognizing the need for any future market mechanism to respect the rights of indigenous peoples and to direct proceeds towards communities whose livelihood may become displaced.

THE OUTCOMES

The discussion illuminated a significant role for INECE to build capacity for improving governance and management of carbon sinks, with a particular opportunity in contributing to improving compliance with laws to limit illegal logging and illegal trade in timber products. Workshop participant identified the following action items for INECE:

1. Develop a compendium of compliance and enforcement mechanisms that are used in the context of carbon sinks (forestry, land change...), including case studies and best practices, particularly on enforcement responses to illegal logging.
2. Initiate an online forum for discussions on compliance and enforcement mechanisms to protect carbon sinks.
3. Host an international workshop on systems of evaluation, quantification, verification and monitoring of biological carbon sinks, where experts and practitioners could exchange information and experience. A possible workshop focus could be the design of a universal conversion of carbon sink value to carbon credits.

5E MEA COMPLIANCE MECHANISMS AND THE POST-2012 CLIMATE REGIME

Facilitator: Kenneth J. Markowitz, Consultant to the INECE Secretariat; Senior Counsel, Akin Gump Strauss Hauer & Feld LLP

Ana Maria Kleymeyer, Ministry of the Environment, Argentina

Rapporteur: Lawrence I. Sperling, United States Department of State

BACKGROUND

During the 2007 United Nations Climate Change Conference in Bali, Indonesia, governments agreed to the “Bali Roadmap” – a series of negotiations on mitigation, adaptation, technology, and financing to move the international community towards agreement on a new global climate treaty by December 2009. The new treaty would be implemented subsequent to the expiration of the commitment period of the Kyoto Protocol in 2012.

During this workshop, participants discussed with two main themes: (1) the potential direct interaction between a post-2012 climate agreement and other multilateral environmental agreements and (2) lessons that might be learned from compliance mechanisms in other Multilateral Environmental Agreements that can inform the development of a compliance mechanism for a post-2012 climate agreement.

THE WORKSHOP DISCUSSION

Facilitators gave an overview of the current climate negotiations, focusing on: 1) what is meant by “a post-2012 climate agreement” and (2) how other Multilateral Environmental Agreements come into play.

The Kyoto Protocol’s first commitment period is 2008 – 2012. While Kyoto itself envisioned a subsequent commitment period, an issue discussed was whether the post-2012 regime will be a completely new agreement, rather than an extension/modification of Kyoto. The advantage of new negotiations would be if they could bring in countries that are not parties to Kyoto or not subject to mitigation commitments under Kyoto, or to otherwise clarify Kyoto’s distinction for “economies in transition.”

Other MEAs generally thought to interface with the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol are the Montreal Protocol on Substances that Deplete the Ozone Layer, the Convention on Biodiversity and the United Nations Convention to Combat Desertification. The facilitators described the Convention on Biodiversity (CBD) as having no compliance mechanism *per se*, except for trade in living modified organisms under the Cartagena Protocol; hence there has been very little interaction between CBD and UNFCCC, except for expert advice on biodiversity issues when needed. Furthermore, limited discussion has taken place between the Kyoto and United Nations Convention to Combat Desertification compliance committees. The most explicit area of interface is with the Montreal Protocol, since many ozone depleting substances are also greenhouse gases.

Kyoto’s requirements, and hence its compliance mechanisms, touch on emissions reductions, national reporting, and inventories. Countries that are found not to meet the core eligibility criteria for the Kyoto mechanisms (Emissions Trading, Clean Development Mechanism, and Joint Implementation) can be suspended from trading in the official Kyoto carbon markets. For Annex I countries’ emission reduction obligations, if a country is out of compliance with its Kyoto commitments in 2012, a penalty that increases emissions reductions obligations for the next commitment period by 30% of the shortfall will be imposed.

Participants discussed the effectiveness of these types of compliance mechanisms. There was consensus that, by delaying the “bite” of the sanction until after 2012, this mechanism was most likely ineffective. Countries could simply try their

chance at negotiating a better deal at the end of the next commitment period, or roll their sanctions into the future interminably. One participant suggested establishing an international environmental court to adjudicate cases of non-compliance with a post-2012 climate treaty.

Participants then discussed looking at other MEAs for alternative models of compliance mechanisms that may be more effective (whether or not there is a direct interface between that MEA and Kyoto requirements). The Convention on International Trade in Endangered Species, which imposes trade sanctions for certain types of non-compliance, provides a potential model. Another party suggested the Montreal Protocol may be the best model to look at, given the Montreal Protocol's historical record of effectiveness. It was mentioned that the proposed United States Lieberman-Warner Bill uses trade sanctions, in the form of a tariff-like requirement to buy carbon credits in cases of failure of compliance.

THE OUTCOMES

Participants agreed that INECE could play a constructive role in supporting the post-2012 climate negotiations, by:

1. Evaluating alternative compliance mechanism models, informed by those in other MEAs, and analyse the pros and cons of different approaches. The Secretariat should evaluate whether and how to propose specific language as a result of the analysis, with consideration to ensuring that the language did not represent the position of and did not advocate on behalf of any governmental official who participates in INECE. Participants recommended that INECE provide any recommendations by late 2008 or early 2009, to allow time for uptake into the negotiation process.
2. Conducting further research on designing compliance mechanisms to restrict emissions that contribute to climate change, including greenhouse gases, ozone depleting substances, and black carbon (a component of soot).

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TRACK F: CREATING A CULTURE OF COMPLIANCE

Good governance relies on culture, laws and norms. Facilitators and participants of workshops in Track F discussed issues associated with creating a culture of compliance. Making environmental compliance everyone's business is an essential component to rule of law and sustainable development.

1F NATIONAL COMPLIANCE PLANS FOR THE IMPLEMENTATION OF MEAs

Facilitators: Iwona Rummel-Bulska, United Nations Environment Programme

Rosalind Reeve, Chatham House

Rapporteur: Tom Higdon, INECE Secretariat

BACKGROUND

The successful implementation of multilateral environmental agreements (MEAs) requires individual countries to implement domestic laws, policies, and compliance programs as part of coordinated national implementation plans. Certain features of these national implementation plans have helped ensure the successful implementation of MEAs.

THE WORKSHOP DISCUSSION

Iwona Rummel-Bulska presented a brief history of national implementation of MEAs, noting how MEAs played a leading role in stimulating enactment of national environmental legislation in much of the developing world. She noted the important role convention secretariats have played in helping parties develop and implement national laws and highlighted the role of United Nations Environment Programme (UNEP) in this regard, noting particularly the 2002 UNEP Guidelines on Compliance with and Enforcement of MEAs. Ms. Rummel-Bulska outlined three important issues for workshop discussion:

- The advantages and drawbacks associated with verifying MEA compliance through reporting and other "self policing" by the parties.
- The adequacy of national legal provisions for liability and damages under MEAs, particularly in developing countries.
- The adequacy of MEA national focal points for communication and coordination, particularly in developing countries.

Rosalind Reeve presented a brief history of MEA national implementation plans (also referred to as national compliance plans). She also discussed the Convention on International Trade in Endangered Species (CITES) National Legislation Project that, since 1992, has helped evaluate national laws and assist parties with developing effective legislation that adequately implements CITES. Ms. Reeve outlined three important points:

- There is a gap between MEA requirements and national laws.
- Many MEAs do not have adequate resources to promote implementation (the obvious exceptions being the Ozone and Climate regimes). This is especially true for pre-Rio (1992) MEAs, which have little, if any, dedicated funding mechanisms.
- The UNEP Guidelines, while valuable, are just a starting point.

A lively discussion ensued that drew input from each workshop participant. While touching on a number of specific points, the following were the recurring themes:

- There is an urgent need to provide assistance to countries, particularly in the developing world, to build national capacity to implement MEA commitments.
- Many countries join MEAs without first evaluating their ability (or even the domestic political will) to comply.
- There is little coordination or prioritization of environmental policy at the level of MEA negotiation or at the level of national implementation.
- In instances where adequate substantive requirements have been enacted in national law, there is often still a deficit in enforcement provisions (such as civil, administrative, and criminal remedies).

THE OUTCOMES

Participants in this workshop suggested that INECE and its partners could undertake the following activities:

1. Build national capacity to improve coordination and prioritization with regard to MEA commitments, stressing the need to evaluate the ability (and wiliness) to accept new international commitments.
2. Study gaps in national implementation of MEAs with the goal of identifying common problems that can be met with common solutions.
3. Review and identify strategies to improve the role of civil, administrative, and criminal enforcement in compliance with MEAs.

2F USING SOCIETAL VALUES TO MARKET ENVIRONMENTAL COMPLIANCE

Facilitators: Antonio Oposa, The Law of Nature Foundation, The Philippines

Brahim Zyani, Secretariat Chargé de l'Eau et de l'Environnement;
Head of NECEMA, Morocco

Rapporteur: Davis Jones, Environmental Protection Agency, United States

BACKGROUND

Law is designed to change behavior, but the actual legal code is only 20% of equation. To truly change behavior, we must recognize other forces such as altruism, thinking about the future of our children, fear of being shamed, and religious beliefs including traditional spiritualism, and other values that exist in both developed and developing countries. These societal norms and cultural values establish and clarify the relationship between individuals and their neighbors as well as between individuals and nature. The workshop focused on how we can use those values, particularly at the local level, to solve complex, international environmental problems such as climate change.

THE WORKSHOP DISCUSSION

Societal values should be given greater priority and recognition, and must be integrated into national law to make them enforceable. By codifying those values, we take them from their origins but they cease to be spontaneous social values. For example, in Islam, waste is forbidden and water must be used efficiently, as reflected in the methods for religious washing and purification before prayer. Even if water is abundant, the Koran calls for its efficient use. Therefore, in Islamic nations such as Morocco, these religious values should be considered even though the rules about water conservation may be embodied in secular laws.

Appropriate cultural and religious traditions must be used to reach communities in a way they understand. For example, immigrant business owners who come from other cultures may not understand the local societal norms. Working with traditional leadership to incorporate traditions and transfer the control and protection of an area to the local people instead of putting it under outside control makes communities feel that they are preserving their own home rather than living in someone else's preserve. Environmental education in schools to sensitize school children early has advanced in response to societal pressure. Organized faith communities and leadership should be involved, like imams addressing God's relationship with humans and the earth, Pope Benedict XVI declaring that environmental degradation is a sin, and the US Episcopal Church's writing of the Catechism of Creation (http://www.episcopalchurch.org/19021_58393_ENG_HTML.htm).

These societal pushes are also reaching into corporate policies. Wal-mart's "Sustainability 360" plan (<http://walmartstores.com/Sustainability/>) brings the company's two million associates, numerous stores, and various suppliers toward sustainable practices. These efforts are saving the company significant resources while responding to society's call for sustainable development and pulling global suppliers toward more compliant practices.

THE OUTCOMES

What can INECE do to promote these ideas? The group suggested that INECE capture and publicize examples of how people have used traditional values to help communities pull from within to achieve increases in desire to comply rather than pushing to compel compliance. This should include corporate examples, environmental education efforts, and religious activities. In addition, INECE could set up a virtual dialogue focused on societal pressures toward compliance and invite educators and religious leaders to participate and share their contributions. The workshop participants can help identify whom to engage in the dialogue, including major religions and local communities.

3F RESPONSES TO CORRUPTION

Facilitators: Olya Melen, Environment-People-Law, Ukraine

Kate Mumladze, Inspection for Environmental Protection, Georgia

Lawrence I. Sperling, Department of State, United States

Rapporteur: Tom Higdon, INECE Secretariat

BACKGROUND

Corruption can cause severe environmental harm even where the established law and enforcement scheme is otherwise sound. Examples abound where corrupt environmental officials issue weak permits undermining enforcement options or approve inappropriate impact assessments thus allowing illegal activities. Compliance can also be undermined by the unreliability of police, inspectors, prosecutors, or judges who have been unduly influenced by violators.

THE WORKSHOP DISCUSSION

Workshop participants discussed efforts used to prevent, deter, detect, and prosecute corrupt practices in their respective countries. The workshop also addressed environmental impacts resulting from corruption, as well as obstacles corruption presents to environmental compliance promotion, effective environmental enforcement, and to enterprises that may otherwise wish to comply.

Many participants pointed out that corruption is the single greatest obstacle to economic and social development. It undermines development by distorting the rule of law and weakens the institutions on which economic growth depends. The harmful effects of corruption especially hurt the poor.

The facilitators noted that no universally agreed upon definition of corruption exists, although several regional and global treaties and other instruments promote programs to assure integrity and reduce corruption. There are a lot of widely accepted ideas about the factors that increase the risk of corruption, such as culture, mentality, low salary (although not all the participants agreed), and poverty. It was noted that in the chain from policymaking to enforcement there are a number of different occasions in which corruption could occur. One of the greatest impacts of corruption is the credibility of the system as a whole. Other negative political, economic, environmental, human development and security impacts result from corruption as well. Governments' efforts to weed out corruption within their own ranks are important, since continued government corruption will undermine the rule of law and spread corruption into all levels of society. Governments can pass legislation, adopt codes of conduct, and institute training and incentive programs. Adequate legal authority and prosecutorial capacity for identifying and responding to corrupt practices are also critical. Participants noted that corruption often involves collusion between government and private actors. As a result, it is helpful to complement laws, policies, and procedures affecting government employees with laws and programs to discourage private actors from participating in corruption.

OUTCOMES

INECE should consider including discussions about corruption in its capacity building course. INECE should also consider making an integrity platform on its website to disseminate best practices and provide links to conventions and other materials. In addition, INECE might consider developing a brochure on the subject.

4F THE ROLE OF THE JUDICIARY IN IMPROVING ENFORCEMENT PROGRAMS

Facilitators: Pradeep Bakshi, Asia-Pacific Jurist Association, India
 Judge Susan Biro, Environmental Protection Agency, United States
 Sedfrey Candelaria, Judicial Academy, The Philippines

Rapporteur: James McDonald, Environmental Protection Agency, United States

BACKGROUND

The judiciary upholds the rule of law and ensures that national and international laws are interpreted and applied fairly, efficiently, and effectively. This workshop emphasized the vital importance of the judiciary in addressing enforcement and compliance of environmental laws. During this session, justices and practitioners from India, the Philippines, the US, and other countries discussed the role of the judiciary in strengthening environmental compliance and enforcement and explored how enforcement programs can better represent themselves before courts.

THE WORKSHOP DISCUSSION

Judge Susan Biro discussed how cases are brought through the administrative law process. As an Administrative Law Judge, Judge Biro presides over enforcement actions initiated by USEPA for the assessment of civil penalties. These enforcement actions and permit proceedings are in accordance with the US Administrative Procedures Act. Administrative proceedings are brought before Administrative Law Judges under a number of environmental statutes.

Judge Biro indicated that Administrative Law Judges are viewed like federal judges and are able to hear cases involving many different areas of the law. She indicated that environmental law is seen as a divisive issue: either you are part of the Agency or part of the regulated community. Therefore, Judge Biro expressed that as Administrative Law Judges, judges attempt to indirectly encourage compliance through the following methods:

- Training: Here she views her role as telling the regulated community and United States Environmental Protection Agency (USEPA) about the process/procedures to help them become better litigators (enforcement attorneys) and helping the regulated community come into compliance with the law.
- Improving the law: Judge Biro indicated that environmental law has become very important and the regulations are complicated. She views her role as helping to clarify the issues and the rule of law, so that all parties have an understanding of what is required.
- Encouraging compliance: Compliance with environmental laws is the main goal. The regulated community needs to understand what is required. Environmental laws should be in simple terms. Legal decisions should be published and distributed broadly among the regulated community using trade publications and other periodicals.

Judge Biro indicated that many of the cases filed by USEPA are generally settled using alternative dispute resolution.

Pradeep Bakshi noted that in India, Article 21 of the Constitution guarantees a fundamental right to life for all citizens. This provision of the Constitution has been expanded to include the fundamental right to live with dignity and with a clean environment. Under the principle of public interest litigation, citizens play a vital role in protecting the environment. The citizens are coming forward to assist in resolving environmental law cases and are bringing matters before the court to investigate entities that violate environmental laws. He expressed the importance of involving nongovernmental organizations (NGOs) in the process early so that they can help address environmental compliance and enforcement. He noted that NGOs play a vital role in India through their networks and training programs. Mr. Bakshi concluded by stating: 1) the Courts appear ready to deliver judgments that should result in greater environmental protection or reduced environmental harm; 2) judges advance the development of environmental law by their traditional task of interpreting and filling the gaps in the legal texts; 3) judges, as guardians of the rule of law, are uniquely positioned to give environmental law force and effect; and 4) judges can bring integrity and certainty to the process of environmental protection and help to ensure environmental responsibility and accountability within the government and the private sector.

Professor Sedfrey Candelaria indicated that, “courts have characteristically been viewed as conservative and cautious in approaching new development in law.” Further, he stated that the complexity of environmental law cases has challenged sitting judges as they grapple with finding innovative solutions to these cases. Empowering the judges through judicial education, coupled with institutional reform, could lead towards effective adjudication of environmental cases. Professor Candelaria provided a brief overview of what the Philippine Judicial Academy (PHILJA) is doing to assist judges in understanding environmental laws.

He also indicated that PHILJA is focusing on the establishment of “green benches.” The Supreme Court, through some “champions” on environmental law issues within the judiciary, wants a system of specialized treatment of environmental cases on account of the need to understand: 1) the nature of environmental law cases; 2) the urgency and timely resolution of cases; 3) the complex process of handling evidence; and 4) the application of creative penology.

Professor Candelaria concluded his presentation by outlining three factors that have contributed to successful advocacy for the green courts in the Philippines. They are: 1) judicial leadership; 2) judicial education and training; and 3) strengthening networks. He noted that PHILJA anticipates many environmental cases will be handled through the green benches, and that judicial education and training on environmental issues is paramount if we are to address the environmental concerns of today and tomorrow.

THE OUTCOMES

INECE is in a unique position to provide significant support for the judiciary in helping to address environmental compliance and enforcement. The recommendation from the workshop participants is that INECE create a judicial network of judges, court administrators, lawyers, and other practitioners to assist with training and other educational opportunities to advance environmental law issues. Further, INECE should work with IUCN to develop a forum on environmental law, which would allow for the sharing of learning tools among different countries that can be used as models of success. Other recommendations include: 1) using different approaches for addressing environmental issues; 2) strengthening legislation that the judiciary can use; 3) better training of the judiciary on environmental law; and 4) using alternative dispute resolution to encourage settlement of environmental law cases.

5F SUPPLY CHAIN COMPLIANCE

Facilitators: Phyllis Harris, Wal-Mart Stores

Melissa Fourie, Department of Environmental Affairs and
Tourism, South Africa

Rapporteur: Fred Kok, LOM Secretariat, The Netherlands

BACKGROUND

Responsible corporations seek not only to comply with their own responsibilities, but also to work to ensure that their vendors and suppliers produce their products in using environmentally-sound methods. This workshop presented examples of Wal-Mart's efforts to improve its environmental performance and the performance of its suppliers and South Africa's experience with this emerging focus area.

THE WORKSHOP DISCUSSION

Phyllis Harris made the first presentation about supply chain compliance at the Wal-Mart. Ms. Harris presented the environmental strategy of Wal-Mart as exploring new technologies; working on environmental issues suppliers; improving the environmental performance of Wal-Mart; and encouraging improved the performance of all partners.

To reach these goals, Wal-Mart seeks a more energy efficient future; a supply chain for the future; and product innovation. In general, Wal-Mart wants their products to be 25% more energy efficient. They are also working on fleet efficiency, supply chain organization, and a packaging scorecard. Competition was noted as the greatest driver for this attitude.

Melissa Fourie from South Africa's Department of Environmental Affairs and Tourism gave insight to the general enforcement and compliance situation in South Africa and how Department of Environmental Affairs and Tourism is attempting to change the status quo. Ms. Fourie noted that as companies become larger and more integrated internationally, there is a growing influence from standards and benchmarks developed abroad. She felt that 95% of South African industries are not concerned with environmental issues and one should not expect voluntary compliance. Ms. Fourie gave an example of Department of Environmental Affairs and Tourism's experiences with the Engen Refinery at Durban. Inspections, education, and a realization by the company that compliance could save money helped change the company culture.

The group discussed their perspectives on the influences of shareholders, consumers, the financial bottom-line and ISO 14001 -- an international standard for environmental management systems that helps companies operate efficiently and meeting environmental requirements -- on compliance behavior.

THE OUTCOMES

Many participants noted the value of networks such as INECE, organizations such as OECD, and business organizations such as the Global Environmental Management Initiative (see <http://gemi.org>) and suggested that these networks and organizations be supported. They also noted that INECE should be sure to include the private sector in its activities and suggested that regulators and enforcers would benefit from the perspectives of businesses.

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BUFFET OF IDEAS AND FIELD VISITS

BUFFET OF IDEAS

On Thursday, 10 April 2008, delegates participated in informal networking sessions called the “Buffet of Ideas.” An innovative addition to the 8th Conference, the Buffet of Ideas provided participants an opportunity create their own workshops and break into small groups over lunch to informally meet other delegates and discuss issues of common concern. Environmental compliance and enforcement experts participating in the Conference led informal discussions in the following eleven self-identified topic sessions:

1. The International Network of Environmental Compliance Training Professionals

During this discussion, delegates formalized their commitment to participating in a network to share information concerning training best practices and lessons learned and to exchange training programs and materials.

2. The Seaports Initiative Kickoff

During this discussion, participants shared ideas on specific follow-up actions that could be considered for the seaport environmental security network. The network will seek to build capacity, raise awareness, and facilitate collaboration among government officials on ways to detect and stop illegal and dangerous international shipments of environmentally-regulated goods.

3. Combating Environmental Crime with Interpol’s Ecomessage

This discussion provided a forum for participants to learn about Ecomessage, which is a database system for governments to report all major environmental crimes including: illegal transborder movements and illegal dumping of wastes; illegal transborder activities involving radioactive substances; and illegal traffic in species of wild flora and fauna.

4. Making Aid Effective

At the Making Aid Effective table, participants discussed coordination between donors and implementing organizations, the need for project plans to come “from the ground up,” and the types of operations management strategies that can be used to help ensure donor support goes to its intended purposes of building capacity for environmental protection.

5. A Regional Environmental Compliance and Enforcement Network for Sub-Saharan Africa

Participants built on conversations held during the Regional Conference for Sub-Saharan Africa, and went further to outline the scope, vision, mission, goals, and initial activities of a regional network for strengthening capacity for environmental compliance and enforcement.

6. Marine Enforcement

During this session, an expert from Table Mountain National Park's Marine Protected Area led a discussion on the challenges of protecting valuable marine species, such as abalone, from poachers.

7. Environmental Compliance Assurance in China

Asian delegates to the Conference hosted an opportunity during this discussion for participants to learn about the challenges to and opportunities for environmental compliance activities in China.

8. Non-governmental Organizations

This table provided representatives from non-governmental organizations an opportunity to share experiences regarding the unique contribution that civil society groups can make to strengthen environmental compliance and enforcement.

9. Sustaining Network Secretariats

During this conversation, participants from existing regional enforcement networks shared strategies and advise on fundraising for and management of network secretariats with participants from emerging regional networks.

10. Francophone Networks

The participation in the 8th Conference of delegates from Francophone countries was recognized during this discussion, which reviewed the advances of the Network for Environmental Compliance and Enforcement in the Maghreb Region (NECEMA), since its launch at INECE's 7th International Conference in Marrakesh, Morocco.

11. Members of the Judiciary

Judges participating in the INECE Conference convened this discussion to share their views and experiences on the role of the judiciary in environmental compliance and enforcement, the impact of specialized environmental tribunals,

and the activities that INECE can take to raise awareness of the importance of environment compliance among the judiciary.

FIELD VISITS

On Wednesday, 9 April 2008, delegates at the 8th International Conference selected one of four site visits to observe innovative environmental compliance and enforcement programs to protect its biodiversity and marine resources, manage hazardous wastes, and limit pollution in the host city. During the site visits which intersected thematically with the Conference program, delegates heard background presentations and participated in a facilitated discussion lead by local experts to better understand compliance challenges and opportunities in South Africa and to share their insight and experiences from their home countries.

During many of the site visits, delegates planted native tree species to offset carbon emissions, in gratitude to Cape Town as the Conference host city and in recognition of Dr. Wangari Maathai's vision of trees as the "the seeds of peace and the seeds of hope."

1. Cape Point Nature Reserve and Table Mountain National Park Marine Protected Area

Delegates visited a selection of famous areas of Table Mountain National Park, beginning with the Groote Schuur Estate and the Mount Pleasant Complex, for a tour of the medicinal garden designed to give the indigenous communities a legitimate source of traditional medicines to reduce illegal harvesting within the park. Delegates then traveled south to the Cape Point Nature Reserve, over Chapman's Peak Drive, a spectacular road, hugging the near-vertical face of the mountain from Hout Bay to Noordhoek.

Cape Point Nature Reserve is perhaps the most scenically spectacular park in South Africa. The narrow finger of land with its beautiful valleys, bays and beaches is surrounded by the waters of the Atlantic Ocean and False Bay and has within its boundaries two world-renowned landmarks, - majestic Table Mountain and the legendary Cape of Good Hope. The Park is recognized globally for its extraordinarily diverse and unique fauna and flora. With rugged cliffs, steep slopes and sandy flats, the Park is a remarkable natural, scenic, historical, cultural and recreational asset both locally and internationally. Nowhere else in the world does an area of such spectacular beauty and such rich biodiversity exist almost entirely within a metropolitan area.

The reserve protects many endangered animal and plant species, including four whale species, three dolphin species, four tortoise species, 250 bird species, and a selection of big game: eland and bontebok antelope, baboons, and ostriches can be seen on a drive through the pristine bush. One thousand sixteen species of plants have been recorded in the Park, but this is a mere 11% of the 9,000 plant species

that make up the fynbos - 'fine bush' - found in the Cape, which forms the smallest but most diverse of the world's six floral kingdoms.

Delegates participated in a discussion led by Robin Adams of Table Mountain National Park Marine Section on the challenges and solutions in the fight against environmental marine crime in the Table Mountain National Park Marine Protected Area (MPA). A major focus of their effort is on abalone poaching. Abalone, a marine shellfish found mainly in cold waters, is considered a delicacy and an aphrodisiac in China, Hong Kong and Taiwan, and is valued at more than \$200/pound in Asian retail markets, according to a study by the Wall Street Journal. In an attempt to limit abalone poaching, South Africa listed abalone as endangered under Appendix III of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 2007; established stringent restrictions on abalone extraction and trade; and has undertaken a number of joint enforcement and investigation operations among the country's Police Service, the Department of Environmental Affairs and Tourism: Branch Marine and Coastal Management, and the South African National Defense Force.

2. Blaauwberg Conservation Area

During the Blaauwberg Conversation Area trip, delegates observed the north-western sector of Cape Town, which is one of the fastest growing urban corridors in Cape Town, but also home to some of the most endangered plant communities and species in the world. The north-western sector has a magnificent but sensitive coastline highly desired for its classic view of Table Mountain and Table Bay. Further, it is along this coast that the Koeberg Nuclear Power Station is located, the only nuclear power station in the Western Cape, providing a significant portion of the electricity requirements to Cape Town.

Delegates began the site visit at Milnerton Lagoon and Woodbridge Island. Illegally constructed dwellings on primary dune systems (flouting Environmental Impact Assessment legislation) have led to an extended litigation process to halt development. Several other cases along the beachfront demonstrate poor environmental practices, with buildings constructed too close to the dunes. Illegal release of effluent from industry and waste treatment works into the lagoon led to catastrophic eutrophication, killing most of the fauna in the estuary.

Delegates then traveled northwards towards Blaauwberg Conservation Area (BCA), passing by the Chevron Caltex Oil Refinery onto the N7 to Frankdale Road and Vissershok Landfill Site, classified to receive hazardous waste. BCA is an area of globally significant biodiversity and cultural heritage, implemented with strong civil society involvement. Delegates learned about the "good news" story of the successful intervention to curb previous 4x4 vehicle destruction on the beach and on Blaauwberg Hill. Current challenges include low flying tourist helicopters, illegal dumping and development pressures.

3. Edith Stephens Wetland Park

During this site visit, delegates explored the challenges of conserving critical biodiversity in fragmented natural habitats in an urban setting where poverty is widespread.

Delegates traveled to the Edith Stephens Wetland Park (ESWP). Established in 1955, the Park is a leading example of how the City works in partnership with communities on the Cape Flats to take care of Cape Town's precious natural heritage in a way that is beneficial to all.

Cape Flats Nature, a partnership project initiated by the City of Cape Town, the Botanical Society of South Africa, South African National Biodiversity Institute, and the Table Mountain Fund, has grown since its formation in 2002. The Park stewards have transformed the area from a dangerous garbage dumping grounds to a thriving natural reserve, while maintaining a focus on helping communities reconcile conservation with the needs of the urban poor and marginalized communities. Major problems are faced in trying to conserve tiny fragments of biodiversity in a growing city, but extensive support from the local community has been a boon for the protection of the unique flora and fauna found in the Park. Innovative community outreach programs at ESWP include the "Useful Plants Garden," conservation and health education programs, and environmental education programs for youth.

4. Rondevlei Nature Reserve

During this set of site visits, delegates visited the False Bay Ecology Park (FBEP), a wastewater treatment works, and a landfill site, located just 20 minutes from the city centre. The FBEP boasts some of the most important wetlands for birds in the Western Cape and Southern Africa. A well-regulated urban park can significantly enhance the lives of the surrounding mixed-income communities. Law enforcement, however, is a critical element of the on-the-ground management of the area, and is hampered by serious resource constraints and conflicting jurisdictional areas. Problems include illegal dumping, water pollution, poaching, safety and security and the challenge of planning and managing natural areas under pressure from impacts of rapid urbanization.

Delegates traveled to the Coastal Park Landfill Site, in Strandfontein/Muizenberg, along the False Bay coastline. Operating since 1976, this is the most researched landfill site in South Africa. Law enforcement and illegal dumping issues were discussed. Subsequently, delegates traveled to Zeekoewlei, the largest freshwater lake in Cape Town, situated on the Cape Flats, where they discussed the challenges of managing the lake for the purposes of while ensuring a sustainable ecosystem. At Zeekoewlei, experts discussed the compliance challenges associated with managing the nature reserve and water quality, as well as catchment management issues relating to the lake.

After Zeekoevlei, delegates observed the cooperative management practices at Cape Flats Waste Water Treatment Works, which is one of the top birding sites in South Africa and an example of co-operative management. The site visit concluded at Rondevlei Nature Reserve, with a discussion on methods to ensure compliance with laws to protect a biodiversity in conservation areas, and an exploration of the co-benefit of protected areas generating income from ecotourism in the surrounding communities.

CONFERENCE EVALUATIONS

1 INTRODUCTION

The 8th INECE Conference was attended by 177 participants from 45 countries and 101 organizations, representing all regions of the world. The Conference presented sixth plenary sessions with 28 speakers and 30 workshops with 89 facilitators and rapporteurs. Participants represented national governments, nongovernmental organizations, regional governments, international organizations, and other groups and networks.

2 SUMMARY OF THE EVALUATION OUTCOMES

Of the 177 participants, 74 completed conference evaluations. Participants provided very high marks for the Conference. The average rating for questions ranged between Excellent and Good.

Participants expressed their greatest approval for the importance and relevance of the conference goals of communicating that compliance with and enforcement of environmental law create value by enhancing competitiveness, and driving innovations; protect public health and preserves ecosystem service; and promote the rule of law, good governance and sustainable development. Participants also expressed high approval of Cape Town, South Africa, as the location of the conference.

Participants ranked an overwhelming majority of the Conference's 30 workshops as featuring highly relevant topics and providing opportunities for valuable discussions. Slightly lower marks were given to the number and type of countries and organizations represented at the Conference. Furthermore, while most participants found the site visits useful to their work and of high quality, some participants ranked the visits' usefulness as "very good to good."

Overall, participants expressed high approval of the opportunity to form effective partnerships among those working in compliance and enforcement, the usefulness of topics, as well as the potential to put concepts into practice:

"This is an unrivaled opportunity to get together with enforcement practitioners of all types to brainstorm, educate, and synergize."

"The conference was a very worthwhile event. The greatest benefit in my view is the extremely valuable individual and agency level contacts which the conference facilitates."

"The idea of having workshops with specific goals and outcomes was excellent."

"The topic of the conference is relevant to the situation in developing countries (Africa) where many conferences and workshops took place without really assessing the post conference and workshops. It was great getting people from different countries and continents to come out with an appropriate strategy to link the concepts of enforcement and compliance to real actions."

"I really liked including collaborative problem solving (for real life problems) in the field visits."

"Good coverage of key and varied issues."

"Very interactive, lots of information to share and very useful in environmental compliance and enforcement."

"Structure and organization of conference enabled coverage of wide range of topics/ issues, contributing effectively to achieving the objectives of conference."

"The conference is extremely useful in that it updates us on modern thinking on both policy and implementation of enforcement and compliance."

"This has been an excellent conference in bringing together such a good cross section of experts."

"This was the most enjoyable conference I have attended in 30 years."

| Geographic Regions Represented | | |
|--------------------------------|--------------|-----|
| | Participants | |
| | No. | % |
| Africa | 50 | 28 |
| Asia and the Pacific | 21 | 12 |
| Central & Eastern Europe | 12 | 6 |
| Central America | 1 | 1 |
| South America | 7 | 4 |
| International | 10 | 5 |
| Middle East and North Africa | 7 | 4 |
| North America | 31 | 18 |
| Northern & Western Europe | 38 | 22 |
| Total | 177 | 100 |

3 RESULTS

Each Conference participant received a blank evaluation form and was asked to complete it prior to their departure from the Conference. Most questions on the evaluation could be answered by assigning a number between 1 and 5 as the response, where 1 = Excellent, 2 = Very Good, 3 = Good, 4 = Fair, and 5 = Poor. This section shows the average rating for each evaluation question:

| | |
|---|------|
| Section 1: Conference Goals | |
| 1.1 How would you rank the importance and relevance of the conference's goals of communicating that compliance with and enforcement of environmental law: (1) create value by enhancing competitiveness, providing a level playing field and driving innovation; (2) protect public health and preserves ecosystem services; and (3) promote the rule of law, good governance, and sustainable development: | 1.56 |
| 1.2 How successful did you feel the conference was in achieving these goals? | 1.97 |
| 1.3 How would you rank the importance and relevance of the conference's goal of developing and promoting practical, action-oriented results? | 1.68 |
| 1.4 How successful did you feel the conference was in achieving this goal? | 2.15 |
| 1.5 How would you rank the importance and relevance of the conference's goal of facilitating professional development within the compliance and enforcement community? | 1.73 |
| 1.6 How successful did you feel the conference was in achieving this goal? | 2.01 |
| 1.7 How would you rank the importance and relevance of the conference's goal of ensuring opportunities for participants to collaborate to identify responses to local environment compliance challenges? | 1.70 |
| 1.8 How successful did you feel the conference was in achieving this goal? | 2.07 |
| Section 2: Assessment of Conference | |
| 1.1 How successful do you feel the conference was in: <ul style="list-style-type: none"> Shaping and confirming the role that INECE will play in the future? | 1.92 |
| <ul style="list-style-type: none"> Forming effective partnerships among those working in compliance and enforcement? | 1.76 |
| <ul style="list-style-type: none"> Increasing institutional capacity to enhance existing and develop new compliance and enforcement programs? | 2.29 |
| <ul style="list-style-type: none"> Serving all people involved in the design of environmental compliance and enforcement programs? | 2.28 |
| <ul style="list-style-type: none"> Encouraging ongoing international exchange and regional networking? | 1.74 |
| <ul style="list-style-type: none"> Fostering exchange of expertise and learning through active participation? | 1.91 |

| | |
|--|------|
| 2.2 Concerning the participants at the conference, how would you rank: | 1.64 |
| • The number of individuals in attendance? | |
| • The number and types of countries represented? | 2.44 |
| • The number and types of organizations represented? | 2.46 |
| • The mix of experience? | 1.80 |
| 3.3 Concerning the structure of the conference, how would you rank: | 1.80 |
| • The balance between Panels and Workshops? | |
| • The site visits? | 1.79 |
| • The length of the conference? | 1.90 |
| 2.4 Concerning the usefulness of the conference overall, how would you rank: | 1.80 |
| • The relevance of this conference to your current work or functions? | |
| • The extent to which you have acquired information that is new or useful to you? | 1.96 |
| • The focus of this conference on what you specifically needed or wanted to learn? | 2.00 |
| • The overall usefulness of the conference? | 1.71 |

| | |
|---|------|
| Section 3: Day One – Specific Conference Plenary Themes and Topics – Monday Morning | |
| 3.1 Panel 1 – Creating Value Through Compliance and Enforcement | 2.10 |
| • Usefulness of material? | |
| • Mix of topics covered on panel? | 2.04 |
| • Opportunity for discussion? | 2.01 |

| | | |
|--|------------------------------|-----------------------------|
| Section 4: Day One – Workshops – Monday Afternoon | | |
| Please evaluate the workshop that you attended in Session 1: | Was the discussion valuable? | Were your expectations met? |
| 1A Doing What's Important: Focusing Environmental Compliance and Enforcement Programs on the Right Problems and Priorities | 2.02 | 2.17 |
| 1B Citizen Monitoring and Reporting | 2.23 | 2.36 |
| 1C Seaport Security Network | 1.69 | 2.00 |
| 1D Protected Areas | 1.67 | 1.75 |
| 1E National Measures for Climate Protection | 1.56 | 2.13 |
| 1F National Compliance Plans for the Implementation of MEA's | 2.11 | 2.23 |

| Section 5: Day Two – Specific Conference Plenary Themes And Topics – Tuesday Morning and Afternoon | | |
|--|---|------|
| 1.1 | Panel 2 – Compliance Mechanisms for Climate Protection After 2012 | 2.09 |
| | • Usefulness of Material? | |
| | • Mix of topics covered on panel? | 2.08 |
| | • Opportunity for discussion? | 2.16 |
| 1.2 | Panel 3 – Regional Enforcement Cooperation for the Protection of Biodiversity | 2.15 |
| | • Usefulness of Material? | |
| | • Mix of topics covered on panel? | 2.09 |
| | • Opportunity for discussion? | 2.30 |

| Section 6: Day Two – Workshops – Tuesday Morning | | |
|---|------------------------------|-----------------------------|
| Please evaluate the workshop that you attended after Panel 2: | Was the discussion valuable? | Were your expectations met? |
| 2A More Effective Regulation – Improving Efficiency and Cutting Red Tape | 1.52 | 1.76 |
| 2B Strategic Targeting of Inspections | 2.25 | 2.52 |
| 2C Transboundary Water Cooperation | 1.40 | 1.45 |
| 2D Synergies Among Biodiversity-Related Multilateral Environmental Agreements | 1.91 | 2.10 |
| 2E Technology Transfer and Financial Assistance | 1.83 | 1.40 |
| 2F Using Societal Values to Market Environmental Compliance | 1.92 | 2.27 |

| Section 7: Day Two – Workshops – Tuesday Afternoon | | |
|---|------------------------------|-----------------------------|
| Please evaluate the workshop that you attended after Panel 3: | Was the discussion valuable? | Were your expectations met? |
| 3A Using Performance Indicators to Lead Environmental Compliance and Enforcement Programs | 2.28 | 2.34 |
| 3B Evidence Gathering and Preservation | 1.93 | 1.92 |
| 3C Transboundary Movements of Environmentally Detrimental Goods | 1.73 | 1.80 |
| 3D Wildlife Law Enforcement | 1.53 | 1.94 |

| | | |
|-----------------------------------|------|------|
| 3E Integrity in Market Mechanisms | 1.75 | 2.14 |
| 3F Responses to Corruption | 1.61 | 1.59 |

| Section 8: Day Three – Field Visits - Wednesday | | | |
|---|---------------------------------------|------------------------------------|----------------------------|
| | Quality of the presentation and tour? | Quality of the discussion session? | Usefulness of field visit? |
| Table Mountain National Park | 1.25 | 1.76 | 1.48 |
| False Bay Ecology Park | 1.56 | 1.50 | 1.81 |
| Woodbridge Island, Milnerton and Chevron Refinery | 2.14 | 2.57 | 2.17 |
| Blaauwberg Conservation Area and Visserhok Hazardous Waste Facility | 2.22 | 2.57 | 2.56 |

| Section 9: Day Four – Specific Conference Plenary Themes and Topics – Thursday Morning and Afternoon | |
|--|------|
| 1.1 Panel 4 – Capacity Building Within a Development Framework | 1.93 |
| • Usefulness of material? | |
| • Mix of topics covered on panel? | 1.90 |
| • Opportunity for discussion? | 1.95 |
| 1.2 Panel 5 – Global Enforcement Cooperation on Chemicals and Other Hazardous Substances | 1.89 |
| • Usefulness of material? | |
| • Mix of topics covered on material? | 1.95 |
| • Opportunity for discussion? | 2.19 |

| Section 10: Day Four - Workshops - Thursday Morning | | |
|---|------------------------------|-----------------------------|
| Please evaluate the workshop that you attended after Panel 4: | Was the discussion valuable? | Were your expectations met? |
| 4A Identifying Training Needs at a Strategic Level | 1.59 | 1.73 |
| 4B Remote Sensing and Other Technology Developments to Aid Environmental Compliance | 1.36 | 1.36 |
| 4C Actions Against Illegal Transboundary Movements of Hazardous Materials | 1.79 | 1.86 |

| | | |
|---|------|------|
| 4D Marine Enforcement: Case Study on Inconsistencies and Consequences Among Multilateral Agreements | 1.17 | 1.67 |
| 4E Sustainable Management of Carbon Sinks | 1.57 | 2.00 |
| 4F The Role of the Judiciary in Improving Enforcement Programs | 1.79 | 1.79 |

| Section 11: Day Four – Workshops – Thursday Afternoon | | |
|---|------------------------------|-----------------------------|
| Please evaluate the workshop that you attended after Panel 5: | Was the discussion valuable? | Were your expectations met? |
| 5A Performance-based Management for Environmental Compliance and Enforcement Programs | 1.89 | 1.73 |
| 5B Coordination Among Inspectors, Police and Prosecutors | 1.73 | 1.93 |
| 5C Vessel Pollution | 2.00 | 1.50 |
| 5D Habitat Destruction and Rehabilitation | 1.58 | 1.72 |
| 5E MEA Compliance Mechanisms and the Post-2012 Climate Regime | 1.73 | 2.08 |
| 5F Supply Chain Compliance | 1.16 | 1.32 |

| Section 12: Day Five – Plenary Sessions – Friday | | |
|---|--|------|
| 12.1 Panel 6 – Good Governance and the Rule of Law | | 1.83 |
| • Usefulness of material? | | |
| • Mix of topics covered on panel? | | 1.72 |
| • Opportunity for Discussion? | | 1.92 |
| 2.2 Presentation of Conference Statement | | 1.83 |
| • Appropriateness of statement? | | |
| • Do you feel this reflects the purpose and goals of INECE? | | 1.72 |
| 2.3 Closing Ceremony Session | | 1.77 |
| • How would you rank the closing session? | | |

| Section 13: Exhibits | | | | |
|--|-------------------------------------|-------------------------------------|----------------------------------|----------------------------|
| | Were the topics of interest to you? | Productive exchange of information? | Quality of the exhibit material? | Availability of materials? |
| Asia Environmental Compliance and Enforcement Network (AECEN) | 3 | 3 | 2 | 3 |
| Department of Environmental Affairs and Tourism, South Africa | 2 | 2 | 2 | 2 |
| Department of Water Affairs and Forestry, South Africa | 2 | 2 | 2 | 2 |
| Environment Agency for England and Wales | 2 | 2 | 2 | 2 |
| Environment Canada | 3 | 3 | 3 | 3 |
| Environmental Compliance and Enforcement Network for Accession | 2 | 2 | 2 | 3 |
| Environmental Law Association of South Africa | 3 | 3 | 3 | 3 |
| International Network for Environmental Compliance and Enforcement (INECE) | 2 | 2 | 2 | 2 |
| International Network of Environmental Compliance Training Professionals | 2 | 2 | 2 | 2 |
| Lusaka Agreement Task Force | 2 | 2 | 2 | 2 |
| Natural Resources Defense Council | 3 | 3 | 3 | 3 |
| Organisation for Economic Co-operation and Development | 2 | 2 | 2 | 3 |
| Seaport Security Network | 2 | 2 | 3 | 3 |
| US Department of State | 3 | 3 | 3 | 3 |
| US Environmental Protection Agency | 2 | 2 | 2 | 2 |
| VRM | 2 | 3 | 3 | 2 |
| Wal-Mart | 3 | 3 | 3 | 3 |
| Other | 3 | 2 | 3 | 3 |

| Section 15 : Organization of the Conference | |
|---|------|
| • City of Location | 1.25 |
| • Schedule | 1.86 |
| • Speakers | 1.77 |
| • Service Desk | 1.69 |
| • Cultural event at Moyo | 1.80 |
| • Kirstenbosch Botanical Gardens lunch and tour | 1.63 |
| • Contact with Executive Planning Committee | 1.82 |
| • Availability of Conference Staff | 1.60 |

4 CONCLUSION

In conclusion, INECE's 8th International Conference was very well received. Participants highly approved the importance and relevance of the Conference goals, the location of the conference, and the topics covered, as well as the opportunity to network with other environmental compliance and enforcement officials. The Executive Planning Committee will carefully study the numerical results and narrative comments from the evaluations. The recommendations from participants will be considered when planning conferences and workshops and recommendations presented by participants will be reviewed and incorporated into the future INECE work program

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2. PAPERS SUBMITTED FOR CONFERENCE PROCEEDINGS

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TRACK A: STRATEGIC MANAGEMENT OF ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT PROGRAMS

ENVIRONMENTAL COMPLIANCE, POLICY REFORM AND INDUSTRIAL POLLUTION IN SUB-SAHARAN AFRICA: LESSONS FROM NIGERIA

ADELEGAN, DR. JOSEPH¹

¹ Founder and Executive Director, Global Network for Environment and Economic, Development Research, Ibadan, Nigeria, dr_joseph_adelegan@yahoo.com.

SUMMARY

Water pollution has continued to generate unpleasant implications for health and economic development in Nigeria and other developing countries. However, despite the attention of the public and policies of international agencies' focusing on this problem, the situation in Nigeria seems degenerating; therefore, it demands increased attention.

Right from the inception of British Rule in the 1900s in Nigeria, the colonial economic development policies and plans contain little or no stringent rules to conserve the natural resources or to limit pollution. Thus, the formative years of institutional environmental regulation in Nigeria could be said to have been characterized by the absence of clear scientific criteria and standards on toxic wastes and on pollution levels.

Hence, in December 1988, as part of the emerging coordinated approach to environmental issues, the Federal Environment Protection Agency was established due to discovery of an Italian ship in May 1988 of some imported toxic chemical wastes.

So far, there are no clear formulated policies in Nigeria aimed at coordinating and monitoring the relationship between environmental management and sustainable development. Presently, the environmental protection legislation in Nigeria is poorly enforced. Hence, policy makers need to understand the extent to which resource and environmental conditions impinge upon macroeconomic performance.

1 INTRODUCTION

Regulations are the most common approach to environmental problems. *Standards, bans, permits, and quotas* are often favored by policymakers because they promise certainty of outcome – without costly monitoring and enforcement,

however, this promise may not be realized (Bell and Russell, 2002). Experience from Nigerian environmental policies and implementation has shown that the traditional command-and-control system to pollution abatement had not produced the desired result both economic and environmental wise because the instrument is grossly ineffective due to lack of enforcement and compliance. In addition, monitoring results are almost non-existent. As a result, there is the need for a paradigm shift from the command-and-control approach to mixed environmental policies involving the use of market-based instruments to complement the traditional command-and-control system in achieving economic efficiency in the use of the resource.

2 THE HISTORY OF ENVIRONMENTAL POLICY AND POLLUTION CONTROL MEASURES IN NIGERIA: (1900-2004)

From the onset of British Rule in the 1900s, Nigeria's environmental protection effort had been through the colonial bye-laws. The colonial economic development policies and plans contain little or no stringent rules to conserve the natural resources or to limit pollution. The major laws on water pollution include Criminal Code of 1958 with section 246 aimed at controlling burial in houses and the Public Health Act of 1958, which aims to control the spread of diseases, slaughtering of animals, and disposal of night soil and refuse. The fines and penalties are liberal and the laws are quite often poorly enforced.

As early as 1964, a committee was formed from various arms of the Federal Ministries to study the problems of water pollution and to formulate a program leading to the enactment of a Water Pollution Act of the federation. Over the years there has been an increased awareness of the problems of water pollution with no positive steps taken in the right direction.

In 1970, the Expert Committee on environmental health of the National Council of Health reviewed many proposals received on this subject with the aim to recommend the establishment of a sanitary inspectorate in the Federal Ministry of Health. However, the efforts yielded very little results.

Thus, the formative years of institutional environmental regulation in Nigeria could be said to have been characterized by the absence of clear scientific criteria and standards on toxic wastes and on pollution levels, while the enforcement of basic environmental and household hygiene depended largely on qualitative legal rules. Oil pollution has attracted some considerable public interest since the 1970s. A number of communities in the Niger Delta Wetlands of Nigeria have protested the ecological problems of the oil industry and the paucity of government action (Chokor, 1993).

Water pollution remains a major problem in the Nigerian environment. Both urbanization and industrialization have contributed to the scale of pollution. Presently, there are no incentives for the adoption of pollution abatement measures

and very few disincentives, if any, for polluting the environment. Wastes are disposed of indiscriminately, especially for small and medium scale industries. Major establishments, like the refinery industry, are encouraged to adopt adequate waste disposal and good refining practices under the Petroleum Refining Regulation Act of 1974.

The 1979 Federal Constitution was centered on environmental hygiene, with emphasis on refuse clearance, and the management of liquid and solid wastes in abattoirs, residential homes and streets. All of these issues came under the supervision of local government councils (Ola, 1984). It is instructive to note that the Federal Constitution addressed the issue of toxic and hazardous wastes disposal and dumping in Nigeria before the Federal Government woke up to confront the problem. This was important in dealing with the subject of environmental abuse because Nigeria lacked both the institutional and legal framework to tackle the issue.

Another stumbling block in the development of policies to regulate hazardous waste occurred with the hesitation to create the Federal Environmental Protection Act, now Federal Ministry of Environment with effect from September, 1999). In May 1998, the shipment of toxic chemical wastes from Italy to Nigeria made up principally of polychlorobiphenyls to be dumped at the Koko Port triggered a hostile media reaction that further hastened the creation of the then Federal Environment Protection Agency. This Agency was part of the emerging coordinated approach to environmental issues to protect, restore, and preserve the ecosystem of the Federal Republic of Nigeria (FGN, 1988). The decree 58 of 1988 requires the Federal Environment Protection Agency to establish environmental guidelines and standards for the abatement and control of all forms of pollution. The coming of Federal Environment Protection Agency represents a milestone in environmental management effort in Nigeria.

The major function of the Agency is the establishment of national environmental guidelines, standards, and criteria most especially in the area of water quality, effluent discharge, air and atmospheric quality and including the protection of the ozone layer which in the past was absent (Federal Government of Nigeria, 1988). Others are noise control, hazardous substance discharge control and the removal of wastes and ascertaining spillers' liability. The agency also has power to initiate policy in relation to environmental research and technology and in formulating and implementing policies related to environmental management. In addition, the Agency is given some enforcement powers including the right to inspect facilities and premises, search locations, seize items and arrest people contravening any laws on environmental standards, and prosecuting them.

The agency is also empowered to initiate specific programs of environmental protection and may establish monitoring stations or networks to locate sources of, and dangers associated with, pollution. Furthermore, it has powers to conduct public investigations or inquiries into aspects of pollution (Federal Government of

Nigeria, 1988). Thus, the Federal Environment Protection Agency is the supreme reference authority in environmental matters in Nigeria, although state and local government authorities and institutions are still expected to play their traditional role of monitoring and enforcing standards as well as fixing penalties charges, taxes, and incentives to achieve certain environmental goals.

Once the decision was taken to confront the problem of environmental abuse, Nigeria led the fight against hazardous wastes dumping until the signing of the Basal Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal in 1989. However, there was no transboundary water quality monitoring or further action after the signing of the Basel Convention except for the guidance for the management of solid and hazardous wastes, which is far from been enforced.

With the development of the Federal Environmental Protection Agency, the States Environmental Protection Agencies were devised. These were complemented by the Local Governments Environmental Protection Agencies.

However, industrial pollution was regarded by the Federal Environment Protection Agency as a priority environmental problem and hence the first ever and only "National Guidelines and Standards for Environmental Pollution Control" was more of an industrial pollution control guidelines and standards with few notes as guidelines for surface impoundments, land treatments, waste piles, land fills, incineration and hazardous/toxic wastes. Moreover, even the available industrial pollution control guidelines and standards are not sound enough and far from been enforced in the country as it were presently. The main legislation for the protection of water resources is scanty.

A number of Nigerian State Environmental Protection Agencies now charges pollution levies. Although the measure is expected to serve as some disincentive to pollution generation and also for the alleviation of pollution problems in the state, it is better seen as a revenue generation effort on the part of the government.

It is difficult to say whether the revenue so realized is actually reinvested into pollution abatement. Further, the policy provides no real incentives for industries to adopt pollution monitoring and reduction measures or clean technologies.

So far, there are no clear formulated policies in Nigeria aimed at coordinating and monitoring the relationship between environmental management and sustainable development. This is in spite of all the efforts of the Federal Environmental Protection Agency. Presently, the environmental protection legislation in Nigeria is poorly enforced. There are no incentives for the adoption of pollution abatement measures and very few disincentives for polluting the environment. Wastes are disposed indiscriminately especially for small and medium scale industries but excluding major establishments like the refinery industry which is encouraged to

adopt adequate waste disposal and good refining practices under the Petroleum Refining Regulation of 1974.

Moreover, in the inventory of Nigeria environmental problems compiled by the Federal Environment Protection Agency (1999) in the context of socio-economic, cultural and ecological imperations, environmental pollution of water (industrial effluent, chemical fertilizers, human waste, eutrophication, deposits by run offs, oil spillage, etc) and issues of health (water borne diseases such as cholera, typhoid, dysentery brought about by the use of contaminated water) have been deemed critical and therefore deserves a place in any master plan for environment and natural resource conservation.

It must be stated that the Federal Environmental Protection Agency is handicapped by the limited environmental information available, the range, nature and diversity of information required as well as the scope of the work itself.

Moreover, the need for environmental control arises from the fact it brings improved health and better living conditions. Experiences from advanced industrialized countries have shown that in the short term, the net effect of pollution control activities is almost certain to have some macroeconomic impacts including improved health, reduced productive time loss and economic growth.

3 TREND IN POLLUTION AND POLLUTION LOADS BY DOMESTIC AND INDUSTRIAL EFFLUENTS IN NIGERIA

The discharge of wastewater into surface waters and the resultant deleterious changes in water ecology have been reported by several researchers (Law, 1980; Okoronkwo and Odeyemi, 1985; Odokuma and Okpokwasili, 1993) who also expressed concern over human health and the possible accumulation of human enteric pathogenic microorganisms by aquatic organisms.

Incidences of water-borne diseases in rural areas of developing countries leading to millions of deaths have been reported (UNU, 1983). Some of these deaths have been traced to the use of waters grossly polluted by untreated waste (De Silva et al, 1988; UNEP, 1991).

The discharge of wastewater from bathroom, laundry, slaughterhouses, etc have been used to explain the deterioration of most tropical rivers as they pass through inhabited places (Oluwande et al, 1983). The condition, pollution load and effluent effects on water sources in Nigeria are as follows:

Table 1: Physico-chemical characteristics of industrial effluents from Nigeria

| Parameter | Sugar Factory | Paper mill | Brewery | Textile factory | Soft Drink Factory | Petroleum Refinery | Steel making Plant | Tannery | Federal Environment Protection Agency's Effluent Limit for Discharge into Surface Water |
|---------------------|------------------|---------------|---------|--------------------|--------------------------|-----------------------|--------------------------|---------|---|
| Temperature | - | - | 32.0 | 39.0 | 31.44 | 7.0-8.2 | - | 39°C | Less than 40°C |
| PH | 4.8 | 4.4 | 9.0 | 7.1 | 3.2-11.4 | - | 6.90 | 10.2 | 6-9 |
| Total Solids | 1415 | 905 | 3170 | 2200 | 130-680 | 560-740 | - | 6960 | 2000 |
| Suspended Solids | 468 | 790 | 406 | 10 | 10-30 | 5-620 | - | 2470 | 30 |
| Dissolved Oxygen | - | - | - | - | 5.0 | Nil-7.3 | 0.7-4.8 | 4.50 | - |
| BCD | 1633 | 100 | 2110 | 103 | - | - | - | 2000 | 50 |
| COD | 1954 | 730 | 3000 | 710 | 1000- | 72-800 | - | 46.50 | - |
| Chloride | 2.0 | - | 1.0 | 285 | 2600 | 268-720 | 28 | 2300 | 2000 |
| Phosphate | 1.7 | - | 1.9 | - | 6-30 | 17-64 | - | - | 5.0 |
| Iron | 0.35 | 0.65 | - | 0.5 | 0.04-1.60 | 0.20-6.30 | - | - | 20 |
| Chromium | - | - | - | - | 2.4 | - | - | 39 | - |
| Oil and Grease | - | - | - | 10 | - | 3.7-260 | - | - | 20 |
| Sulphide | - | - | - | 3.0 | 25 | 0.85-1.0 | - | 127 | 0.20 |
| Nitrate | - | - | - | - | 0.98 | 1.0-1.5 | 1.0 | - | 20 |
| Sulphate | Yes | Yes | Yes | Purple | 11 | 0.03-2.30 | 6.50 | 1500 | 500 |
| Colour | Yes | Yes | Yes | Yes | 32.5 | Yellow | - | - | - |
| Odour | - | - | - | - | Yes | Yes | - | - | - |

Sources: Adekanbi (1983); Federal Environment Protection Agency (1991); Osibanjo et al (1988)

The effect of uncontrolled disposal system renders surface waters and underground water systems unsafe for human, agricultural and recreational use. It also destroys biotic life, poisons the natural ecosystems, poses a threat to human life, and is against the principles of sustainable development. However, if the adverse effects of river pollution and spread of water borne diseases are to be mitigated in Nigeria, current planning laws and waste disposal practices must be reassessed (Sangodoyin, 1989).

4 THE USE OF MARKET-BASED INSTRUMENTS FOR POLLUTION ABATEMENT IN NIGERIA – MERITS AND CHALLENGES

The market based approach to environmental management is concerned with creating conditions in which the production of goods and services can flourish with the support of an enabling environment for private sector activity and an economic framework of incentives and reward for good organizational performance.

Environmental management in Nigeria has historically been characterized by a “command and control” approach. The limitations of this approach included an acute shortage of government funds, managerial skills, and administrative enforcement capacities. Hence, the use of economic and financial instruments to complement the traditional command-and-control system could overcome some of these difficulties because the market based approach is certain to generate large inflow of financial resources from the polluting industries at the early stage of environmental compliance. These finances could be used for administrative enforcement and monitoring costs and capacity building, resulting in the achievement of economic efficiency in the use of the resource.

The proposed market-based instruments approach draw lessons from best practices around the world. This involves setting up an appropriate taxes and pollution charges on generators of pollutants that is above the marginal cost of pollution control to or above the environmental cost that their pollutants impose on the affected population or communities (World Bank, 1994; 1998). The environmental taxes and charges would have the simultaneous benefit of generating financial resources while also acting as disincentives to polluters. This includes emission charges or taxes based on the quantity and quality of pollutants discharged (water effluent charges).

The pollution levy system would involve imposing charges only for pollutants that exceeded emissions standards by the Nigerian Federal Environmental protection Agency and then only for the one pollutant most in violation. A fee would also be charged on the total quantity of wastewater discharged into river bodies.

The major challenges to the adoption of the market-based instruments approach in Nigeria include the need for an accurate monitoring network, transparency, a working legal system, and a realistic incentive to trade (NEST, 1995). Other

challenges include corruption, favoritism, and poor environmental enforcement. In addition, other unique obstacles include the fact that there are fewer trained people and the best people tend to be concentrated in capitals rather than in field post. Finally, equipment for monitoring and data collection are scarce and most basic data are unreliable.

However, despite the challenges of the market-based instruments approach enumerated above, the system still offers high potential for efficient and cost-effective environmental management approach in Nigeria when mixed with the traditional “command and control” system. Hence, the argument for economic instruments above suggests that the efficiency gains from their use are an outcome of incentives for pollution abatement innovations and the ability of firms to reduce emissions in the most cost-effective manner. However, the introduction of the market based approach would need to be preceded with a significant capacity building.

5 RECOMMENDATION AND CONCLUSION

One of the major goals of environmental regulation from the inception has been to reduce water pollution. There have been no clearly established, coordinated policy framework and standards for diminishing water pollution, especially through resource pricing, incentives, and taxes. In contrast, heavy reliance has been placed on qualitative legal rules. However, the benefits of clean environment would be available only if the generators of pollutants are encouraged to invest in pollution prevention and abatement technologies with the help of a judicious mix of regulatory policies, economic incentives, and fiscal instruments.

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FEEDBACK TO LAW MAKING AND PERMITTING

BIEZEVELD, DR. GUSTAAF¹

¹ Environmental Public Prosecutor, National Prosecution Office on Fraud and Environmental Crime, P.O. Box 19518, 2500 CM, The Hague, The Netherlands, g.a.biezeveld@om.nl.

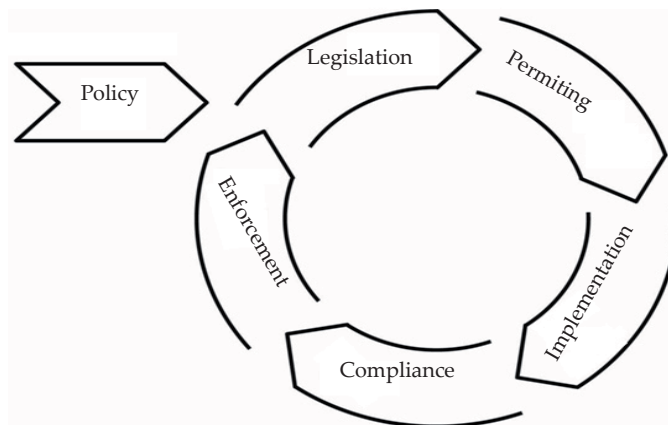
SUMMARY

The model of the regulatory chain illustrates the existence of mutual relationships between legislation, permitting, implementation, compliance, and enforcement. Therefore, it is necessary that officials who are in charge with one of these regulatory tasks must always be aware of the whole chain and take into account what is required for good functioning of the chain. Due to differences in view and position, such an integrated approach is not always common.

It is in the interest of practitioners like inspectors, investigators, public prosecutors, and judges that the gap between their world and the world of legislators and permitting officials is bridged. In order to increase efficiency and compliance, these two worlds should be brought together. This paper provides examples of bridging this gap based on Dutch experiences. Further, it provides insights of practitioners that can be utilised by legislators and permitting officials.

1 INTRODUCTION

It is commonly accepted that the focus of policymakers, legislators, and permitting officials must be on the reality of producers, consumers, and intermediaries, as well as the executive branch of government. In other words: an *execution-oriented* attitude is required. The need for such an attitude can be illustrated by means of the model of the *regulatory chain*, introduced in 1984 by Dr. Pieter Winsemius, former Dutch Minister of Environment:



This chain that is driven by policies, consisting of five links: (1) legislation; (2) permitting; (3) implementation; (4) compliance; and (5) enforcement (including inspections). This model makes clear that the aimed results of policies, legislation, or permits can only be achieved if the following links are in good order. It also shows that the effectiveness and efficiency of execution, compliance, and enforcement are highly dependent on the quality of legislation, standards, and permits. The existence of mutual relationships between the links of the regulatory chain implies that officials who are in charge with one of these links must always be aware of the whole chain and must take into account what is required for good functioning of all links of the chain. Yet, such integrated approach is not common practice, as we all know from experience. This is mainly due to differences in view and position.

We all know that there is a difference between the world seen by inspectors, investigators, and public prosecutors and the world seen from the centres of Government or the offices of permitting officials. As a result, it is my general experience as public prosecutor that policymakers, legislators, and permitting officials have a rather optimistic view on human behaviour and the willingness of men and companies to comply with environmental regulations. This optimism does not always match the experiences of enforcement officials.

They have learned in practice that a majority of men and companies have a calculating attitude. This implies that they are always looking for opportunities to save costs or to make more profits. When they assess the expected profits of non-compliance of governmental rules greater than the risks of non-compliance, a majority of men and companies will choose for non-compliance. As result, enforcement officials are mostly more aware than legislators and permitting officials that environmental laws and permits must be accompanied by good conditions for enforcement and may not provide easy opportunities for non-compliance.

This brings me to another experience: policy makers, legislators and permitting officials are generally not in an adequate position to fully assess what conditions are needed for inspectors, investigators, public prosecutors, and judges to fulfil their enforcement tasks adequately. This applies to all levels of government.

An example of this is the absence of European provisions on co-operation and mutual assistance between competent authorities and inspectors in relation with the enforcement of environmental directives and regulations. In my opinion, such provisions are indispensable for the enforcement of the rules on transboundary activities with chemical substances, products, waste, and protected animals or plants. By comparison, there are European provisions on co-operation and mutual assistance in the field of criminal law, food safety, taxes, and customs.

These different views and positions of policy makers, legislators, and permitting officials on one side and enforcement people on the other side explain to a great extent why both environmental laws and permits quite often are not adequate

from enforcement viewpoint. Therefore, it is a great challenge for all of us to develop means to bridge the gap and bring these worlds together. In other words, how can *input* and *feedback* from the enforcement side be given to legislative and permitting processes at various levels of government?

Based on Dutch experiences, I would like to mention some examples and provide insights of practitioners that can be transferred to legislators and permitting officials. When I speak of practitioners, I really mean people who have practical knowledge based on their own recent experiences. This includes inspectors, investigators, public prosecutors, and judges, as well as those who have to comply with environmental laws and permits (such as a company and its lawyers).

2 CHECKLIST FOR LEGISLATORS AND PERMITTING OFFICIALS

From 2001 to 2004, I participated in a joint project of the Dutch Ministry of Environment and the Board of the Public Prosecutors to create better conditions for the enforceability of environmental legislation. This project resulted in a handbook for policy makers and legislators with recommendations on behalf of the enforceability of environmental legislation. These recommendations are based on experiences and insights of practitioners. A summary of these recommendations (the so-called golden rules) that can be used as checklist is included as an annex to this paper.

The Dutch “golden rules” have been used as input for the project “Developing a checklist for assessing legislation on practicability and enforceability” of the European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL). For further clarification see Annex 2 and/or visit http://ec.europa.eu/environment/impel/pdf/pe_checklist.pdf.

In my view, such checklists are an indispensable tool for legislators and permitting officials, but to get the best results they should be used in interaction with practitioners. Its contribution to better regulation is highly dependent on the awareness of legislators and permitting officials that good legislation cannot be made without the contribution of practitioners and their willingness to take the practitioner’s input seriously. Consequently, practitioners should become actively involved in legislative and permitting processes.

3 INVOLVEMENT OF PRACTITIONERS IN THE LEGISLATIVE PROCESS

In the Netherlands, it has become practice that the Board of Public Prosecutors is invited by the Ministry of Justice to advise on proposals for new environmental regulations (prepared by the Ministry of Environment, the Ministry of Water management or the Ministry of Agriculture, and Nature). The same happens when environmental regulations are reviewed or evaluated; during which practitioners from the Public prosecutors’ offices or the police with the required expertise are involved to assess the proposals. Quite often advice is asked in a late stage of the

legislative process so that there is little room left for essential changes. Therefore, a more effective way is direct involvement of public prosecutors and the police in an earlier stage by the Ministries concerned.

One of the input activities in which I was involved concerned the making of a new integrated regulation on acts with firework in the interest of the protection of human health and environment. The impetus for this was a serious explosion in a fireworks plant in the city of Enschede in 2000. Twenty-two persons were killed by this explosion and many more wounded. In a vast area houses were destroyed. Research proved that insufficient enforcement by the local government in combination with inadequate legislation had provided an opportunity for the owner to store more hazardous fireworks than was permitted. It was my task to give advice to the legislative officials concerned based on the knowledge and experiences that the police and environmental public prosecutors had gained during the nineties about illegal acts of both companies and private persons with firework. I was assisted by a working group consisting of inspectors and investigators (police) with a broad experience in the fireworks' field – import, trade, store, shows and transport. From the beginning members of this working group were asked to check the adequacy of drafts of the new regulation from the enforcement viewpoint. The Ministry of Environment took our comments very seriously.

That working group also played an important role in preparatory activities on behalf of the implementation and enforcement of the regulation. As a result, the implementation of the new regulation was accompanied by the setting up of a specific comprehensive organisation for the inspection and the collection and exchange of enforcement data about illegal acts with firework. Members of the working group also contributed to training programs for national and provincial inspectors, policemen, public prosecutors and judges.

Based on my experiences I think that there are at least four essential conditions that have to be fulfilled for successful input and feedback by practitioners.

A *first* condition is that the policymakers and legislators have an execution-oriented attitude. This implies that they have an open mind and ear for input and feedback from the enforcement side and are convinced of the benefits for the quality of legislation. This is not ensured on forehand, I dare to say. As far as the Netherlands are concerned I have noticed that within the various ministries an execution-oriented attitude is not yet common practice. Probably the situation in other countries is not quite different.

A *second* condition is that the planning and organisation of the legislative process must provide the time and room needed for input and feedback from practitioners. This must be agreed between the Council of Ministers and the Parliament and, subsequently, the Ministers and the governmental officials involved. The sooner and more frequent input can be given into the process, the more it will contribute

to the quality of legislation. For input and feedback it is not necessary to participate in meetings. Internet is a very efficient means for this purpose.

A *third* condition is that there are capable practitioners available who are able and willing to give input and feedback to policymakers and legislators. It is my experience in the Netherlands that it is not so easy to find the right practitioners. I am sure that there are many practitioners who can contribute to the quality of legislation, but most are unknown to policy makers and legislators. Therefore, the Ministries should be stimulated to set up pools of practitioners in the various fields of environmental policy. These pools can be trained to give input and feedback and to become familiar with the legislative process at the national level.

A *fourth* condition is that policy makers and legislators are able to withstand pressure from the Parliament, non governmental organisations, economic sectors and media to speed up the legislative process. In the Netherlands it has become common practice that ministers are pressed by various groups – directly or via the Parliament – to speed up the legislative process, often with negative effects on practicability and enforceability.

4 INVOLVEMENT OF PRACTITIONERS IN THE PERMITTING PROCESS

At the provincial level of government it has become practice that provincial inspectors are invited to assess drafts of environmental permits for industrial installations and waste management plants on enforceability. Sometimes also the public prosecutors' office is consulted on the enforceability of specific provisions.

5 FEED BACK FROM CRIMINAL INVESTIGATIONS

In 2005, the Dutch National prosecution office on fraud and environmental crime, that is charged with the guidance of investigations and the prosecution of environmental crimes, and the investigation departments of both the police and some Ministries agreed to give feedback on found shortcomings of environmental legislation, permits or inspection practices.

The procedure is as follows. At the end of an investigation the chef of the investigation team makes a report with relevant conclusions and recommendations for the legislator or the competent authority, to be approved by the public prosecutor concerned. The report is sent by the head of the investigation department to the Minister of Home Affairs, who will address the report to the responsible Minister or other competent authorities. For example, since 2005, reports have been presented to competent authorities on hazardous and non hazardous waste, contaminated grounds, illegal fireworks, and protected endangered species.

6 CONCLUSION

This paper has only provided a few examples, but many more exist. There are other ways of giving input or feedback as well. However, input and feedback take place and both are indispensable for a good functioning of the regulatory chain. They require much from inspectors, investigators and public prosecutors, as well from law makers and permitting officials. In any case, excellent contacts, mutual respect, and the ability to translate enforcement experiences into legislative, judicial and organising solutions are necessary conditions for successful input and feedback.

Therefore, I am convinced that the two worlds can only be brought together if both sides are ready to co-operate and get the opportunity to meet each other and exchange insights and experiences. Only then there is a chance that all parties involved become aware that they are *partners* in one regulatory process in the interest of the protection of the environment, human health and safety. The regulatory chain is not only a model of regulatory activities. It is also a model of co-operation between various governmental officials and offices.

ANNEX 1: GOLDEN RULES FOR ENVIRONMENTAL LEGISLATORS

1 PREPARATION

Golden rule 1

Start every new legislation project with a careful description of the policy problem for which the legislation must offer a solution, and with choosing a suitable direction to the mainlines of the solution. In doing so make deliberate choices concerning the way in which the behaviour of companies, citizens or government bodies is to be influenced.

Golden rule 2

A good starting memorandum for new legislation is the result of:

- a. teamwork of the policy maker and the lawyer who will draft the legislation
- b. dialogue with practitioners

Golden rule 3

For new legislation choose as much as possible for a legal framework or a legal basis, with which:

- a. both men and environment can be protected (concerns: purpose)
- b. all consequences for both men and environment can be met (concerns: reach)
- c. limits can be set to all activities and acting (legal) persons, that contribute (to a relatively considerable extent) to the problem (concerns: scope)

Doing so, take into account the existing possibilities of other legal provisions, also of other ministries and authorities.

Golden rule 4

Always use the need for new legislation to combine new and existing rules in one law or decree, in case these rules (partly) concern the same issue or the same target group. It benefits the implementation, compliance and enforcement of the rules.

Golden rule 5

Constantly be aware that the extent to which and the way in which the freedom of people is limited, is of a direct influence on the (possibilities of the) implementation, compliance and enforcement of the rules.

Golden rule 6

Make a well-considered choice concerning the administrative authority that will be competent to implement and enforce the rules, because of:

- a. the nature, volume and complexity of both the implementation- and enforcement tasks in relation to the activities they focus on, and the coherence with other sets of activities;
- b. the potential seriousness and scale of the consequences for men and environment and fair competition in case of non-compliance of the norm;
- c. the level of "mobility" (across administrative borders) of the target group.

Golden rule 7

Concerning enforcement make deliberate choices about the role of administrative law, penal law and if desired civil law in the light of:

- a. the collective and individual (legal) interests that an intended set of rules aims to protect as well as the potential nature, scale and effects of infringements on these interests as a consequence of non-compliance of these rules;
- b. the possibilities to inspect and trace offences of the intended set of rules and the efforts this probably will cost;
- c. the extent to which the competent authority for implementation and enforcement can get into a conflict of interest;
- d. the extent to which the target group, citizens and intermediate organisations may have an interest and are willing and capable to take (civil) action themselves against non-compliance of the proposed legislation.

Golden rule 8

During the preparation of the legislation develop, together with the involved competent administrative body, a vision on the desired organisation of the inspection. Create political consensus on this topic and lay it down in the explanatory memorandum to the legislation

Golden rule 9

In all stages of the preparation of the legislation stay in touch with persons who have practical knowledge on the possibilities to implement, comply and enforce the intended rules.

Golden rule 10

Take good care of finding appropriate conversation partners with practical knowledge and create, where suitable, a knowledge pool of experienced practitioners, in co-operation with the administrative bodies involved in the issue.

Golden rule 11

In preparing or implementing European legislation, follow as much as possible the same approaches used for the preparation of national legislation.

2 DESIGN**Golden rule 12**

Always take care that there can be no doubt about:

- a. *what* the norm is that has to be complied with;
- b. to *whom* the rules refer, so by whom they have to be fulfilled or complied with and by whom the inspection on compliance is to be carried out and against whom, if necessary, enforcement action has to be directed;
- c. *how* inspection can be done and how it can be determined whether or not there is compliance with the norm.

Golden rule 13

Limit the number of exceptions to the norm as much as possible.

Golden rule 14

If an exception is absolutely necessary: describe it in a separate paragraph or article because of clear liability to punishment.

Golden rule 15

Assure that non-compliance of each direct or indirect norm is forbidden.

Golden rule 16

Assure yourself that every punishable rule has been formulated in such a way that it provides a sound basis for a future indictment. The norm must be formulated in one provision, be as short and coherent as possible and preferably without reference to another article or part(s) of article(s), annexes or other regulations.

Golden rule 17

Clearly indicate in every regulation what the 'core provisions' are, so that both the target group and the competent inspection and enforcement officials know which norms have to be fulfilled and enforced under all circumstances.

Golden rule 18

Constantly keep in mind while formulating provisions that in enforcement situations all elements of the provision have to be proven. So only use these elements that are absolutely indispensable.

Golden rule 19

When drafting a rule that includes a duty to provide for, look for a good balance between space for the addressee's own responsibility and the clarity on the reach of this.

Golden rule 20

If you have to choose between a so-called 'target-provision' and a 'means-provision' then let the aspect of 'enforceability by the authorities' have a heavier weight as the consequences of non-compliance for men or environment can be more serious.

Golden rule 21

Assure that for each norm with a technical character it is clear *how* it can be determined to what extent the norm is complied with.

Golden rule 22

Avoid that the way in which to determine the composition of the leach out values of a substance, product or waste product varies as it is considered to be a substance, a product or a waste product.

Golden rule 23

Leave enough room for technical and methodological developments and for the application of adequate inspection and enforcement methods in the description of a certain technique or method that is used to determine the compliance of a norm; preferably by determining that another than the prescribed technique or method is allowed, provided it has the same level or reliability and representiveness.

Golden rule 24

Always check if persons who - for the determination of the compliance of a (technical) norm - sample, analyse, measure or calculate or who make use of or provide others with the data acquired from these activities, can be obliged to practice the necessary care.

Golden rule 25

Always remember that without obligations to report and register, adequate inspection and enforcement against non-compliance is not possible in the area of (chain)activities with substances, products and waste products.

Golden rule 26

Indicate in the introduction to the rules or in the explanatory memorandum on which legal requirement(s) the norms in a governmental or ministerial decree are based.

Golden rule 27

When drafting a ministerial decree based on a number of different legal requirements, be aware of the consequences that differences between these legal requirements can have for the practicability and enforceability.

Golden rule 28

When changing a norm or penalisation, pay ample attention to the legal transitional stage from the old to the new situation.

Golden rule 29

Let, as far as possible, the desired circle of target groups, strongly determine the choice for a specific legal framework or a specific regime of activities or a combination of legal frameworks and regimes of activities.

Golden rule 30

Constantly realise that the one who is not part of the target group of a set of rules, is not bound to comply with these rules.

Golden rule 31

Take care that the circle of the target group is sufficiently broad to assure that:

- a chain of activities with a substance, product or waste product is closed and
- all (natural or legal) persons that can act contrary to the (aim of the) rules, are under the rules
and can be checked for compliance and can be addressed in case of non-compliance

Golden rule 32

Nominate categories of target groups that have to deal with more than one set of environmental rules, as much as possible in a uniform way. Anyway this goes for:

- a. the one who carries responsibility for a company
- b. the manager (i.e. owner or keeper) of an activity (either or not in progress)
- c. transporter.

Golden rule 33

Keep the description of the scope of a governmental or ministerial decree as simple and short as possible.

Golden rule 34

Make sure that the territorial sphere of action of a law is broad enough to, if necessary, also set norms and enforce these on board of your country's aircraft or ships

Golden rule 35

Leave out demarcation provisions between laws concerning aim, reach or scope of the norms in laws and decrees. If possible delete existing demarcation provisions.

Golden rule 36

Give explicit attention to the penalisation of norms, if enforcement support from the side of the penal law is considered desirable; also think about norms in European directives and regulations.

Golden rule 37

Forward a mature proposal to the Ministry of Justice concerning the way in which non-compliance with a norm can be included in the penal code.

Golden rule 38

Constantly be aware of the effects that a change of numbers of paragraphs or articles can have for the use of other legal provisions.

Golden rule 39

Always take care that there can be no doubt about the question which administrative authority is competent in a concrete situation for the implementation and administrative enforcement, including inspecting compliance with the norms.

Golden rule 40

As much as possible put the competence of implementation and administrative enforcement in one hand concerning all the norms that are valid for a recognisable category of target groups.

Golden rule 41

Make a coherent administrative enforcement possible of all the regulated activities of all target group, in case of activities with a substance, product or waste product being part of a chain.

Golden rule 42

Take care that the inspection on compliance of all norms in relation to all target groups has been properly organised. Make clear who is the competent authority and promote that officials of different authorities have simultaneous competence's to inspect the compliance of the norms.

Golden rule 43

Make it possible that, in the case of activities with a substance, product or waste product, that is part of a chain, coherent chain inspections on all regulated activities and target groups can be carried out.

3 IMPLEMENTATION

Golden rule 44

Properly and timely prepare the introduction of new legislation, in co-operation with those that have to implement it, comply with it and enforce it. Don't forget the police and the public prosecutor's office.

Golden rule 45

Make an implementation plan focused on the timely realisation of a situation in which all categories of actors have the *knowledge* and the *ability* to do what is necessary for a proper implementation, compliance and enforcement, and that these actors in vast majority are *willing to act* and *do act*.

Golden rule 46

Take at least two years for aftercare of new legislation.

4 FEEDBACK AND EVALUATION

Golden rule 47

Always offer the ones that have to implement, comply or enforce the new legislation the opportunity to provide feedback in a practical way. Inform people what has been done with their feedback.

Golden rule 48

Always evaluate the functioning of legislation against the background of the policy problem for which it was intended to provide a solution.

ANNEX 2



IMPEL Project

“Developing a checklist for assessing legislation on practicability and enforceability”

project report – abridged version

(full version can be found at: http://ec.europa.eu/environment/impel/pdf/pe_checklist.pdf)



Introduction to IMPEL

- The European Union Network for the Implementation and Enforcement of Environmental Law is an informal network of the environmental authorities of EU Member States, acceding and candidate countries, and Norway. The European Commission is also a member of IMPEL and shares the chairmanship of its Plenary Meetings.
- The network is commonly known as the IMPEL Network.
- The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on certain of the technical and regulatory aspects of EU environmental legislation. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. It promotes the exchange of information and experience and the development of environmental legislation, with special emphasis on Community environmental legislation. It provides a framework for policy makers, environmental inspectors and enforcement officers to exchange ideas, and encourages the development of enforcement structures and best practices.
- Information on the IMPEL Network is also available through its website at: <http://europa.eu.int/comm/environment/impel>

Summary and overview of the checklist

- In the policy debate on better legislation at the European and national level, there is a growing consensus on the need to address the implementation deficit. EU legislation, including environmental legislation, is too often not properly or fully implemented across Europe. There is real evidence of practicability and enforceability problems caused by the way legislation is designed and written and by poor implementation conditions.
- Problems of practicability arise when competent authorities in the Member States encounter difficulties in the practical application of legislation, because insufficient attention has been paid to the need for proper transposition into national law and application through individual administrative decisions, or to the need for adequate infrastructure and resources. Problems of practicability may also be faced by the regulated target group when their obligations as defined by the legislator are unclear or unrealistic. At the end of the regulatory chain, legislation, to be credible and effective, also needs to be enforceable by competent authorities if the regulated target group fails to comply. Enforceability requires thoughtful consideration, at an early stage, of such issues as the technical and practical feasibility of monitoring and inspection, the resources required to detect and prove violations, and the availability and deterrent effect of administrative or penal measures to sanction offenders.
- In order to encourage policymakers, legislators and stakeholders to devote more attention to likely problems of practicability in implementation and enforceability throughout the legislative process, with a view to anticipating and remedying practicability and enforceability problems through a pro-active approach, IMPEL, the European Union Network for the Implementation and Enforcement of Environmental Law, initiated a project aimed at producing a practical checklist to assess the practicability and enforceability of existing and new legislation with the aim of improving the overall implementation of EU environmental law in the Member States.

- The checklist, as presented in this report, was developed through a process designed to draw upon the practical experience of members of the IMPEL Network in the implementation and enforcement of EU environmental law. A draft checklist was prepared by experts in consultation with a project team and international review group consisting of legal and enforcement experts, based on research into practicability and enforceability problems and various existing national and European initiatives and tools designed to address these problems. The draft checklist was discussed at an international project workshop with the participation of experts from 17 IMPEL Member countries and EU institutions. Participants to the workshop assessed the provisions of two pieces of EU legislation, the IPPC-directive and the Waste Shipment Regulation, with the aim of exploring practicability and enforceability issues and testing the checklist. The checklist was further refined in light of the workshop's findings and recommendations. The checklist was finalised taking into account the views of the review group and the IMPEL Cluster on Better Legislation.
- The checklist is designed to enable actors and stakeholders in the legislative process to assess EU environmental legislation (and associated national legislation and implementation efforts) on various aspects of practicability and enforceability, both *ex ante* and *ex post*. Practicability and enforceability considerations can be assessed and addressed at various stages of the legislative process by different actors: policy and legal experts and officials of the Commission and of the Member States, Members of the European Parliament and their staff and the legal/drafting services of the European Parliament and Council secretariats. In their different capacities and roles, all these actors can have a decisive influence on the design and wording of environmental legislation. Stakeholders such as national authorities competent for implementation and enforcement, European networks like IMPEL, the regulated community and NGOs, can also use the checklist to provide input into the legislative process based on their own insights and experiences.
- The checklist is structured in five sections to facilitate its use at various stages of the legislative and implementation process. It takes into account the differences between different types of EC legislative acts. The questions are intended to help users address the relevant issues thoroughly. However, not all questions are relevant at all stages of the process, and users may decide to use parts of the checklist selectively, based on their specific role in the process, expertise and concerns.
- In most cases, it will not be possible to answer the questions by "yes" or "no". Users are encouraged to approach them rather as open questions. In a way, asking the questions is as important as answering them. In fact the questions here below can be used in different ways: as a real checklist, as a questionnaire and as an aide-mémoire.

Project Recommendations

1. All actors at the different stages of the EU legislative and implementation process should take Practicability and Enforceability (P&E) issues into account.

Relevant stages are:

- During the pre-legislative (pre-proposal) phase: when drafting proposals and organising Impact Assessment (IA) and consultative processes on draft proposals for legislation;
- During the formal EU legislative procedure: when negotiating legislative proposals;

- After adoption of EU legislation: when transposing the adopted legislation or establishing complementary legislation at Member State level;
- During implementation of legislation: when securing sound implementation conditions;
- After implementation of legislation: when carrying out ex post assessments and review processes.

Actors are: European Commission, Council, European Parliament, Member States (through Council and at transposition/implementation stage).

2. Stakeholders - parties who have an interest in practical and enforceable legislation and who can give insights on how to achieve this – should be consulted in a timely manner to ensure that relevant experience on practicability and enforceability is taken on board.

Stakeholders are: national authorities competent for implementation and enforcement, the judiciary, IMPEL and other Implementation and Enforcement Networks.

3. In order to get involved and to time efforts, stakeholders need a clear, accurate and up-to-date timetable of the Commission legislative agenda (roadmaps), including information on what issues are involved.
4. Actors and stakeholders are recommended to use the P&E Checklist to ensure that all relevant P&E issues are taken into consideration and that P&E issues are assessed and addressed in a structured way.
5. The P&E Checklist can be used stand alone or in conjunction with other better legislation tools, like the *Joint Practical Guide* of the EU institutions. It is recommended to explore the possibilities of incorporating elements of the P&E Checklist in the Guide and in the Impact assessment Guidelines of the European Commission.
6. More effort is needed to secure that stakeholders have sufficient capacity to provide the necessary input, to maximize synergies between existing networks and to make sure that the full range of stakeholders (e.g. public prosecutors) get involved.

IMPEL specific Recommendations

7. IMPEL cluster 3 (Better Legislation) is recommended to use the P&E Checklist when offering advice on the practicability and enforceability of new and existing legislation on basis of IMPEL Members experience. It is suggested that the Cluster apply the Checklist on some more legislation to develop it further.
8. IMPEL members are recommended to use the Checklist in national fora and to exchange experiences on its use, for example in the IMPEL cluster 3. IMPEL is recommended to provide for translations of the Checklist in the IMPEL country languages so as to get the broadest uptake possible.
9. IMPEL and its members are recommended to promote the Checklist, contacting all relevant actors and stakeholders in the EU legislative process both on a national and EU level and using a proper communication strategy.

10. IMPEL is recommended to consider developing links to relevant networks and Better Legislation initiatives from interested parties. In particular IMPEL should look for opportunities to promote the P&E Checklist in connection with *The Barriers to good environmental regulation* Paper, currently developed by The Heads of European Environmental Protection Agencies Network.

The IMPEL Checklist on Practicability and Enforceability

A. Questions relating to legislative policy and the choice of legislative instrument

Primary addressee: Commission policy makers and MS experts involved in the consultation process.

Phase of the legislative process: very early stage of the legislative process, as part of IA when there is a proposal, and potentially as part of an ex post evaluation.

Explanatory remarks: The questions in this section relate to the choice of the legislative instrument – whether directive or regulation. They are inspired by relevant policy documents on the application of the principles of subsidiarity and proportionality and on ‘better regulation’. In practice the choice of legislative instrument might well have been made before the Impact Assessment and the IA is only carried out on the actual proposal – i.e. after the choice between regulation or directive (or other instrument) has been made. In this case the evaluation of the practicability and enforceability of proposed legislation arises only after the basic policy choice to have recourse to legislation as an instrument has already been made.

In the Inter-institutional Agreement on better law-making of 16 December 2003, the European Parliament, the Council and the Commission have recalled the definition of the term ‘directive’ in Art. 249 of the Treaty, which provides: ‘A directive shall be binding, as to the result to be achieved, upon each Member State to which it is addressed, but shall leave to the national authorities the choice of form and methods.’ The same Inter-institutional Agreement further states that, in formulating proposals for directives, ‘the Commission will ensure that a proper balance is struck between general principles and detailed provisions, in a manner that avoids excessive use of Community implementing measures.’ In the Agreement, the Commission commits itself to ‘explain and justify to the European Parliament and to the Council its choice of legislative instrument’.

The following provisions of the 1997 Protocol on the application of the principles of subsidiarity and proportionality annexed to the EC Treaty are also directly relevant to the choice of legislative instrument: ‘The form of Community action shall be as simple as possible, consistent with satisfactory achievement of the objective of the measure and the need for effective enforcement. The Community shall legislate only to the extent necessary. Other things being equal, directives should be preferred to regulations and framework directives to detailed measures. (...) Regarding the nature and the extent of Community action, Community measures should leave as much scope for national decision as

possible, consistent with securing the aim of the measure and observing the requirements of the Treaty. While respecting Community law, care should be taken to respect well established national arrangements and the organisation and working of Member States' legal systems. Where appropriate and subject to the need for proper enforcement, Community measures should provide Member States with alternative ways to achieve the objectives of the measures.'

Questions

1. If the proposed choice of legislative instrument is a Directive, is this choice justified in view of its contents and purpose?

Does it provide sufficient flexibility to facilitate its transposition and insertion into the national legal systems of the Member States, without compromising the effective achievement of the results it pursues?

Is the Directive sufficiently clear about the results to be achieved by Member States?

2. If the proposed legislative instrument is a Directive, has a proper balance been struck between general principles and detailed provisions?

Does the Directive allow for the use of different regulatory instruments and alternative options for implementation and, if so, is it sufficiently clear under what conditions these instruments and options can be applied?

Where desirable flexibility is provided by the Directive, would it nevertheless be useful to provide complementary, non-binding guidance material for national authorities in charge of transposition and implementation?

Where flexibility is considered undesirable, would the choice of a Regulation not have been more appropriate in view of the perceived need for a fully harmonized approach?

3. If the proposed choice of legislative instrument is a Regulation, is this choice justified in view of its contents and purpose?

Is it necessary that the intended measures be applied in a uniform manner in all Member States?

If there is no true need for uniform application, would the choice of a Directive not have been more appropriate in view of subsidiarity considerations?

4. If the chosen legislative instrument is a Regulation, are its provisions actually capable of direct application in all Member States?

Has the need for complementary legislation clearly been identified?

B. Questions relating to the suitability for transposition and implementation

Primary addressees: Commission policy makers, evaluation units, and Member States' policy and legal experts/negotiators

Important stakeholders: national authorities competent for implementation

Phase of the legislative process: is primarily focused on the proposal stage of the legislative process (and could be a core part of IA process). Potentially also as part of an ex post evaluation.

Explanatory remarks: This set of questions addresses the next stages in the EC regulatory chain, from the perspective of the public authorities competent for transposition and implementation in the Member States. Issues of practicability from the perspective of the regulated community are no less important, but are addressed by a separate set of questions (see section D).

Transposition, as explained above, is only relevant where the EC legislative instrument used is a Directive. In this case, implementation in the Member States follows transposition into their domestic law. In the case of a Regulation, no transposition is required, and the directly applicable provisions of the EC legislative instruments are to be implemented as such, though complementary provisions of domestic law may be required to enable effective implementation. Because of this fundamental difference between both types of legislative instrument, additional specific questions have been developed to complement the general ones that are common to both choices.

Questions

5. Does the legislative instrument clearly and unambiguously spell out the requirements and tasks for the national authorities competent for implementation?
6. To the extent that EU institutions or EU bodies, specifically established under the legislative instrument or designated by it, are given implementation tasks, is the division of responsibilities between these institutions or bodies and the competent national authorities clearly spelled out?
7. Does full implementation of the legislative instrument require the adoption of implementing measures at the EU level (i.e. delegated rule-making through comitology procedures)? If so, are such measures likely to be adopted in time?
8. Has the need for any support on EU level for the national authorities competent for implementation prior to the date of application of the legislative instrument (e.g. through guidance materials or other practical measures) sufficiently been considered?
9. Has the need for any cooperation between the Member States (and, if relevant, between Member States and non-member States) in the implementation of the legislative instrument sufficiently been considered?

Has sufficient attention been given to the possible need for exchange of experience on EU level between the national authorities competent for implementation after the coming into force of the legislative instrument?

10. Are the implementation burdens for the (national and, where applicable, European) authorities competent for the implementation of the legislation clear? (human resources, financial resources, knowledge and/or training, performance of new functions, ICT, organisational structure, etc.)

Are these burdens proportionate to the intended results?

Has a proper balance been struck between public and private burdens?

11. To the extent that the legislative instrument imposes monitoring and/or reporting obligations on national authorities, are these obligations proportionate to the intended results and has the resulting administrative burden been kept as low as possible?
12. To what extent are/were national authorities competent for implementation involved in the development of the legislation at the appropriate stages of the legislative process and have their opinions on implementation burdens been taken into account?

Specific question for Directives

13. Is the time period allowed for transposition of the Directive into national law adequate (e.g. for administrative changes or making investments)? Does the date by which the Directive is to be transposed leave Member States sufficient time to properly prepare their implementing bodies for the practical aspects of implementation?

Specific questions for Regulations

14. To the extent that the provisions of the Regulation are not fully self-executing, does it leave Member States sufficient time to adopt whatever complementary national legislation may be required for its full implementation?
15. Does the date by which the Regulation comes into effect leave Member States sufficient time to properly prepare their implementing bodies for the practical aspects of implementation?

C. Questions relating to the quality of the legislation

Primary addressees: Commission, Council and European Parliament legal drafting units; MEPs; Member States' legal experts/negotiators

Important stakeholders: national authorities competent for implementation

Phase of the legislative process: This is at the proposal stage - where the concepts of the proposal (objectives, targets, target audience, timescales) have been worked out and need translation into robust legislative language.

Explanatory remarks: These questions relate to the intrinsic quality of legislative drafting and are formulated in such a way that they can be applied to any existing or proposed provisions of EC environmental legislation, whether in the form of a Directive or a Regulation, referred to as 'the legislation' (in the event of legislative proposals this obviously should be read as 'the proposed legislation').

Questions

16. Does the preamble clearly state the intended environmental result of the legislation?

Does the preamble justify and explain the enacting provisions in simple, understandable terms?

Is it fully consistent with these provisions?

17. Does the legislation contain any provisions without legislative character (e.g. wishes, political statements) which may confuse the addressees or seem to contradict the actual normative provisions?

18. Have all the key terms been properly defined, while avoiding excessive detail in definition which may hamper enforcement? Are the definitions clear and consistent with the definitions in related legislation?

Is the same term used throughout to express a given concept consistently with the definitions?

19. Is it clear from the provisions of the legislation who are the ultimate addressees of the rights and/or obligations they set out?

20. Are the rights and/or obligations of those to whom the legislation is to apply clearly defined?

Has the use of exceptions been minimised?

Are any technical standards laid down in the legislation clear?

21. Besides the actual target group, will other parties be confronted with the legal effects of the legislation and, if so, does this come across clearly?

22. Are the rules formulated in such a way that the addressees can read and understand them easily?

Is the wording clear, simple, concise and unambiguous? Have unnecessary abbreviations, 'Community jargon' and excessively long sentences been avoided?

23. Are the various provisions of the legislation consistent with each other?

24. Is the legislation consistent with existing legislation (including any international conventions binding on the EC) and has pointless repetition of existing provisions been avoided?

Are any references to other texts precise? Have unnecessary cross-references which make the text difficult to understand been avoided?

25. Does the legislation contain annexes or refer to implementing rules to be laid down at EC level (delegated legislation), guidelines, technical reference documents or other documents that have to be taken into account for purposes of implementation and/or enforcement?

If so, is the legal status of these instruments clear and do they themselves meet the practicability and, where relevant, enforceability criteria of this checklist?

26. To the extent that the legislation amends or further develops existing legislation, have any opportunities for consolidation sufficiently been considered?

Have any opportunities for integration with other relevant pieces of legislation sufficiently been considered?

Has any relevant case-law of the ECJ on the existing provisions been taken into account?

D. Questions relating to the practicability of compliance by the regulated target group

Primary addressees: Commission policy makers, evaluation units, Member States' policy experts/negotiators

Important stakeholders: national authorities competent for transposition and implementation and regulated target groups (e.g. industry)

Phase of the legislative process: is focused on the proposal stage of the legislative process (and could be a core part of IA process). Potentially also as part of an ex post evaluation.

Explanatory remarks: This set of questions is aimed at assessing the likely response of the regulated target group to the legislation, bearing in mind that the political choice to have recourse to legislation as a policy instrument has in principle been made. It draws most heavily on the *Table of Eleven*, a tool developed in the Netherlands which can help map the strong and weak points of rules with respect to the likelihood of compliance and the feasibility of enforcement. It consists of eleven dimensions, which together determine the extent to which legislation is complied with. The eleven dimensions are formulated with a view to achieving the highest possible practicability in the fields of policy development and law enforcement. See also Annex 4.

In applying this part of the checklist, users should be aware that what matters for the ultimate addressees of the legislation is not so much the EC legislative text itself, but their perception of it, as they are confronted at their level with either the provisions of domestic law transposing the requirements of a Directive, or the directly applicable provisions of a Regulation, as interpreted and applied by competent national authorities in the domestic legal context, together with relevant complementary provisions of national law. Since all of these elements are not fully known at the time EC legislation is drafted, users of the checklist will have to make a number of assumptions about these various factors which will influence the target group's perception and resulting behaviour. The relevance of some questions and the possibility of answering them with any degree of confidence will vary widely according to national circumstances. If it is not possible to address some questions during the legislative process at the EU level, the same questions will most likely have to be addressed at the stage of transposition or elaboration of complementary national legislation. To the extent that the ultimate impact of the legislation on the target group depends on choices made in a national legislative process, this section of the checklist will be of particular importance for those involved in this process.

Like all other sections, this section of the checklist has been drafted from the perspective of public authorities concerned with ensuring the highest possible level of compliance with rules that have been or are intended to be laid down. It is not primarily concerned with evaluating the burden and cost of compliance for the regulated community, which is an issue that normally should be addressed at an earlier stage in the policy development process, when the political decision whether or not to legislate, rather than how to legislate, is made. Obviously, the practicability of compliance is a question that is closely related to that of administrative burdens and compliance costs for the private sector, which are key issues for consideration in IA procedures. Consequently, those responsible for carrying out such procedures at the EU or Member State level may also find the questions in this part of the checklist useful, as will representatives of the regulated community who may be consulted during the IA process. The answer to some questions is likely to vary considerably depending on who answers them.

Questions

27. Is it clear who belongs to the target group?

Will it be clear to the target group what obligations it will be expected to comply with?

Is the target group actually capable of understanding the rules as formulated?

28. Are the obligations implementable (achievable/realistic) for the parties to whom they are addressed?

If there is no specific target group, are the parties responsible for implementation clearly identified or identifiable?

29. In the target group's perception, are the policy and rules embodied in the legislation likely to be regarded as reasonable and acceptable, and the burden of complying with them as not disproportionate?

Does the target group feel it shares responsibility for putting this policy into practice?

30. In the target group's perception, does compliance with its obligations cost relatively little time, money and effort?

31. In the target group's perception, could breaking the rules be thought to yield little or no advantage (i.e. no incentive not to comply) or even disadvantages (i.e. positive incentive to comply)?

32. In the target group's perception, could complying with the rules be thought to yield any advantages?

33. Can compliance with or contravention of the rules be easily and unambiguously established by the target group (e.g. through a fixed measurement method)?

34. In the target group's perception, is it likely that any violation would soon be noticed by its peers?

Does the target group's community generally disapprove of such violations?

35. Is there likely to be any horizontal supervision (e.g. financial auditing, disciplinary codes, auditing for certification) which may encourage or facilitate compliance with the rules laid down in the legislation?
36. Are there easy ways of avoiding compliance with the rules? Have the fraud-susceptible points in the legislation been identified and can measures be taken to address them ?

E. Questions relating to the enforceability of the legislation

Primary addressees: Commission, Council and European Parliament legal drafting units; MEPs; Member States' legal experts/negotiators

Important stakeholders: national authorities competent for enforcement (e.g. public prosecutors) – who know how the enforcement system works in practice.

Explanatory remarks: These questions address the final link in the regulatory chain: the possibility and likely effectiveness of the use by national public authorities of legal, administrative and other means at their disposal to check compliance and to convince or if necessary compel the ultimate addressees of the legislation to comply with their obligations, where they are found to be unwilling to do so without coercion. Enforceability, too, depends on a wide range of different factors, some of which are very difficult to judge at the time of drafting legislation at the EU level. Since compliance checking, inspection and enforcement remain essentially determined by national law, these questions will normally have to be addressed mostly at the stage of transposition (for Directives) or elaboration of complementary national legislation (for Regulations), taking into account specific national circumstances. However, if it is expected that the effectiveness of a piece of EU legislation heavily depends on adequate enforcement in the Member States, it is also crucial to already explore in the proposal phase what provisions should be regarded as key, what in practice is needed in terms of enforcement, whether the Member States have sufficient means in this respect and whether the EU legislation should contain concrete and detailed enforcement requirements. This also applies to the issue of enforcement co-operation between Member States in case of transboundary activities. Finally, users of the checklist should be fully aware of the fact that the decision to impose criminal sanctions on violators of environmental law ultimately depends on independent judicial authorities who operate in accordance with general procedures, rules and principles of criminal law whose rationale is unrelated to the objectives of environmental policy.

Questions

37. Is it clear which authorities will be in charge of checking compliance, carrying out inspections and enforcing the legislation and what their tasks and obligations will be?
38. To what extent were these authorities involved in the development of the legislation at the appropriate stage of the legislative process?

Has their opinion on the enforceability of the legislation and the burden involved been sought and taken into account?

39. Has the need for any support on EU level for the national authorities competent for inspection and enforcement prior to the date of application of the legislation sufficiently been considered?

Has the possible need for common guidance materials been anticipated?

40. What non-coercive means will be available to competent national authorities to achieve compliance without having recourse to formal enforcement action (e.g. penalties, coercive measures) under administrative or criminal law? Are such means likely to be effective or is recourse to enforcement action likely to be frequently required?

41. Is it clear what provisions should be enforced and what provisions should have priority in this respect (core provisions of the legislation)?

Is it clear what means of enforcement under administrative and/or criminal law can be used under the terms of the legislation and are these likely to be effective?

42. Are the inspection and enforcement burdens for the competent authorities clear (human resources, financial resources, knowledge and/or training, performance of new functions, ICT, organisational structure, etc.)?

Are these burdens proportionate to the intended results?

43. Are the monitoring and measurement methods to be employed consistently defined?

Is the compliance checking effort expected of competent authorities realistically feasible?

44. Is sufficient capacity for the performance of the inspection and enforcement tasks available?

45. Where relevant, has the need for any cooperation and/or exchange of experience between competent national authorities in the actual inspection and enforcement of the legislation sufficiently been considered?

46. To the extent that EU-level bodies, specifically established under the legislation, are given tasks directly related to inspection or enforcement, is the division of labour between these bodies and the competent national authorities clearly spelled out?

47. Has the date on which the legislation will enter into effect been established in such a way as to allow sufficient preparation time for the national authorities competent for inspection and enforcement?

48. In the target group's perception, will there be a high risk of detection of a violation in the event of an inspection (i.e. a records inspection or a physical inspection) by the competent authorities?

Is the inspection technology used sophisticated enough?

Will there be a major real risk of detection in an inspection?

49. In the target group's perception, will there be a high risk of a violation detected by others than the authorities (e.g. those exercising horizontal supervision or the general public) being reported to the authorities?

Does the target group think that people generally know which authorities to report detected violations to and would be generally inclined to do so?

50. In the target group's perception, will there be a high risk of incurring a sanction if a violation is detected in an inspection or reported to the authorities?

Will there a major objective risk of a sanction being imposed once a violation has been detected or reported?

51. In the target group's perception, will the type of sanction associated with the violation and additional disadvantages of being sanctioned (e.g. damage to reputation) be regarded as sufficiently severe to have a deterrent effect?

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PRIORITIZED STAFF SKILLS FOR AN ENVIRONMENTAL ENFORCEMENT TRAINING PROGRAM

COUTURIER, M.ED., DANIEL¹

¹ Instructional Designer, U.S. Environmental Protection Agency – National Enforcement Training Institute, 1200 Pennsylvania Ave., N.W. (AR 6211), Washington, DC 20004 USA, netiwest@epa.gov.

SUMMARY

While environmental enforcement training programs will necessarily vary widely in size and funding, a successful training program must have skilled personnel with specified responsibilities. The skills held by employees should help define the organization's structure, and determine its duties. This paper outlines key personnel skills upon which to build an environmental enforcement training program. In order to make this model useful to smaller and newly formed programs, the critical employee skills are presented in a prioritized order. A skilled employee foundation will breed success, no matter the size of a particular program. The central concept promoted in this paper is to be specific and comprehensive when making adjustments to staff within a training organization.

1 INTRODUCTION

Any one enforcement officer with an audience can be a trainer. Any two people working together for training purposes could be called an enforcement training organization - this represents the simplest training program structure. Fifty persons placed together, all doing training, can be just as *simple* an organization as the two people. Yes, the large group will likely have more resources and products, but if it has only a simplistic approach to goals and staffing, the large group may not differ from the small group. What distinguishes successful training programs is the level of structured and coordinated efforts – not the size the group. The work of two persons, well planned and coordinated, can have the impact of ten persons who work independently toward no particular goals.

2 STAFF DEVELOPMENT VERSUS COURSE DEVELOPMENT

Because this paper is focused upon staff skills, the list below does not follow a normal sequence used to prepare training materials for delivery. For example, the first step in course development is analysis, though the importance of having an Analyst on staff is listed later. Likewise, a Manager (later priority) would typically meet with a Designer before the Subject Matter Expert or a Developer (highest priorities) was involved. When assembling a staff, versus a training course, it is helpful to distinguish the course development processes from needed staff skills. The methods used to deliver training have changed drastically over the past

decade. The traditional means of teaching (*i.e.*, a notebook or a chalkboard) are still useful and remain among the most effective. However, increasingly, new and revised course materials are rapidly needed, and large audiences are widely distributed. Technology offers a means to meet those needs more quickly, while enhancing the impact and interaction. All skills in this paper assume some proficiency with hardware (computer, camera, telecommunication, etc.) and software (word processing, databases, graphical representations, etc.). Sometimes, staff improvement goals must start with the improvement of basic *productivity-related* skills, such as computer usage, project management, budgeting, or setting priorities – before *training-related* skills can be substantially improved.

3 PRIORITIZED PERSONNEL SKILLS

Because a small enforcement program may not have all the specialized skills needed to form a large and sophisticated training team, it must choose which skills to develop within its group. If given a choice, a program should select persons with skills that would enhance any current staff capabilities. Following is a list of particular skills related to personnel positions that a comprehensive organization would need in order to offer a full range of training products and services. The list also places those skills in a priority order so that organizations can build step-by-step upon a few initial positions.

4 SKILL 1: SUBJECT MATTER EXPERTISE

If there were just one person to form a training “program,” it must be a person who knows the technical topics to be taught – this person is often called the Subject Matter Expert. Without a topical Expert, there can be no training. It is common for enforcement training programs to be formed by simply assembling field investigators who have an interest in training. Unfortunately, the other skills that support effective training (*e.g.*, material formatting, collaboration, presentation skills) may not be strong capabilities of those same Experts. There are boring attorneys or investigators who do a lot of low quality presentations, simply because they know the subject matter better than others. If there is limited availability of good presenters, this may be an unavoidable situation. Low quality training may still be worthwhile when it is the only means for inspectors, attorneys, case developers, managers, and others, to learn.

If possible, the enforcement Subject Matter Experts should be assigned to another unit, such as a separate legal or technical program within the enforcement program, rather than placed with the core training team. However, Subject Matter Experts need to remain available to advise the training program because they are critical for the development of good training. The Subject Matter Expert’s primary roles are collecting and summarizing the technical issues, and helping to determine the scope of topics to be covered in training. Such a support role allows Experts from many different areas to be occasional contributors to training, while maintaining their primary technical or legal duties. If one Subject Matter Expert

leads all training, then the program will be limited to whatever skills that Expert might have. For example, an attorney who is a good trainer and presenter, would likely struggle to lead the training on industrial technology topics that are very familiar to a field inspector. It is no fault of an Expert that she/he cannot cover all issues within the entire environmental enforcement realm. Having Experts available from other organizations also allows training resources to be expended directly and exclusively upon training. Mixing the training and technical program staffs and budgets may mean that funds and efforts are likely to be dispersed away from training to address technical or other issues.

5 SKILL 2: MATERIALS DEVELOPMENT

Central to training is the creation of materials for presentation. A materials Developer should be able to format content, layout presentations, write computer programming code, edit graphics, and package materials for distribution. A Developer need not be familiar with the particular content being presented. One Developer, working together with various Experts providing technical content, can be the means to produce training on a wide range of topics. If the Subject Matter Experts were placed in separate legal or technical divisions, as discussed above, then the Developer position would be the primary building block for establishing a training program.

6 SKILL 3: MATERIALS DESIGN

Detailed technical topics (from an Expert) and good materials format (from a Developer) do not guarantee learning. An often overlooked aspect of training success is ensuring that the training has intentional form and achievable objectives. Training objectives should be clear, measurable, and have specific desired outcomes. Outcomes should be aimed at employee performance improvement in a certain area.

In the role of project manager, the Designer becomes the “liaison and interpreter” between the Subject Matter Expert and the Developer. Together they form the course agenda. The Designer applies his knowledge of learning theory, instructional design principles, and experience with various formats and technologies to ensure quality and appropriateness within and across materials. A delivery format should not be selected simply to use the “latest” technology. A Designer should also ensure that students interact with the training material. Interactions should lead the students to practically apply the learning through exercises. For example, providing a set of facts that present a case study allows both investigators and attorneys to apply learning to a specific and realistic situation. At the end of the training cycle, a Designer will lead revision of materials based upon evaluations.

6.1 Design and Development Notes

The largest portion of workload for a training program should be the development of materials. If there were a staff limit of three persons to form a training program, then the best selection of personnel positions likely would be: two Developers and one Designer (assuming that Subject Matter Experts are available from another program). One Designer could work with multiple Experts to send materials to multiple Developers. Generally, the proportion of Developers on staff should be higher than other positions in order to prevent productivity from slowing down during the longer development phase.

A training organization ideally should allow for separate Designer and Developer positions. These two positions are often mentioned together during course creation; however, the role of a Developer has moved significantly into a distinct set of technical skills, especially due to the increasing use of educational technology (*e.g.*, internet, complex software). If forced to choose only one of these two positions, a Designer or a Developer, then the Developer would be of higher value. Without materials being professionally produced, it is difficult to create quality training. Hopefully, while learning development skills, a Developer has acquired some design skills to apply, in place of a separate professional Designer.

Although oversight by a professional Manager is important, hiring a Manager among the first three members of a core training team would be too soon. So, if only Designers and Developers were chosen to form a small training team, they would need some natural or trained administrative and management skills.

7 SKILL 4: MANAGEMENT

Up to this point in staffing, there has been an assumption that the basic training team (Subject Matter Expert, Developer, Designer) have an acceptable level of self-management to conduct a training program without immediate oversight. However, the traits inherent to a formal Manager position are too critical to be assumed. Without leadership, authority, credibility, and coordination applied by a Manager, even the best Experts, most creative Designers, and most productive Developers, will likely struggle to coordinate with the larger organization. Working with a Manager from a larger department can ensure that the efforts of a small self-directed training team are in accord with larger organizational priorities and objectives. A good Manager will leave the technical content, the design, and the development work, to those members who have a proven ability to make good decisions. A Manager's primary roles include setting priorities, monitoring progress, coordinating with other managers, acquiring resources, and managing personnel.

It is debatable whether a Manager needs to have training experience or subject matter expertise herself. Like the Designer who does not need to be familiar with technical subjects, a Manager can be an effective coordinator without prior

training experience. However, in both cases, a Designer and a Manager, experience is preferred since it tends to foster a shared understanding that will benefit the entire program.

7.1 Administrative Support Skills

The following skills (number 5-7) should be represented by two or more individuals, but can be combined, especially for smaller organizations. Together these skills form the ways and means to conduct a training program. An organization which does not have these specialists, typically struggles to assess audience needs, deliver efficient events, and respond to client requests. If specialized staff are not assigned to these duties, individuals must do these tasks incidental to their primary responsibilities. Including the following skills on staff should not be overlooked or minimized in favor of overstaffing with Experts or Managers.

8 SKILL 5: COMMUNICATION / MARKETING

Demands from a large client audience can overwhelm an organization. Maintaining clear and frequent communication with clients is important. Sending out a catalog of course descriptions and a schedule of course delivery dates and locations can prevent many questions from coming in. A staff position similar to Public Information Officer or Customer Service Manager can create, collect, compile, and publish information, as well as maintain professional associations and social networks.

9 SKILL 6: COURSE DELIVERY SUPPORT

The practicalities of course delivery require a staff person who gives attention to detail, and has knowledge of material formats and delivery technologies, to ensure that preparations are complete. Logistical support provided by a Coordinator includes, student registration (listing and confirming attendees), securing a location (facility reservations and equipment, coordinating with host organizations), reproduction of materials (copying and distributing), hardware and software set up (updating and purchasing equipment), travel arrangements, expenses, and loading information to computer networks. In addition, a Coordinator may need to maintain relations with a cadre of available instructors and a network of remote facility managers and hosts. For example, attorneys who need to accumulate continuing education documentation would appreciate a Coordinator who can obtain training material certifications from legal associations.

10 SKILL 7: ANALYSIS AND EVALUATION

Training programs should conduct an analysis of needs within the target audience to ensure that appropriate goals are set for training, prior to beginning course development. A post-delivery evaluation of a course can provide valuable input

from students, instructors, experts, and managers. A staff Analyst should be able to collect measurable feedback, and then summarize both facts and impressions from the data. Expenses (development and delivery costs, return on investment), facility usage, student count, and many other data can be analyzed. Even a small training organization will need some measures of productivity and success. Ultimately, analysis should justify the resources that are being expended.

11 TO BEGIN OR EXPAND

What to “do next” for staffing depends upon which skills are currently within the organization. Periodic restructuring of units and responsibilities is a normal part of growth and refinement. An organization which currently has few or no employees has an ideal opportunity to build staff intentionally, though they may face a difficult start. A group which already has plenty of people may struggle with a random mix of skills and historical constraints. Careful consideration is needed when choosing to either increase skills in current positions (thus doing more of the same work, and doing it better), or redirecting staff to new skills (thus offering new services to clients). The best hiring or skills development sequence can only be determined by the particulars of a specific situation. Contrary to the order of priorities above, a Coordinator who facilitates an increase in the number of training events per year could be hired before a Manager to represent the training program. Likewise, an Analyst who can justify resource needs for budgeting may be of greater value than a broad-reaching communication network.

Current staff might resist learning new skills. Retaining employees (through recognition and rewards) who already have desired skills is most critical during restructuring. Despite the wide range of skills suggested above, one Expert might be able to expand his responsibilities to encompass design, development, and delivery of materials. Such a person working with one Manager who expands her responsibilities and skills to include planning, coordination, advertising, and analysis, can together form a limited but complete training program. The main idea here is that all aspects of a complete training program should be considered, and covered to the extent possible, no matter the organization size and resources available.

12 SUPPORT AND PARTNERSHIPS

Although the above staff listing uses a building block method, an organization could bypass the inclusion of any skill position - as long as a substitute is obtained from outside the organization. Few organizations can establish all necessary functions within their own staff. Contracting with other private or commercial organizations may be a highly attractive option, especially when highly specialized or limited-use skills or services are needed. Because expertise and primary decision-making authority is retained by government agencies, there may be no commercial sources of support available for many environmental and enforcement issues. Partnering with governmental agencies or public institutions

is also an option when staff and equipment can be shared. Identifying the portion of target audiences shared by training providers allows collaboration when goals or subjects are similar.

13 CONCLUSION

Purposeful planning and personnel management may have the greatest influence upon the success of a training program. Even a good plan for staff restructuring can be stalled by external influences, such as political and philosophical decisions beyond the control of the training program. Incorporation of appropriate personnel and related skills can overcome many limitations. Balancing the goals of an organization with its capabilities requires flexibility. A program may choose to divest from prior obligations, rather than automatically replacing a staff position with someone of like skills. With each change of mission, or departure of staff, a new opportunity arises to redefine a training program.

14 AUTHOR NOTES

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The content of this paper represents the personal views of Mr. Couturier, and not necessarily views shared by the United States government.

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OPERATION FERRO: TAKING ON THE GIANTS

CRAIGIE, FRANCES¹ and FOURIE, MELISSA²

¹ Director: Strategic Compliance and Enforcement, Gauteng Department of Agriculture, Conservation and Environment, Market Street Johannesburg South Africa.; Frances.Craigie@gauteng.gov.za

² Director: Enforcement, Environmental Quality & Protection Branch, Department of Environmental Affairs & Tourism, Van Der Walt Street, Pretoria, South Africa, mfourie@deat.gov.za

SUMMARY

This paper provides an overview of the strategic environmental compliance and enforcement project referred to as “Operation Ferro” which focusses on the iron and steel and ferroalloy industry in South Africa. The reasons for focusing on this industry sector are briefly discussed in the paper followed by an insight into the planning and implementation of the project, including the criteria used for prioritization of inspections. As this project is still in the process of being implemented, the final sections of the paper will detail some of the non-compliance trends that are already evident as well as the achievements and lessons learned to date.

1 INTRODUCTION

In 2006, against the background of the environmental rights contained in the Bill of Rights¹ of the South African Constitution² and the international obligations³ focusing on the development and implementation of effective compliance and enforcement systems, the newly established Environmental Management Inspectorate (more commonly known as the Green Scorpions), embarked on the first joint⁴ compliance and enforcement programmes for the effective implementation of the relevant legislation. These programmes have included proactive approaches to assess compliance in specific industries in a coordinated and integrated manner in order to achieve overarching policy objectives, whilst meeting specific compliance and enforcement responsibilities.

As compliance and enforcement activities can be costly and time-consuming, strategic implementation within the resource and capacity constraints is crucial. It was therefore necessary to plan compliance and enforcement actions based on priorities. The factors that are generally considered in setting priorities includes the significance of violators; severity of impacts;⁵ involvement of priority pollutants; relative contributions to environmental harm; complexity of processes; availability of resources; levels of government; sensitivity of the receiving environment, and types of industry/sector.

While understanding that the above factors form the basis for prioritisation, it also needs to be understood that environmental compliance and enforcement, particularly in an industrial context, are relatively new within the South African context. Accordingly, there are major gaps in compliance and enforcement information required to target and plan specific actions with ideal accuracy. In the absence of detailed information required to profile violators and accurately determine relative contributions to environmental harm, the decision to prioritise the iron and steel and ferroalloy industry was based on a number of factors, including the cumulative impact of this industry on the environment.

2 SELECTION OF THE PROJECT

At the outset, it is important to understand that, until Operation Ferro, there had been no co-ordinated, proactive, strategic compliance projects in any industrial sectors in South Africa. Historically, inspectors – focused only on either air, waste or water – would do fairly random and superficial compliance inspections, without enforcement action of any significance being taken where violations were detected. These inspectors were the same officials who issued permits to the facilities in question. Never were any comprehensive, integrated compliance inspections conducted to assess compliance with all environmental legislation.

In 2006 (one year after the statutory establishment of the Environmental Management Inspectorate), Operation Ferro was selected as the first project focused on the monitoring and enforcement components of the traditional regulatory cycle within a specific industry sector. Sufficient information existed to understand that this industry - comprising iron and steel, ferrochrome, ferromanganese and ferrosilicon - is unquestionably one of the largest polluting industries. Such a conclusion was drawn from, *inter alia*, the following information:

- Most ferroalloy production occurs in submerged electric arc furnaces which convert electrical energy to heat. Pollutants are emitted by these facilities in significant volumes from both point and diffuse sources, include (SO₂), nitrous oxides (NO_x) (which is a precursor for ozone formation), carbon monoxide (CO) and particulate matter (PM_{2.5} and PM₁₀). Metallic hazardous air pollutants, such as chromium, nickel, manganese, lead, phosphorus, antimony, cadmium, arsenic, and selenium, are also emitted depending on the production process involved. Partly for these reasons, both the iron and steel and ferroalloy industries had already been prioritised for review of their air emission permits in a related project.⁶
- Facilities that fall within this sector treat and/or dispose of various hazardous wastes (hazardous primarily because of the heavy metal content) to waste disposal sites on the facility's premises. The waste disposal sites associated with most of the facilities, historically unlined, have resulted in and continue to result in significant soil and water pollution.

In addition to the above, it was felt that the cumulative environmental impacts of this sector justified tackling the industry as a whole and ensuring an integrated compliance and enforcement approach which had been lacking in the past. It was recognised that many of the sites in question were a number of decades old, with associated legacy pollution issues. Many sites had also embarked on expansions which had resulted in increased production, but had also compounded detrimental impacts on the receiving environment. A review of the different information management systems available, drawing on the knowledge and experience of officials within the different government departments, revealed that it was likely that many of the expansions as well as other activities on the different sites were not authorised in terms of environmental legislation.

It should be noted that, while contributing significantly to the degradation of the environment in the vicinity of the different sites, the sector also makes a large contribution to South Africa's gross domestic product as well as providing employment, both directly and indirectly, for a vast number of local people. This is particularly attributable to significant infrastructure investment by both the public and private sector. As a result, enormous profits⁷ are generated by the sector, with only a small percentage of these profits being applied to environmental improvements in relation to the South African operations.⁸

Despite the substantial environmental impact of the industry, the entire sector consisted of no more than 40 sites of meaningful size, based in six of South Africa's nine provinces, and controlled by approximately 17 companies.⁹ Many of these companies are listed on the Johannesburg Securities Exchange (JSE) and most even on the JSE's Social Responsibility Index (which includes environmental responsibility). At least 4 of the 6 biggest players have ISO14001 accreditation. The Inspectorate therefore resolved that all the industry was relatively manageable in terms of regulation and compliance monitoring.

3 PROJECT OBJECTIVES AND PHASES

3.1 Objectives

The agreed primary objectives of Operation Ferro are to:

- assess and evaluate the current compliance of key players in the iron and steel and ferro-alloy industry with environmental legislation (including permits and authorisations issued in terms of such legislation); and
- take appropriate corrective action in cases of non-compliance, including enforcement action.

3.2 Phases of the project

In this, the first compliance and enforcement project of its kind, Environmental Management Inspectorate took a particularly methodical approach, which would

for proper preparation before engaging with the industry sector itself. The project was therefore split into four separate components:

1. planning and information-gathering;
 2. prioritisation;
 3. a pilot compliance inspection; and
 4. comprehensive compliance inspections.
- These components are briefly described below.

3.2.1 Planning and Information-gathering

The planning and information-gathering phase was particularly important in view of the lack of adequate information about the industry, and Environmental Management Inspectorate's relative inexperience in both the industry sector and compliance inspections in general. Environmental Management Inspectorates therefore conducted at least five project meetings, held in different parts of the country, to consider and assess the various facilities in each province. Information-gathering and learning encompassed:

- identifying all authorisations issued to facilities by all spheres of government, including air pollution permits, waste disposal site permits, general environmental impact assessment authorisations and local government authorisations;¹⁰
- general compliance monitoring data available from all environment institutions;
- air quality monitoring data gathered by various bodies collated and analysed at the hand of meteorological data and basic dispersion models;
- geochemical maps being produced by the national Council for Geosciences indicating levels of soil pollution by heavy metals as a result of particulate air emissions over time;
- satellite imagery available for at least 10 years which may be applied to
 - o link significant particulate emissions to particular large ferroalloy producers' facilities; and
 - o investigate waste handling, storage, treatment and disposal practices; and
- general comparative information provided by inspectors from the Environment Agency of England and Wales regarding regulation and compliance monitoring of similar facilities in the UK.

Other crucial work done during this phase was the finalisation of an inspection methodology and a general enforcement strategy for Operation Ferro.

3.2.2 Prioritisation phase

Once necessary information was gathered, it was necessary to identify both a suitable pilot site as well as determine the order in which all sites would be inspected. The site selected for the pilot compliance inspection was identified on the basis of specific objectives as set out in 4.2.3 below, while different criteria were used for the determination of the pilot site in comparison to deciding on the schedule of site inspections of the other facilities.

The graphs below provide an indication of the criteria used for both pilot selection (Figure 2) as well as general prioritisation for determining the order in which all sites would be inspected (Figures 1a and 1b). These criteria include many internationally recognised prioritisation criteria, such as relative pollutant contributions from various facilities and companies; provincial and national priorities;¹¹ complexity of the processes involved; sensitivity of the receiving environment having regard to high impact receptor density (e.g. highly polluted residential areas where industries are concentrated); citizen complaints; significant violators in the industry and government circles and financial, technical and human resources required. Due to the size of these graphs only the ten facilities that scored the highest are reflected in this paper and the writers may be contacted to view the results in relation to all the facilities.

Figure 1a: Prioritisation Criteria: Determination of Order of Site Inspections

| | Province | Mpum | Mpum | Gau | Mpum | Gau | Mpum | Mpum | NW | KZN |
|--|----------|------|------|-----|------|-----|------|------|-----|-----|
| Impact on receiving environment | 10 | 5 | 5 | 5 | 5 | 4 | 5 | 3 | 3 | 3 |
| Nature / size of facility | 10 | 1 | 1 | 1 | 3 | 4 | 4 | 2 | 3 | 2 |
| Public profile | 10 | 5 | 5 | 5 | 3 | 4 | 3 | 3 | 4 | 4 |
| Business profile | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 5 | 1 | 5 |
| Proximity to sensitive environments | 15 | 3 | 3 | 4 | 5 | 4 | 3 | 5 | 5 | 2 |
| Meeting requirements of APPA review | 10 | 5 | 5 | 5 | 2 | 5 | 5 | 2 | 5 | 5 |
| Age of site / historical impacts | 5 | 5 | 5 | 5 | 5 | 4 | 2 | 5 | 3 | 4 |
| Management systems | 5 | 5 | 5 | 4 | 3 | 3 | 3 | 2 | 5 | 4 |
| Grid load on receiving environment | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 5 | 5 | 2 |
| Declaration as priority area | 15 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 2 |
| Poor environmental performance | 5 | 5 | 5 | 3 | 5 | 3 | 3 | 2 | 4 | 3 |
| Information available / Institutional memory | 5 | 5 | 5 | 4 | 3 | 2 | 5 | 3 | 3 | 4 |
| TOTAL | 100 | 260 | 260 | 243 | 223 | 219 | 206 | 198 | 188 | 188 |

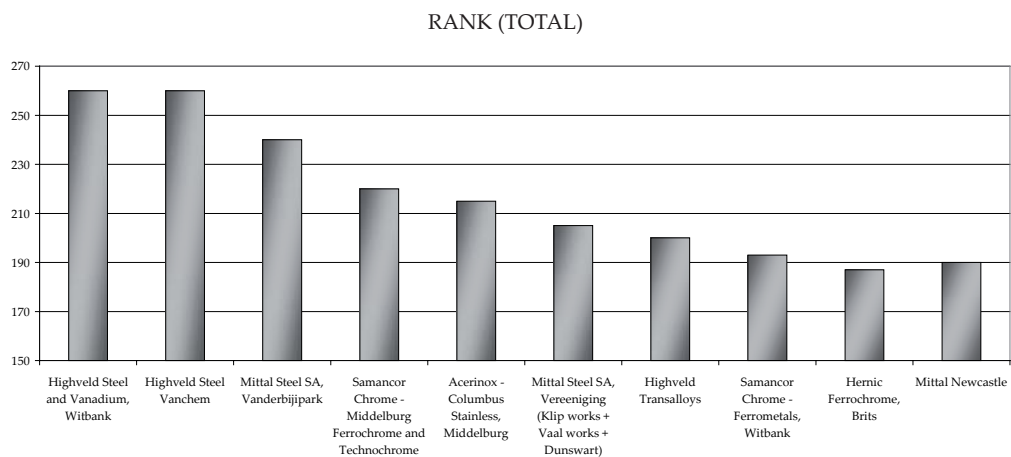
Figure 1b: Prioritisation Criteria: Determination of Order of Site Inspections

Figure 2: Prioritisation Criteria: Pilot Site Inspection

| SITE NAME | Ease of Inspection (complexity) | Accessibililty | Available information | Public profile (complaints) | Co-operation of management | Institutional / in-house knowledge | Good current performance | Situated in priority area | TOTAL |
|---|---------------------------------|----------------|-----------------------|-----------------------------|----------------------------|------------------------------------|--------------------------|---------------------------|-------|
| Mittal Steel SA, Vereeniging (Klip works + Vaal works + Dunswart) | 3 | 4 | 3 | 5 | 3 | 2 | 1 | 5 | 350 |
| Manganese Metal Company, Nelspruit | 3 | 3 | 4 | 2 | 4 | 3 | 2 | 5 | 345 |
| Highveld Steel and Vanadium, Witbank | 1 | 4 | 4 | 5 | 3 | 2 | 1 | 5 | 335 |
| Mittal Steel SA, Vanderbijipark | 1 | 4 | 4 | 5 | 3 | 2 | 1 | 5 | 335 |
| Mittal Saldanha Steel | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | 335 |
| Cape Gate Pty Ltd (Vanderbijipark + Cullinan) | 5 | 4 | 3 | 1 | 5 | 1 | 3 | 5 | 335 |
| Samancor Manganese - Metalloys Meyerton incl. DMS Powders | 2 | 4 | 2 | 5 | 3 | 2 | 1 | 5 | 320 |
| Cisco | 5 | 5 | 4 | 1 | 4 | 4 | 4 | 1 | 315 |
| Richards Bay Minerals, Richards Bay | 4 | 4 | 4 | 2 | 4 | 4 | 4 | 1 | 310 |
| SCAW South Africa | 5 | 5 | 3 | 2 | 5 | 3 | 3 | 1 | 305 |

The following important points should be noted in relation to the prioritization conducted:

- as all sites were going to be visited as part of the project, a risk-based approach to prioritization could be supplemented by other criteria;
- site inspections needed to be prioritised in a way that ensured adequate capacity was built up during the process of inspections;
- the most complex sites needed to be visited later in the project, in order to ensure that the team was adequately trained and skilled;
- the order of inspections needed to be sensitive to the benefits associated with awareness of the project and the media messages which formed part of the communications strategy; and
- criteria for determining the order of inspections were developed and weighted in such a way that the higher the score, the sooner the site inspection should take place.

3.2.3 Pilot phase

The pilot site inspection – selected on the basis of specific criteria listed above – provided both industry and Environmental Management Inspectorates with invaluable experience regarding appropriate compliance inspection methodology in this particular industry sector, within the existing capacity and experience deficit amongst authorities. Expertise of consultants were also utilised during this inspection in order ensure building of capacity.

3.2.4 A comprehensive compliance inspection phase

The comprehensive compliance inspection phase entails a series of compliance inspections, conducted in an order determined by the prioritisation described above, and taking into account all lessons learned from the Pilot Phase.

4 ANALYSIS AT THIS STAGE OF IMPLEMENTATION

4.1 Achievements

Although Operation Ferro has been focused on a single industry sector, its implementation has undoubtedly and permanently changed the perception that there is no compliance monitoring and enforcement of pollution, waste and environmental impact assessment legislation in South Africa. Despite not having a particularly sophisticated media strategy for Operation Ferro, the South African media (particularly the business print media and radio) has given extensive coverage to the concept and findings of Operation Ferro. In this way, Operation

Ferro has also strengthened and established the roll-out of the Environmental Management Inspectorate.

Findings of non-compliance have been followed by administrative enforcement action against two facilities thus far, with more to follow. Even at this early stage, it appears from the major environmental improvement projects proposed by only two of the facilities in response to enforcement action that the project is likely to have a major positive impact on environmental quality in one of the most polluting industries in the country.

Great care was taken to ensure that all facilities and companies are treated in an equal manner, with the ultimate purpose of levelling the economic playing field whilst avoiding allegations of targeting, at least within this particular industry.

A major achievement of the project has been to establish a reliable, consistent protocol for industrial compliance inspections in South Africa. This protocol has already undergone a number of key improvements borne out of experience in the first six inspections, and the input from the Environment Agency. Along with the protocol, a significant amount of capacity-building has taken place for all officials who have participated in the inspections as part of the project.

However, the most notable achievement of Operation Ferro was probably the networking and relationship-building between national, provincial and municipal officials that has taken place during the planning for and conducting of the compliance inspections, as well as the inspiration and energy that have grown from the project. On a number of occasions, officials participating in the inspections have voluntarily worked far beyond office hours, and particularly municipal officials have repeatedly expressed excitement for the project.

4.2 Trends in noncompliance

From the findings of the compliance inspections to date, noticeable non-compliance trends in the industry sector include the following:

- a consistent failure to lodge audit reports required in terms of permits applicable to the sites;
- a lack of consistent monitoring, particularly of emissions to air, with the resulting in very few facilities demonstrating compliance or non-compliance with permit conditions;
- where monitoring data is available for emissions to air, that data shows regular exceedances of permits;
- no lined or permitted disposal sites originating from before 1990;

- the ongoing disposal of hazardous and general waste on these unlined, unpermitted disposal sites; and
- fairly significant groundwater contamination at almost every site, with limited measures to address the contamination.

Despite the above-mentioned trends, most facilities are and have repeatedly been certified as compliant with the ISO14001 standard. In addition, these facilities generally have extensive environmental improvement programmes; surprisingly, these programmes do not necessarily address compliance with environmental legislation and permits.

5 LESSONS LEARNED

As a developing country that has designed and implemented its first strategic, sector-based compliance and enforcement campaign, the following lessons have been learned:

1. Choose an industry that has known significant detrimental environmental impacts but is not under serious financial pressure (ideally, such a project should be implemented in a growth industry).
2. Spend sufficient time in preparing participating institutions (or participating officials) through information-gathering and collation, and input from industry experts (domestically or internationally).
3. Agree on a single inspection methodology before going on site. Such a methodology, particularly where baseline compliance assessment is being done, should include more inspection teams consisting of fewer inspectors.
4. Send an unambiguous message to facility management regarding the purpose, process and consequences of the compliance inspection.
5. Design and implement a comprehensive media strategy to accompany project roll-out.
6. Ensure that the enforcement strategy implemented is consistent, but also aligned with the approach followed by the permitting sections of the relevant institutions.
7. Make reporting as simple as possible. Most of the assessment being done is baseline assessment and therefore the first inspection reports are necessarily broad and comprehensive, entailing very detailed work after the inspection by the inspection team (consisting of EMIs and other officials based in various institutions). The delay in issuing of inspection reports to facilities threatened to undermine the project.

8. Ensure that the enforcement strategy – and the implementation of that strategy - provides for effective criminal investigation and prosecution. Without this “stick” part of the strategy, industry will not take the project seriously.
9. Give credit to facilities who respond positively and with commitment to address non-compliances.
10. Once this industry sector shows meaningful signs of change, start to divert attention to other industry sectors to prevent a political backlash and accusations of targeting only one industry sector.

6 CONCLUSION

Operation Ferro has provided an opportunity for extensive learning and capacity-building within the newly established Environmental Management Inspectorate in South Africa. At the same time, it has jolted South Africa industry – beyond the iron and steel and ferroalloy industry sector – out of their complacency about the apparent absence of consequences of non-compliance with environmental legislation.

Although Environmental Management Inspectors were very inexperienced at the outset of this project, the mere fact that EMIs were at facilities, engaging with facility management in a coordinated manner, has had a significant impact. Neither inspections nor inspectors have to be perfect to catalyse a change in attitude towards environmental compliance in an industry sector.

7 REFERENCES

- ¹ Constitution of the Republic of South Africa (1996), section 24.
- ² Which, *inter alia*, obliges government to act reasonably in order to protect the environment by preventing pollution, promoting conservation and sustainable development, while building the economy and society.
- ³ Agenda 21 emphasises that institutional strengthening with the development of dedicated compliance and enforcement programmes is important for achieving the goal of sustainable development. This mandate was reinforced at the World Summit of Sustainable Development held in Johannesburg in 2002.
- ⁴ The Environmental Management Inspectorate in South Africa consists of Inspectors based in all three spheres of government (national, provincial and local); joint compliance and enforcement programmes therefore entail unprecedented cooperation between these spheres of government.
- ⁵ As preparation for the full commencement of the new National Environmental Management: Air Quality Act (2004), the Department of Environmental Affairs and Tourism embarked on the review and conversion of all air pollution permits issued in terms of previous air pollution legislation. This review started with certain prioritised industry sectors, which included the iron and steel and ferroalloy industries.

⁶ As preparation for the full commencement of the new National Environmental Management: Air Quality Act (2004), the Department of Environmental Affairs and Tourism embarked on the review and conversion of all air pollution permits issued in terms of previous air pollution legislation. This review started with certain prioritized industry sectors, which included the iron and steel and ferroalloy industries.

⁷ Mittal Steel South Africa's Annual Report for 2006 indicates in the Financial Summary that profit from operations during the year amounted to R5.8 billion while capital expenditure for environmental projects was limited to R104 million (website: www.iscor.co.za).

⁸ In our experience, it is always easier to conduct compliance and enforcement campaigns at a time or in an industry sector that is experiencing a growth phase.

⁹ Mittal Steel South Africa , Highveld Steel and Vanadium, Cape Gate , SCAW Metals , Acerinox - Columbus Stainless, Hernic Ferrochrome, Merafe, Samancor Manganese, Samancor Chrome, Manganese Metal Company, Vametcor (could now be Rhovan Vanadium - check), Assmang Manganese (previously Ferralloys) (3 sites), Kumba Resources, International Ferrometals, ASA Metals, Richards Bay Minerals and Ticor SA.

¹⁰ In South Africa, both air and waste permits are currently still issued by national government, while provinces issue authorizations pursuant to Environmental Impact Assessments and municipalities issue effluent discharge permits.

¹¹ Air pollution priority areas have been declared by the national department (e.g. Vaal triangle).

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BETTER REGULATION IN THE CONTEXT OF ENVIRONMENTAL ENFORCEMENT

FARMER, ANDREW M.¹

¹ Head of Pollution and Climate Team, Institute for European Environmental Policy, 28 Queen Anne's Gate, London. SW1H 9AB, UK, afarmer@ieep.eu.

SUMMARY

Better regulation is a major challenge and opportunity for environmental regulators. It is important to ensure that 'better regulation' is not seen as a deregulatory agenda, but one which seeks to improve the efficiency and effectiveness of environmental protection measures while reducing burdens for business. Regulators need to approach better regulation across the whole of the regulatory cycle, from legislative development to permitting, inspection, and the imposition of sanctions for non-compliance. To assist in completion of this task, a number of tools are available and approaches adopted by regulators in different countries provide valuable lessons to others.

1 INTRODUCTION

Better regulation is an important policy driver providing challenges and opportunities to the work of environmental regulators. However, the nature of what is meant by better regulation and how this is reflected in regulatory activity varies significantly between countries and even between bodies within countries. This paper examines the interaction between better regulation and environmental enforcement and considers how regulators can ensure that delivering better regulation results in improved environmental outcomes and increased efficiency and effectiveness across the range of the activities that they undertake.

2 BETTER REGULATION

Better regulation has become an important agenda in many countries. Better regulation goes by many different names, such as 'cutting red-tape', reducing the administrative or regulatory burdens on companies, streamlining regulation, paperwork reduction, smart regulation, and simplification. As a result, many public authorities have introduced regulatory reform programmes to improve the efficiency and effectiveness of regulations in a variety of ways, *e.g.* removal of obsolete and contradictory legal requirements, consolidation of overlapping legal requirements, application of new tools with the support of information technology, and introduction of organisational and structural changes.

The aim of better regulation should be to reduce regulatory burdens wherever possible, but without removing necessary protection for the environment or

workers. However, there are also pressures for deregulation. This questions the need for environmental protection and can be seen explicitly or implicitly in a number of contexts. Environmental enforcement authorities should resist an agenda that increases risks to health and the environment.

The term 'better regulation' is, therefore, not synonymous with 'less regulation.' While much better regulation activity might reduce the regulatory burden on businesses, it is important to focus on the central principles of regulation. Regulations are necessary to protect the environment and new regulations may be required to achieve this and can lead to economic opportunities for businesses, as recognised in the Prague Statement.¹ Better regulation requires that such regulation is efficient, cost-effective, and imposes the minimum burden necessary to achieve its objectives. Thus, where countries have adopted near blanket bans on new regulation (sometimes through pressure from external agencies) on the basis that this is 'business friendly,' this is counter to the principles of what regulation is about and is not *better* regulation. It is for this reason that the term 'better regulation' is preferred to the others listed above.

3 BETTER REGULATION ACROSS THE REGULATORY CYCLE

For environmental regulation, it is important to consider better regulation across all of the elements of the regulatory cycle: legislative development, strategic planning, permitting, monitoring, inspection, and non-compliance responses. Where the emphasis of 'better regulation' is largely on reducing legal regulatory obligations, most of the emphasis on action is often on legislative and permitting requirements. However, it is also important to focus on other parts of the cycle, as it is here that burdens are often applied to businesses and regulators can undertake efficiency measures.

3.1 Legislative Development

Legislative development is a central part of better regulation activity. New laws should be scrutinised so that they are deemed to be necessary and their requirements are efficient in application, such as considering whether alternatives to regulation are appropriate and whether the benefits outweigh the costs. Existing legislation can be similarly reviewed. This is often the major focus of better regulation activity, as seen at European Union level.² Legislation should ensure that regulators have the legal and administrative means at their disposal to encourage or, in the event of wilful non-compliance, compel those being regulated to comply with their obligations. Effective regulation is better regulation. Such regulations must also be able to be implemented efficiently, with minimum costs to business. Thus, legislation should ensure:

- The obligations on those being regulated need to be clear and understandable and must be achievable through available techniques and within a realistic timescale.

- The obligations need to be communicated effectively to those being regulated.
- Compliance with the regulatory obligations must be viewed as more beneficial than breaking the law, *e.g.* through fear of sanctions.
- Ways of avoiding compliance must be reduced, through controlling fraud in reporting, effective inspections, etc.
- The options for enforcement action by environmental enforcement authorities and others need to be clearly defined.

3.2 Strategic Approaches

Many countries have adopted strategic approaches to better regulation. These have a number of benefits:

- They provide a focus for high level commitment to better regulation.
- They can provide a forum to debate fundamental issues.
- They can identify where the major burdens on businesses are and, therefore, where better regulation initiatives ought to take place.
- They bring better regulation initiatives together into a common framework and provide more 'joined-up' thinking.
- They can keep up the pressure – not allowing environmental enforcement authorities or others to relax once a single initiative has been adopted.
- They are important in reacting to proposals for new regulation (to tackle the adoption of burdensome regulation on one issue while a better regulation measure is being adopted for regulation on another issue).

The smart regulation initiative in Canada is an example of such an approach across government. It is comprehensive in that it covers all governmental regulatory activity and seeks to involve a very wide range of stakeholders. An important aspect of smart regulation is that it establishes, up front, the principles upon which it operates, including a commitment to environmental sustainability. This statement of principles provides a benchmark against which the many specific initiatives can be judged, and through which stakeholders can have more confidence. Smart regulation has also adopted a rigorous process for taking forward its initiatives, including studies and extensive consultation processes. This framework approach is important in its success and it is clear that being systematic in analysis and delivery is a key objective.

The Canadian example is government-wide, but strategic approaches are also necessary at the level of individual institutions, as is demonstrated by a number of environmental regulators. Strategic approaches must ensure buy-in from all relevant stakeholders. This should include different levels of government, business, and community groups. The latter are particularly important if the process is not to be perceived as an unravelling of environmental protection.

3.3 Permitting

Acquisition of a permit can involve different administrative processes which can be complex and impose significant costs on businesses, not least as the time that permit acquisition can take can increase business uncertainty. This is particularly the case where activities are subject to different regulatory regimes each with separate permits. A number of approaches have been adopted to achieve the objectives of better regulation in permitting, including:

- Changing the processes of individual permit regimes to introduce streamlining measures, such as on-line permit application procedures.
- Seeking to combine multiple permitting processes into a single permit.
- Removing the requirement to apply for permits and replacing this with a generally applicable rule or by a notification procedure.
- Accelerated permitting whereby permits procedures for more rapid determinations.
- Reducing the information requirements for permits.
- Linking timetables for permit review requirements to risk-based assessments of activities.

Some better regulation permit initiatives have taken complex analysis to develop, as they seek long-term detailed changes, such as seen in the Netherlands. Bringing permitting regimes together delivers benefits. Thus, leaving complex overlapping regimes in place can be considered as bad practice. In general, the utilization of binding rules in place of permits has benefits, but also limitations. It must be clear that the change would not result in reduced environmental outcomes (*e.g.* for some local sensitive environments) or undermine public confidence/participation (indeed a proposal in this regard in Finland was dropped for the latter reason).

3.4 Monitoring

Monitoring (by public bodies or by enterprises) can be expensive. Unlike obtaining a permit, monitoring and reporting have start-up and recurrent costs. Thus, it is important that what companies are being asked to monitor, and how

they are being asked to report, accurately portray the nature of that activity and the needs of regulators. Unnecessary monitoring is not justified. As a result, it is important to:

- Only monitor those things that are necessary.
- Only require collection of data that can actually be used.
- Ensure that the frequency of monitoring is linked to the required accuracy of the results.
- Replace, where possible, parameters that are expensive to monitor with those that are cheaper that can act as a proxy.
- Standardise monitoring methods, etc, to increase efficiency.

Another approach to better regulation is to make better use of the monitoring processes in a more efficient framework. In Flanders (Belgium) authorities have brought together disparate reporting obligations into a unified framework in order to make monitoring more streamlined and effective through an integrated information technology system. It is important to start from a comprehensive inventory of existing reporting obligations in order to identify those obligations that apply to the largest target group as candidates for inclusion in an integrated reporting system. The system can later be expanded to include other, more specialized reporting obligations, which concern a more limited target group. All administrative authorities with responsibility for the collection and management of environmental data from operators should be involved in the preparation and implementation of the reform, as they will need to revise their respective regulations and operating procedures. Reducing monitoring and reporting obligations can be viewed as one better regulation option. However, this can be controversial, especially if there is concern that this undermines confidence in environmental enforcement.

3.5 Inspection

Inspection is necessary to ensure compliance. There are different opposing pressures on inspection activity. At the EU level there is, for example, increasing emphasis on ensuring inspection activity is undertaken. In contrast, some Eastern Europe, Caucasus and Central Asia countries have introduced significant restrictions on inspections in an attempt to be business friendly, but which can also undermine environmental protection. Better regulation initiatives on inspection must not impede the ability of regulators to ensure the compliance of regulated activities. However, there are steps that can be taken to achieve this, while reducing unnecessary business burdens. Most obviously, these include the bringing together of different types of inspection activity into single inspections. Risk-based approaches are also important – targeting inspection on activities

which pose the greatest risks to the environment, such as seen with the Operator and Pollution Risk Appraisal approach of the Environment Agency of England and Wales. Risk-based approaches to inspection in effect redistribute the burden on businesses.

3.6 Noncompliance action

There has been limited focus on the role of better regulation in the area of sanctions for non-compliance. However, it is an important area to ensure that the actions of regulators and others are effective and efficient. Poor use of sanctions, for example, can undermine the whole purpose of regulation. In 2006 the UK completed a review of sanctions undertaken within its better regulation programme.³ Importantly, the review concluded that sanctions, in the context of better regulation, should be sufficient to deter and change behaviour and an effective sanctioning regime should allow for a flexible and proportionate approach with a broad range of sanctioning options, so that authorities can respond to individual cases and the specific nature of the offence. Effective sanctions can also aim to restore the harm caused by regulatory non-compliance and take into consideration the needs of victims, offenders, and communities affected by it. Thus, regulators need to develop enforcement strategies that ensure sanctions are effectively used as a central element of a better regulation strategy.

4 APPROACHES AND TOOLS

There are a range of tools and approaches that regulators can use or engage in to assist in delivering better regulation. Regulatory Impact Assessment (RIA) is increasingly used to examine legislation/regulation prior to its adoption. This can be used to examine options for different implementation approaches⁴ and, therefore, ensure that regulation is both efficient and effective. It is important, therefore, for regulators to ensure that the focus of RIA is not limited to assessments of costs, but also examines the consequences for effective implementation of the regulatory cycle as a whole necessary to deliver environmental objectives.

An element of better regulation analysis has been to quantify the burdens placed upon industry by different regulations. The Dutch standard cost model⁵ assesses burdens to business and administrations, and is becoming more widely used across Europe. In some cases, this has led to ministries having quantified targets to reduce their administrative burdens (*e.g.* VROM had the overall objective of achieving a 30 percent reduction in administrative burdens by the end of 2007). It is important to ensure that the costs of regulatory activity are accurately determined. This will assist regulators in helping to focus resources to more effective ends. More problematic is the fact that simply quantifying burdens does not lead to decisions on regulatory change. Costs must be compared to benefits. For example, in Europe the Integrated Pollution Prevention and Control Directive is often cited as one of the most costly directives to implement. However, it aims to achieve major benefits across a wide range of industrial activities, which

contrast to other directives which are much more limited in scope. Quantifying benefits can be difficult, but regulators have a critical role in undertaking this, particularly to ensure that the results reflect a common sense understanding of the situation.

As noted above, risk-based approaches are also useful in delivering better regulation. In essence, risk-based regulation targets the resources of the regulator at activities that pose the greatest risk to the environment. This also links costs of such regulation to business to risk, which is a principle of better regulation. Risk-based regulation can be used for a wide variety of regulatory activities. For example, in the Netherlands, elements of risk-based assessments have been incorporated into analyses underlying the development of compliance strategies for different sectors.⁶ Risk-based approaches can also be combined with various forms of compliance assistance into an overall Compliance Management System which is reflected in the U.S. Environmental Protection Agency's approach of 'smart enforcement.' To take account of all of the potential risk issues requires a significant quantity of information on the operation of an activity, as is seen with the Operator Pollution Risk Appraisal of the England and Wales Environment Agency, which brings much relevant information together into a single analytical system, which is focused via the permitting procedure and resulting inspection.

5 CONCLUSIONS

Better regulation represents an opportunity for regulators to deliver more efficient systems for protection of the environment. Rarely do regulators suggest that they do not have some form of resource problem in undertaking their functions. Therefore, actions to increase the efficiency of all aspects of regulation (across the regulatory cycle) and the effectiveness of environmental protection should be welcomed. However, some regulators and stakeholders can view the better regulation agenda as a threat. Indeed, where it is poorly understood by governments or is, in effect, a deregulatory agenda, it can be a threat. In such cases, regulators have a duty to emphasise the importance of efficiently designed regulation to protection the environment and health of citizens and for positive economic benefits.

More generally, regulators should engage positively with better regulation initiatives. This should be across the regulatory cycle. Undertaking a major initiative to develop better regulation approaches at any or all parts of the regulatory cycle requires significant investment in staff time and involvement of business. Eventually, this will prove a useful investment. However, up-front commitment is necessary, and failure to complete the process properly could result in problems to the regulator and/or business.

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THE RELATIONSHIP BETWEEN TRADE AND EFFECTIVE ENFORCEMENT

JONES, DAVIS ¹

¹ International Enforcement Training Coordinator, Office of Enforcement and Compliance Assurance, United States Environmental Protection Agency, 1200 Pennsylvania Ave., NW, Mail Code 2254A, Washington, DC 20460, jones.davis@epa.gov.

SUMMARY

The United States is negotiating free trade agreements with an expanding list of countries worldwide. In order to prevent environmental harm associated with increased industrialization as trade barriers decline, these agreements contain commitments by each trading partner to effectively enforce its environmental laws to achieve high levels of protection. Effective enforcement requires a multifaceted approach to setting priorities, identifying and resolving violations, and increasing compliance. The United States Environmental Protection Agency and others are helping to build capacity to achieve an effective environmental enforcement program which ensures compliance with domestic environmental laws and demonstrates the country's commitment toward environmental enforcement.

1 FREE TRADE AND ENVIRONMENTAL ENFORCEMENT

1.1 Trade Agreements to Achieve High-Levels of Environmental Protection

There is a worldwide movement toward greater liberalization of international trade. We see this at a global level through the Doha round of negotiations of the World Trade Organization. Regional examples include The North American Free Trade Agreement between the United States, Canada, and Mexico; the agreement between five countries in Central America, the Dominican Republic, and the United States (CAFTA-DR), and trading agreements between countries in other regions such as the Association of Southeast Asian Nations, and the Southern African Customs Union. The United States has established bilateral agreements with Israel, Jordan, Chile, Singapore, Australia, Morocco, Bahrain and Oman, and continues negotiations or is in the approval process with South Korea, Peru, Panama, Colombia, Thailand, the United Arab Emirates, and is working toward comprehensive agreements that will create the Free Trade Area of the Americas. It is a busy time at the Office of The U.S. Trade Representative, and the associated agencies involved in these negotiations, The United States Environmental Protection Agency continues to be an active part of the negotiating team to ensure that environmental issues are appropriately addressed.

The purpose of these agreements is to increase trade by reducing tariffs on traded goods and services and reduce non-tariff trade barriers that could include regulatory activities designed to protect or give advantages to domestic companies over foreign investors. Pursuant to executive order, the U.S. is obligated to level the economic playing field in a way that does not allow environmental protection to be imperiled by increased trade or for low levels of environmental protection to create havens for polluting industries seeking to create competitive advantages by escaping the stringent American environmental rules.

1.2 Effective Enforcement of Environmental Laws

There are significant enforcement concerns with the various environmental provisions of the Free Trade Agreements and there have been a number of challenges to U.S. regulatory decisions. Other countries can challenge US Environmental Protection Agency regulatory actions for violating trade rules, and investment provisions allow challenges from foreign investors that are allegedly locked out of the U.S. market by environmental rules. Additional provisions are included in Free Trade Agreements to ensure that the lack of environmental enforcement is not used as an incentive for environmentally devastating activities, and US Environmental Protection Agency and other government agencies have focused capacity building activities to improve the environmental governance of U.S. trading partners.

In all of its recent Free Trade Agreements, the United States has included environmental chapters that contain core obligations to provide for high levels of environmental protection and ensure effective enforcement of environmental laws, as well as recognition that it is inappropriate to derogate from these laws to encourage trade or investment.¹ (Chapter Seventeen of the CAFTA-DR agreement provides a good example.²) These provisions recognize that an environmental legal regime can only reach its goal of protecting human health and the environment if the regulated entities put the requirements in practice and comply with those requirements. Compliance cannot be achieved if there is not an effective compliance program to motivate people to change their behavior using compliance incentives and compliance assistance together with compliance monitoring, sanctions and legal remedies when the regulated community fails to meet its obligations under the law.

All recent Free Trade Agreements environment chapters include provisions to promote public participation, provide appropriate remedies for violations of environmental laws, and promote measures to enhance environmental performance. CAFTA-DR establishes a public submission process similar to that established under North American Free Trade Agreement, and this has been a significant concern for the Central America and Dominican negotiators where there are recognizable gaps in their compliance and enforcement programs. To quote from CAFTA-DR Article 17.2 1.(a), "A Party shall not fail to *effectively enforce* its environmental laws..." Further, Article 17.7 outlines an enforcement procedure

to follow if that clause is violated: “Any person of a Party may file a submission asserting that a Party is failing to *effectively enforce* its environmental laws.”

The Humane Society International filed the first of these submissions under CAFTA-DR on May 8, 2007, alleging that “by failing to complete a comprehensive inventory of products made from sea turtles as required by domestic law, the Dominican Republic is failing to effectively enforce sea turtle protection laws prohibiting the sale of products manufactured from endangered sea turtles that were captured and killed in the country after July 31, 2001.”³ On December 5, 2007, the CAFTA-DR Secretariat for Environmental Matters determined that Humane Society International’s submission met the terms of the citizen submission requirements in Article 17.7.4, and formally requested that the Dominican Republic submit a response to the points raised in the submission.⁴

2 WHAT IS EFFECTIVE ENFORCEMENT

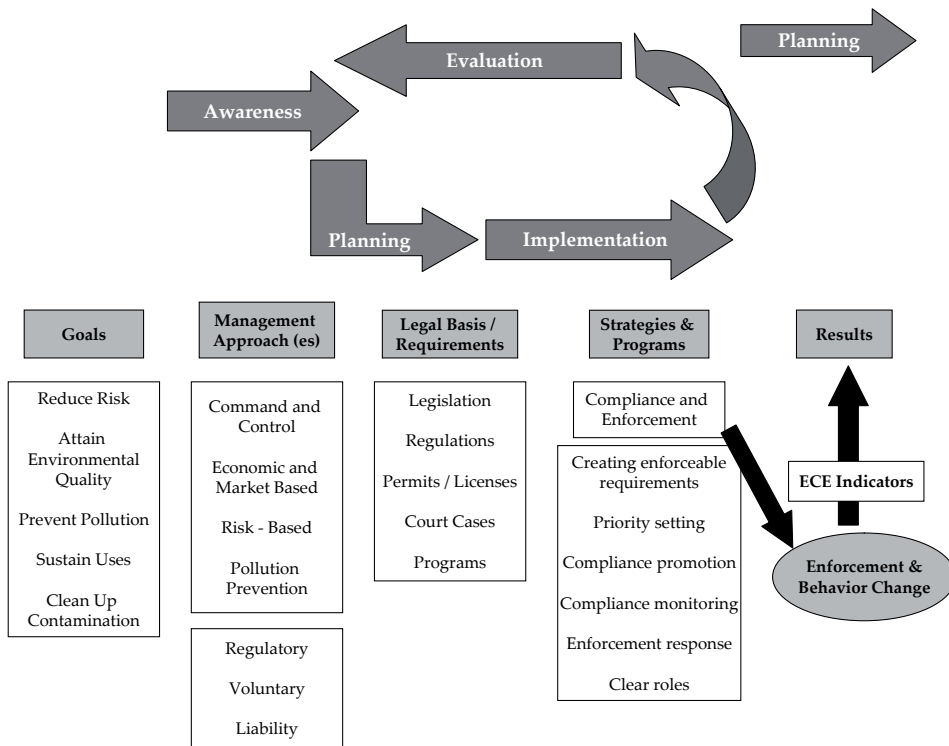
2.1 U.S. Free Trade Agreements Do Not Clearly Define “Effective Enforcement”

What is meant by “effective enforcement?” The alleged failure to enforce Dominican laws protecting endangered species cited above, and submissions filed under NAFTA regarding specific activities in the U.S., Canada or Mexico, all address specific examples where environmental laws have not been enforced in a particular instance or at a particular facility or industry. But, what about systemic, programmatic shortcomings that cause widespread failure to effectively enforce environmental laws that extend beyond a particular situation?

The definitions contained in the trade agreements are limited, and do not adequately recognize the full range of activities necessary to ensure compliance with environmental laws. Article 17.13 of the CAFTA-DR defines “environmental law,” “statute and regulation,” and “judicial or administrative proceedings,” but does not define “Enforcement” or “Effective.” Parties should know with greater clarity what they are supposed to be effective at doing before agreeing to potential trade sanctions or penalties for violating a provision of the agreement to which they become a party.

CAFTA-DR outlines that there should be judicial, quasi-judicial, or administrative proceedings in place to sanction and remedy violations. Those proceedings shall be fair, equitable and transparent, and appropriately and effectively prescribe remedies or sanctions for violations. The public should be able to request that the government investigate violations, and the public should be able to take action against violators themselves or the government if the government fails to act. The agreement also recognizes the role that voluntary mechanisms and incentives have in enhancing environmental performance. While very important, these are only a small part of an effective enforcement program. Of course, these comprise the enforcement sandbox where lawyers mostly play, but it fails to recognize other

aspects of a compliance program, which are equally important to effectively achieve high levels of protection.



2.2 Enforcement Cycle Must Include Full Range of Activities

The above graphic⁵ demonstrates the cyclical nature of a fully functioning compliance and enforcement program. The process begins with the awareness and understanding of the problem, and continues with the planning and implementation of a program to address the causes of that problem. The final phase is the evaluation of the effectiveness and results, and the determination of whether or not the goals have been achieved. Part of that evaluation includes recommendations for changes along the way to improve the various components of the cycle.

The initial step sets environmental goals that will help recognize and resolve the problem. Those goals may be to reduce risks posed by particular activities to human health and the environment, to attain higher levels of environmental quality such as cleaning the water in a watershed, or reducing urban air contamination. Prospective goals for pollution prevention or sustainable development may be set, as well as retrospective goals to correct past problems. Extensive information on the problem is required in order to fully understand what goals may be achievable given applicable technologies.

Once the goals have been established, management must select approaches which will be most effective to reach the goals. These may be regulatory, voluntary measures, or a liability scheme that relies on individual actions in the courts, but less on government intervention. Approaches such as the traditional command and control mechanisms and economic or market based systems usually have a strong regulatory component, and many voluntary schemes may require additional laws to be effective.

If a regulatory approach is utilized, the legal requirements may be implemented through a variety of methods stemming from constitutional provisions, laws, regulations, individual permits or licenses, and even judicial determinations that interpret the laws. Developing countries often look to the U.S. for examples of these laws, but should be careful, as most of the U.S. laws could be improved or will not work in other contexts.

Once the rules are in place (or ideally, as they are being developed), strategies and programs must be designed and implemented which program managers will use to ensure compliance with the requirements. The development of these rules is not usually considered part of the enforcement scheme, but without thinking of the enforcement consequences, the laws may be impractical or impossible to implement. Examples abound where countries have adopted regulations from more other countries that relied on laboratory or field measurement procedures that were not readily available when the law took affect. As a result, the regulated community can not determine their own compliance, and the government can not prove a violation. This can severely damage the credibility of the entire regulatory structure. Instead of wholesale adoption, countries must adjust foreign regulations to meet their specific situation and needs.

Programs must set priorities, especially given limited resources, to address enforcement. The government must decide what industrial sectors or areas to pursue first, and how to efficiently dedicate resources for the greatest return. Part of the efforts must be dedicated toward educating the regulated community and the public about the environmental laws and why they should comply through compliance assistance and compliance promotion. The regulators must develop strategies to effectively monitor compliance, through government inspections, industrial self-monitoring, or citizen monitoring and reporting.

Governments should consider the punitive activity considered so important to trade negotiators: responding to violations in a consistent, fair, and appropriate manner. The response should follow standardized and transparent national policies, yet take into consideration individual factors such as the appropriate remedy of the violating situation, the economic benefit of the violation, the gravity of the violation, and compensation for any harm caused.

Finally, the compliance program should be internally and externally evaluated to determine if it is achieving the behavioral change that leads to environmental

results. Environmental Compliance and Enforcement Indicators⁶ can help demonstrate how resources have been utilized and the resulting benefits to the environment. Demonstration of these results is crucial to show that the regulatory authorities are properly using the public's resources, and to establish the credibility of the enforcement agencies. These results, or lack thereof, allow for the program evaluation necessary to restart the cycle. The indicators can point out whether the goals need to be changed, whether failures to achieve those goals may be a result of bad law, or whether changes in our implementation strategies are necessary. Without that type of program evaluation, the same mistakes will continue or society will fail to make the innovations needed to solve our environmental problems.

3 CONCLUSION

The "enforcement response," including sanctions and judicial determinations, is only a small part of a larger program. For a compliance program to be effective, every link in the chain must function together,⁷ and the program must evolve to achieve continuous improvements. In recognition, each recent Free Trade Agreement now includes side agreements for environmental cooperation, and the State Department, US AID, US Environmental Protection Agency and other partners have expanded long term capacity building programs with trading partners to help bolster their Environmental Compliance and Enforcement programs. These programs do not only support the "enforcement response," but also address each of the different components of the cycle with training on the development of law and regulations, institutional strengthening, enforcement program design, inspections and criminal investigations, prosecution of environmental crimes, training for the judiciary, and the use of indicators for program management.⁸

It took the US Environmental Protection Agency over 30 years to evolve into the existing Compliance and Enforcement program. Through cooperation with trading partners, the U.S. Government can use its experience in environmental control to share successes and failures and accelerate the program development in countries world-wide to ensure that everyone effectively enforce their environmental laws to achieve high levels of environmental protection.

(The views expressed herein are those of the author and do not represent the views of the USEPA.)

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CHAIN ENFORCEMENT COMPLEMENTING THE EXISTING SYSTEMS

KOK, FRED¹

¹ Secretary of the National Authority of Environmental Enforcement, Koningskade 40, 2596 AA Den Haag, the Netherlands, fkok@lom.nl

SUMMARY

This paper describes the relatively new concept of 'chain enforcement.' Since the development of environmental legislation and its enforcement, the focus has primarily been on stationary sources. In the last decade however, a lot of attention has been directed towards environmental problems, which are not directly related to stationary sources. The problem-oriented approach is at the moment not entirely compatible with the way the legislation is organised. The problem-oriented approach instead of a task-oriented approach is therefore not self-evident and demands more attention. The fact that there still is unfamiliarity with the chain enforcement approach, stresses that more attention is needed for creating support and confidence.

The National Authority of Environmental Enforcement published the guideline document *Chain Enforcement*, which describes the process of chain enforcement in five steps. The guideline document especially deals with the way the process has to be organised and the conditions that have to be fulfilled for successful chain enforcement.

1 PROBLEM-ORIENTED WITHIN TASK-ORIENTED LEGISLATION

Since the beginning of the 19th century till the sixties in the 20th century, the Netherlands only had one general environmental law. From the sixties onwards, the environmental theme has come onto the public agenda. This meant diverse sector-oriented laws with different permit systems. Within the decentralised government of the Netherlands the following proverb applies: "decentralise whatever can be decentralised, and centralise what has to be centralised." Because of this, a patchwork of systems with different competent authorities has arisen, that even after advanced development of environmental legislation, exists till today. The protection of the environment and its enforcement is done by approximately five hundred different governmental organisations; central, regional and local.

Environmental legislation is mainly directed towards location bounded industrial activities. The main instrument environmental legislation offers is the permit system. Besides the actual environmental protection, the environmental legislation also arranges the division of the different authorities over the five hundred governmental organisations. The legislation gives each government a task assignment to protect the environment for those parts for which the concerned government is appointed to through law as official competent organisation.

Because of this, a task-oriented system exists. Finance, steering incentives and accountability is therefore primarily focused on fulfilling the assigned task.

In the last decade, however, experience shows that there are still gaps in the system with the task-oriented approach. For stationary sources and possibly non-compliance behaviour it can be assumed that the enforcement governments have developed in such a way that they are in general in control with the situation. This doesn't exclude incidents and situations where the willingness to enforce is deficit.

Non-compliance related to non-stationary sources is nowadays more seen as a problem. It mostly involves products, materials and waste streams which have their own cycle. This cycle is a chain consisting of the phases origin-transportation- processing- end application or recycling. In each phase in the cycle an environmental threat can come from these materials. For instance a demolition firm which pretends to dispose of asbestos to a waste company but, in fact, dumps the asbestos in an illegal manner to avoid extra costs.

Because of their non-stationary character, and sometimes, because of the long time-line, depending on the context in the cycle, every time different laws apply and mostly there are also diverse competent authorities.

The enforcement of these kinds of environmental problems sometimes demands an approach that is different from the approach to stationary sources. The National Authority on Environmental Enforcement published a guideline document, which step by step describes the conditions and circumstances for successful chain enforcement. It involves the following steps:

Phase 1: Selection of the chain

Phase 2: Chain research

Phase 3: Intervention strategy

Phase 4: Prepare implementation

Phase 5: Implement and monitor

1.1 Consequences for problem-oriented way of working

The problem-oriented approach takes place within the boundaries of the juridical possibilities and might therefore experience possible resistance. Developments in society are not guided by legislation, but to the opportunities which arise. As one can see, the trade in waste (and such) materials and products has become big business. The same applies to raw materials, which are easily transported all over the world. In this sector, just like all the other sectors, a relatively small part of the market beliefs in ideology on sustainability and are showing an exemplary

behaviour that is compliant. Another small part is after making money and economic profits despite the environmental impacts and are not whatsoever afraid for doing criminal environmental activities. By far most of the actors behave in a calculated manner. They are, in principle, prepared to comply to the rules, especially if the competition in general also comply on a large scale. If by non-compliance, the chances of getting caught, the sanction extent and the damage to the image are great enough, it will stimulate compliant behaviour. On the other hand however it also means that this group will easily join in a culture of non-compliance. Such cultures arise if the incentives (positive and negative) for compliance are insufficient. This trend can also be seen in other countries (on international level). Depending on time, place and prevailing jurisdiction each time different requirements apply in the life-cycle of such harmful materials or activities.

Companies or traders, who behave in a calculated manner make use of these circumstances and know how to organise themselves in these chains, or keep the chain entirely in their hand. To adjust and make (mis)use of the circumstances surely pays off against the chances of being caught for non-compliance.

Enforcement governments who want to be effective in this chain, shall have to organise themselves in a similar way. For this, a system is set up in the Netherlands.

2 SELECTION OF THE CHAIN

The methodology for selecting chains which have priority is based on the Compliance Strategy of the Ministry of Housing, Spatial Planning and the Environment. For subjects wherefore chain enforcement is a suitable solution, the following steps are taken:

1. Divide the working area into chains e.g. with waste materials the following phases can be identified a) dispose b) collect and store c) process d) useful application / permanent removal; and list and select the relevant types of impact (sustainability, public health, safety and also the social impacts which can occur).
2. Specify and assess each chain and chain phase for disadvantageous impacts that in principle can occur.
3. Analyse and assess each chain for the chance that impacts might occur; different chance determined factors are being assessed.
4. Determine the risk of each chain (total impact score X total chance score) and based on this prioritise.
5. To assess the need for chain enforcement.

Step 1 till 4 also occur in other methodologies and will therefore not be discussed here. To assess if chain enforcement is desirable, the following aspects have to be considered:

- Risks which are caused by insufficient insight into and grip on the whole impact of industrial activities of companies, processing and transport within in the chain of materials.
- Insufficient compliance in the moments of transfer between the different stages of industrial activities in the chain. A characteristic of a material stream is that a lot of legislation and rules apply to the diverse links in the chain. Even some material streams can change their identity and for instance become from waste a raw material (input). The value of a material also changes then. It can therefore be attractive and even easy to violate the rules.
- Risks in one link can have an impact on the whole chain.
- Risks related to legislative tasks and policy tasks that are, compared to other risks in the chain, clearly the most important.

In general the following aspects in the process of selecting a chain are useful:

- Work is structured and follows the described steps, but uses the quick-scan method. Do not waste energy to detailed study; this will come in a later stage.
- In this phase have confidence in your professional intuition. The methodology has a lot of sufficient elements further on where you can confirm your assumption or not.
- The different interests can even play a role in the first phase. Independent process management can offer safeguard against this problem.
- Make sure that the report is well founded and that even a layman can understand it.

3 CHAIN RESEARCH

Formulate a clear main question and aim, so it can give direction. The main question and aim indicate where the focus of the chain research lies. Clearly define the research area and also make clear where the chain research is not focused on.

Step by step, the research can have the following features. Make the aim explicit and derive the central question from it. From this central question, different sub-questions can be formulated which determine the way the data will be used and which methods to apply. By answering the sub-questions, the central question can be answered and subsequently steps can be taken to achieve the aim.

With such an approach a project leader is needed, who has full confidence from the involved government and who is given the opportunity to do his research independently and/or with the help of hired expertise.

In general the following notions in the phase of the chain research apply.

- Invest energy in a clear but short project – or research plan with the necessary elements.
- Consider, if possible with the directly concerned (potential project group members), explicitly the project organisation and decide to do it yourself or hire expertise.
- Make a time management plan and make a realistic estimate of the budget needed
- Invest in organising a data facility. Make sure that the chain research is not alienated from daily practice.

4 INTERVENTION STRATEGY

When setting up an intervention strategy, it is wise to use a broad scope. The problem and especially the key moments which maintain the problem is the departure point for the intervention strategy. This gives opportunity to abstract from task and roles which are laid down in existing regulations. The legislation is especially directed towards territorial and functional competence. In an intervention strategy on the contrary, aims and the desired impacts are defined and the assigned competences are just an instrument to achieve the aims.

An intervention strategy consists of three levels:

- Strategic → what do we have to do or what has to be done to achieve the aims and impacts?
- Tactical → what is the best way to do it?
- Operational → who has to do which activity when and with what result?

The strategy is the answer to the question what do we have to do or what has to be done in order to achieve the aims and impacts and thus get sufficient grip on the problem. This will be answered within the context of the whole chain. The territorial and functional competence is a part of this answer and certainly not a independent aim. For instance, a strategy formulated in the intervention strategy 'Building and Demolition Waste' of the National Authority of Environmental Enforcement is to prevent that building and demolition waste—during building and demolition—is not contaminated with asbestos, paint tins, etc.

The strategy is provided with different tactics. That means what is the best way to do it. An example of a tactic from the intervention strategy 'Building and Demolition Waste' is to force the separation of waste- during building and demolition- through permits.

The tactic is an important step and should be a well-considered decision. Good decisions are mostly taken in steps. Advisable are the steps: forming a picture, judging and decision-making.

- To form a picture: which solutions (measurements and instruments) are in principle conceivable? Each member of the project group can think of and write down different solutions.
- Judging: how can the solutions be measured against each other? What are the advantages and disadvantages? In this step the different solutions are discussed and measured against each other.
- Decision-making: finally, based on the discussion on the advantages and disadvantages of the different possibilities, a decision is made.

If the tactics are determined, then for each tactic it is worked out who is responsible for the operational actions. An example of an operational action formulated in the intervention strategy 'Animal Fats' is: the Inspection Department of the Ministry of Environment should list (mid 2005) all the companies that are active in the fat recycling chain. All actions together form the operational action program for this problem.

To develop a strategy the following general remarks can be made:

- Do not restrict the scope. Think creative and work in the lines of broad to narrow in strategies and tactics. First develop solutions that are conceivable and then determine which are practical and from which one more is to be expected.
- Make sure, more than in the chain research phase, that there is enough input of practical expertise and experience. The intervention strategy has to be feasible.
- Safeguard the implementation in the intervention strategy by explicitly describing the way the implementation should be organised.

5 IMPLEMENTATION AND MONITORING PLAN

The implementation plan consists of elaborate information for the people who are responsible for the governance, the managers and the enforcers. These target groups are discussed in the following paragraphs.

5.1 People responsible for governance (governing officials)

To get support from the governing officials it is important to give them insight into:

1. The environmental problem and the related enforcement question.
2. The 'organisation exceeding' character of the problem: let the governing officials understand the risks of these problems which cannot be solved alone within their own organisation and make them aware of the positive role they can play.
3. The importance of chain enforcement to solve the problem
4. Who plays preferably which role.
5. What are (roughly) the costs and benefits to participate in the implementation.

A characteristic of environmental problems in a chain is that the distance between the violation and the harmful impacts are great. Because of this, the risk exists that the problem feels more like a problem that is far away and it is much easier to shift the problem instead of solving it. Therefore offer administrative perspective that creates room for responsibility that is not only within the boundaries of its own domain. Be aware that the description is meant for governing officials: keep it short.

To make decisions governing officials would like to have insight into the costs and benefits. Think of the following advantages:

- Advantages on micro-level. Advantages for the own organisation, for instance to get grip on the risks within the own domain.
- Advantages on region-level. Advantages on regional scale and to achieve goals together with other similar responsible government organisations.
- Advantages on macro-level. National or international advantages like governments operating united and aspects of international solidarity.

5.2 Managers

To a great extent, managers need the same information as the people responsible for governance. They also have to convince the board in staff meetings.

In addition managers are responsible for the daily management. They want to have an overview of the whole chain input-throughput-output-outcome. Aims and impacts should be presented in a practical manner.

Managers should take into account how the organisation should be organised and the different modalities for possible forms of organisation should be given to them.

Special attention should be given to the aspect: exchange of information. Effective cooperation depends on the willingness to exchange information and also to actually do it. The necessity should be founded. Think of the following types of exchange:

- Exchange of information in the own organisation between the different departments.
- Exchange between enforcement partners. This concerns data which one organisation gathers and is also put at disposal and is available for other fellow organisations.
- Exchange among different organisations and an agreed central point. The information can then also be available for monitoring performance and input.

5.3 Enforcers

A summary of information given to governing officials is desirable, so that the enforcer has insight into the context of his conduct. The plan also has to consist of supervision and enforcement instructions like:

- Where the focus should be during the supervision
- How the violations can be established and confirmed
- How the violations related to evidence should be determined
- How the feedback to the management is arranged

To conclude this chapter some general remarks can be made.

- Make the implementation plan, especially concerning the part that is directed to the executers, as concrete as possible.
- Make clear to the governors and managers why the approach to the problem needs an attitude that should look above their own domain to other domains. Especially in the attitude, there is potential for recognition and appreciation of its own contribution.
- Look critically at the implementation plan if it attractive to participate, especially for the individual governments. Participation is not self-evident and also not compulsory. Tempt them.

6 IMPLEMENTATION, EXECUTION AND MONITORING

In this phase a distinction can be made between the different steps.

1. Prepare the implementation of the action program
2. Implement the actions of the action program
3. Monitor and periodically assess the performance of the implementation

The action program can take form through a cycle process called quality circle of Deming (plan, do, check). In general the following advice can be given.

- Form an implementation group with people of a 'certain level' chosen from the involved organisations. Try to win them over, inspire and motivate them, and make expectations explicit. Try to involve them in the decisions and the actions that have to be taken. Try to be open for criticism and foresee, enumerate and react to resistance and criticism.
- Try to achieve concrete results, quick wins always work inspiring. The longer concrete results fail to occur, the harder the implementation is and reverse.
- Try to quickly approach difficult cooperating organisations. Do not hesitate to seek help for such problems on a higher level. Successful cooperation is not the responsibility of one person.
- Use the circle plan, do, act & check consciously and make the different steps explicit, on the level of the action program and also on the level of the different individual actions to be taken. Do not restrict the scope. Think creatively and work from broad to narrow, in strategies and tactics. First think of solutions that are possible, and subsequently determine which are practical and from which one the most is expected.
- Make sure of - more than in the chain research- input of expertise and experience. The intervention strategy should be practical.
- Safeguard the implementation by explicitly describing the way the implementation should be organised.

7 EPILOGUE

The methodology offers a rational model for the possible approach to chain enforcement. The National Authority of Environmental Enforcement already has experience with the implementation of the intervention strategies asbestos, building and demolition waste, animal fat and prohibited consumer fireworks, started in 2005. Experience has shown that chain enforcement can be a good

answer to the fact that companies are not operating independently but are part of a chain where there are opportunities between two links where compliant behavior does not always have the preference.

In spite of all rationality, to create support and confidence for this approach is essential. The Dutch experience shows that creating support on the enforcers-level delivers the least problems. They are constantly banging their head against the wall because they can not operate effectively with the restrictions of the current system. The chain enforcement gives them opportunities to increase their effectiveness. To get the support and confidence of governing officials and managers is more complicated. It is politically correct to affirm the chain problems and support the chain approach. At the same time one can observe there are certain reservations because of the implications support has for its own organisation. Governing officials and managers are pointing at the essential pre-conditions which first have to be fulfilled before they take action. For the managers an extra complication is that they are not only responsible for the environment but also for daily management and most often the tasks are directed towards this. These are task assignments and performance commitments which mostly focus on the classical territorial and functional domains, instead of the broader view which underlies the chain enforcement.

It is therefore important to achieve support and confidence from governing officials and on managerial level and also for the implications it might have on its own organisation. It is also important that from the cooperating governments, one governing official in particular is responsible for the performance and also to report it. Especially to prevent that responsibility for all, sometimes means in practice that will no one is taking responsibility or action in the end.

Besides the eagerness of an appointed project leader it is also important that a governing official is involved who is also interested to turn the project into a success. The governing official should recognize possible stagnation in the project as if it is his own failure and should be able to approach his colleague if there is a problem. Such a committed sense of urgency is needed for the management to legitimately reserve capacity in their internal management. At the same time the management is also an important advisor to the governing official. The sense of urgency message should be expressed by the management to convince the governing official of the chain enforcement approach.

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CHALLENGES ON COMPLIANCE AND ENFORCEMENT OF THE WASTEWATER MANAGEMENT LEGISLATION IN TANZANIA

LUGWISHA, RUTH H.J.¹, LEENTVAAR, JAN², BAYA, BONEVENTURA T.³
and DOUVEN, WIM J.A.M⁴

¹ Principle Environmental Management Officer, National Environment Management Council, Directorate of Environmental Compliance and Enforcement, Tancot House, 3rd Floor, Sokoine Drive, P.O. Box 63154, Dar es Salaam Tanzania, ruthtz@yahoo.com or lugwi1@unesco-ihe.org.

² Director Chief Inspector Water, Water Management Inspectorate, 8200 AB Lelystad, the Netherlands, jan.leentvaar@ivw.nl or j.leentvaar@unesco-ihe.org.

³ Director General, National Environment Management Council, Tancot House, 3rd Floor, Sokoine Drive, P.O. Box 63154, Dar es Salaam Tanzania, bbaya@hotmail.com, nemc@nemctan.org, nemctz@yahoo.com.

⁴ Senior Lecturer, UNESCO-IHE Institute for Water Education, Department of Management and Institutions, P.O. Box 3015, 2601 DA Delft, the Netherlands, w.douven@unesco-ihe.org.

SUMMARY

The lack of compliance and enforcement of wastewater management legislation in Tanzania has raised concerns due to the significant environmental and public health threats that result from unregulated discharge of industrial effluents. Utilization of the “Table of Eleven” tool, a behaviour-analysis model providing insight into the level of legislative compliance, makes it possible to explore motives that encourage industries to comply with, or violate, existing wastewater management legislation. This paper discusses how application of the “Table of Eleven” tool has enabled the government of Tanzania reveal strong and weak points pertaining to the compliance and enforcement of the wastewater management legislation. As a result, it is clear that more attention is needed to improve comprehension of the legislation and to increase the use of incentives and economic instruments. Future steps should include applying this knowledge to the development of environmental indicators.

1 INTRODUCTION

Despite the enactment and implementation of environmental legislation at the national and international levels, various measures of environmental quality show continuing global degradation across a broad spectrum, resulting in serious consequences for ecosystems and public health (Constantinides 2001). One of the main reasons for the continuing degradation is non-compliance with existing

environmental legislation. Also contributing to the degradation is the failure to invest in compliance and enforcement coupled with the fear that improving compliance and enforcement will increase the cost to industry, harm industry's competitiveness at home and abroad, and deter foreign investment. However, investing in enforcement and compliance not only improves environmental quality and public health, it also improves the competitiveness of firms and nations. Improving enforcement and compliance in Tanzania will likely enhance respect for the rule of law; therefore, strengthening the foundation for improved environmental governance (*see Zaelke et al.* 2002).

In Tanzania, the regulatory and administrative framework surrounding wastewater management is driven by international conventions, regional treaties, and national environmental policies and strategies (cross-cutting and sector-based). The primary regulators for compliance assurance and enforcement of effluents operate at national and local levels.

Inadequate coordination between actors and poor application of legal instruments are among of the reasons that contribute to the current situation wastewater management in Tanzania (Lugwisha 2004). Additionally, there are no indicators available in Tanzania that can be used to assess compliance and enforcement. The government has been using the *State of Environment* reports and annual targets, along with the strategic plans of government departments, as a base for exploring potential indicators. These resources suggest the need to investment in compliance and enforcement programs, capacity building, and quality of water resources. However, due to a lack of well established environmental database systems, it has been difficult to measure the effectiveness of compliance and enforcement with the legislation based on these indicators. In this respect, the "Table of Eleven" tool (Dutch Ministry of Justice 2006) was used while conducting studies in Dar es Salaam, Tanzania and gave the estimates of compliance with the wastewater management legislation. The tool has also revealed motives for non-compliance, enforcement efforts, and helped in developing measures for improving the existing regulatory and administrative frameworks.

Table 1: Dimensions of “Table of Eleven”

| Compliance dimensions | | Enforcement dimensions | |
|-----------------------|---|------------------------|---|
| 1 | <u>Knowledge of rules</u> : Target group familiarity with legislation, clarity (quality) of laws and regulations. | 6 | <u>Risk of being reported</u> : Possibility that an offence may be revealed during official investigation or inspections and may be officially reported. |
| 2 | <u>Costs/Benefits</u> : Material and non material advantages and disadvantages resulting from violating or observing legislation. | 7 | <u>Risk of inspection</u> : Likelihood of being subject to physical inspection by authorities. |
| Compliance dimensions | | Enforcement dimensions | |
| 3 | <u>Level of acceptance</u> : The extent to which the target group accepts policy and legislation. | 8 | <u>Risk of detection</u> : Possibility of being detected of an offence during inspection. |
| 4 | <u>Normative commitment</u> : Target group’s respect for authority and willingness to comply with legislation. | 9 | <u>Selectivity</u> : Extent to which inspectors succeed in checking offenders more than who obey the legislation. |
| 5 | <u>Informal control</u> : Social control. Noncompliant behaviour of the target group can be detected and disapproved by third parties and severity of sanctions that might be imposed by the third parties. | 10 | <u>Risk of sanction</u> : Possibility of sanctions being imposed if an offence has been detected through controls and investigations. |
| | | 11 | <u>Severity of sanction</u> : Severity and type of sanction and associated adverse effects caused by imposing sanction e.g. loss of respect and reputation. |

Source: Dutch Ministry of Justice 2006

2 THE “TABLE OF ELEVEN” TOOL

2.1 What Is “The Table of Eleven” Model Tool?

The “Table of Eleven” Model tool was developed by the Dutch government as a monitoring tool (Dutch Ministry of Justice 2006). It provides insight into the level of compliance of any legislation. It is a behaviour-analysis model allowing legislators, policy makers, and enforcers to get a picture of the motives for compliance or non-compliance of a specific rule in a specific target group. The tool uses a checklist that consists of eleven dimensions which are classified into two

groups of compliance and enforcement (Table 1, Dutch Ministry of Justice 2006). The compliance dimensions are the factors that affect the incidence of voluntary compliance – that is, compliance that would occur in the absence of enforcement.

2.2 Testing the “Table of Eleven” Tool in Tanzania

Prior to the general application of the “Table of Eleven” tool in Tanzania, the mechanism was tested in the field and improved to suit the country’s specific situation. The tool’s checklist module, which provides an impression of the extent to which the legislation is complied, was also modified. Additionally, the data management module, which offers the possibility of documenting several formal data on the tested legislation, was increased from ten to 50 documentations.

The focus for the study was on industrial effluents that, as discussed above, have been the major concern for the pollution to the environment; as a result, the target group for the “Table of Eleven” assessment was industries. Assessment was done through focused group interviews with (1) representatives nominated from the organisations that regulate the legislation and (2) representatives from a group of industries. A total of seven groups were involved in the interview using the “Table of Eleven” checklist. Groups of industries consisted of 15 people from the following polluting industries: textile mills, food processing and beverages, soap manufacturing, and the Confederation of Tanzania Industries. Groups from regulators, with the number of representative from individual organisations in brackets, included: the Dar es Salaam City Council (6); Ruvu Wami Water Basin (3); Dar es Salaam Water Supply and Sewerage Authorities (5); Occupational Safety and Health Agency (6); Government Chemist Laboratory Agency (10); and the National Environment Management Council (8). Wastewater management legislation that was assessed include: The Public Health (Sewerage and Drainage) Ordinance of 1955; Water Utilization (Control and Regulation) (Amendment) Act No. 10 of 1981; Water Utilization (Miscellaneous Amendments) Act No. 8 of 1997; Water Laws (Miscellaneous Amendments) Act No. 1 of 1999; the Dar es Salaam Water Supply and Sewerage Authority Act, 2001; the Occupational Health and Safety Act 2003; Industrial and Chemicals (Management and Control) Act 2003 (ICC); and the Environmental Management Act No. 20 of 2004.

Industries assessed all the above mentioned legislation while the organisations assessed legislation that the individual organisation regulates. Therefore, resulting opinions represent views of the organizations, not the individual. For the purpose of security and to remain anonymous, code numbers were used to represent the industries.

The rest of this paper discusses the results of the following Acts: the Public Health (Sewerage and Drainage) Ordinance of 1955; Water Utilization (Control and Regulation) No. 42 of 1974 and its amendments; and the Environmental Management Act No. 20 of 2004.

3 FINDINGS ON THE EXTENT OF COMPLIANCE AND ENFORCEMENT OF THE WASTEWATER MANAGEMENT LEGISLATION IN TANZANIA

Application of “Table of Eleven” in Dar es Salaam, Tanzania revealed the main strengths and weaknesses of the existing systems of compliance and enforcement of the wastewater legislation in managing industrial wastewater discharge. Based on the evaluation of the regulators and industries, the key findings are the following (See also boxes 1 to 3 for the details):

- Both individual groups of regulators and industries have more or less the same observations on the motives that encourage compliance or violations.
- Industries are capable of understanding the legislation; however, the wastewater management legislation is not familiar to industries. The legislation lacks clarity as has not been translated in a simple language, including means to realise the objectives and outcomes (*e.g.*, how to meet national effluent standards and reduce pollution loads to the environment). In short, inadequate knowledge on the legislation has contributed to industries not accepting the legislation's objectives and understanding its effects and outcomes.
- Despite of inadequate knowledge on the legislation, industries are concerned with enhancing good reputation and image of the business to the public and competitors, avoiding high costs to be incurred if they violate the legislation, avoiding risks being involved when inspected or detected of any violations and sanctions to be imposed, promoting their businesses through certification on the quality of the products (ISO 9000) and environment (ISO 14001), and avoiding negative reactions from public and within the industry's sector.
- Industries would like to comply fully; however, there is a lack of compliance schemes, such as incentives and economic instruments to motivate compliance, within the legislation.
- While industries believe that they are respecting regulators, the latter seem not always necessarily agree.
- Industries, Dar es Salaam City Council, and Wami-Ruvu Water Basin identified “social control” as one of the factors that encourages compliance to the legislation, and the National Environment Management Council was observed to be weak.

See Appendix 1- Related to Compliance Profiles of Wastewater Management Legislation

4 RECOMMENDATIONS

In order to improve the current situation it is recommended that wastewater management is made more available and better explained to the industries and relevant actors, such as public. This can be accomplished by translating the legislation into simple language and raising awareness through the media, public forums, websites, etc.

Consultative forums of actors who have stake in wastewater issues (including regulator – industries forums) should be enhanced. This would encourage voluntary compliance. Also, industries need to have environmental management plans and commitments for implementing the same and conduct self-monitoring and report to the regulators.

The current situation can also be improved by developing transparent and consistent compliance schemes. These schemes could consider the activities and performance of each industry or sector, risks and impacts to the environment and public health, evaluate the proportionality of compliance (balance of action to protect the environment against risks and costs, deterrent effects, appropriateness).

Effective coordination among regulators should be established to avoid inconsistencies and ensure accountability while working to implement the objectives of applicable legislation. This could be enhanced by having binding benchmarks, memorandum of understanding, and protocols in executing responsibilities. The memorandum of understanding could incorporate issues such as responsibilities, information, resources, and accountability (specified and clear objectives, targets and indicators of performance, liability, procedures for conflict resolutions, etc.).

5 CONCLUSIONS

Application of the “Table of Eleven” tool has enabled the government of Tanzania to reveal strong and weak points pertaining to the compliance and enforcement of the wastewater management legislation. More attention is needed to improve comprehension of the legislation and the increase the use of incentives and economic instruments.

Effective collaboration among regulators would enhance joint use of merger resources from the government, effective information sharing and promote accountability.

Although the reasons for promoting compliance and non-compliance with the wastewater management legislation in Tanzania have been identified by both regulators and regulated community, a need to develop indicators that can

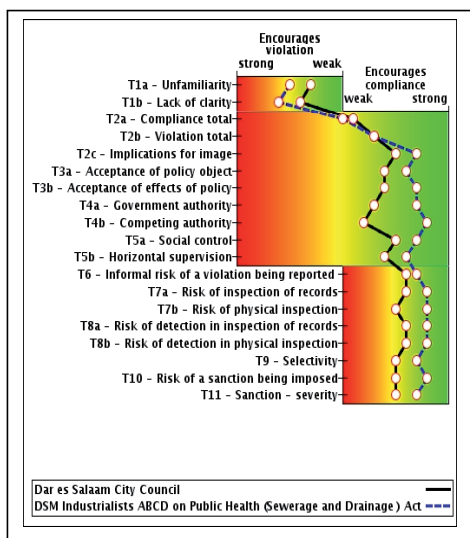
compliment the results, using international experience (including the Netherlands, USA, INECE, etc.), should be emphasised.

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APPENDIX 1: COMPLIANCE PROFILES OF WASTEWATER MANAGEMENT LEGISLATION

Box 1: Compliance profile of the Public Health (Sewerage and Drainage) Ordinance based on industries and Dar es Salaam City Council

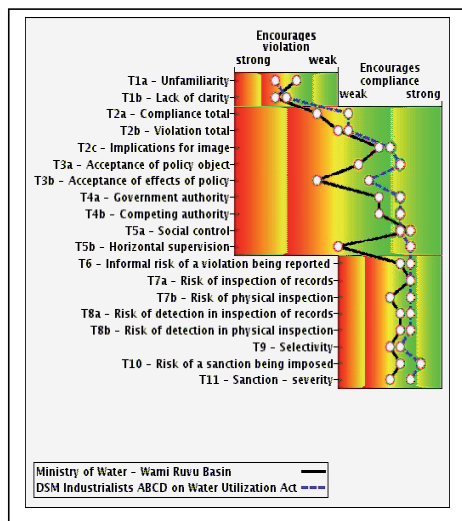


Although there variations in the perception of the level of compliance, both the City Councils and industries identified that the compliance to the Ordinance is strongly encouraged by fear of damaging image to the public, social control and risks of being inspected and detecting violations as well as the sanctions to be imposed.

While the city council realise that industries inadequately respect the regulators, the industries disagree.

Both groups also identified lack of incentives and economic instruments as motives that weakens compliance, while lack of clarity and unfamiliarity to the Ordinance encourage violation.

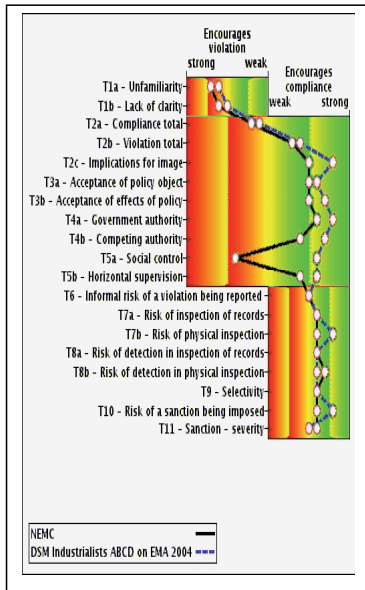
Box 2: Compliance profile of the Water utilization Act No 42 of 1974 and its amendments based on industries and Wami-Ruvu Water Basin



Both industries and Water Basins realise that social control and reputation of the image and risk based management as well are factors that encourage compliance. Risks are on inspections and violations being detected and reported as well as sanctions to be imposed. Fear on high costs for compliance compared to the benefits weakens compliance. While, lack of clarity and familiarity of the Act, strongly encourage violations. This is due to the fact that the Act has been amended for many times and not translated in a simpler language to be understood well, and does not reflect the objectives of the National Water Policy 2002 to meet the existing challenges. From the figure this is highly indicated by the Water Basins.

While industries recognise the compliance is encouraged by the industries to implement ISO 9000 and ISO 14001, Water Basins do not see it.

Box 3: Compliance profile of the Environmental Management Act No. 20 of 2004 based on industries and NEMC



Both NEMC and industries observed that:

- Compliance to the Act is encouraged as it creates good reputation to the public. Fear of high risks associated with inspections, detection of violations, high costs for violations as well as sanctions that could be imposed are also factors encourage compliance. Acceptance of the Act's objectives and its effect as well as respect to the authority by industries and implementing programmes that enhance businesses such as ISO 9000 AND ISO 14001 encourage compliance with the Act.
- Lack of incentives and economic instruments weaken compliance.
- Unfamiliarity and lack of clarity to the Act encourage violation.

Industries observed that detection of violation by public and non-government organisations that could result into high costs and bad reputation, encourage compliance. However, NEMC observed that, social control is still not effective to make industries to comply with the Act. This is attributed by the fact that the Act is not familiar and has not translated into a simpler form that the public can easily understand.

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MANAGING PARALLEL CIVIL AND CRIMINAL ENVIRONMENTAL CASES

MARSHALL, MELISSA P.¹ and SMITH, WALKER B.²

¹ Senior Counsel, Office of Civil Enforcement, United States Environmental Protection Agency, 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20460, marshall.melissa@epa.gov

² Director, Office of Civil Enforcement, United States Environmental Protection Agency, 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20460, smith.walker@epa.gov

SUMMARY

The United States Environmental Protection Agency (EPA) has two primary objectives when enforcing federal environmental laws: bringing violators into compliance, and imposing penalties for deterrence.¹ These objectives may be achieved through civil actions, criminal actions or, less frequently, a combination of the two when the full range of these authorities is necessary for complete relief.

Most of the environmental statutes enforced by EPA include both civil and criminal remedies.² Both mechanisms are critical components of EPA's enforcement program. For some very practical reasons, which include ensuring a wise utilization of resources, EPA generally favors bringing only a civil or only a criminal action to resolve an environmental violation. The general preference may be overcome when the magnitude or range of the environmental violations (or the available sanctions) make both criminal and civil enforcement appropriate. This paper discusses the approach EPA is taking to manage parallel civil and criminal enforcement actions.

1 DEFINING A PARALLEL PROCEEDING

EPA broadly defines civil and criminal enforcement activities that are taken with respect to the same or related parties and deal with the same or a related course of conduct as "parallel proceedings," although the actions do not necessarily progress simultaneously or completely "in parallel." This definition is designed to capture related activities effectively throughout the enforcement process. "Proceedings" refers to enforcement activities from the investigative stage (including the use of entry and information-gathering authorities) to the conclusion of administrative or judicial actions. Enforcement activities include criminal sanctions, civil penalties, court ordered injunctive relief, compliance orders issued by EPA, and recovery of government cleanup costs.³

There are essentially two types of parallel proceedings. The most common parallel proceedings are criminal actions where there is a need for a parallel civil

administrative cleanup order. This type of parallel proceeding ensures that a cleanup action is not delayed by a criminal proceeding. The other type of parallel proceeding is taken where the nature of the conduct is sufficiently egregious that both civil and criminal responses are appropriate, or where complete relief cannot be obtained in the criminal action. These parallel proceedings tend to involve significant and complex enforcement actions, requiring careful case-by-case management and on-going effective communication and coordination.

2 CHALLENGES OF PARALLEL PROCEEDINGS

Parallel proceedings in the United States can present a number of practical challenges. These challenges include legal restrictions on sharing criminal information, the preference to protect witnesses from premature exposure, and different judicial rules for the scope of discovery and admission of evidence in civil and criminal cases. Careful management of the proceedings is necessary to navigate these issues.⁴

3 MANAGEMENT OF PARALLEL PROCEEDINGS

EPA's civil and criminal programs have historically functioned with more limited interaction than occurs today. As the Agency's enforcement program has matured, EPA has focused on larger, more complex cases in both the civil and criminal programs, which has increased the need for coordination and communication between the two programs. EPA recently issued a revised Parallel Proceeding Policy (Policy)⁵ that provides a structure for active consultation and cooperation between the civil and criminal programs on parallel proceedings, consistent with legal requirements.

EPA has found that the success of any parallel proceeding depends on coordinated decisions by the civil and criminal programs as to the timing and scope of enforcement activities. For example, it is often important for the criminal program to notify civil enforcement managers that a criminal investigation is about to become known to the subject. It is similarly important for civil enforcement staff to notify their criminal counterparts when there are legal or factual developments that might affect the criminal case. Communication and coordination is critical at both the staff and managerial levels, and continues through the resolution of all parallel matters. The Policy requires EPA's headquarters and regional enforcement offices to establish systems for communication and coordinated decision-making. Because the United States Department of Justice (DOJ) represents EPA in federal court, EPA also maintains open communication with DOJ civil and criminal enforcement staffs.

Emphasis is placed on ensuring that the activities of each program complement, but do not interfere with the other program, and that neither program directs the activities of the other. Emphasis is also placed on gathering information in such a way that it can be shared to the maximum extent appropriate. In all

parallel proceedings, EPA's civil and criminal staff meet to weigh the options and determine how to achieve the most complete and appropriate relief.

There are a number of ways that EPA can approach a potential complex parallel proceeding, including:

- Deciding that either the civil or criminal action will be sufficient to achieve the Agency's objectives;⁶
- Deferring the civil proceeding until the criminal case is resolved;
- "Carving-out" civil or criminal claims where allegations in either proceeding do not overlap or where the defendants are not the same; or
- Proceeding with the civil and criminal matters simultaneously.

Where a determination has been made that parallel proceedings are appropriate, decisions must be made about the timing of enforcement activities. A few of the factors that favor bringing the criminal proceeding to conclusion first include:

- The significant deterrent and punitive effects of criminal sanctions;
- The possibility that imposition of civil penalties might undermine a prosecution or the severity of a subsequent criminal sentence;
- Preventing a defendant from exploiting the broader civil discovery rules to obtain evidence for a criminal proceeding; and
- The Speedy Trial Act⁷ requirement that criminal trials be held within specified time frames after indictment.

Factors supporting the initiation or continuation of the civil judicial or administrative action prior to conclusion of the criminal action include:

- A threat to human health or the environment that should be expeditiously addressed through injunctive relief from the court or an order by EPA;
- A threat of dissipation of a defendant's assets;
- An immediate statute of limitations or bankruptcy deadline;
- Where only a marginal relationship exists between the civil and criminal actions; and
- Where the civil case is in an advanced stage of negotiation or litigation when the potential criminal liability is discovered.

4 MEMORIALIZATION

Once the civil and criminal programs decide to pursue parallel proceedings, staff memorialize the decision in a case-specific Parallel Proceedings Memorandum. The Memorandum contains a summary of the decision(s) regarding the timing and scope of the parallel proceedings and provides essential information, such as a description of the key factual allegations and potential statutory and regulatory violations. Limiting the scope of the information contained in the Memorandum serves to minimize damage in the unlikely event that the Memorandum is disclosed to the defendant, either inadvertently or by court order. As an additional precaution, the Memorandum is marked as privileged and maintained as an enforcement confidential record.

The Memorandum is signed by the appropriate managers in both the civil and criminal programs. As the parallel proceedings are developed and moved toward resolution, it may be necessary to supplement the decisions recorded in the Memorandum; any new or modified changes are documented and the revised Memorandum is distributed to the civil and criminal case teams.

5 KEY LEGAL ISSUES

Parallel proceedings in the United States present specific legal issues regarding investigations, discovery and litigation. The most significant issues relate to procedural protections that are afforded by United States law to criminal defendants. Several key legal and policy issues are restated in the Policy for emphasis.

One important legal issue is the requirement that grand jury materials remain confidential. Grand juries are convened in many criminal matters to determine whether there is sufficient evidence to charge an alleged violator with a crime. Grand jury proceedings are secret, and information cannot be disclosed to unauthorized persons. Civil attorneys are rarely authorized to receive grand jury information and the Policy discusses these limitations. Information that is obtained by the criminal enforcement personnel outside of the grand jury process may generally be shared with civil enforcement staff. It should be noted that these confidentiality issues do not arise in civil investigations because any information developed by the civil program for a legitimate civil purpose, including information obtained in discovery, may be shared with criminal enforcement personnel.⁸

The Policy includes a reminder that Agency staff cannot intentionally mislead any person as to the possible use of any responsive information in the criminal proceeding in such a way as to violate the Fifth Amendment's guarantee of due process and its privilege against self-incrimination. The Policy includes reminders that a threat of criminal prosecution cannot be used to obtain a civil settlement, and a threat of civil enforcement cannot be used to resolve a criminal matter. It also

notes that combined civil penalties and criminal sanctions must not be so grossly disproportionate to the underlying violations that it constitutes a violation of the United States Eighth Amendment's prohibition against excessive fines.⁹

6 SIMULTANEOUS OR COORDINATED RESOLUTIONS

Although civil and criminal staff communicate and coordinate their activities, the civil and criminal cases are separately conducted and separately resolved. However, in some instances a defendant or defendants may seek to have a simultaneous resolution of the civil and criminal claims. A "coordinated resolution" under the Policy is the simultaneous resolution of both civil and criminal liability. A coordinated resolution is not appropriate unless it can be accomplished in a manner that does not unduly delay or interfere with the criminal proceeding, and does not limit EPA's ability to obtain appropriate judicial injunctive relief to address the environmental problem.

Coordinated resolutions require separate settlement documents that are negotiated independently. Separate settlement documents are necessary to avoid the appearance of impropriety. The appearance of impropriety can arise because, as stated above, a threat of a criminal prosecution cannot be used to obtain a civil settlement nor can release of civil liability be used to influence a criminal resolution. EPA and DOJ policies therefore prohibit providing a release of criminal liability in a civil settlement, or waiving or resolving civil liability in a criminal plea agreement.

7 CONCLUSION

EPA is refining its approach to parallel proceedings to ensure that it can achieve the most effective resolution when faced with serious violations of environmental laws. Parallel proceedings allow coordinated solutions that provide significant deterrence and ensure that violators come into full compliance with the law.

8 REFERENCES

¹ EPA may also seek remediation of past harm in appropriate circumstances. In addition, there are some environmental statutes that are designed to seek remediation as the primary objective, *e.g.*, the Comprehensive Environmental, Response, Compensation, and Liability Act (Superfund), 42 U.S.C. § 9601, *et seq.* and the Oil Pollution Act, 33 U.S.C. § 2701, *et seq.*, which provide for cleanup of sites contaminated with hazardous substances.

² Most environmental statutes include full criminal enforcement authority. Exceptions to this general rule include the Toxic Substances Control Act, 15 U.S.C. § 2601, *et seq.*, and the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. § 136, *et seq.*, both of which include criminal misdemeanor, but no felony, sanctions. The National Environmental Policy Act, 42 U.S.C. § 4321, *et seq.*, and the mobile source (vehicles and other nonstationary sources) provisions of the

Clean Air Act, 42 U.S.C. §§ 7521 - 7590, do not include any criminal provisions. Conversely, criminal prosecutors may include claims in environmental cases that are not available to the civil enforcement program, such as claims for false statements under the authority of the federal criminal code, 18 U.S.C. § 1001.

³ EPA brings judicial actions to recover costs that the Agency has expended in a hazardous waste or oil spill cleanup.

⁴ Parallel civil and criminal proceedings do not give rise to double jeopardy prohibitions against trying a defendant twice for the same crime. The Fifth Amendment to the United States Constitution only protects against the imposition of multiple *criminal* punishments of the same person for the same offense. *Hudson v. United States*, 522 U.S. 93 (1997).

⁵ See, www.epa.gov/compliance/resources/policies/enforcement/index.html

⁶ It is EPA's general practice to go forward with only a criminal proceeding if it will provide complete relief. If the criminal matter has the potential to provide complete relief, but its outcome is uncertain, both the civil and criminal matters continue.

⁷ 18 U.S.C. § 3161, *et seq.*

⁸ *United States v. Kordel*, 397 U.S. 1 (1970).

⁹ See, *Hudson*, 522 U.S. at 103.

ENVIRONMENTAL SANITATION ENFORCEMENT AND COMPLIANCE BEST MANAGEMENT STRATEGIES FOR NIGERIA

NWACHUKWU, MICHAEL A.¹

¹ Department of Earth & Environmental Studies, School of Science & Mathematics, Montclair State University New Jersey, U.S.A

SUMMARY

A great problem in Nigeria is determining what sanitation programmes to implement and designating the best enforcement strategies to adopt. The issue of environmental sanitation compliance and enforcement cannot be properly discussed because currently no serious sanitation programmes exist in Nigeria. This paper recommends a combination of direct and indirect enforcement, with a number of sanitation strategies. The strategies are concerned with the management of human and cow excrement, including solid waste, sewage and drainage systems. These strategies must be designed to reduce environmental related diseases, poverty, and mortality.

1 INTRODUCTION

Nigeria and many developing countries, have no central sewage collection and disposal system. Every home in the urban and semi-urban areas utilizes block lined private septic and soak away pits for excreta and sewage disposal. The rural areas use unlined toilet pits with no provision for waste water. Even in the urban and semi-urban areas that use septic and soak-away pits or water systems, and there is often a lack of water to run the system. Yet in the rural settings, approximately half of the population does not have even the pit toilet.

The greatest dangers lie in the evacuation and disposal of the excreta and sewage from the septic and soak-away pits when they fill up. Private contractors can be paid to do this, along with the police department. Motorized trucks equipped with suction pump are used to suck the wastes into the tank. Other individuals who work in groups as contractors do the evacuation manually, using buckets and hand pushed trucks. The work is done during the day, when the home is free of residents. Additionally, despite serious air pollution and health concerns, the only sanitizer used is kerosene.

After the evacuation, how the excreta-sewage is disposed of is a matter for great concern. Typically, the contractors dispose the waste at any site convenient to them, including ditches, ravens, unreclaimed borrow pits, and in isolated bush or forest areas. As a result, the disposed wastes are washed back to nearby streams by the next rain. In Nigeria, roughly 40 percent of the population does not have access to any form of toilet. Their toilet is the bush or forest areas. There is increasing

surface and groundwater pollution, especially in areas where groundwater table is close to the surface or coincide with weathering depth.

Another major threat to safe water is the indiscriminate dropping of excreta by cattle, following uncontrolled grazing. This threat is heightened by the tremendous increase in migration and grazing of cattle from the northern side of Nigeria to the south. Whereas the north has vast savannah grasslands away from residential areas for good grazing, the south is disadvantaged with limited rain forest lands that adjoin residential areas, as well as greater streams and drainage density. As a result, persistent and frequent epidemics of environmental related diseases occur, including malaria, typhoid fever, diarrhea, hepatitis, and cholera. Additionally, high mortality, increasing poverty, public health disorder, and lack of environmental freedom results from poor excreta and sewage disposal and management.

2 ADDITIONAL SANITATION RESEARCH

According to Snel and Smet (2006), "It is now becoming evident that the most effective intervention against water and sanitation related diseases is safe excreta disposal." P.K. Jha (2007), in his work on sustainable technologies for waste management, stated: "Human excreta is the cause of many enteric diseases such as cholera, dysentery, typhoid, paratyphoid, infectious hepatitis, hookworm, diarrhea, etc." "In rural areas, 80 percent of diseases are borne of human excreta, and safe disposal of human waste is most important to improve community health and quality of life." Similarly, Bastable (2000), informed that diseases transmitted through unsafe excreta disposal accounts for 50 percent of death. He also cited Esrey (1981 &1991), to state that safe excreta disposal can account for 36 percent reduction of childhood diarrhea.

Njemanze et al (1999) attributed the high rate of diarrhea in the Imo State of Nigeria to lack of potable water at different communities, indicating that a total of 11,537 cases of diarrhea have been reported in 1999, whereas more than half of this number may not have been reported. The number of deaths due to this and the financial drain on individual households and the state economy are yet to be determined. From Match Strength Abstract (2004), out of 65 patients that reported febrile condition in a salmonella typhus screen in some parts of Nigeria, 20 were positive whereas a total of 36 had malaria or both. They found that the patients were in a ratio of 10/14 (female/male), with a mean age of 33 years, and were found to have been drinking both tap and "pure water" (p.179-81). UNDP report (2004) implies that about 40 percent of Nigerian population does not have access to potable drinking water and 41 percent also have no access to good sanitation.

3 SANITATION ENFORCEMENT AND COMPLIANCE

Poor environmental sanitation in Nigeria is due to bad leadership. The military regimes and the past administrations have failed to formulate adequate

environmental laws and regulations. There have been few past actions related to environmental enforcement and compliance in Nigeria. In the past, governments appear to have concentrated on problems of the Niger Delta oil and gas pollution crisis. The hundreds of people dying every day due to neglect of waste management and lack of sanitation are ignored.

The only sanitation strategy in Nigeria during the last thirty years that can be recalled was implemented by the short lived Buhari and Idiagbom military regime (1983-1985), when the monthly national environmental sanitation exercise was started with war against indiscipline. During this period, sanitation was improved across the nation. Urinating outside, excreting in the bush or by the road side, and littering were punishable offences. People complied for fear of being arrested, prosecuted, or fined. War against indiscipline and national environmental sanitation exercise were enforced by a combined team of the war against indiscipline brigade, the police, and participation of the public. The program became very popular, and war against indiscipline was a household name. However, this program was not sustained by subsequent administration. The public viewed the program as a type of military order that had no public mandate. Today, only very few states still conduct the monthly sanitation exercise with reduced popularity, enforcement, and public participation.

It is important to recall also that Nigeria has abundant manpower for the sanitary regulations that need to be enforced. There were sanitary inspectors who in the 1970s to early 1980s were very effective in inspecting sanitary facilities and conditions from urban to rural communities. Today, sanitary inspection is almost forgotten. Further, trained inspectors are less motivated because the government currently pays little or no attention in this area of service. The result is poor sanitation, use of a toilet facility by unlimited number of people, presence of overgrown trees in living areas, and ecosystem destruction.

4 SANITATION STRATEGIES

The reality is that poor sanitation and inadequate excreta management in Nigeria is due to failure on the part of government to instill in the public a better environmental culture, which would promote public participation in environmental waste management. This is further enhanced by the lack of knowledge on the part of Nigeria's leaders and the high level of illiteracy on the part of the masses. As a result, intensive environmental education must occur in the country, including primary through secondary schools and teachers.

Public awareness, enlightenment, and environmental education of all stakeholders must become a priority. Knowledge should be shared with the local community at their domain, accomplished by visiting market squares, churches, schools, and in the local government headquarters to educate them on sanitation and its benefits. There is need for a social change from poor excreta-sewage disposal and management culture, to a culture where human and cattle excreta is converted to a

safe to use organic manure, where sewage is treated prior to disposal, and sanitary landfill is used for solid waste disposal (Nwachukwu, 2007a). Additionally, sanitary landfill sites must be properly investigated, and identified with natural lining, to reduce or eliminate the high cost of geosynthetic liners, and make sanitary landfill affordable to poorer communities (Nwachukwu, 2007b). Landfills must also have odor control, leachate collection and treatment system, or operators be prosecuted. All open gutter drainage should be covered by 2010; federal government must direct states, with special grants to support, as some individuals find the open gutter as the nearest place for excreta disposal, and urinating.

The promotion of adequate environmental compliance and enforcement also include monthly environmental sanitation program is to be reinforced by the federal government. There should be adequate protection of national, state, and local waters from surface runoff, particularly at such locations where the waters adjoin residential areas. All gas stations, churches, stores, schools, streets, motor parks, restaurants and hotels, corporate offices, health centers, mechanic villages, business centers must operate a well maintained public toilet facility for free use by the public. Government should build and maintain two standard toilet facilities on every business street in each Nigerian city; longer streets may be required to have more than two toilets.

5 ENFORCEMENT STRATEGIES

Nigeria has recently recruited a large population of youths into the civil defense corps in all the states. Government should provide adequate training to these fellows and commission them to environmental duties, rather than using them as errand boys and girls to self aggrandizing politicians, government functionaries, and private individuals.

Local governments could implement indirect strategies to stimulate environmental enforcement and compliance, such as awarding free medical service to members of every household present on the five cleanest streets in a city on yearly bases. This will provide the public incentive to establish proper sanitation.

The poor environmental habits of many Nigerians are embedded in their lifestyles, such as littering the streets with cans and plastic bags. Programs should be implemented to reward cash for waste cans and plastic bags supplied by individuals based on the weigh, providing incentive not to litter. This is another example of an indirect enforcement strategy.

Additional enforcement strategies that should be developed include the federal government penalizing states for noncompliance with environmental sanitation standards. Example, five percent of the state's allocation may be withdrawn and paid into a federal environmental health emergency fund. Moreover, states can also fine local governments for not complying with national standards or sanitation programmes. Additionally, there must be law prohibiting urinating

and excreting outside. Offenders must be prosecuted and fined accordingly. Three regional environmental appeal courts should be established in each of the following three regions: East, West, and the North. A federal environmental high court of appeals should be located in Abuja.

6 CONCLUSION

Environmental sanitation strategies, enforcement strategies, and compliance are the most important, but neglected environmental issues in Nigeria; as a result, emergency response is now required. Solutions to alleviate the sanitation crises are easy and available, and are important in improving human and environmental health within this country.

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TRAINING PROGRAMME BETWEEN GEORGIA AND THE NETHERLANDS ON WASTE MANAGEMENT AND ENFORCEMENT

NIJSSSEN, CHARLES¹, MUMLADZE, KATEVAN², RUESSINK, HENK³
and HUIZINGA, KEES⁴

¹ Senior consultant at ARCADIS, P.O. Box 264, 6800 AG Arnhem, The Netherlands, c.e.g.e.nijssen@arcadis.nl.

² Senior inspector, Inspection for Environmental Protection, Analytical Service, Gulua str. #6, Tbilisi 0114, Georgia, kmumladze@yahoo.co.uk.

³ International management consultant, VROM-Inspectorate, Rijnstraat 8, P.O. Box 16191, 2500 BD Den Haag, henk.ruessink@minvrom.nl.

⁴ Senior inspector, VROM Inspectorate Region North, P.O. Box 30020, 9700 RM Groningen, The Netherlands, kees.huizinga@minvrom.nl.

SUMMARY

In 2006, the Environmental Inspectorates of Georgia and the Netherlands took the initiative to develop and execute a training programme focusing on waste management and enforcement, with the aim to exchange theoretical and practical knowledge and experiences.

The training concentrated on three main issues: (1) environmental management and general principles; (2) waste management; and (3) enforcement of environmental regulations. These issues were highlighted in the development of the training, which took place around two “blocks.” Block A took place in Georgia and focused on the more theoretical aspects of the three topics; discussions on how to implement these issues in its daily practice also occurred. Block B took place in the Netherlands, during which theoretical issues were illustrated by site visits to (sanitary) landfills and incineration plants.

An essential focus of the whole training was the implementation of the “train the trainer” principle. It was the explicit intention to train Georgian inspectors on the main issues, so that they would be able to train other environmental inspectors within their inspectorate.

This article describes the background of the training programme, including establishment of the programme and experiences gained from both inspectorates. The implementation of the “train the trainer” principle is also discussed.

1 INTRODUCTION

Waste is a serious environmental issue in Georgia. The historical lack of policies focusing waste regulation coupled with steady economic growth contributes to the problem. Additionally, the physical infrastructure is not adequate to handle and dispose of waste in an environmental sound manner. Consequently, risks related to the impact on human health, safety, and the environment are increasing.

There are numerous examples demonstrating the mismanagement of hazardous waste in Georgia. For instance, separation of household waste does not take place. Waste burning mostly takes place at urban landfills, which greatly contributing to air pollution. Further, data on hazardous waste is very limited and controversial. There is no proper capacity in the country for treatment and disposal of (hazardous) waste, even though technical knowledge is locally available. Also, abandoned pesticide containers are not properly rinsed or disposed of, resulting in the potential leaching of chemicals into the soil and ground water.

The obstacles to improving waste management in Georgia are vast, including the seriousness of waste problems and the current political turmoil. However, the importance of such development can hardly be underestimated. Firstly, environmental protection and enforcement may well be a key factor in the development of Georgia, particularly concerning opportunities for ecological tourism. Secondly, the development of Georgia as a transit country (pipeline, shipping, road traffic) should carefully evaluate adverse effects of improper waste management; neglecting these issues will likely be counterproductive to the economic development of the country. As a result, cooperation between the Netherlands (a transit country of excellence) and Georgia on waste and enforcement issues will likely be fruitful.

There are a number of environmental laws and regulations in force in Georgia. However, adequate environmental policies are lacking in a number of areas. Among them, waste management is one of the most neglected areas. The recent implementation of the general waste management law was of great importance. This law sets out a number of important waste management aspects and principles, such as prevention, "the polluter pays principle," monitoring, waste classifications, and legal tasks and responsibilities of various administrations. It also sets an important "baseline" for enforcement. However, enforcement of environmental legislation has been in the juvenile stage for many years, but is slowly gaining importance.

2 ABOUT THE INITIATIVE

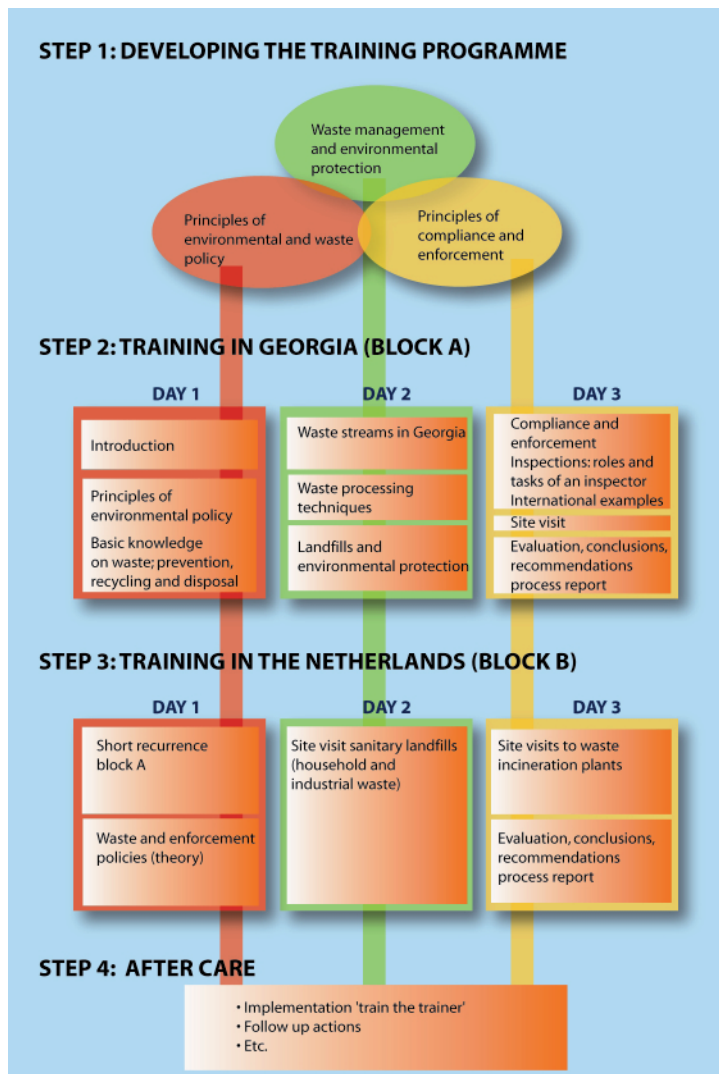
The Environmental Inspectorate of Georgia has appointed waste management and waste enforcement as a subject of high priority. Amongst other issues, the institutional design of the Inspectorate and the training of personnel is one of the areas of concern. Within the framework of the cooperation between the

Georgian Inspectorate and her sister organisation in the Netherlands (the VROM-Inspectorate), a training programme on waste management and enforcement was organized which fulfilled the needs of the Georgian Inspectorate and were developed in line with the mentioned areas of priority.

3 DESIGN OF THE TRAINING

The training programme was mainly executed in four phases. The general design of the training is illustrated in Figure 1 below.

Figure 1: General set up of the training programme



During the first phase, specification of training needs and development of a training manual took place. Inspectors who would join the training were selected. Important criteria for this selection – also with the “train the trainer” principle in mind – included general basic knowledge about environmental principles, strong knowledge about the (internal) organization of the Inspectorate, insight into “target” groups of regulation and enforcement, and profound skills in enforcement of environmental regulations.

In the second phase, a four day training session occurred in Georgia (block A) focusing primarily on theoretical aspects of environmental principles in general, waste management issues, and international enforcement principles.

Within the third phase, the Georgian inspectors-trainees came to the Netherlands and visited with their trainers/hosts a number of selected (sanitary and closed) industrial and municipal landfills and incinerators. During this phase theories of environmental protection and approaches to control and enforcement were illustrated in practice. Open discussions with the management of the facilities were also included.

During the final phase all experiences and findings were laid down in a process report with general findings, conclusions, and recommendations. The report was finally submitted to both Inspector Generals of the Environmental Inspectorates.

4 EXPERIENCES FROM BOTH INSPECTORATES

Apart from their interest in general policy approaches to waste management and enforcement, the Georgian trainees were particularly interested in the practical aspects of enforcement operations. Issues such as the communication with industry/enterprises, the preparation and actual execution of enforcement activities, the reporting thereof and the follow-up turned out to be of special importance. Also the (horizontal and vertical) coordination with other authorities received considerable interest. Although a one-to-one transformation from the Dutch to the Georgian situation is not realistic, the trainees nevertheless indicated that they absorbed basic ideas for future developments in their country. At the same time, it was realized that the general framework for enforcement in Georgia needs further strengthening.

Photo 1: Inspectors and trainers



The Georgian trainees emphasized the importance of having international contacts with countries that already have a well developed legal system and infrastructure in relation to waste management and control/inspection. Although it is realized that additional steps must be taken, the trainees clearly expect benefits from the training programme. One of the challenges for the trainees will be to “translate” what they learned from their Georgian colleagues in very practical, operational, and hands-on terms. The materials (brochures, manuals, checklists, etc) should probably be tailored towards specific issues or objects of inspection, like transboundary shipments of waste, land filling, polluting industrial sectors, etc.

The Dutch trainers were impressed by the eagerness of the Georgian trainees to learn more about waste regulation, waste management, and enforcement, along with the trainee’s motivation to extrapolate from this to useful policies for and approach to enforcement in the Georgian context. Also, the trainers experienced that an intensive process of preparation and interaction with their foreign colleagues was very useful and contributed to the success of the training. An open attitude from both sides is one of the key factors.

5 CRITICAL FACTORS OF SUCCESS

A number of issues can be identified as critical factors of success for the training programme and its follow-up.

First, the selection of inspectors for the training programme is essential. Basic knowledge on environmental, waste, and enforcement issues is an advantage. Moreover, inspectors must be capable of implementing gained knowledge in practice and possess the ability to advise and train other inspectors.

Second, input of local knowledge during the development and execution of the course was essential, not only from the point of view of collecting background information, but also for language, linguistic, and logistic matters. To facilitate this, a local consultant was involved in the project and translators were available during the whole course.

Furthermore, quality of regulations is clearly a critical factor for effective enforcement. Limited human and financial resources and “competition” from economic objectives makes it rather difficult to enforce environmental regulations adequately. Nevertheless, with the new act on waste management a further important step has been taken.

For the short term, it is essential that the trainees succeed in training their colleagues. This further dissemination of knowledge requires a very practical approach, tailored towards the specific operational requirements and needs of inspectors in the day-to-day reality of inspection and enforcement in Georgia. It is recommended that international assistance and cooperation programs also invest in these suggested practical steps as they forward.

6 CONCLUSION

The entire training focused on implementing the “train the trainer” principle, allowing the knowledge gained from this training to be utilized to train additional Georgian environmental inspectors within the Inspectorate. The initiative of the Environmental Inspectorates of Georgia and the Netherlands to develop and execute a training programme focusing on waste management and enforcement will likely result in positive impacts improving the environment and economy of Georgia.

BUILDING REGULATORY CAPACITY IN ENVIRONMENTAL AGENCIES: THROUGH TAILORED TRAINING

PINK, GRANT¹

¹ Acting Assistant Secretary, Compliance and Enforcement Branch, Australian Government Department of the Environment, Water, Heritage and the Arts, Level 4, John Gorton Building, Parkes, Canberra, Australian Capital Territory 2600¹

SUMMARY

The Australian Government's Department of the Environment, Water, Heritage and the Arts is an emerging regulator. Upon commencement of its cornerstone legislation, the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), Department of the Environment, Water, Heritage and the Arts inherited significant regulatory powers.² Concurrent to this was the groundswell from other local, State and Federal environmental regulators, all of which had identified a need for greater coordination and interoperability between co-regulators and partner agencies.

Arising out of this amalgam is a career path in its own right, which now includes a professional association of like-minded entities together with a hierarchy of nationally accredited vocational qualifications³ that have been customized for the environmental compliance professional⁴. These vocational qualifications articulate fully into a similarly customised post graduate qualification.

1 INTRODUCTION

1.1 The Department

Department of the Environment, Water, Heritage and the Arts is the Australian Government's (Federal level) premier environmental regulator. It has some 2500 staff, and while most of these are based in the nation's capital, Canberra, some are geographically dispersed in locations ranging from the Northern Territory through to Tasmania and even as far a field as Antarctica.

The Department administers some 17 pieces of environmental legislation. These relate to both terrestrial and marine environments, with the marine environment stretching to the 200 nautical mile Exclusive Economic Zone. Additionally Department of the Environment, Water, Heritage and the Arts administers and is responsible for numerous International Treaties and Conventions which the Australian Government is a signatory to.

The Department's cornerstone piece of legislation is the *Environment Protection and Biodiversity Conservation Act 1999* (Cth). Its focus relates to environmental issues which are of national environmental significance. This legislation is complimentary to and does not override Local, State, or Territory government environmental laws.⁵

1.2 The Network

The Australian Environmental Law Enforcement and Regulators Network is a network of environmental regulatory agencies. Collectively these agencies:

“...are responsible for the management of natural resources or the protection of the environment. It aims to build relationships between jurisdictions to facilitate the sharing of information and to improve the regulatory compliance capacity of member agencies. It also seeks to develop national standards for training and best practice in environmental regulation.”⁶

In November 2003 Australian Environmental Law Enforcement and Regulators Network consisted of 12 foundation member agencies. In just over four years this has grown to 35 member agencies. This, in combination with Department of the Environment, Water, Heritage and the Arts' expanding regulatory role, is evidence of the groundswell of demand for the building of capacity, in respect to environmental regulation in Australia. In relation to capacity, that is capacity which can be; built quickly, is robust and most importantly has utility across jurisdictions, agencies, commodities and sectors.

2 CHALLENGES FACING A NEW REGULATOR

In building capacity, any new regulator is typically required to address issues such as staff training, compliance culture, corporate knowledge, business continuity, and establishing credibility with co-regulators and the regulated community.

In addition to these generic challenges, with it, the environmental regulatory regime brings unique capacity building issues. In Department of the Environment, Water, Heritage and the Arts' experience this has included but is not limited to:

- An ever increasing environmental expectation by society.⁷
- A political imperative to address environmental concerns.⁸
- The requirement for a blend of traditional mainstream law enforcement capabilities coupled with significant scientific and natural resource expertise.⁹
- A requirement for internal cultural realignment from one with a policy, program and public administration focus, to one which is akin to more of an adversarial and confrontational enforcement role. The latter following the more traditional 'command and control' model of regulation.¹⁰

- The newness of our cornerstone legislation. Arising from this aspect is the fact that most compliance and enforcement activities addressed are firsts in their own right. Further there have been few matters legally tested; therefore as yet there are only a few persuasive and even less binding legal precedents which Department of the Environment, Water, Heritage and the Arts can use as a foundation.
- A steep corporate learning curve, exacerbated by the fact that it is a significant deviation from what was core business. Compliance and enforcement, has gone from 'no business, to new business, to core businesses'¹¹ in as little as four years.
- There are substantial risks associated for the Department and staff when their operating environment has been altered so dramatically.
- A lack of documented policies, protocols and standard operating procedures.
- No off the shelf training package customised for environmental regulation.
- As a burgeoning industry, the demand for staff with expertise, has meant that the Department must be a competitive employer (referred to as an 'employer of choice' by some) having to address issues of staff retention and facilitating professional and career development.
- Around this time there were concurrent pressures within the federal level for Australian Government regulatory agencies to tighten up issues surrounding case management and managing/supervising¹² *authorised officers*¹³ who have access to coercive powers,¹⁴ including the training of those staff, together with issues surrounding developing of an appropriate compliance culture.¹⁵

3 TRAINING AS A KEY AREA OF CAPACITY BUILDING: THE AUSTRALIAN EXPERIENCE

3.1 The Need

Once Department of the Environment, Water, Heritage and the Arts' increased role as a regulator became apparent, training was quickly identified as a major enabling factor in building of regulatory capacity. In the period between 2005 and 2007, the organisational focus with respect to training focused on the development and implementation of a suitable training regime for its authorised officers.

It quickly became apparent, however, that training was more than merely the transferral of information to individuals to arm them with the knowledge and skills they need to perform their regulatory functions. In the situation faced by Department of the Environment, Water, Heritage and the Arts – that of an organisation required to build capacity *quickly* in an *esoteric* discipline – the issue of training brought with it risks and opportunities beyond the norm.

The Department of the Environment, Water, Heritage and the Arts experience is that the success or otherwise of training for authorised officers can influence organisational success in numerous dimensions:

- **Individual Competence**, which is influenced by the rigour and utility of the training.
- **Group and Executive Competence** arising from the development of corporate knowledge, which is influenced by the scale, utility and consistency of the training.
- **Organisational Competence** associated with the development of a suitable culture,¹⁶ which is influenced by the quality, immediate relevance and delivery style of the training, and, in particular, the attitudes inculcated by the training staff.
- **Long-Term Capacity Building** which is influenced by the development of a supported career path for compliance and enforcement professionals which, in turn, affects attraction and retention in a competitive and increasingly specialised labour market.¹⁷

3.2 Addressing the Need

From the outset, any training developed had to conform with the national training framework¹⁸ so as to constitute nationally recognised (and accredited) vocational training. In essence, this meant it had to conform to a hierarchy of training levels that start with the foundation or entry level (Certificate) and migrate through to supervisor (Diploma) and executive (Advanced Diploma) levels.¹⁹

Within the context of the framework described above, whilst the initial preference of the Australian Environmental Law Enforcement and Regulators Network National Committee was to adopt the Diploma-level as its baseline, after consideration, given the needs of the entire network, it was felt that the Certificate-level qualification was more suitable. The common capacity-building problems faced by a number of the member agencies suggested that there was merit adopting a 'baby steps' or 'building block' approach to training. This approach was believed to compliment the change management initiatives directed towards building an appropriate culture of compliance and enforcement.

When it came to actually implementing the Certificate-level training, it became apparent that there was a dearth of suitable off-the-shelf training packages. The long-standing default Government certificate course that related to regulation was based on fraud control. This clearly offered little of relevance to non-fraud investigations, which had recently led to the development of a more generic (non-fraud) Government investigator qualification. While this was a significance

advance, it still failed to meet the needs of Department of the Environment, Water, Heritage and the Arts and other Australian Environmental Law Enforcement and Regulators Network agencies involved in environmental regulation. A uniquely tailored Certificate-level training course was required.

3.3 Managing the Tensions

Department of the Environment, Water, Heritage and the Arts, in consultation with Australian Environmental Law Enforcement and Regulators Network, primarily through the training sub-committee, coalesced cross-agency opinion into unified support for the Certificate course. Having done so, the training sub-committee took a “pick and mix” approach to selecting core and elective modules in sufficient quantity and proportion to satisfy the requirement for National accreditation. The committee then provided detailed and specific information to inform the course content.²⁰

Having developed the Certificate, Department of the Environment, Water, Heritage and the Arts trialled the course internally and following refinement, the product (the training course itself) was released to Australian Environmental Law Enforcement and Regulators Network member agencies, who undertook further local refinement²¹ based on factors such as agency role, jurisdiction, commodity, industry and sector. Agencies operated on this basis for several years. During this period (2006-07), whilst agencies ran their own courses, external participation rates from other member agencies continued to increase. The cross fertilisation of experiences and shared problems and the growing interoperability of environmental regulators prompted reconsideration of course content and structure to perhaps reflect a more harmonised version.

As part of the ongoing commitment to professional development the Diploma course was developed in a similar fashion to the Certificate course. The first of the Diploma courses was held in November 2007 and included participants from all three levels of Government and from each Australian jurisdiction. The level of participation coupled with course feedback reinforced the need to refine and harmonise the Certificate level course.

This assisted the environmental regulatory community to map out a career path for the environmental compliance and enforcement professional. This was made possible by balancing and working through the naturally occurring tensions between the need for the training to be customised for the member agency, and the need for it to conform to the broader requirements of an external accrediting body. This situation is distinguishable from that encountered in traditional post-graduate professional qualifications which are university-based.

The advances in professionalising the role of the environmental compliance and enforcement practitioner have been seized upon by at least one Australian

university. This university has recently developed the first post-graduate (university) qualification for environmental compliance and enforcement, which will be available in the latter part of 2008.

The benefit of this is twofold, in that, in addition to professionalising the workforce, it enhances staff personal development by allowing them to articulate purely *vocational* qualifications into *post-graduate* qualifications. This further reinforces the credibility and standing of the individual and the agency within the regulated community.

4 CONCLUSIONS

New regulators face a number of challenges when seeking to build capacity. It has been the Australian experience that environmental regulators face additional and unique challenges. These include; the ever-increasing profile of environmental issues, the speed at which capacity must be built, the esoteric nature of environmental regulation, and the relatively small pool of existing specialist knowledge from which to draw.

The training of environmental regulators – and particularly *environmental law enforcers* (authorised officers) has been found to be a key factor in organisational success. Indeed, it forms part of the critical path to becoming a competent, capable and credible regulator.

By failing to address training, or by using training that is not tailored for the target audience, agencies fail to inject the appropriate knowledge into the individual and they fail to up-skill groups. As a result the organisation itself fails to grow and restricts its ability to undertake its new business.

In addition, to the inherent risks associated with government compliance and enforcement work, failing to implement suitable training introduces higher order (strategic) risks including issues relating to maintenance of corporate knowledge and the retention of an engaged and motivated workforce.

Conversely, the implementation of a training regime, which includes an appropriate level of customisation, a hierarchy of nationally-accredited qualifications and therefore an identifiable and marketable career path, has proven to be a cornerstone of our success. This is highlighted by the fact that ‘training has without a doubt been the most significant factor influencing agencies to join the Australian Environmental Law Enforcement and Regulators Network network.’²²

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¹ The writer acknowledges the assistance of the following in the preparation of this paper: Mr. Neville Matthew, Assistant Secretary, Compliance and Enforcement Branch and Mr. Michael Tonge, Senior Policy Officer, Compliance Support Unit.

² Powers similar to those addressed by Professor Macrory in his analysis of the UK experience of sanctioning regimes; see Macrory, R.B, *Regulatory Justice: Making Sanctions Effective – Final Report*, Better Regulation Executive, London, 2006.

³ Nationally accredited vocational qualifications in Australia relevant to this paper are the Certificate IV, Diploma and Advanced Diploma. For further information see <http://www.ntis.gov.au/>.

⁴ Covering areas such as: monitoring and audit, compliance and investigations.

⁵ See section 10 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) at: <http://www.frli.gov.au/ComLaw/Legislation/ActCompilation1.nsf/0/9A8645F9CEFE8EFBCA25730400834D6B?OpenDocument>.

⁶ For further information see <http://www.aelert.com.au/> homepage, welcome section.

⁷ See, for example, Harman, J., *The Relationship Between Good Governance and Environmental Compliance and Enforcement*, INECE 7th Conference Proceedings, p5.

⁸ News Article: *Australia Should Crack Down on Breaches of Green Laws*: OECD, see <http://au.news.yahoo.com/080319/21/1678f.html>.

⁹ As manifest in the tension between the need to ensure compliance with the regulatory framework and the need to provide enough flexibility to deliver outcomes. See Australian Public Service Commission (APSC) (2007) *Agency Health: Monitoring Agency Health and Improving Performance*, Canberra, p22.

¹⁰ See Gunningham, N, *Regulation: Enforcement and Compliance, Beyond Compliance: Next Generation Environmental Regulation*, Canberra, Australian Institute of Criminology. Retrieved 27 March 2008 from http://www.aic.gov.au/publications/rpp/57/08_sec4.html.

¹¹ Sullivan, Greg. Manager, Compliance Coordination Unit, Queensland Department of Natural Resources and Mines, personal comment, November 24 2006.

¹² Adequate controls on the exercise of coercive powers is one of the 10 lessons for public administration as detailed by Professor McMillan in his review of referred immigration cases. See McMillan J, *Lessons for Public Administration: The Ombudsman Investigation of Referred Immigration Cases*, *Public Administration Today*, Issue 12: July – September 2007, p37.

¹³ Authorised Officers refers to persons authorised (whether as Inspectors, Wardens or Rangers or similar) pursuant to Commonwealth legislation.

¹⁴ Coercive powers under the EPBC Act, 1999 include; arrest, monitoring and search warrants, and the power to compel persons to answer questions and provide information and material.

¹⁵ 'Good processes and procedures need to complemented with a strong organisational culture and value set.' See Metcalf A, 2007 *Immigration Referred Cases: Lessons for Government*, *Public Administration Today*, Issue 12: July – September 2007, p40.

¹⁶ 'An agency's culture needs to be effectively aligned to its outcomes and business ... the culture in a regulatory and/or inspection agency, for example, will differ from the culture of an agency with a strong policy development focus.' See APSC (2007), *Agency Health: Monitoring Agency Health and Improving Performance*, Canberra, p20.

¹⁷ As evidenced by the difficulty regulators have reported in recruiting sufficient qualified staff. See for example Hampton, P (2005) *Reducing Administrative Burdens: Effective Inspection and Enforcement*, HM Treasury, Norwich, UK.

¹⁸ This is known as the Australian Quality Training Framework (AQTF).

¹⁹ Under the AQTF, all of these qualifications articulate upwards to a post-graduate (university-level) qualification.

²⁰ This included legislation, policy, industry and sector inputs.

²¹ The benefits of localised refinement are consistent with and have been incorporated into the development of other national regulators training manuals. See for example United States, Environment Protection Agency, *Conducting Environmental Compliance Inspections*, Inspectors Field Manual International Edition. Preface section, p. ii, ¶ 3.

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**PAYMENTS FOR ENVIRONMENTAL SERVICES:
A WISE USE OF THE MARKET ECONOMY
OR MISDIRECTED COMMODIFICATION?**

TELESETSKY, ANASTASIA¹

¹ Briscoe Ivester Bazel LLP, 155 Sansome Street, San Francisco, California 94104
atelesetsky@briscoelaw.net

SUMMARY

This paper reviews “payments for environmental services,” a conservation mechanism with the potential to improve compliance with local, regional, or international law. This paper observes that payments for environmental services programs are most promising when a resource is threatened by current or future development, time is of the essence to protect the resources, and there is a mutually agreed upon contract between a seller of an environmental service and a buyer of an environmental service.

1 INTRODUCTION

As the adage goes, you can give a man a fish and he will eat for a day; you can teach a man to fish and he will eat for a lifetime. Sometimes, however, it is necessary to pay the man not to take the fish for dinner when what you are trying to protect is the fish. Payments for environmental services apply the rules of the market to environmental conservation efforts by paying individuals or communities to protect a resource either by not using it or by restoring it.

This paper first explores an operational definition for Payments for Environmental Services and how Payments for Environmental Services might be an effective strategy in promoting compliance with local and national environmental laws. The paper then briefly describes how a successful Payments for Environmental Services system has been implemented. Finally, the paper addresses some of the limitations on using Payments for Environmental Services as an incentive for environmental compliance.

2 INCENTIVE OF PAYMENTS FOR ENVIRONMENTAL SERVICES TO FURTHER ENVIRONMENTAL COMPLIANCE

There is no single agreed upon definition or name for Payments for Environmental Services. Some of the other names used for projects or ideas that combine economic incentives with obligations for environmental protection or restoration include “markets for environmental services,” “rewards for environmental services,” and “compensations for environmental service.”

Sven Wunder, from Center for International Forestry Research, provides a useful five step conceptual framework for understanding the basic principle of Payments for Environmental Services. For a program to qualify as a Payments for Environmental Services, it should (1) be based on a voluntary contractual arrangement; (2) concern an environmental benefit that can be defined or measured; (3) be bought or exchanged; (4) be from an individual or community; and (5) on the condition that the promised benefit is delivered.¹

Because it creates a specific incentive for refraining from or performing certain behaviors, Payments for Environmental Services has the potential to accelerate compliance with conservation laws especially where a given environmental resource is either scarce or in demand.

There are a variety of objectives for a Payments for Environmental Services program. Programs can focus on payments for not doing a certain behavior, such as slash and burn agriculture, dynamite fishing, extracting timber, releasing untreated wastewater, or hunting threatened or endangered species in a certain geographical area. Programs can also offer payments for doing certain behaviors, such as actively managing an ecosystem or participating in reforestation efforts.

There is no single formula for creating a successful Payments for Environmental Services program. A program can be managed by the public through its ministries or departments of environment or conservation. Private companies or non-profits can fund and run Payments for Environmental Services projects. Or public private partnerships can operate programs. Sellers can be communities or individuals. Agreements between sellers and buyers can be formal negotiated contracts or simply informal promises. Payments can be in cash or in-kind (e.g., construction materials for a school or beehives.)

Where Payments for Environmental Services programs are designed for furthering compliance with certain environmental laws, the buyer of an environmental service must possess a clear idea of what will be considered an acceptable delivery of environmental services. Laws without specific numerical thresholds can be interpreted in a variety of manners. The expectations of environmental service buyer need to clearly specified in advance of an agreement.

For example, a country may have legal obligations under an international convention to protect a specific sub-species of an animal that happens to be widely and historically eaten by communities within the country. A private philanthropy group wants to create a Payments for Environmental Services program whereby it will pay individuals to protect the animals. Are the communities expected not to hunt any of the animals even though some of the sub-species are plentiful? Or are they simply prohibited from hunting the sub-species listed in the international convention? Are the communities only restricted from hunting or must they also desist from making changes that might also affect the animal's habitat? Concepts of protection are likely to be, in part, culturally-specific and may be difficult to translate.

In addition to spelling out their expectations as an environmental service buyer, a buyer must also be clear about what the standards will be for payments. Is there an agreed upon baseline from which to measure whether a seller has upheld his or her end of the bargain? Who will do the measuring? Will certain environmental conditions, such as a drought or a flood, trigger a seller of environmental services to avoid specific behavior and also take affirmative steps; for example, an individual will not only refrain from hunting a bird but also rescue eggs?

Payments for Environmental Services schemes have the potential to boost environmental legal compliance because the schemes introduce a new level of quantifiable value for a given resource. When confronted with making decisions about how to live in a rapidly evolving world, those who reside closest to a resource, irrespective of whether they are the owner of the resource or not, are faced with ambiguous rational economic decisions. Should they give their consent for resource extraction when they stand to benefit monetarily? Or should they leave the resource in situ because otherwise they will be forced off the land that they are now occupying by resource extraction companies? For many, it is a Faustian bargain where law plays only, at best, a marginal role. A proposed Payments for Environmental Services scheme, on the other hand, allows for occupants to remain in place and to receive compensation for keeping a resource in situ. The given resource no longer simply has an inherent value but also has an external value. The shift from an "either/or" paradigm to a "both/and" paradigm creates a new favored position for law where compliance is not considered an obstacle but an opportunity.

In addition to enhancing perceptions about compliance, Payments for Environmental Services schemes have the potential to create new framework for local enforcement. As interested parties, Payments for Environmental Services sellers are more likely to take an active interest in delivering the agreed upon conditions and may activate social enforcement systems such as customary law or social sanctions to ensure that they benefit from their agreement.

Some Payments for Environmental Services sellers may also be more inclined to call upon local or regional law enforcement officials to help them fulfill their protection obligations. If a resource under a Payments for Environmental Services contract is threatened by an individual or group over which the seller has no control, sellers may be willing to enlist external enforcement assistance, assuming the assistance is reliable, to punish bad actors such as poachers or illegal loggers. Calling for backup help would be especially likely in areas locally perceived of as commons, such as government protected areas or reserves.

3 COSTA RICA'S PUBLIC SCHEME FOR PAYMENTS FOR ENVIRONMENTAL SERVICES

Payments for Environmental Services schemes are not theoretical. A leader among the Latin American countries, Costa Rica designed a Payments for

Environmental Services project referred to in Spanish as a “*Proyecto Pago por Servicios Ambientales*”. The project is run by the government and transfers funds to individual farmers who have entered formal contracts to deliver environmental services for five years. These contracts are recorded in the public land register and run with the land. To fulfill their contracts, individual farmers undertake reforestation, forest preservation, or agroforestry efforts.

Much of the conservation success of the program is that it is implementing from the ground level up Costa Rica’s Forest Law, Environmental Law, and Biodiversity Law while providing income opportunities.² Some of the greatest lobbyists for enforcing the laws associated with forest protection are now the recipients of the payments who are directly engaged with reforestation, forest protection, and sustainable management of the forests.

The program has had both direct and indirect effects, including offsetting some of the carbon produced in Costa Rica, improving community environmental education in areas such as waste management, and increasing household income.

Participants of the Costa Rica program adhere to the environmental laws that form the foundation of the *Proyecto Pago por Servicios Ambientales* program, in part, so that they can receive their payments. Whether the *Proyecto Pago por Servicios Ambientales* programs have been more or less successful than simply a command and control regulatory program is less clear.

4 PRACTICAL LIMITATIONS ON EMPLOYING PAYMENTS FOR ENVIRONMENTAL SERVICES AS AN INCENTIVE FOR ENVIRONMENTAL COMPLIANCE

While the Costa Rica program has been successful in creating new value for the forest and providing new incentives to comply with existing laws, not all Payments for Environmental Services programs, including the Costa Rica program, measure up to expectations of a market fix.

There are a myriad of reasons why parties do not comply with environmental laws. Often the costs of non-compliance are minimal and the risks of being caught non-existent. Sometimes, a law is passed but never explained. In other instances, a law is irrelevant because it has not been updated to reflect current resource extraction or industry practices; therefore, it cannot provide protection against the real threats to the environment.

Just as Payments for Environmental Services is not a one formula conservation, it is also not a one-size fits all solution. While Payments for Environmental Services programs are likely to increase compliance with environmental laws, they may also inadvertently create perverse incentives, including rewarding bad actors. As a result, this creates the conditions for “greenmailing” and shifting environmental harm to other locations.

As best practiced, Payments for Environmental Services programs provide a common language for linking human needs with ecosystem needs. As unintentionally practiced, Payments for Environmental Services programs reward the parties that are most likely to destroy the environment.

By commodifying the environment, Payments for Environmental Services programs fail to acknowledge the efforts of those who are already in compliance with environmental laws. Throughout the world, there are individuals who are unintentionally in full compliance with international, national, and regional environmental laws as a result of their lifestyles. Many of these parties are indigenous peoples who have been living for centuries in balance with the land and following their own culturally specific laws. These parties are the least likely to be rewarded with a Payments for Environmental Services project because they have demonstrated that they are the least likely to destroy their resources because of complex personal, social and spiritual reasons.

The parties that are most likely to be rewarded are the parties that are in the process of violating environmental laws, or who threaten to do so. As a result, a strange enforcement dynamic occurs because violators, or would-be violators, receive financial incentives rather rewarding law-abiding citizens that are already conducting sound environmental practices. At an instinctual level, there is something unfair about a system that rewards offenders.

On another level, paying to prevent environmental violations makes policy sense if the parties would have engaged in additional environmentally destructive "but for" the payment. For the individuals who were previously causing or contemplating causing environmental harm, the decision is no longer in a zero-sum result but a positive-sum result.

If the payments for the environmental services are high enough to provide individuals or groups with the opportunity to pursue new, less resource intensive livelihood options, then Payments for Environmental Services projects may serve as the first step to the rehabilitation of certain individuals and groups. A useful comparison is the gang-rehabilitation education programs in the United States. Some high schools with a large population of students at-risk of leaving school spend scarce resources to work with members of gangs to ensure that they get an education. In some instances, these students leave their gangs as a result of the extra attention from the schools. Payments for Environmental Services programs that reward environmental violators might be justified for the same reason. Just as the school programs for gangs lead to shifts in attitudes for some members, Payments for Environmental Services programs have a greater potential for rehabilitating attitudes about the need for complying with environmental laws than incarceration or fines.

In addition to the unfairness aspects, critics also worry that paying violators or would-be violators to refrain from causing environmental harm might

embolden these individuals to “greenmail” already resource-poor programs by demanding excessive money or services in payment for continued good behavior. While “greenmailing” may prove to be a sizable future threat to Payments for Environmental Services programs as they develop, a more direct immediate threat resulting from a Payments for Environmental Services program is the relocation of environmentally undesirable behavior from the Payments for Environmental Services project site to a neighboring area. For instance, if people cannot collect firewood within a preserve, they will go just outside the boundaries to the buffer zones.

Another potential problem is Payments for Environmental Services may challenge existing property regimes. In creating a Payments for Environmental Services scheme, what seems most important to the buyer of an environmental service is stopping undesirable behavior. What happens if the sellers of environmental services are not the owners of the land on which the environmental services are sold?

Imagine an important buffer zone for a world heritage quality tropical rainforest. The land is owned by absentee landlords living hundreds of miles away who have expressed an interest in eventually developing the land for commercial purposes. The land is currently occupied by peasant farmers who intend to use the land for grazing. As a buyer environmental service, who do you work with? Do you contract with the absentee landowner who does not need the small sums of money being offered and has no intention of developing the land in the near future? Or do you contract with the occupiers who have indicated that they intend to use the land in a manner that will reduce the viable buffer with the rainforest that the buyer is trying to protect? If you contract just with the title property owner, how can you guarantee that he or she will enforce the non-use of his land when there is no historical precedent for preventing others from entering his land and the amount of money is negligible? If you contract just with the farmers, do you create the conditions for luring additional needy people to become squatters in hopes of being offered a Payments for Environmental Services contract? Should a Payments for Environmental Services buyer pay both parties? Is this the most effective way of enforcing the law?

5 CONCLUSION

Payments for Environmental Services systems are still developing. A Payments for Environmental Services system is most effective when it is clear what environmental services are being contracted for and when the seller of the services has either secure land tenure or an unchallenged occupation of land and is willing to self-enforce the contract in order to receive the payments.

Where the conditions exist for a Payments for Environmental Services system to be effectively implemented, a buyer can demand as one of the terms of the contract full compliance with existing or pending environmental laws. When time is of the

essence to conserve rapidly diminishing habitats or endangered species, Payments for Environmental Services schemes may be the solution for creating long-term shifts in attitudes towards the value of both conservation and legal compliance.

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CAPACITY BUILDING IN THE DUTCH INSPECTORATE: BRIDGING THE GAP

VAN DER SCHRAAF, ANGELIQUE A.A.¹

¹ Dean of the Inspectorate Academy, VROM Inspectorate, Post-box 16191, 2500BD The Hague, The Netherlands, angelique.vanderschraaf@minvrom.nl.

SUMMARY

The Dutch Inspectorate has developed a strategic methodology for capacity building of its inspectors. It is a three-year plan where – based on setting capacity-objectives per working field – step by step the knowledge gap is closed. An Academy consisting of six employees is set up to facilitate 550 inspectors on their way to becoming better-qualified professionals. After five years of intensive work, the Dutch Inspectorate Academy has had a number of successful initiatives to build-up knowledge within the Inspectorate.

1 INTRODUCTION

Every country that is serious about environmental compliance should have professional inspectors. The Dutch Inspectorate, existing in the present form since 2002, followed a European Committee Recommendation to professionalize its inspectors. In this paper, the capacity building methods of the Dutch Inspectorate and the funding of its Inspectorate Academy are examined.

The VROM-Inspectorate was organised in its current form in 2002. It was aggregated from the Environmental Inspectorate, the Inspectorate for Housing, the Spatial Planning Inspectorate, and two Intelligence Clusters of the Ministry.

2 THE ORGANISATION

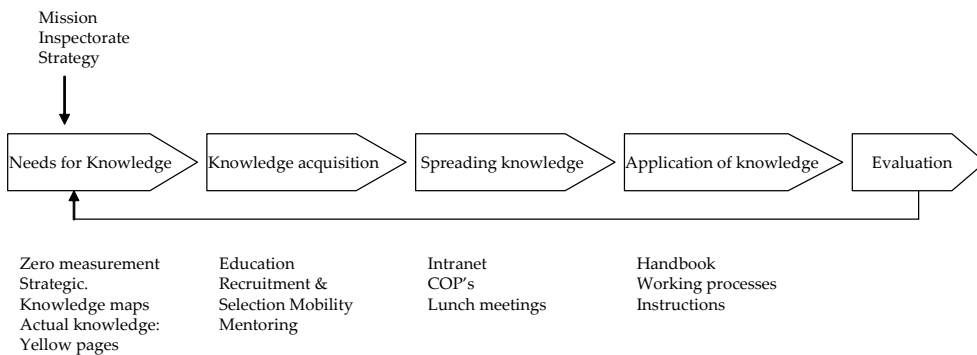
The Inspectorate Academy is part of the VROM Inspectorate and Staff department. Currently, it consists of six persons. It started with two permanent staff members and four contractors, with the need to prove that six full-time staff members were necessary to do the job right. After three years of hard and consistent work, the Academy managed to establish itself as a valuable part of the VROM Inspectorate, solidifying the need for its existence.

3 CONCEPTUALISATION

The Inspectorate Academy was practically invisible to inspectors in the field during its first year. The Academy started working on building an initial concept that would form the base for the Academy in the following years.

To increase its visibility, the Inspectorate Academy embraced the very practical “knowledge-value chain” model of Professor Mathieu Weggeman was embraced. The “knowledge-value” chain provides a structured framework for reaching a goal. This includes the knowledge process composed of the following elements: creation, sharing, application, and evaluation. Applying this model to the mission of the Inspectorate results in the following five steps: (1) investigate what knowledge the Inspectorate Academy must obtain (what are the needs?); (2) acquire the needed knowledge for the organisation; (3) develop methods to disperse the knowledge within the Academy; (4) invest in the application of knowledge in the daily work of the organization; and (5) make sure to take time for evaluation (are we really professionalizing?). The focus of the rest of this article will be on the steps of this model.

Figure 1: The Knowledge Value Chain Model: © Mathieu Weggemans



4 NEEDS FOR KNOWLEDGE: NEEDS ANALYSIS

4.1 Zero Measurement

The Dutch Inspectorate started an intensive investigation to establish the needs for knowledge. In the initial compliance measurement (referred to as the zero measurement), the Dutch Inspectorate investigated if the organisation was ready for knowledge management. The starting point was the wish of the Management to invest only in a very practical way of capacity building and—in doing so—to get as close to the working needs of the fieldworkers as possible. As a result, no deep and long investigations occurred. Starting a large and elaborate process of establishing knowledge management within an organisation requires an open-minded and mature organisation. Thus, picking the right moment is essential at this point.

The zero measurement took place one year after the founding of the VROM-Inspectorate. An electronic questionnaire was used to find an answer to this question. The test results pointed out that the organisation was not ready yet

to focus on knowledge management. As a result, the Dutch Inspectorate had to wait one or two more years to give the organisation time to settle down. A final evaluation will occur in 2009, the same measurements on knowledge management will be done again to see the readiness of the organisation for knowledge management has progressed.

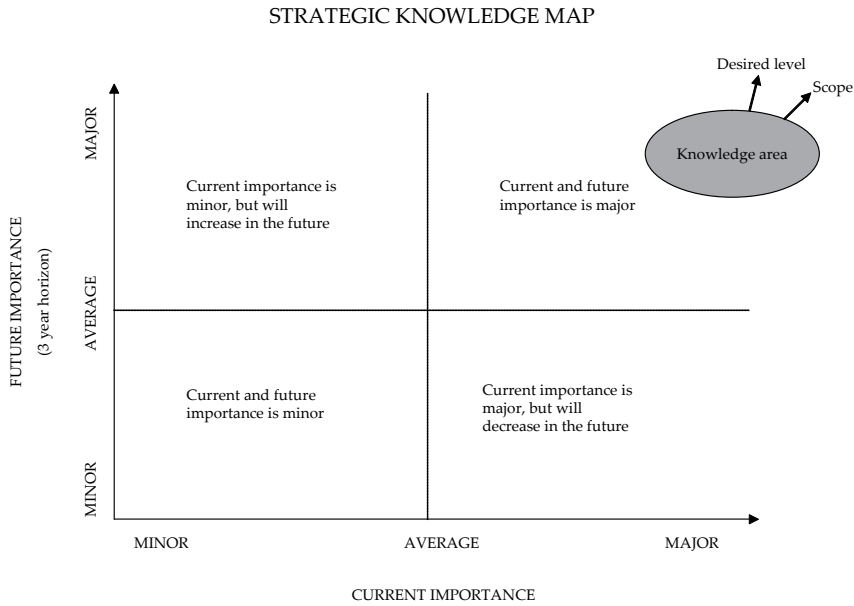
4.2 Strategic Knowledge Maps

In the “silent” years between the zero measurement and the coming out of the Academy, we started to develop so called “strategic knowledge” maps. The Inspectorate staff was divided in several working field clusters. Groups including inspectors working on Waste Management, another group on Safety / Risk management, Intergovernmental Supervision, Nuclear Safety, Security and Safeguards, Intelligence and Tracing Service, and more. Within each cluster several meetings were planned in order to develop (in a bottom-up process) a strategic knowledge chart. During each meeting a group of five to eight inspectors were invited to develop this chart. Additionally, an external facilitator was present.

During the first meeting, the strategic environment of the working field was viewed. The following three questions were evaluated: (1) what will happen on strategic / political level; (2) what new legislation is expected; and (3) what new technologies are expected? After these questions are answered, the competences necessary to meet with these strategic challenges must be established. Competences include knowledge, skills, and the right attitudes. The second meeting focused on evaluating these competences. The competences from the first meeting in a 2 x 2 matrix, in which we distinguished the urgency:

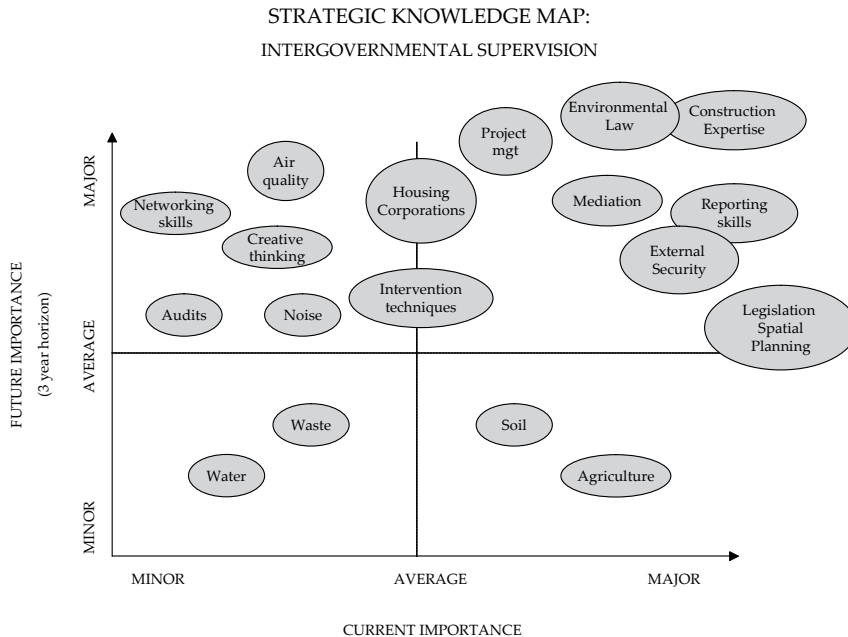
- Current and future importance is major: already existing professionalization programmes (pick the existing programmes and improve them).
- Current importance is minor, but will increase in the future: new programmes have to be developed.
- Current importance is major, but will decrease in the future: no more effort necessary, eventually use the existing programmes.
- Current and future importance is minor: no development necessary.

Figure 2: The Strategic Knowledge Chart: Knowledge Fields and Importance for the Organisation



Source: CIBIT

Figure 3: The Strategic Knowledge Chart: Working Field Intergovernmental Supervision



Source: CIBIT

The Dutch Inspectorate also discerned three levels per mentioned competency, including operational, specialist, and super specialist. We asked the inspectors what the content and scope of the three levels should be, including what are the final qualifications to be met within the following three years and how many inspectors of each level should attend the professionalisation track. As a result, the competences were discussed on a more detailed level than occurred during the first meeting.

In a final meeting, the inspectors were asked which colleagues / potential institutes could be contracted to build up the wanted competences. All the meetings were facilitated by the consultancy group CIBIT that had developed this model of a strategic action plan.

4.3 Yellow Pages

Additionally, the Dutch Inspectorate mapped the “personal knowledge charts” of each inspector. We asked them to classify their own level of knowledge (based on the strategic knowledge maps). We are aware of the subjectivity this exercise would imply, but it was a quick way to establish knowledge levels. For example, when the total results of one regional office were published and each member saw what their colleagues had filled in, a more objective levelling out took place. Each inspector is the holder of his own knowledge chart and he/she is the only one who could change the content. And we noticed that quite a few did change their knowledge charts.

Twice a year a large “knowledge chart” campaign was organized. All six members of the Academy visited the regional offices and assisted the inspectors to fill in their charts. Meanwhile, we promoted the benefit of the charts (*i.e.*, what is in it for you) and what the Academy could mean for them if most colleagues – including themselves - have filled in those charts. This process allowed the inspectors to get to know the members of the Academy and we were able to gain their insights and advice. In short, it was a promotion tour that paid off, and was well worth the effort put in. The Academy now has a yearly update of the personal knowledge charts. As a result, we created the so-called “Yellow Pages” of the Dutch VROM-Inspectorate. In the last two years, 70 percent of all Inspectors have filled in their knowledge charts.

5 KNOWLEDGE ACQUISITION

The Academy now possesses two large databases on Inspectorate knowledge - the strategic knowledge charts and the yellow pages. Comparing the knowledge from the strategic knowledge maps with the actual knowledge results in identify a method to bridge the gaps. Further, we developed the so-called “learning streams” for each working field. These are three-year programmes, with all kind of educational forms to obtain the needed capacity. This was accomplished mostly in the form of courses and training, and also internships and mobilisation / job

rotation. The latter two were not done by the Academy, but by the HRM-advisor and the management of the Inspectorate.

A learning stream is a package of learning possibilities that an inspector within a certain working field cluster can utilize to professionalize himself/herself. The actual form of learning he/she will actually utilize will be determined in close consultation with his/her manager.

Because we have good pictures of what we have and what we want, the acquisition of knowledge from outside the Inspectorate by recruitment and selection procedures could be more focussed. This would be another way of bridging the gap.

Quite a different way of knowledge acquisition is obtained by the use of “super specialists.” We have fourteen super specialists, spread over all working fields, who get time to specialise in one field of work. The Inspectorate, the policymakers, and other public administrations consult them for the extensive knowledge and competences they have. They can spend half of their working time to obtain this extensive knowledge and competence level. The way they acquire this intensive knowledge level is by attending courses on state of the art, self study, reading, consulting with other specialists (national and international), developing Inspectorate procedures, and more. Additionally, part of their job is to share their knowledge throughout the Inspectorate.

6 SPREADING OF KNOWLEDGE

Once knowledge is obtained it should be spread throughout the whole organisation. Our slogan is: “Knowledge is power, sharing knowledge gives empowerment!” The Academy has dedicated effort to develop well-designed and accessible home pages in the intranet of VROM. But, electronics are not always the ultimate tool. As put in the last paragraph, a nice way of spreading knowledge in a non-electronic way is by a Community of Practise (COP); for example, the super specialists organise meetings and seminars to inform their colleagues. Additionally, regional level lunch meetings are efficient, practical, and inspiring ways of knowledge sharing. During these meetings, colleagues share good practices and discuss the problems they have met.

7 APPLICATION OF KNOWLEDGE

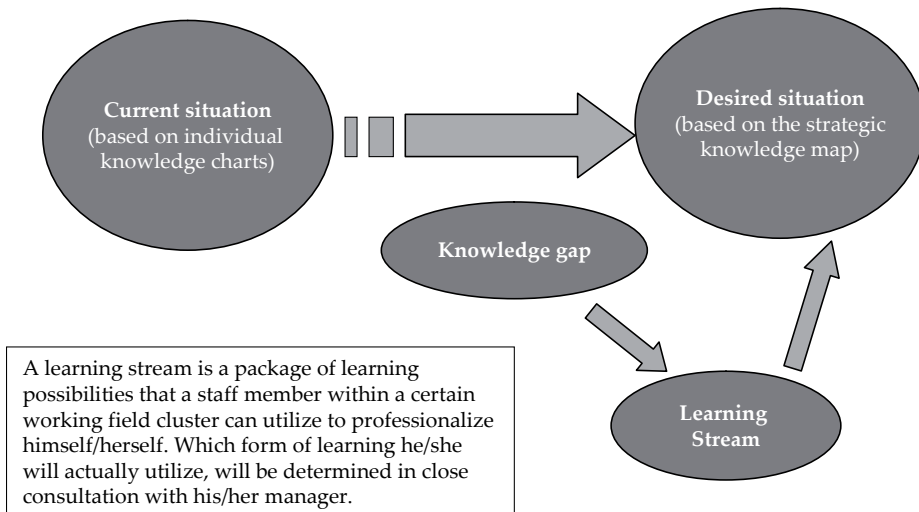
While spreading knowledge, it is important to think of several ways to capture all the knowledge of the inspectors. Once it is captured, it becomes information that is no longer subjected to one person. The recording of the information can be done by describing the inspectorial procedures in instructions and handbooks, making it easy to disseminate knowledge among all the inspectors.

Recording the lessons learned and best practices is of the utmost importance. It seems very obvious to do so, but recording the obtained knowledge is the one trammel in the chain that often gets little attention or is forgotten. Another important point of attention in application of knowledge is to see to it that the information is well assessable, otherwise it will not be used and all the encoding effort is all in vain.

8 EVALUATION

After some time it is good to look back and investigate if the effort put in capacity building is effective. Such an evaluation will be started this year in the Netherlands. Managers will be interviewed and asked whether they notice a measurable better performance in the Inspectorate work. If so, is the increase in efficiency due to the educational programmes or are other factors at stake? Has the Academy bridged the gap? What other efforts are needed to obtain the objectives put in the strategic knowledge maps? Are we still ahead of what will be expected in our working field? Are there new developments to come? After six months, the trained inspectors will be asked similar questions.

Figure 4: Bridging the Gap



9 THE EXPERIENCE OF THE DUTCH INSPECTORATE ACADEMY: WHERE DO WE STAND NOW?

After approximately five years of intensive work, the Dutch Inspectorate Academy has gained a strong position within the Inspectorate and has earned a well-deserved role as the capacity building institute within the Inspectorate. This is

demonstrated by the establishment of a current staff of four permanent workers and only one contract worker.

We have developed Academy procedures and handbooks with practical “do’s and don’ts” to do our work effective and costumer oriented. We learned that strong public relations are essential; the creation of an appealing brand mark (that is seen all over the Inspectorate) gives us a face. As a result, members of the Academy are encouraged to take time to become visible and approachable. Further, our greatest success factor is that we listened to the needs of the inspectors in the field and developed ways of learning that can be directly applicable in the day-to-day practice.

The bottom-up process of generating the strategic knowledge maps was an innovative part of this effort. There was a risk in not getting the managerial approval for applying the results. But, due to the well-based investigations and the personal approach of the separate managers to get the approval, approval was finally granted after a six month process. It is clear that a strong managerial is essential for a successful Academy.

Within the Inspectorate a certain amount of money (€ 1098) and a certain amount of time (ten working days) per inspector is assigned for capacity building on a yearly base. A large amount of capacity building money was trusted to the Academy (70 percent of the total amount). Quarterly management reports on the use of the funds, the number of courses, the evaluation of the courses, and the number of attended inspectors monitor the progress of the three-year capacity building process in a quantitative and qualitative way. During the year it is possible for the management to reallocate funds, courses, and inspectors. As a result, external (strategic) factors can be directly translated in an up-to-date capacity building programme.

Another success factor is the use of the already built-up knowledge within the Inspectorate. For instance, while developing the strategic knowledge maps, trusting and honouring the knowledge of the inspectors makes them dedicated co-workers of the Academy. Also, utilizing inspectors in training programmes is cheap and effective way of knowledge transfer. It is our experience that this is an effective method of transferring knowledge from one inspector to the other, resulting in a large impact. Additionally, the Academy uses our super specialist very often as teachers in training programmes.

In developing training programmes and courses, we always work in teams consisting of Inspectorate content professionals and some educationalist. As a result, we remain assured that the new training programmes will be an educational right and are as close to the day-to-day practice as possible. The evaluation results of each training are communicated with the content professionals in order to improve the courses and training programmes time after time.

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MORE COST EFFECTIVE ENVIRONMENTAL REGULATION WITH LESS RED TAPE

WOODWARD, JOE¹

¹ Deputy Director General, Environment and Regulation Division, Department of Environment and Climate Change, New South Wales, Australia, joe.woodward@environment.nsw.gov.au.

SUMMARY

Governments in Australia and internationally have raised concerns about the impact of increased environmental regulation on productivity. Reviews have suggested that the amount and methods of regulation impose unnecessary burdens on industry and governments. On the other hand, surveys have shown that the public wants to increase environmental regulation because they are witnessing continuous environmental degradation.

Both of these views are correct. We do have to increase our effort to solve outstanding environmental problems and we need to do that more cost effectively than we have in the past.

This paper focuses on experience in New South Wales (NSW), Australia where our approach to environmental regulation and compliance has evolved over several decades and now provides an effective mix of strategies aimed at achieving the environmental outcomes in the most cost effective way. Further, examples of the most successful regulatory and compliance initiatives currently used in NSW are evaluated.

Important messages include (1) focusing on the desired outcomes; (2) acknowledging the need to reduce unnecessary red tape; (3) understanding the communities' concerns and priorities; and (4) choosing the most cost effective approach to solve each problem.

1 INTRODUCTION

There has been global concern regarding the burden of regulation on society, coupled with suggestions that it stifles the economy. Environmental regulation has been one of the targets of this concern. A report by Philip Hampton for the HM Treasury in the UK entitled *Reducing Administrative Burdens – Effective Inspections and Enforcement* (Hampton 2005) concluded that the whole regulatory system is complicated with overlaps in activities resulting in too many forms, requests for information, and multiple inspections. Similar reviews have been conducted in Australia; for example, the Australian Government recently established the Taskforce on Reducing Regulatory Burdens on Business, which made 178

recommendations to reduce red tape and resulted in the establishment of the Office of Better Regulation to oversee the implementation of the recommendations. Similarly, at a state level, NSW has commissioned red tape reviews including *Investigating the Burden of Regulation in NSW and Improving Regulatory Efficiency* (IPART 2006) and has also set up a Better Regulation Office to review existing and new regulations.

The need for regulatory reform to minimize red tape in environmental regulation is just as evident in developing countries as it is in developed ones. In developing countries environmental regulation is sometimes seen as a barrier to economic development. Therefore, it is important to ensure environmental regulation focuses on the important problems and is cost effective, increasing the likelihood of such protection being accepted by governments and the community.

This paper explains why and when environmental regulation is important and provides examples of successful environmental regulation and compliance initiatives in NSW Australia, based on experience that has evolved over several decades.

2 WHY DO WE NEED ENVIRONMENTAL REGULATION?

Regulation, and more broadly government policy intervention, is particularly important in cases of market failure – where private costs and benefits differ from social costs and benefits. When market failures occur, regulation by government can lead to more efficient outcomes and can provide incentives to maximise the net benefit to society. This is true across society – from traffic management to health standards and pollution control.

Examples of market failure in NSW Australia include: (1) loss of biodiversity with the extinction of more than 80 species of native animals and plants and threatened extinction of a further 900 species since European settlement commenced 200 years ago; (2) land degradation estimated to cost \$AU1.15 billion per annum; and (3) air pollution in Sydney causing up to 400 premature deaths a year and health costs between one and 4.1 billion Australian Dollars (DEC State of Environment Report 2006, DEC Air Pollution Economics 2005).

The Heads of the European Environment Protection agencies responded to this with a report titled *The Contribution of Good Environmental Regulation to Competitiveness* (Network of Heads of EPAs 2005). This report stated that “Effective environmental regulation is integral to successful markets, an essential ingredient of a vibrant, modern economy. Unregulated markets would be chaotic, unfair and unlikely to deliver what people want – safe, reliable products and a clean environment in which to live and work.” Further, a review that looked at national competition in Australia concluded “Regulation is an important tool for delivering governments’ social and economic goals, including ensuring Australia’s safety and security, guarding freedom of choice, protecting the environment and setting standards for corporate governance” (Productivity Commission 2003).

International, national and local experience is compelling – good environmental management does not impede economic development. In fact, it is driving investment and innovation in process and product improvement. There is an expectation that the government undertakes this stewardship role, as no other body can.

The challenge is therefore to provide a mix of policy tools that deliver the most cost effective environmental outcomes – minimising compliance costs and maximising the public benefits.

3 HISTORICAL TRENDS IN ENVIRONMENTAL REGULATION IN NEW SOUTH WALES

Environmental regulation has evolved in NSW over the last half century in response to changes in social, economic, and environmental conditions. Environmental regulation in NSW has been at the leading edge of global trends in environmental policy from the “end of pipe” focus of the 1970s to current cleaner production programs and market based mechanisms. The following summarises the shift in focus of environmental policy as ongoing reforms have resulted in more responsive, flexible, efficient and effective regulation.

1970s: Initial efforts to address environmental issues focused on concentrated point sources of pollution that were relatively easy to identify, particularly heavy industry and sewerage. Prescriptive technologies involving “end of pipe” measures to reduce pollution from industrial facilities were also prevalent.

1980s: There was more focus on improving economic efficiency of environmental requirements. Shift from “end of pipe” to process improvements were factored into product and process design. Cleaner production initiatives were promoted, and the introduction of economic instruments – taxes and charges, deposit refund schemes – occurred.

1990s: Greater focus on improving cost effectiveness of environmental regulation, rather than just cost efficiencies, and an increased use of policy tools and education occurred in the 1990s. There was also an intensified focus on diffuse sources and developing markets for clean green products. Linking command and control instruments with economic and voluntary approaches occurred, including price differentials for cleaner fuels, load based charges for pollution, pollution trading schemes, and “bubble” licensing.

2000s: Strategic planning and regulation of cumulative impacts across airsheds and biosystems, aiming to maximise benefit across the community and achieve economy wide efficiencies have expanded in the 2000s. More flexible risk based approaches, including offsets schemes for air pollution, biodiversity and nutrient water pollution, have evolved.

4 NSW CURRENT ENVIRONMENTAL REGULATION AND COMPLIANCE

The Department of Environment and Climate Change now administers over 50 Acts and manages over 40,000 licenses. The Department has responsibility for air, water, noise, waste pollution, chemical contamination, radiation, wildlife including threatened species and native vegetation protection, and protection of indigenous cultural heritage.

NSW developed a framework for environmental protection – a modern, efficient, effective, flexible, and comprehensive approach that includes a mix of policy tools from regulation to voluntary programs and market based measures. All new environmental regulations undergo rigorous cost benefit analyses in NSW to ensure that key principles of good regulation are met. In addition, an ongoing program of regulatory reform ensures that legislation remains relevant, effective and efficient.

The following section summarises the best approaches from experience gained by NSW in environmental regulation and compliance.

5 UNDERSTANDING COMMUNITY EXPECTATIONS

The NSW Environment Protection Authority did an initial community survey on the community's attitudes, knowledge, skills and behaviour towards the environment in 1994. It provided such an excellent insight into the community's thinking that it has been repeated every three years since, and we can now follow trends in community thinking. These surveys assist our policy and regulatory development, and inform Government and the business sector of the community's views. The latest survey is available at www.environment.nsw.gov.au/whocares/whocares2006.htm.

The most recent survey (DEC Who Cares 2006) showed that NSW people care about the health of the environment and want both strong regulation and incentives to do the right thing. For example:

- 87 percent of survey respondents were very concerned about environmental problems and most think the government should do more to protect the environment.
- Approximately 40 percent of people think that environmental regulation is too lax compared to just 15 percent thinking it is too strict in NSW.
- 78 percent rejected the idea of lessening regulation in NSW.
- 68 percent do not believe that environmental regulation restricts the economy, compared to only 23 percent who think it does.

5.1 Cost Benefit Analyses

NSW has found it very valuable to conduct rigorous and published cost-benefit assessments for proposed new environmental requirements, which ensure the benefits outweigh the costs or that they deliver the desired outcomes at least cost. This process includes close consultation with stakeholders. Effective cost benefit analyses provide government and business with solid evidence of the benefit of proposed new regulations.

For example, a regulatory impact analysis in NSW for a proposed regulation relating to prevention of leakages of underground storage tanks concluded that the average cost of the proposed preventative measures would be \$AU5,400 per tank compared to the average cost of clean up and remediation costing \$AU110,000 per tank. (DEC Underground Petroleum 2005). Additionally, the benefits of the proposed NSW Clean Air Regulation are four times greater than the costs (DEC Clean Air Regulation 2003), and the benefits of the National Environment Protection Measure on Ambient Air Quality 1998 are seven times greater than the costs (NEPC 1997). More broadly, several cost benefit analyses done for proposed regulations in NSW and internationally have concluded that for every \$AU1 spent on air pollution control there is a corresponding saving on health benefits of between 4 and 9 times (BDA, 2005).

5.2 Institutional Integration and Efficiencies

Australia, like many other countries, has three levels of government and all have some responsibility for environmental regulation. The Australian government has responsibility for international and nationally significant environmental issues. National environmental standards, *e.g.* air and water quality standards, are established by the National Environment Protection and Heritage Council that consists of the Environment Ministers of each State and the National Government. The states have the primary responsibility for environmental regulation and compliance although some responsibility is delegated to local councils.

NSW has gained efficiencies in environmental regulation by combining separate environmental agencies into the one department, Department of Environment and Climate Change, with responsibility for all pollution, biodiversity, radiation, and cultural heritage protection.

In the past there was often duplication and even conflict between the role of the state government and local government when dealing with pollution issues. To overcome this, legislation was passed to introduce the concept of “appropriate regulatory authority” that clarifies whether the State government or the local council has responsibility for enforcing environmental compliance for any environmental issue. This has improved clarity for business and the community, has reduced red tape, and successfully prevented minor issues from being escalated to the State agency.

5.3 The Most Cost Effective Approaches for Compliance and Enforcement in NSW

Experience in NSW has shown that the best approach to environmental protection is a mix of policy tools linking regulation with economic instruments and voluntary approaches. Indeed, research into environmental regulation consistently demonstrates that flexible approaches and complementary policy measures assist in ensuring efficient and effective outcomes. However, it is important to note that these are complementary measures and are not a replacement for regulation.

5.4 Risk Based Regulation and Compliance

All environmental regulators adopt some form of risk-based approach to their work. This can apply not only to the development of regulations but also to how compliance and enforcement of the regulations is carried out.

In the past, NSW has tended to implement the regulations uniformly and this has partly been in response to calls from industry and others for consistency in approach. However, we have found that more cost effective outcomes can be achieved by adopting a transparent risk based approach that can permit a greater level of flexibility without compromising public confidence in the agency.

NSW has developed a good mix of regulatory tools and our objective is to use the most cost effective tool to achieve compliance with the environmental objectives. This has been influenced by Malcolm Sparrow who, in his book *The Regulatory Craft* (Sparrow 2000), recommends that environmental regulatory agencies should rearrange how they operate and focus their approach to “pick important problems and solve them.” Although simple in principle this is quite difficult to achieve. Some of the most successful cost effective “tools” NSW utilizes include:

5.4.1 Environmental audits

Industry can do “voluntary audits” that are protected from disclosure. Where a breach is suspected, industry can be required to conduct “mandatory audits” and we can use the information gained in court proceedings. NSW also does a smaller number of environmental audits which are important as a deterrence to industry and for public confidence.

5.4.2 Public reporting

NSW requires exception reporting, meaning that industry must immediately report all serious license breaches, and then annually report all other breaches. The CEO must certify the completeness and accuracy of the information, including the reasons for any breaches and measures they have undertaken to prevent a recurrence. NSW then publishes the information on its website. We can also fine the industry, including the CEO, for any false information they provide to us.

5.4.3 Campaigns

NSW often concentrates on short term campaigns to alleviate widespread problems, such as illegal waste dumping. These involve mobilising our own staff often from different areas, multiple inspections, working with other agencies (*e.g.*, the police), involving any industry associations, and using the media to publish the campaign and the results. We also provide education material and advice to industry. Once a campaign is completed, NSW concentrates on tackling the next big problem.

5.4.4 Prosecutions

NSW has three tiers of prosecutions. Tier three involves penalty infringement notices (on the spot fines), tier two is for prosecutions in court, and tier one can involve higher fines and/or jail sentences for deliberate serious breaches. Court penalties are extensive and can include financial penalties, restoration orders, or other community service orders. As an alternative to court prosecutions, we can permit industries with minor breaches to enter into a court enforceable undertaking to do agreed compensatory works. This avoids a conviction being recorded against the company, but provides a transparent outcome for the community.

5.4.5 Environmental amenity issues

For less serious environmental amenity issues, for example odor, noise, or nuisance dust emissions, NSW encourages industry to manage these issues with their local communities. As an additional incentive, we are charging fees for inspections and directions if we need to respond to public complaints.

5.4.6 Remediation directions

NSW uses stop-work orders and remediation directions effectively; for example, with the illegal clearing of vegetation. Remediation directions can be issued immediately and prevent the person from gaining a commercial benefit from the clearing works.

5.4.7 Risk based licensing

NSW divides up our 3,000 pollution licenses into high and low risk activities, with only 25 percent in the high risk category. We manage the high risk activities proactively with investigations and improvement programs and we manage the low risk ones reactively, mainly responding to public complaints or obvious issues. We expect the low risk licensees to manage their activities responsibly and we take firm action if we find breaches.

5.4.8 Pollution Reduction Programs

NSW uses Pollution Reduction Programs as a license condition to require improvements within specified time frames. Such conditions are generally agreed upon with the licensees, but can be imposed if necessary. For larger industries with multiple problems, we prioritise the issues and work over longer time frames. For example, we required five year Pollution Reduction Programs, over a 25 year time frame, on an older steel industry to complete all the retrofit work needed to transform this large plant into a high-quality, modern steelworks. All Pollution Reduction Programs are on a public register on the Department of Environment and Climate Change website.

5.4.9 Polluter liability

NSW ensures its legislation places the onus on the polluter, holding directors and managers culpable for breaches, along with the corporate entity. For example, our waste legislation places liability on those who generate, transport, or dispose of waste. Also, our contaminated land legislation places the liability on the original polluter and moves through a hierarchy to the current land owner or mortgagor. Government assistance is provided if the original polluter(s) no longer exist and the land owner has no financial means to clean up the contamination. This approach has saved the NSW Government hundreds of millions of dollars where past polluters have been required to clean up contaminated sites.

5.4.10 Voluntary approaches

In addition to voluntary pollution audits, NSW legislation permits voluntary remediation agreements for contaminated sites. In practice we often permit voluntary environmental improvements for minor issues where we have the confidence they will be completed, rather than use our regulatory powers to require them.

5.5 Economic Instruments and Market Based Measures

NSW has been developing and using innovative economic instruments for over twenty years and these are used in conjunction with other compliance measures. Economic tools drive either prices or quantities of regulated activities to provide economic incentives for companies to further reduce waste and emissions beyond minimum compliance. They can better influence action on cumulative impacts that traditional regulation has not been able to solve. Examples of successful economic instruments include:

5.5.1 Load Based Licensing

Load Based Licensing was introduced in the early 1990s to set license fees proportional to the degree of environmental impact. Load reduction agreements

provide an additional incentive by allowing licensees to commit to future works and avoid the increased fees while those measures are being implemented. They have to repay the fee savings if they fail to meet their commitment.

5.5.2 Tradable Emissions

NSW has been developing cap and trade emission schemes since the early 1990s. For example, the Hunter River Salinity Scheme sets a total allowable emission level for the river, and allows companies to trade emission entitlements to minimise corporate costs. Trading now occurs across the internet with minimal administrative burden on Department of Environment and Climate Change or industry, resulting in acceptable salinity level in the Hunter River that was difficult to achieve in the past when we relied on command and control approach with individual companies.

5.5.3 Waste Levy

This has been a key economic tool since the 1970s for waste reduction in NSW. It is simple to apply, readily understood, and broad in coverage. A levy of \$AU37 per tonne is charged for disposal of waste to landfills in Sydney. This provides incentives to recycle waste and, more importantly, achieve better resource conservation in the first place. Money collected accumulates in an Environmental Trust Fund and is used to fund innovative waste reduction programs and other environmental initiatives.

5.5.4 Biocertification and Biobanking

NSW has lost important natural biodiversity as a result of cumulative land developments. Laws to protect biodiversity have been partially successful in slowing down the loss, but the pressure of individual developments has continued to see further erosion of biodiversity. Recent legislation in NSW to improve and streamline biodiversity protection for new land developments now provides better biodiversity outcomes through biocertification of large land areas, rather than individual developments, and a biobanking scheme. The biobanking scheme allows developers to buy and sell biodiversity credits so that when biodiversity is destroyed in a development, there is an equivalent amount of biodiversity protection achieved.

5.5.5 Environmental Offsets

NSW uses environmental offsets where a better and more cost effective environmental outcome can be achieved than by traditional regulation. For example, it was costing sewage treatment operators approximately \$AU10,000 for each additional kilogram of phosphorus reduction in a river in Sydney, but NSW discovered that phosphorus could be reduced for \$AU500 a kilogram from other cumulative urban sources (*e.g.* runoff from nearby market gardens). NSW licenses

now require additional phosphorus reductions from the sewage treatment plants, and allow this to be achieved through an accredited offset scheme with other landholders. Offsets are best suited to localized impacts and are not suitable for acute or toxic emissions. NSW requires that all practical measures to minimise environmental impacts be first undertaken before permitting offsets.

6 CONCLUSION

NSW has recognised the importance of reducing the unnecessary burden of environmental regulation on industry and government while increasing cost effective regulation to solve the outstanding environmental problems. We have tried many approaches to environmental compliance over 40 years, evolving from traditional command and control regulation to a sophisticated mix of regulatory and economic tools. Over the last decade, the population of NSW has increased by 10 percent and the economy has expanded by 40 percent, while spending on environmental management has increased by only two percent. The environment continued to improve during this period.

Our experience shows that it is important to be flexible and to pick the most cost effective approach to the problem at hand. We seek to continually improve our regulatory compliance approaches through updating our legislation and continuously working to improve environmental compliance and enforcement.

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TRACK B: DETECTING NONCOMPLIANCE

OFF THE RAILS: THE ENVIRONMENTAL ENFORCEMENT CHALLENGE OF CANADA'S RAILWAY INDUSTRY

DUNCAN, LINDA¹ and NOWLAN, LINDA²

¹ International consultant, Environmental Law and Policy, former Chief Enforcement, Environmental Protection, Environment Canada and Head, Law and Enforcement, North American Commission for Environmental Cooperation, 9816-90 Avenue Edmonton AB T6E 2T1, Canada ,duncan@telus.net

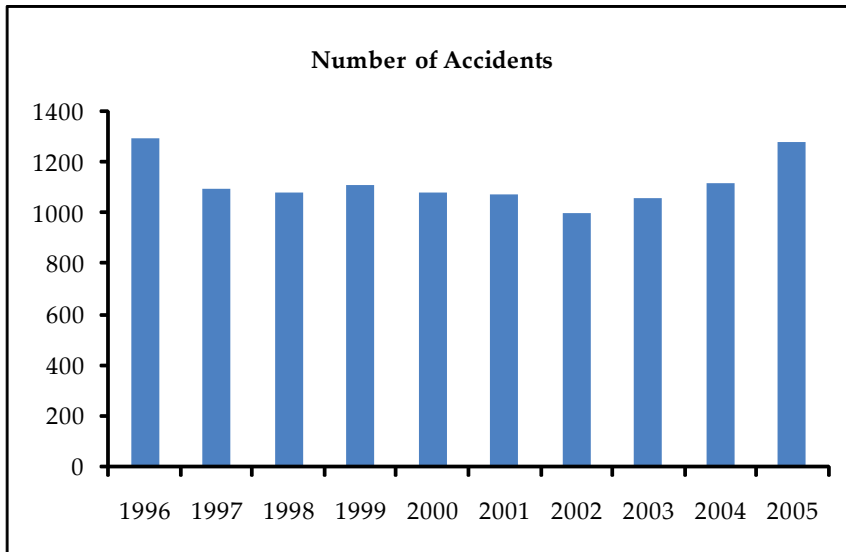
² Faculty Research Associate, Program on Water Governance, IRES and Department of Geography, IRES-UBC, 439-2202 Main Mall, Vancouver, BC V6T 1Z4

SUMMARY

Consistent and effective enforcement of Canadian environmental laws related to rail transportation and dangerous spills is currently a major issue and will become even more pressing in the future given the enforcement challenges posed by projected increased rail traffic in dangerous materials. Key barriers to more effective and cooperative enforcement of overlapping laws regulating environmental and health risks associated with Canadian railways include: a jurisdictional morass around rail regulation; an emphasis on fast-tracking transboundary shipments of goods across provincial and international boundaries, including servicing the growing North American-Asia trade; existing challenges faced by inspection and enforcement officers in tracking and responding to transboundary movement of goods; a trend towards self-inspection and-reporting and voluntary compliance for all industry sectors, but particularly evident in the rail industry; and inconsistent enforcement policies/enforcement responses occurring across regions of Canada and also across the US/Canada borders.

1 THE ENVIRONMENTAL ENFORCEMENT CHALLENGE OF CANADA'S RAILWAY INDUSTRY

The Canadian rail industry poses significant challenges for local enforcement officials confronted with dramatic increases in derailments and spills damaging sensitive waters in recent years. In 2005, 1248 rail accidents were reported, a 10% increase from a 2004 total of 1138 and an 18% increase from the 2000-2004 average of 1055. A reported 17% of accidents in 2005 involved toxic or dangerous freight.¹

Figure 1: Rail Accidents in Canada, 1996-2005

Source: Transportation Safety Board of Canada

A 2006 investigative report by the *Toronto Star*, one of Canada's largest newspapers, examined a decade's worth of accident reports filed by the federal Transportation Safety Board and found that "Canadian freight trains are running off the rails in near record numbers and spilling toxic fluids at an alarming rate, but only a tiny fraction of the accidents are ever investigated."² That same year, Canadian National Railroad Company experienced a 36% increase in main-track derailments. These statistics, coupled with the investigation reports on two recent major train derailments indicate serious problems with the Canadian rail safety regulatory and enforcement regime. Absent action to address these deficiencies, environmental and health risks posed by this transboundary sector appear slated to increase.

Railroads were the driving force behind Canada's Confederation. Railways historically relied on coal driven engines that required water, resulting in the construction of railroad lines along rivers and lakes. Canada today has 73,047 kilometers of railway tracks across the country posing a significant potential environmental risk from derailments and spills.

Consistent and effective enforcement of Canadian rail transport and spill laws can be anticipated to face increasing challenges into the future given the many barriers and constraints including:

1. the jurisdictional morass around rail regulation including the jurisdictional split between the federally regulated railroad industry and the shared responsibility for environmental enforcement and emergency response;

2. the limited powers of environmental enforcers to address rail accidents;
3. strong policy support for fast-tracking transboundary shipments of goods across provincial and international boundaries, to service the growing North American and Asia-Pacific trade markets;³
4. already documented challenges faced by inspection and enforcement officers in tracking and responding to transboundary movement of goods;⁴
5. a growing trend towards self-inspection and-reporting and voluntary compliance for all industry sectors, particularly evident in the North American rail industry;⁵ and
6. inconsistent enforcement policies/enforcement responses occurring across regions of Canada and also across the US/Canada borders.

Taken together, these factors significantly diminish the ability of federal and provincial environmental enforcers to take effective action to prevent derailments and spills and to ensure timely emergency response action thus increasing the probability of continued environmental degradation from rail spills.

This paper outlines the enforcement challenges experienced by Canadian enforcement officials during two recent derailments and spills in two bordering provinces mere days apart. These incidents reveal not only wide discrepancies in enforcement responses across regions, but provide concrete evidence of the major challenges facing the regulators and enforcers by this growing North American transboundary industry.

1.1 Two Environmental Disaster Derailments, Two Responses

Despite the existence of a Canadian federal regulatory regime for rail safety and federal and provincial emergency and spill response laws, protocols and environmental compliance and enforcement policies, the failed response by industry and government alike to two separate Canadian National Railroad Company freight train derailments resulted in spills of hundreds of thousands of litres of toxic chemicals causing significant environmental damage. The failure to prevent such incidents or contain environmental damage has drawn attention to deep founded institutional problems with rail safety in Canada. The following two cases taken alone demonstrate significant variability in actual on-the-ground enforcement practices and cross- jurisdictional failures to effectively regulate and enforce this transboundary sector.

Lake Wabamun Spill, Alberta

On August 3, 2005, 43 cars of a Canadian National Railroad Company freight train derailed and spilled 730,000 litres of Bunker C oil and 88,000 litres of pole treating oil into Lake Wabamun, a major recreational area near the province of Alberta's capital city, Edmonton. The lake also provides cooling water for the provinces major electricity generating plants. About a third of the Bunker C oil has not been recovered from the lake. More than 530 migratory birds were oiled, including

loons, geese, and osprey and nesting ground for the Western Grebe, a provincially listed endangered species.

Health advisories issued against swimming, boating or use of the lake water remained in place for more than a year. The Alberta Government issued a number of Environmental Protection Orders⁶ directing spill containment, remediation and monitoring actions. Provincial authorities have filed one charge against Canadian National Railroad Company under the provincial *Environmental Protection and Enhancement Act* for failure to take all reasonable measures to remedy and confine a spill. The maximum penalty on conviction is \$500,000. No charges have been brought by federal agencies despite clear evidence of violations under federal laws including the *Migratory Birds Convention Act* and the federal *Fisheries Act*. The limitation date for charging for summary conviction offences expired August 2007.

Cheakamus River Spill, British Columbia

On August 5 2005, a Canadian National Railroad Company freight train derailed about 30 kilometers north of Squamish, British Columbia, dumping 41,000 liters of sodium hydroxide, commonly known as caustic soda or lye into the Cheakamus River Canyon, instantly killing more than 500,000 adult and young salmon, steelhead, trout, lamprey and other species. Prior to the spill a fish recovery program had just succeeded in restoring a threatened salmon population. Two days before the two-year limitation period expired in August 2007, two charges were filed by Justice Canada against Canadian National Railroad Company under the federal *Fisheries Act* and three charges under the B.C. *Environment Management Act*. An expensive restoration effort is still underway by the Canadian National Railroad Company. The Company could pay up to \$5 million in fines if convicted. In November 2007, Transport Canada finally ordered Canadian National Railroad Company to reduce train lengths along this mountainous corridor.

Aboriginal and environmental groups say it will take millions to restore fish wiped out by the spill. Canadian National Railroad Company has reportedly committed about \$3.5 million toward clean-up efforts for this spill to date. Less than two weeks after the Cheakamus River derailment, Canadian National Railroad Company donated \$250,000 to the Pacific Salmon Foundation for a local watershed salmon-recovery program.

2 CONSTRAINTS TO EFFECTIVE ENVIRONMENTAL ENFORCEMENT FOR RAILWAYS IN CANADA

2.1 Jurisdictional Morass

In Canada, jurisdiction over rail traffic, accident response and clean up is spread over numerous agencies within the federal and provincial governments. While the construction and safe operation of railroads is an area of federal responsibility, federal and provincial governments share jurisdiction over transportation of dangerous goods and emergency response and clean up. Regardless of legal

powers, emergency response is viewed by the governments as primarily a provincial responsibility.⁷

The fact that provincial environmental enforcement agencies can't even require the federally regulated railroad companies to have an emergency response plan in place means that the onus falls to the federal government to ensure that consistent strict requirements are imposed, regularly updated and recalcitrant operators punished.⁸ The dilemma lies partly in the balance of power: Transport Canada regulates the industry and the Transportation Safety Board investigates accidents, while the relatively powerless provincial (and federal) environment agencies mandate is limited to responding to spills and laying charges for environmental damage. The latter is made more challenging by the decision to preclude use of Transportation Safety Board reports as evidence.

The credibility of Transportation Safety Board reports have been challenged due to their policy of circulating their draft investigation reports to the rail companies before publicly releasing final reports. As rail condition monitoring is done for the most part by the railroads, investigators rely on these self monitoring reports.

While they provide far greater penalties, federal laws, including rail laws and environmental protection laws, are rarely used as a basis for prosecution. With a few exceptions in some regions, the federal government takes a back seat to the provinces in bringing charges. The Toronto Star found that Transport Canada "is either unable or unwilling to prosecute the railways, with five convictions from seven prosecutions since 1999 under the Railway Safety Act, a span that includes 7,658 accidents. The penalties have totaled \$168,000 in fines, according to Transport Canada."⁹

2.2 Fast Tracking Transboundary Transport of Goods

Significantly increased rail traffic is projected across Canada and the United States east to west to serve the burgeoning North American trade with Asia. The Pacific Gateway Strategy calls for strengthened support to trade in the Asia-Pacific market.¹⁰ More rail service is planned to service the expanding west coast ports, including the expanded port in Prince Rupert, BC. The Canadian National Railroad Company also touts rail transport routes between US the eastern seaboard and Asia via Alberta and British Columbia as more cost efficient options. Another prominent factor is the planned increase in rail traffic which will serve the massive tar sands and bitumen upgrader developments in northern Alberta. Two major rail yards and expanded rail lines are in the works.

2.3 Embracing Self-Reporting and Voluntary Action

Increased reliance on industry self-reporting and voluntary compliance is a growing trend across Canadian enforcement agencies, often with detrimental results for the environment.¹¹ Consistent with this trend, the federal *Railway*

*Safety Act*¹² was amended in 1999 giving railways the power to implement Safety Management Systems to integrate safety into day-to-day operations, a move condemned by rail workers and others concerned about this apparent conflict of interest whereby the railways themselves would decide if they were in compliance.

Under this system, railways prepare safety reports which are audited by Transport Canada. Fewer inspections and spot checks are performed. The Toronto Star's investigation found that since this new safety protocol was introduced in 2001, Transport Canada has performed only one audit each of Canada's major rail companies Canadian National Railroad Company and Canadian Pacific Railway. The Canada Safety Council has blamed deregulation for the increase in spills, identifying the Safety Management Systems policy change as an end to the oversight role of Transport Canada.¹³ Labour organizations have also been vocal in their opposition to this policy.¹⁴ Environmental organizations also decry Canadian National Railroad Company's 'blasé' attitude towards spill prevention and call for stricter enforcement.¹⁵ Consistent with this philosophy, and to the chagrin of affected public, Canadian National Railroad Company was made the designated lead and point of contact for the Wabamun spill.

2.4 Inconsistent and Half-hearted Enforcement

Possibly the most important barrier to effective enforcement of rail safety and spill laws is lack of consistent enforcement policies across provincial and international borders.

The compliance and enforcement policy for the federal *Fisheries Act*, arguably Canada's strongest environmental law, "sets out principles of fair, predictable, and consistent enforcement that govern application of the law, and responses by enforcement personnel to alleged violations. This Policy also tells everyone who shares a responsibility for protection of fish and fish habitat—including governments, industry, organized labour and individuals—what is expected of them."¹⁶ Yet as the Alberta and BC derailment cases demonstrate, enforcement responses are inconsistent in the two adjacent western regions.

While federal officers in B.C. have a history of bringing charges, this response contrasts sharply with neighbouring-province Alberta where Environment Canada has limited its role to providing scientific and technical support to first responders. In the mid 1990s the department cut its emergency response budget by 40% (www.ec.gc.ca/ee-ue/respond/response_e.asp). The Transportation Safety Board investigation report on the Wabamun spill was not issued until two months past the limitation date for summary charges. While the Transportation Safety Board reports are not admissible in court proceedings, the rail inspection expertise is housed in the Transportation Safety Board and their findings are therefore critical to environmental enforcement authorities.

Harmonization talks surrounding import and exports have tended to focus on ports, rather than rail transport. A North American Commission on Environmental Cooperation study on environmentally sound management of hazardous waste which sought to improve the tracking of the imports and exports of hazardous waste between the NAFTA countries, failed to address the cross border rail industry.¹⁷

3 ACTION NEEDED TO ADDRESS THE CANADIAN RAILWAY ENFORCEMENT CHALLENGE

Prompted by repeated calls for public review of what critics dubbed “the ticking time bomb” of rail safety, two separate federal bodies and one provincial body were mandated to study the issue: an expert panel appointed by the Minister of Transport is due to report on its review of the *Railway Safety Act* in Feb 2008,¹⁸ and a Parliamentary Committee is also poised to issue a report following its study of rail safety.¹⁹

Post the disastrous Wabamun spill, the Government of Alberta convened a special Commission tasked to review the province’s ability to respond to environmental incidents.²⁰ The Commission identified significant shortcomings in the government capacity, including the need to take decisive steps to improve jurisdictional collaboration, coordination and cooperation, in particular as risks to health and the environment have to be minimized as an ever-increasing volume and diversity of goods are transported across the province. The Commission identified the need for a stronger role in the Alberta government to provide oversight and response capacity. Most profoundly it advised that “government cannot privatize public safety.” Yet despite widespread recognition of the need to clarify and coordinate overlapping jurisdiction and responsibility for railroads and emergency response, even these reviews proceeded independently, not as joint initiatives.

The Transportation Safety Board²¹ investigation reports, released two years after the Wabamun and Squamish spills, identify similar serious and continuing operating and regulatory and enforcement deficiencies: over reliance on outdated and ineffective inspection technologies; lack of funds to explore improved detection equipment; a discrepancy in standards for exiting and maintenance rails increasing the risk of defects and derailments; inadequate labeling and reporting of potentially hazardous loads; and, inadequate emergency response planning, training and supervision. Many of the same problems were reported by the Transportation Safety Board twelve years earlier.

It is also noteworthy that the derailment occurred despite the fact that the Canadian National Railroad Company conducted inspections for the Wabamun area track were five times more frequent than the *Rail Track Safety Rules* require—reportedly only one inspection per year for internal defects. None of the inspections conducted by Canadian National Railroad Company in the year of the derailment identified any problem with the track. The Transportation Safety Board

recommends that due to known limitations of monitoring technology, reduced accidents can best be achieved through stricter requirements for replacement rails. No rule changes have yet been made and the train traffic continues past Lake Wabamun and the Cheakamus River.

As early as 2002, Transport Canada issued a Notice and Order to Canadian National Railroad Company rail citing recurring reports of unsafe practices-inaccurate car counts, car sequences, train lengths and tonnages. Commitment by Transport Canada to stronger enforcement measures could prevent derailments and reduce the need for costly interventions by emergency response and environmental enforcement officers.

In summary, post incident analyses of these two incidents reveal significant challenges faced by environmental enforcers in effectively responding to the growing incidence of environmental violations associated with derailments. Equal commitment by governments on both sides of the border to stricter enforcement would significantly improve compliance with transport laws and reduce response costs of derailments and spills. The upcoming reports from Transport Canada's independent expert review panel and the Parliamentary Transport Committee again have the opportunity to recommend changes to railway enforcement procedures, and more importantly to require a response on when and how enhanced enforcement procedures will be implemented.

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³ The recent purchase by Bill Gates of a major interest in Canadian National Railroad Company is an indication of the growing value of the sector.

⁴ Tracking and Enforcement of Transborder Hazardous Waste Shipments in North America; A Needs Assessment, Report of the law and Enforcement Cooperation program of the Commission for Environmental Cooperation (CEC, 1999, Montreal).

⁵ Supra n. iv.

⁶ EPO-2005/12-CR.

⁷ The Harmonization Accord of the Canadian Council of Environment Ministers provides that the "best situated" authority is responsible for inspection and enforcement. In practice the decision on who responds varies considerably across the regions.

⁸ A significant reason for the extent of damage to Lake Wabamun is the complete lack of preparedness to contain Bunker C oil either on the part of the company and the governments and no system in place to rescue wildlife.

⁹ David Cooper, "Freight train accidents soar " Toronto Star, March 6, 2006.

¹⁰ Transport Canada Media Advisory, November 4, 2005.

¹¹ Mark S Winfield (2007). Governance and the Environment in Canada From Regulatory Renaissance to "Smart Regulation". Journal of Environmental Law and Practice, 17(2), 69-83 and Jerry V DeMarco, Toby Vigod. (2007). Smarter Regulation: The Case for Enforcement and Transparency. Journal of Environmental Law and Practice, 17(2), 85-113. Conversely, strong regulations and effective enforcement have been shown to reduce pollution: Peter K. Krahn, "Enforcement versus Voluntary Compliance: An Examination of the Strategic Enforcement Initiatives Implemented by the Pacific and Yukon Regional Office of Environment Canada 1983 to 1988" In Fifth International Conference on Environmental Compliance and Enforcement proceedings, Volume 1 (Monterey, US, US, 1998).

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¹³ Letter from Safety Council to the Railway Safety Review Panel, May 28, 2007: "..., The Safety Management System (Safety Management Systems) introduced to the railways eight years ago entailed a reduction in regulatory oversight. The years since Safety Management Systems was put into place have seen an alarming increase in serious rail incidents involving fatalities, injuries, damage to the environment and economic losses...." <http://www.safety-council.org/news/media/letters/2007/May28-railway.html>.

¹⁴ For example, the submission from the Teamsters Canada Rail Conference, Provincial Legislative Board of Ontario to the Railway Safety Act Review Panel, August 2007, states " It is felt that the majority of railway employees in Ontario as well as management in some cases, are at a loss as to how safety management systems work." http://www.tc.gc.ca/tcss/RSA_Review-Examen_LSF/Submissions-Soumissions/TCRC-ON.pdf

¹⁵ "Federal Environment Minister Stéphane Dion must state clearly that Canadian National Railroad Company – a federally regulated corporation – will be prosecuted to the full extent of the law. Perhaps then Canadian National Railroad Company will not be so blasé about its responsibilities to clean up these water bodies and prevent future spills." Sierra Club of Canada News Release, Tuesday, August 9, 2005.

¹⁶ Compliance and Enforcement Policy for the Habitat Protection and Pollution Provisions of the Federal Fisheries Act <http://www.ec.gc.ca/ele-ale/default.asp?lang=En&n=D6765D33-1>.

¹⁷ CEC *Crossing the Border: Opportunities to Improve Tracking of Transboundary Hazardous Waste Shipments in North America* OCTOBER 2005 The objective of this report is to describe the current hazardous waste information tracking procedures and systems used by each of the North American Free Trade Agreement (NAFTA) countries for transboundary hazardous waste shipments and to recommend ways to improve cooperation within North America on the trans- boundary tracking of these wastes.

¹⁸ In December 2006, the Minister of Transport announced the Railway Safety Act Review. undertaken by an independent four-member panel that does not include any rail union representative: http://www.tc.gc.ca/tcss/RSA_Review-Examen_LSF/toc_e.htm.

¹⁹ The Parliamentary Standing Committee on Transport, Infrastructure and Communities (TRAN) began its study of Rail safety in Canada in October 2006, two months before the Minister of Transport's panel was appointed. There has been little coordination of these two parallel investigations,. The chair of the TRAN Committee expressed his view that: "I would be hopeful that before the minister takes final action on the panel's recommendations, he would come before this committee so that we can complete our report and make any comments that we wish to make." http://cmte.parl.gc.ca/cmte/CommitteeHome.aspx?Lang=1&PARLES=392&JNT=0&SELID=e22_1&COM=13202&STAC=2238700.

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TECHNOLOGICAL DEVELOPMENTS FOR ENVIRONMENTAL MONITORING

HAYES, LADSON¹, PORTEOUS, GRAHAM² and ZHOU, TAO³

¹Director, Advanced Computer Engineering Laboratory, Electronic Engineering and Physics, University of Dundee, Perth Road, DD1 4HN Dundee, United Kingdom. l.w.b.hayes@dundee.ac.uk

²Director, Aberdeen Technical Services, Raik Road 6A, AB11 5QL Aberdeen, United Kingdom. graham@aberdeentechnical.co.uk

³Knowledge Transfer Associate, Electronic Engineering and Physics, University of Dundee, Perth Road, DD1 4HN Dundee, United Kingdom. t.zhou@dundee.ac.uk

SUMMARY

New software and digital hardware technologies combined with the utilisation of Ethernet, the Internet Protocol, and wireless mesh based networks provides the opportunity for monitoring activity at almost any location in the world from any other location in the world. The essential limitation is the availability of power at the location to be monitored, and not the communications infrastructure that might be present there.

This paper considers the promise and applicability of the use of recent video technologies for deterrence and evidence gathering of environmental compliance, from the perspective of in house experience. The central theme of this perspective is that intelligent approaches to the gathering of video data are essential in order to avoid being swamped with data that may not merit analysis or storage.

1 DETERRENT EFFECT OF ENVIRONMENTAL MONITORING FOR ENFORCEMENT

Automated video monitoring represents a source of environmental intelligence, allowing the collection of statistical descriptors of salient events, and improved utilisation of resources. The availability of such data may contribute to the strengthening of enforcement systems, but the premise of this paper is that the video monitoring process will have an important contribution to make to deterrence.

A review of empirical research on the effectiveness of monitoring and enforcement of environmental policy in deterring individuals and firms from violating environmental laws or achieving an improved level of environmental performance is presented by Cohen.¹ Studies reported by Cohen show that increased government monitoring and increased enforcement activities resulted in reduced pollution and/or increased compliance with existing laws. Cohen alludes to the limitation of the

performance measures used in environmental deterrence research investigated in that most performance measures used were self-reported. Further, Cohen notes that a finding that increased monitoring leads to increased compliance does not tell us if the marginal cost of increased monitoring is out-weighted by the benefits of increased compliance.

This paper outlines recent technological developments that facilitate the routine gathering of video data for environmental monitoring purposes. These developments are timely because the cost reductions now afforded to the gathering and analysis of the data may enable the *routine* use of video data as deterrence.

2 TECHNOLOGICAL ADVANCES IN VIDEO MONITORING

2.1 Remote Video Monitoring

Remote video monitoring is an enabling ability, which allows monitoring agents to manage and view data from an entire network of video devices from a remote location, quite possibly substantially removed from the site. This is a significant step beyond local alarm monitoring and event management because it allows the observers to be quite removed from the focus of interest, while providing live or archival coverage and visual confirmation of an incident or event.

Detracting from video monitoring, remote or local, are the issues of having to deal with overwhelming quantities of data and the often mind-numbing monitoring staff must perform. Technological developments, largely associated with the availability of inexpensive video acquisition systems and cheap processing of the data that they produce, now allow for the routine 'intelligent' processing of multiple video streams without operator intervention, identifying and recording incidents and events.

2.2 Intelligent Video Monitoring

Intelligent video monitoring embraces the automation of much of the monitoring activity and the archival of only those incidents identified to be of interest. The monitoring activity is intelligent and automatic, intervention being required only for those incidents that may not be classified by the automated process. The available technology is not yet flawless, with some incidents being missed altogether, or producing false-positive, and indeterminate results. In many situations this sub-optimal performance of automated systems is obviously a problem, but in a climate of deterrence, inevitable failings of the system are not a show-stopper.

The contention in this paper is that automated video analysis technology is now sufficiently mature to deliver real value in some environmental compliance applications. Where enforcement and legislative procedure require, human judgement can be bought to those instances where the automated system is inadequate. An important idea here is that the application of this human judgement

is facilitated by the automated system being able to highlight incidents and events of interest or uncertainty.

Attitudes are evolving as awareness about the benefits within the limitations of the available technology builds. The extreme view was that it was assumed that video technology could be used to replace staff, but this is true only in the sense that there are limits to the number of cameras/video streams a human can reasonably monitor.

There are limits on a computer's ability to discern successfully real incidents from benign changes in the natural environment, and in consequence, automated video analysis technology is often used to assist operational staff with the mundane elements of the monitoring activity. Indeed the processing algorithms are sometimes purposely set to deliver a high rate of alerts and alarms for human decision-making. Our experience is that it is really the role of the staff that changes. As the technology increases human effectiveness by automating video monitoring to a larger and larger degree, an increasing number of cameras are able to be managed effectively.

2.3 Intelligent Algorithms for Video Analysis

Intelligent video analysis is often triggered by motion detection. Motion detection is a fairly mature technology that is often provided free, or integrated within many video acquisition devices. The general approach to motion detection is simply to measure the number of pixels that change between successive video frames. It is usually possible, and sometimes a requirement, to set the level of alerting, perhaps if 15% of the pixels change from frame to frame. A further refinement may enable the definition of the amount by which a pixel needs to change before a 'real' change is indicated: perhaps more than 10% of its previous value (after normalisation). Many of the recent advances in intelligent video processing are built on complex algorithms that identify and filter out video "noise" that presents in the form of unimportant pixel changes. Regular motion detection has clear limitations when used outdoors, for example when trees and bushes blowing in the wind might trigger false alarms. There has, accordingly, been substantial development to avoid false alarms and to produce more robust algorithms. Such algorithms sometimes rely on the classification of shapes and objects in the field of view once a significant change in pixels is detected. Different algorithms use different methods to differentiate and classify shapes and objects, as appropriate for particular applications. The classification in turns leads to the possibility of developing a profile of the normal behaviour of the object, and an alert may be generated or recording is commenced only when the behaviour of the object departs from the normal profile. Indeed much of the effort in setting up an intelligent system for the automated analysis of video is in developing an appropriate profile of the object(s) of interest.

Through the use of profiling software, monitoring agencies are able to more easily track unexpected and questionable activities. Output may take the form of reports ranging from a count of the number of incidents in a time-period through to assisted retrieval – perhaps in the form of a web link – of all incidents in chronological order.

Historically, incidents would require to be observed in real-time by personnel monitoring the video feeds. The important distinction is that measurements and statistics may now be obtained without operator intervention.

More than the availability of inexpensive video cameras, the recent drop in prices of pan-tilt-zoom -capable cameras has made pan-tilt-zoom functionality more commonly available. pan-tilt-zoom functionality increases possibilities for the intelligent automated analysis of incidents as pan-tilt-zoom (and static 360° cameras) may be programmed to automatically zoom in and follow a particular object once it has been detected. Algorithms have been developed that will latch on to an object and follow the object through complex environments. In instances of cross-over and temporary obscuration of the object algorithms are available to predict where the object will be, and in the event that the object does not reappear as anticipated, to back off and look for the object in the wider scene.

2.4 Management

Instead of disparate video monitoring systems, which are monitored locally, a remote monitoring network may be configured to support a wide-area monitoring facility. The data store, or data stores, may be linked to a management network to provide functional requirements such as simultaneous multi-site monitoring and the retention of archival data, video recording and playback, bi-directional communication (*e.g.* pan-tilt-zoom commands) and the distribution of real time video to local agencies, as required.

If an alarm is generated, a video image of the site location may be automatically routed to a monitoring agent. Monitoring agents may then visually confirm the nature of the alarm and alert local agencies following verification. The significant change from what has gone before is that the monitoring agent is now concerned only with incident verification, without the requirement for continuously monitoring the video sources.

2.5 Reporting

Real-time analysis enables an alarm and a response, as deployed in traditional CCTV networks. However there is also analysis that monitors the environment over days or months, such as, for example, animal counting, fish catches, bird nests, movement pattern analysis, duration of activities and waiting times between activities, *etc.* The output may be presented in report form, and not necessarily as video data although this may be retained for evidential use.

In addition to statistical summaries generated daily, weekly or monthly, reports may contain web hyperlinks to video and still images providing visual documentation of events captured. Weekly summaries of an activity at a particular location may be sent by e-mail.

2.6 Smart Cameras

Modern video cameras feature monitoring enhancements such as megapixel image quality, built-in motion detection, alarm management, web-enabled controls, and encryption for secure communication. A more recent trend is to run the video analysis on the video acquisition device itself, with the advantage that the entire video stream does not require transmission over the network for processing, with only significant events being sent over the network for storage.

These 'smart cameras' perform the video processing directly inside the camera to create an all-in-one embedded device.²

3 CONCLUSION

Early adopters of the intelligent video technology were big enterprises and high-risk environments such as governments and transportation, particularly airports. There was also significant uptake in the banking sector, where security issues are a particular consideration.

As the use of video for monitoring grows and matures, intelligent video analysis will become routine and may even be bundled into cameras as an integral part of their operations. Where an extensive network, of video cameras already exists, these are able to be added to an intelligent processing network for less than the cost of purchase and installation of replacement systems.

Intelligent video analysis will facilitate the audits of large-scale, 24/7 monitoring operations, contributing to both deterrence and evidence gathering in environmentally sensitive locations. As such, intelligent video analysis has an important contribution to make to the monitoring of environmental compliance.

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INTERVENTION STRATEGY

LANKHORST, HESTER KLEIN¹

¹ Head of the Policy and Strategy Department, Ministry of Housing, Spatial Planning and the Environment, VROM Intelligence and Investigation Service, St. Jacobsstraat 135, 3511 BP Utrecht, The Netherlands, hester.kleinlankhorst@minvrom.nl.

SUMMARY

The Intervention Strategy is a method for getting the most effective and efficient mix of instruments for attaining compliance. In this strategy, criminal investigation is not considered as a separate or extra instrument, but as an integrated part of the mix. When gathering this mix of instruments, one has to take into consideration the specific circumstances that apply to the case. This way the purpose of the regulation can be attained at minimum costs.

1 INTRODUCTION

“Think before acting” is the underlying idea of what is referred to by the Dutch Inspectorate of the Ministry of Housing, Spatial Planning and the Environment (the Inspectorate) as the “Intervention Strategy.”¹ This article will first generally review this strategy. Second, two practical examples are addressed, extracted from experience of the VROM Intelligence and Investigation Service, which is part of the Inspectorate.

2 THE INTERVENTION STRATEGY OF THE INSPECTORATE

The Intervention Strategy consists of a systematic approach for attaining maximum compliance. Through this approach, one can obtain the maximum effect in achieving the purpose of government policy with the most limited costs. These costs can be both material and immaterial. The Intervention Strategy is part of the Compliance Strategy, in which the focus is on “doing the right things” (*i.e.*, setting the right priorities). Given these priorities, the Intervention Strategy gives an answer to the question how to do the things right, achieve the purpose of the regulation, and achieve maximum compliance at limited costs.

The objective of the Inspectorate is that relevant addressees follow the policy, rules, and regulations of the Ministry. The safety and sustainability of the Dutch society – and also of other societies that accept Dutch exports (such as waste) - is best protected when compliance is widespread. Consequently, one must attempt to alter the attitude of the potential offender.

The Intervention Strategy focuses on developing the most effective approach to increase compliance, including reaching this goal with limited material and

immaterial costs. How can one get the optimum of interventions? The selection within the instruments of the Inspection, (*i.e.*, enforcement or criminal investigation) depends on the statutory regulation, the nature of the problem, the purposes in mind, and the typification of the addressees. One has to remember that there is not an ideal mix of interventions in all cases, but it is dependent on the different circumstances. Nevertheless, one could define a strategy of a few steps that should lead to this ideal mix.

When the problem is identified, one has to determine the target group. Common specifics need to be determined, such as the number of companies within the sector, the average company size, the financial perspective, and the (non-)existence of an influential association within the sector.

To find out how the target group is composed, one has to analyse the group and find out the motives for non-compliance. This is done in a systematic way, by what is called a T11-test.² This test is a model based on behavioural sciences, consisting of eleven dimensions. Together, these dimensions are decisive for the level of compliance with legislation. The eleven dimensions are formulated with a view to as high a practicability as possible in the fields of policy-making and law enforcement. The dimensions include the knowledge of the rules, economic profit of non-compliance, acceptance of the rules, and chance to get caught. In expert sessions the dimensions are scored. This makes the T11-test an excellent instrument to find out what motives there exist for non-compliance.

With this study one has identified the characteristic behaviour of the sector. We make a difference between the “not-knowing,” the “unable,” and the “unwilling.” Table 1 shows how these groups can be linked to different interventions. Those who are not aware that they are in non-compliance can be helped by informing them about the legislation (on the other hand, a large group of unknowing compliers can be an indication for superfluous regulation). Those who know about the legislation, but do not know how to cope, can be assisted in the process through what is known simply as “compliance assistance.” Those who do not want to comply (intentionally breaking the law) are the people we focus on with enforcement actions and criminal investigation.

This is a general approach that can be applied to every target group, but it will have different results every time, because of its varying input. The unique point in the strategy is that it takes all kinds of possible interventions together in one coherent approach, without giving more importance to one or another intervention, and focuses on the result that is to be achieved.

Table 1: The Different Interventions Linked to the Specific Circumstances

| | Not knowing | Unable | Unwilling |
|--------------------|---|--|---|
| Inclined to comply | A Informing Pointing out | C Facilitate Pointing out | E Rewarding or “seducing” |
| Inclined to break | B Informing combined with enforcement | D Facilitate combined with enforcement | F Scaring of by more stringent inspections, controls or sanctions. |

3 THE INTERVENTION STRATEGY IN PRACTICE

Since 2007, the VROM Intelligence and Investigation Service, as part of this Inspectorate, has been working with the Intervention Strategy. In general, it is noted that criminal investigation is a very expensive and time-consuming instrument; so applying the Intervention Strategy can be very rewarding. Two examples of how the strategy was applied by the VROM Intelligence and Investigation Service are shown below.

3.1 Example One: Soil Regulation

In 2007, the Inspectorate started with an Intervention Strategy on soil regulation. This regulation was just renewed. It was recognized that the old regulation was diverse, difficult to understand, and easy to ignore. To improve the knowledge of the new soil regulation, the policymakers focused on communication, including the use of workshops (corresponding to phase A and probably B in Table 1).

Too many companies were not able to comply with the old regulations; this was one of the reasons why the policymakers were willing to change the rules (corresponding to phases C and D in Table 1). An aspect of the new regulation is the necessity of having a certificate and a permit for dealing with soil. Thus, in this phase the companies with a certificate are aware of and able to comply with the regulation.

Next, is phases E and F in Table 1. The succeeding step is an “enforcement week” that is held with the whole Inspectorate. In this week, a lot of companies will be visited and evaluated. When an offence of the law is spotted, the inspector will decide whether it is necessary to issue a sanction, do more inspection in the future, or even start a criminal investigation. Additionally, regional teams with administrative inspectors and criminal investigators are active. In these teams, crucial information is shared and it is decided whether the sanction should be administrative or criminal. Only when there are serious environmental offences with a national or international impact a criminal investigation will be started, being the most expensive and most time-consuming instrument.

3.2 Example Two

The Intervention Strategy has also applied to another sector with a structural problem with non-compliance of environmental law, which must not be identified to allow the most effective implementation of the Strategy. Following the initial execution of the Strategy, a large amount of information on a great part of the market was gathered and analyzed. After understanding the ways and motives of non-compliance, the most effective and efficient instruments were chosen. It appeared that the offending companies had to be categorised in section F of Table 1. As a result of the Intervention Strategy, the following actions were set-up:

(1) policymakers needed to strengthen policies and regulations; (2) cooperation with foreign countries needed to be established where inspection and administrative enforcement activities could be implemented; and (3) transporters needed to be asked in writing whether they were aware of the fact that they might be carrying illegal merchandise. Additionally, companies in the sector, among them the companies involved in the illegal trade, will be advised to abandon any legal activity. If non-compliance sustains, companies will lose their permit and/or criminal investigation will be set up.

4 CONCLUSION

Utilization of the Intervention Strategy is an effective and efficient way of implementing the policy of the Minister, resulting in increasing compliance and improving the environment. If one “thinks before acting” the problem of non-compliance will be easier to solve and the purposes of the regulation will be reached at minimum costs. An integrated approach is an essential part of this strategy and no other superior instruments exist.

5 REFERENCES

¹ This article is partly based on the base-document of the Intervention strategy of the Inspectorate of the Ministry of Housing, Spatial Planning and the Environment.

² More information about this instrument can be found using the following web link: http://www.sam.gov.lv/images/modules/items/PDF/item_618_NL_The_table_of_Eleven.pdf.

DOING THE RIGHT THINGS: A STEP-BY-STEP GUIDANCE FOR PLANNING OF ENVIRONMENTAL INSPECTIONS

LIEBREGTS, TONY M.¹ and KRAMERS, ROB²

¹ Project Manager, Netherlands Inspectorate for Housing, Spatial Planning and the Environment (VROM), P.O.Box 29036 , 3001 GA Rotterdam, tony.liebregts@minvrom.nl.

² Senior Environmental Advisor, InfoMil, P.O. Box 30732, 2500 GS The Hague, kramers@informil.nl.

SUMMARY

The European Union's *Recommendation on Minimum Criteria for Environmental Inspections* encourages Member States to enhance their current environmental inspection activities. This includes implementing advanced planning. Practitioners in the EU expressed the need for guidance to help the implementation of the minimum criteria on planning in the Recommendation on Minimum Criteria for Environmental Inspections. A step-by-step guidance book for planning environmental inspections was produced for that purpose. The guidance book describes in detail the steps that have to be taken to successfully develop an inspection plan and the elements that the inspection plan should cover.

1 INTRODUCTION

In 2001, the European Commission adopted the Recommendation on Minimum Criteria for Environmental Inspections, which was aimed at encouraging Member States to improve the quality of their inspection activities. The purpose of the Recommendation on Minimum Criteria for Environmental Inspections is to strengthen compliance with, and to contribute to a more consistent implementation and enforcement of, environmental law in all EU Member States.

The Recommendation on Minimum Criteria for Environmental Inspections establishes criteria for environmental inspections of installations and other enterprises/facilities whose air emissions, water discharges or waste disposal or recovery activities are subject to authorisation, permit or licensing requirements under Community law. These are also known as "controlled installations." All inspecting authorities in the EU Member States should apply these criteria.

The planning of inspection activities is a key requirement of the Recommendation on Minimum Criteria for Environmental Inspections. Planning defines and explains the work a Member State is about to implement, so that the country can perform in an effective, efficient, transparent, and accountable way. The Recommendation on Minimum Criteria for Environmental Inspections is currently being reviewed by the European Commission.

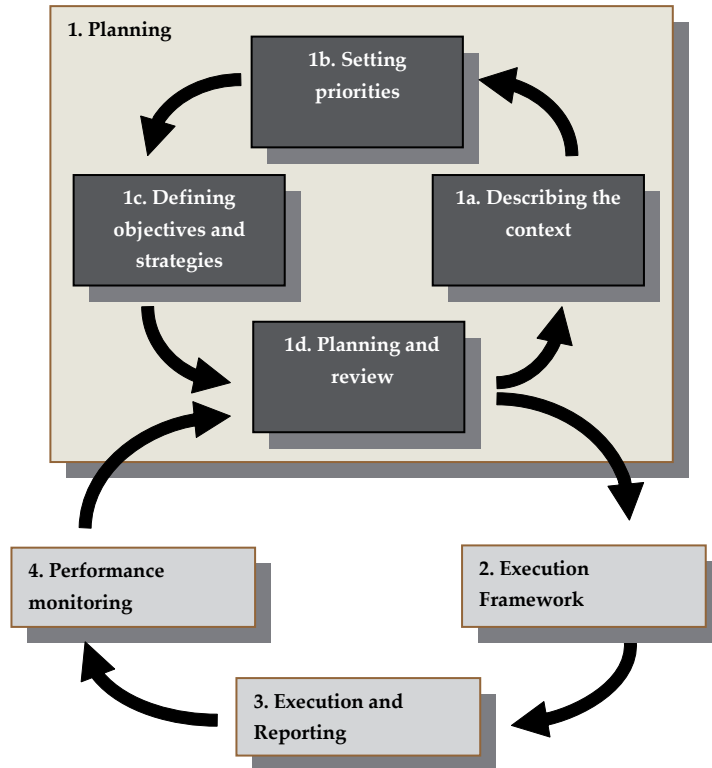
2 DOING THE RIGHT THINGS

The EU Network for the Implementation and Enforcement of Environmental Law is an informal network of the environmental authorities of the EU Member States. Under the project title “Doing the right things,” the Netherlands (Inspectorate for Housing, Spatial Planning, and Environment) developed a step-by-step guidance book for planning of environmental inspections within the Implementation and Enforcement of Environmental Law network. This guidance book was developed to support inspecting authorities in carrying out that difficult task. It helps to pose the right questions and suggests ways for finding the right answers.

The guidance book is based on the concept of the Environmental Inspection Cycle, which consists out of the following seven steps:

1. Describing the context
2. Setting priorities
3. Defining objectives and strategies
4. Planning and review
5. Execution framework
6. Execution and reporting
7. Performance monitoring

In general the Environmental Inspection Cycle (see figure 1) can be described as follow.



2.1 Describing the Context

The first step in this cyclic process is “describing the context” (box 1a in figure 1). During this stage, the inspecting authority evaluates its statutory tasks. This part sets the scope of the inspection plan; in addition, it is necessary to gather information for performing the risk assessment as part of the next step.

2.2 Setting Priorities

The second step is “setting priorities” (box 1b in figure 1). This step starts with a risk assessment that will result in a list of installations or activities that are ranked and classified. Priorities are also established in this set. In other words, items that will get the necessary attention (and how much) are determined.

2.3 Defining Objectives and Strategies

The third step is “defining objectives and strategies” (box 1c in figure 1). Within this step, the inspecting authority identifies inspection objectives and targets. These objectives and targets can be presented quantitatively and/or qualitatively. When it is clear what is to be achieved, one can define or modify the inspection strategies in order to meet these objectives and targets.

2.4 Planning and Review

The fourth step is “planning and review” (box 1d in figure 1). The inspection plan is developed at this stage. The inspection plan covers a defined time period and describes and explains the steps taken in boxes 1a, 1b, and 1c. Part of the inspection plan is an inspection schedule, which may stand as a working annex to the inspection plan, or as a separate document referenced within the inspection plan.

2.5 Execution Framework

The fifth step is “execution framework” (box 2 in figure 1). Before inspections can be executed, one has to make sure that all necessary conditions are met. The appropriate working procedures and instructions, powers and competences, and equipment should be in place.

2.6 Execution and Reporting

The sixth step is “execution and reporting” (box 3 in figure 1). In this step the inspection work is done. The routine and non-routine inspections are executed and reports of findings are written. Data on the inspections that are carried out, and the outcomes and follow-up should be stored in a good accessible database.

2.7 Performance Monitoring

The seventh step of the process is “performance monitoring” (box 4 in figure 1). To ensure that the objectives and targets have been reached, the *output* (were the planned activities carried out?) and the *outcome* (what were the effects of our activities?) must be monitored. This information will then be used for reviewing the plans and for reporting to different stakeholders, for instance the minister responsible, parliament, the general public, the European Commission, and more.

2.8 Following Completion of All Seven Steps

After completion of the seventh step (Performance monitoring), inspectors should return to step four (Planning and review). Based upon the monitoring results, along with possible changes in step one (describing the context), the inspection plan (and schedule) will be reviewed and possibly be revised.

The first four steps of the Environmental Inspection Cycle form the “Planning Cycle” (see figure1). The output of the Planning Cycle is the “Inspection Plan.” As a result, in order to develop the inspection plan, the inspecting authority has to first identify the relevant activities that should be covered by the inspection plan and gather information on these activities. With this information, the inspecting authority can perform an assessment of the risks of the identified activities and assign priorities to these activities. Typical criteria that are taken into account when setting priorities are environmental impact, compliance record, legal obligations

to inspect, national policies, and objectives and available resources. The priorities indicate what activities should get the highest attention. A following step is to define measurable inspection objectives and targets for the activities to be inspected, and to choose the best inspection strategy to accomplish these targets.

All steps contribute to the inspection plan. The inspection plan clearly indicates the time period and area it covers. An inspection plan outlines the context in which the inspecting authority performs its inspections. It describes the mission and objectives of the inspecting authority, its statutory tasks and inspection obligations and (national) policies to be implemented. Further, the inspection plan gives an overview of the priorities that have been assigned and explains why and how these priorities were set. The plan also gives general information on inspection targets, strategies, procedures, and the planned inspection activities themselves. The inspection schedule describes what, where, when and by whom the different types of inspection activities will be executed. The inspection plan and the inspection schedule need to be reviewed and - when appropriate - revised periodically.

3 IMPLEMENTATION OF THE GUIDANCE BOOK

The outcome so far of the project “Doing the right things” was not only the step-by-step guidance book, but the recommendations from the EU Member States that emphasised that the use of the guidance book should be further promoted and supported. During the biannual plenary meeting of Implementation and Enforcement of Environmental Law in Lisbon, November 2007, the network decided that (under the same project name, “Doing the right things”) the implementation of the guidance book in the EU Member States will also be facilitated. This succeeding project will aim at supporting the Member States in 2008 with providing training sessions and an electronic tool. Further, in 2009 the execution of an enhanced support programme will occur.

The guidance book can be downloaded from the Implementation and Enforcement of Environmental Law website <http://ec.europa.eu/environment/impel/index.htm>.

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SAMPLE CHAIN OF CUSTODY

LUBIENIECKI JR, GENE

Program Coordinator, United States Environmental Protection Agency, Office of Enforcement and Compliance Assurance (OECA), National Enforcement Investigations Center, Bldg 25 DFC, PO Box 25227, Denver, Colorado 80227 USA, (lubieniecki.gene@epa.gov)

SUMMARY

Evidence management chain of custody is a process designed to protect the integrity of evidence and defend against allegations that evidence was tampered with or otherwise compromised. The integrity of evidence is maintained through proper handling and is supported through documentation. Chain of custody documents the linkage of events from the time the evidence is collected, through when the evidence (or the data derived from it) becomes part of the record in legal proceedings, to the time of ultimate evidence disposal. A chain of custody record is maintained to provide a history of physical evidence transfer.

Proper chain of custody procedures are not only part of accepted “good practices” for enforcement case management; they are also extremely important in cases where the defense attempts to show “reasonable doubt” based on questions regarding the integrity of the evidentiary samples.

Obviously, chain of custody records may be very simple if only one or two individuals are involved with all aspects of sample management, or very complex if numerous individuals and/or organizations are involved with the sample. While this paper describes a fairly elaborate and prescriptive set of chain of custody procedures (including use of sample tags, logbook entries, etc.), one must keep in mind that the primary objective of chain of custody is simply to be able to control and account for access to the evidentiary samples, from the time that the samples are obtained until the case is closed and the samples are properly disposed of.

1 PROCEDURE

1.1 General

Written chain of custody records of samples of liquids, gases or solids track the samples from collection, delivery to the laboratory, and through analysis and disposal. Samples are kept under custody until the samples are no longer needed for evidentiary purposes.

A sample is in custody if:

- it is in the possession or control of a person with sample handling responsibilities. These persons are most likely the sample collectors or laboratory analysts;
- while in the custody of designated enforcement personnel, it is secured in a container in an appropriate location, such, as a locked vehicle or hotel room, or within a secured facility such as the laboratory; and/or
- it is sealed within a container during storage, shipping or transport under the direction of enforcement personnel.

The records relating to the samples must show the current location of the evidence and identify the individuals who previously handled the evidence. To simplify the custody chronicle, as few people as possible should have custody of the samples during the investigation.

1.2 Sample Custody in the Field

Field personnel are responsible for the custody of samples from the time the samples are collected until the samples are relinquished, usually to a laboratory representative. After a sample is collected in the field:

- Information about the appearance, physical characteristics, method of collection, type and number of sample containers, and the name(s) of the sampler(s) is recorded in a field logbook. Any specific treatment of the samples, such as icing or adding preservatives, must also be documented in the field logbook.
- Each sample and the source of the sample are photographed.
- Each sample is identified with a uniquely numbered sample tag or label indicating the sample/station number, the case name, date and time of the sample collection, and the signature(s) of the sampler(s). Figure 1 is an example of a sample tag.

Sample tag information should be completed using a pen or marker with waterproof, non-erasable ink. The sample container should be placed into a tamper-evident bag or sealed with a tamper-evident custody seal. Figure 2 is an example of a labeled sample jar with sample tag and evidence bag. When using a tape type tamper-evident seal, the initials of the person securing the container and the date that it was secured must be recorded on the seal. At this time, samples are kept in the control of field personnel, either in their possession or view, or secured in locked containers (such as modified ice chests).

Sample tag information should be checked against the field notes in the field logbook. Once the field team member is satisfied that the sample information is correct, this information is transcribed to the Chain of Custody Record. Figure 3 shows an example of a completed Chain of Custody Record. Unique information about a sample should be written in the "Remarks" section on the Chain of Custody Record.

A copy of the Chain of Custody Record should be placed with the samples in the sampling shipping container and must accompany the samples when they are shipped (the Chain of Custody Record has multiply duplicate pages). The samples should be transported and stored in locked containers until the samples are transferred to the receiving laboratory.

When shipping samples by commercial carrier:

- The sampler/shipper must make sure that proper shipping requirements, appropriate for the type of sample shipped and the means of transportation, are satisfied.
- If applicable, record the “air/freight bill” number on the Chain of Custody Record.
- Ship the locked or otherwise sealed outer container with the original of the Chain of Custody Record inside. Each sealed outer container should have a Chain of Custody Record within it that has the information applicable for the samples shipped within that container.
- Keep the copy of the Chain of Custody Record in the project leader’s project files along with a copy of the air/freight bill (if available).

2 TRANSFER OF SAMPLES AND SAMPLE CUSTODY

When transferring custody of the samples, the person(s) relinquishing the samples as well as the person(s) receiving them, must sign, date, and note the time on the Chain of Custody Record(s). Upon receipt of the samples, any abnormalities or departures from normal or specified conditions should be recorded on the Chain of Custody Record and/or in the principal analytical chemist’s laboratory logbook. The project leader should retain the copy of the Chain of Custody Record.

2.1 Sample Custody in the Laboratory

Laboratory personnel are responsible for the custody of samples from the time the samples are received into the laboratory until the samples are authorized for disposal/release.

Upon sample receipt, the laboratory personnel will;

- compare and verify sample information against the Chain of Custody Record;
- note any discrepancies with the samples or sample tag information, if present, on the Chain of Custody Record. If a longer explanation is needed, then record additional information in the analysts’ laboratory notebook;

- sign and date the Chain of Custody Record;
- note and record the description and condition of the shipping container;
- note and record the description of the sample containers;
- note environmental conditions (ice, etc.), if applicable;
- note any inappropriate shipping conditions of the samples such as, improper segregation, improper use of preservatives, tamper evident tape issues, etc.;
- retain any shipping records in project file if samples were shipped by common carrier;
- secure samples in the appropriate area, either a locked cabinet, locked refrigerator with limited access, locked cart in the laboratory, or locked container in a refrigerator;
- use reset-able combination locks or tamper-evident seals to limit access to samples.

When destructive tests are performed, procedures must ensure that as much material as possible is retained for possible re-analysis. Procedures for any sub-sampling must ensure that sample integrity is maintained. Prior to examination/analysis, the samples must be protected from loss, cross transfer, contamination, and/or deleterious change. Samples must be in the custody of the analyst/examiner at all times. Samples must be secured when they are out of sight of the analyst/examiner. When samples must be stored under specified environmental conditions, these conditions will be maintained, monitored, and recorded. Samples are segregated according to sample type and on the basis of any information available from field screening or process knowledge in order to protect sample integrity and assure chemical compatibility.

The project's principal analytical chemist is responsible for custody of the samples while in the laboratory. This responsibility includes collecting the records generated during the analysis of those samples, which must show who handled the samples and when.

3 LONG TERM STORAGE OF SAMPLES

Samples, or empty sample containers, are retained until the case has been closed and/or the samples are no longer needed for evidence in the case. These samples are then properly disposed. While in storage awaiting disposal, the samples must be secured in an appropriate ice chest or container with the following considerations:

- Samples are normally secured in their original sample containers; if the original container is broken, a new container is obtained. The individual containers **and/or** the outer container should have tamper-evident seals. The seals must either have a unique identifier or when using a tape-type seal, contain the initials of the person securing the container and the date that it was secured
- The outer container is marked with any appropriate hazard information (such as flammable).
- A copy of the analytical report is placed in a clear, plastic folder and taped to the top of the container.
- Samples are retained until official notification that they can be released.

If at any time, it is determined by the principal analytical chemist or other personnel that it is unsafe to continue to store a particular sample, that sample may be properly disposed. Some examples of these types of materials are elemental phosphorous, chlorine gas in corroding gas cylinders, and unstable explosives such as lead azide or picric acid.

4 DISPOSAL OF SAMPLES

When the samples are no longer needed for case evidence (normally when a case is closed), the samples are packed as required and shipped for disposal according to any applicable regulations. The disposal of the samples is documented, with all of the other Chain of Custody Records, in the permanent case file.

NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
Building 53, Box 25227, Denver Federal Center
Denver, Colorado 80225

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ELECTRONIC EVIDENCE MANAGEMENT

LUBIENIECKI JR, GENE

Program Coordinator, United States Environmental Protection Agency, Office of Enforcement and Compliance Assurance (OECA), National Enforcement Investigations Center (NEIC), Bldg 25 DFC, PO Box 25227, Denver, Colorado 80227 USA, (lubieniecki.gene@epa.gov)

SUMMARY

Evidence management is a process designed to protect the integrity of evidence and defend against allegations that evidence was tampered with or otherwise compromised. The integrity of evidence is maintained through proper handling and is supported through documentation.

Environmental enforcement personnel may collect computerized electronic information as evidence during criminal search warrants or civil compliance monitoring investigations. This paper introduces some standard procedures to protect and document the integrity of electronic evidence.

1 PROCEDURE

The integrity of electronic evidence is maintained by proper handling and appropriate documentation. The custody of this type of evidence is tracked from collection through analysis and final disposition. The following are some procedures used to protect electronic evidence and document custody while being collected and shipped.

- The project logbook (to record actions and observations relating to the evidence).
- A label or tag, with the project number and a unique identifier (to be placed on the evidence to uniquely identify that evidence).
- Tamper-evident material, e.g., tape, seal, bag (to seal the evidence itself, or the outer shipping container for the evidence).
- A chain of custody record (to document the transport and receipt of the evidence and identify the persons and carriers involved). This record contains two copies: the original to accompany the evidence during transport, and the carbonless copy for the team leader's project files.
- Locked shipping containers (to secure samples during shipping, using re-settleable combination locks if available).

- Shipping records (to document the transport of the evidence by commercial carriers. These can include freight bills, bills of lading, Federal Express air bills, etc.).

When transferring the possession of electronic evidence, the person relinquishing the evidence, as well as the person accepting the evidence, will sign, date, and note the time of transfer on the chain of custody record. Custody documentation and shipping records will be retained as part of the project file. Employees of commercial carriers do not have access to the evidence (through the use of locked shipping containers) and therefore do not sign the chain of custody record.

Once the evidence arrives at the receiving facility, receipt is documented and any abnormalities are recorded on the chain of custody record. The sealed electronic evidence is stored in fire-resistant locked cabinets within the receiving facility. When analyses are to be performed, the electronic evidence is removed from the locked cabinet and restored to a hard drive on a designated computer forensics work station. Once the data has been restored, the original evidence is returned to the locked cabinet. Actual computer forensics analysis is performed on the copies restored from the original electronic evidence, not the original evidence. To document the restoration process and maintain the link between the electronic copies to the original evidence, information concerning the restoration process (such as the person restoring, date, time, media stored on, etc.) is recorded in a bound project logbook or on bench sheets that become part of the permanent project file.

2 ELECTRONIC EVIDENCE LONG-TERM STORAGE AND FINAL DISPOSITION

After the restoration process and analyses are complete, the electronic evidence (both original and restored), including hard drives, tapes, and other electronic media will be re-sealed with a custody seal or stored in evidence bags. The evidence will be transferred to long-term secure storage. The evidence will remain sealed until a formal request is made for either further analysis or final disposition (in accordance with any particular organization's specific procedures).

When the case is closed, a copy of the original electronic evidence is copied on alternative media (currently DVDs) and retained in the permanent case file. Other copies of electronic evidence may also be transferred after receipt of a request, (verbal or written). The request for transfer of the electronic evidence must contain the date, name of requestor, and title of requestor. The request becomes part of the project file. If the electronic data is released, a custody record must be completed by the relinquisher and the receiver of the electronic evidence. A copy of the custody record for the release must be kept in the project file.

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CASE STUDIES: USE OF REMOTE SENSING AND OTHER INVESTIGATORY TECHNIQUES

LUBIENIECKI JR, GENE

Program Coordinator, United States Environmental Protection Agency, Office of Enforcement and Compliance Assurance (OECA), National Enforcement Investigations Center, Bldg 25 DFC, PO Box 25227, Denver, Colorado 80227 USA, (lubieniecki.gene@epa.gov)

SUMMARY

Remote sensing is a powerful tool for monitoring the compliance status of regulated entities and gathering evidence for enforcement case develop. Remote sensing can involve relatively simple activities, such as visual observations, to the use of sophisticated technologies such as satellite imagery. Obviously, the use of remote sensing in any particular situation is dictated by numerous factors including available technologies, resources, and time. This paper provides brief descriptions of a variety of remote sensing techniques used in actual United States Environmental Protection Agency (US EPA) enforcement investigations.

1 BURIED TANKER TRUCK

Background – Information was received that an 8000 gallon (approximately 30000 liter) tanker trailer containing regulated hazardous waste was buried on a commercial property not authorized for waste disposal. Leakage of hazardous waste from the buried tank could threaten area groundwater drinking water supplies. There was no obvious visual evidence on the surface at the suspected burial site indicating the specific location of the tank.

Challenge – The investigators needed to find and sample the tank safely, and as efficiently as possible with minimal surface disruption.

Solution – Without remote sensing, parallel trenches would normally be dug until the metal tank was located. This can be expensive, and time consuming, and may not result in actually finding the buried item. In this case the team was able to use several remote sensing tools to more precisely locate the suspected tank location before digging was initiated. Aerial photography (figure 1 next page) of the area before and after the suspected burial was used to narrow down the location of disturbed soil and the suspected landfill site. A magnetometer (figure 2 next page) was used to measure subsurface magnetic anomalies (figure 3 next page) in the suspected burial area. Ground penetrating radar was used to map the relative dielectric characteristics of subsurface materials. A Global Positioning System was used to map and precisely record grid locations used during the magnetic and dielectric work. The combination of information provided by these remote

Figure 1: Aerial Photography of Site

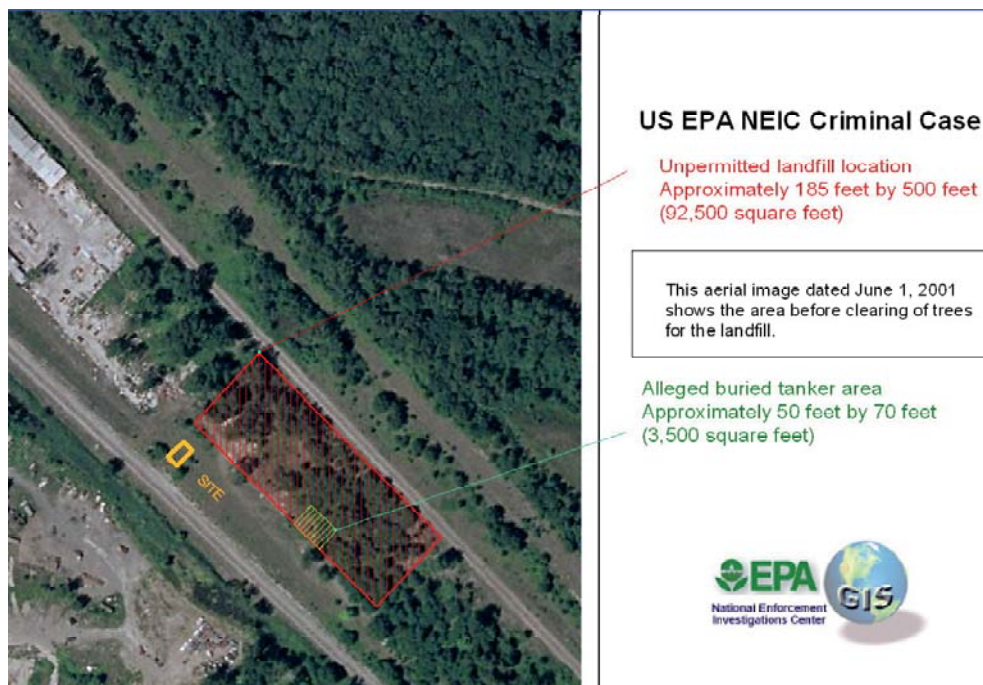
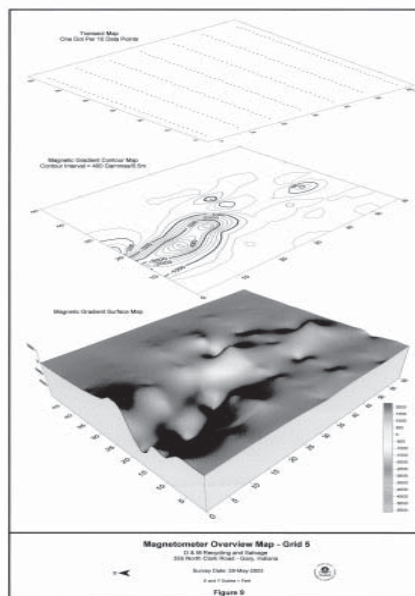


Figure 2 - Magnetometer



Figure 3 - Anomaly Grid Showing Probable Tank Location



sensing tools identified the specific area where the suspected tank was buried. An excavator was then used to remove soils from the area to reveal the tank.

Outcome – The tank was rapidly found and excavated (figure 4). The individual responsible for burial of the tank was found guilty of improper handling of hazardous and has been incarcerated.

Figure 4 -Buried Tank



2 OIL AND GAS EXPLORATION – VOLATILE ORGANIC COMPOUND (VOC) EMISSIONS

Background – Oil and gas exploration and production results in emissions of volatile organic compounds. When exposed to sunlight and elevated temperatures, these compounds form ground-level ozone, a pollutant that harms the lungs and makes breathing more difficult. Currently, with the rising costs of energy, exploration and production of oil and gas in the western portion of the United States is rapidly expanding. The volatile organic compound emissions from these activities, including tanks (figure 5), surface impoundments, engines, etc., are thought to be surpassing volatile organic compound emissions from more traditional sources such as motor vehicles and are thought to be a significant source of recent violations of health limits for ozone along the metropolitan area of the Colorado Front Range. (In one Colorado County, volatile organic compound emissions from the oil and gas industry are estimated to be 10 times greater than those produced by vehicle traffic).

Figure 5 - Natural Gas Condensate Tank



Challenge – In order to identify specific emission sources, control these emissions and determine regulatory compliance, it is necessary to be able to effectively monitor these volatile organic compounds. Traditional monitoring for volatile organic compounds involves use of some type of flame ionizing organic analyzer placed in the immediate vicinity of the suspected source: a very labor and time intensive activity. Moreover, traditional monitoring normally requires permission of the facility owner. A more effective monitoring method was necessary.

Solution – A specialized hand- held infrared camera (figure 6), originally under development and testing to “see” fugitive volatile organic compound emissions from refinery components, is being used to identify the numerous volatile organic compound sources from the oil and gas industry. The use of the camera allows for real-time imagery of the volatile organic compound plumes which can be digitally recorded for evidence (figures 7, 8, 9 and 10). The infrared window used by the camera coincides with the IR absorbance of various hydrocarbons. This absorbance of infrared energy is captured by the camera and appears as a black or grey “smoke” in the digital images. To date, the camera has been tested by the manufacturer for detection of numerous volatile organic compounds including, but not limited to, ethylene, benzene, methane, toluene and xylene.

Figure 6: IR Camera



Figure 7: IR Image of Condensate Tank Volatile Organic Compound Emissions



Figure 8: Pressure Relief Valves on Gas Treatment Tank



Figure 9: Leaking Pressure Relief Valve



Figure 10: Attempt to Repair Leaking Plug

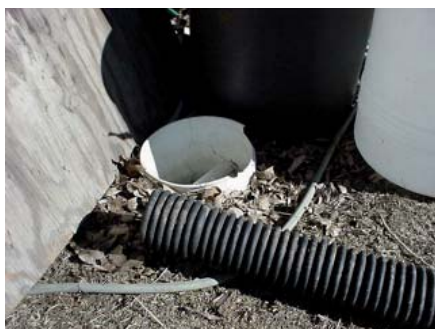


Outcome – The use of the infrared camera has provided evidence of excessive emissions at various oil and gas exploration and production facilities and numerous violations of emission control requirements at other oil and gas facilities. As a result of this evidence, the US EPA is discussing voluntary emission reductions with one company (not found in specific violation) and is preparing formal enforcement action against at least one other major company. The US EPA is also working on amended regulations to make use of the hand-held infrared camera an alternative work practice to obtain imaging to identify the source of volatile organic compound emissions. This should make identification and repair of leaking components more cost effective.

3 UNPERMITTED WASTEWATER DISCHARGE

Background – An informant provided information that toxic wastewater was being illegally discharged from a large metal plating operation. A search warrant was served and a sump with a four inch discharge plastic pipe, allegedly used for illegal waste plating bath disposal, was identified (figure 11). If not handled properly, heavy metals in the spent plating baths could kill wildlife and contaminate area drinking water supplies. Plant workers were unable (or unwilling) to identify the discharge point of the pipe.

Figure 11: Illegal Discharge Sump



Challenge – To establish an illegal discharge, the EPA needed to identify the location and receiving waters of the discharge. Additionally, the location of the waste discharge was necessary to remediate any damage from toxic wastes. Visual inspection of the area to find the discharge point was extremely difficult due to heavy vegetation and adjacent wetlands.

Solution – The use of a smoke bomb (figure 12), sealed in the pipe entrance, failed to reveal the discharge point (this technique had been previously successful in other similar situations). A “bull horn” (figure 13) was finally used to send amplified sound waves through the pipe. Investigators in the wetlands were then able to follow the sound resonating from the discharge end of the pipe to the discharge point, over 100 meters from entrance of the pipe, partially submerged in a particularly heavily vegetated area.

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THE U.S. ENVIRONMENTAL PROTECTION AGENCY'S "REPORT A VIOLATION" WEBSITE

ROSENBERG, PETER¹, COYNE, PATRICK² and SHEPHERD, MATTHEW³

¹ Director, Planning and Communications, Office of Criminal Enforcement, Forensics and Training, U.S. EPA, 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20460, rosenberg.peter@epa.gov.

² Special Agent, Criminal Investigations Division, Office of Criminal Enforcement, Forensics and Training U.S. EPA, 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20460, coyne.patrick@epa.gov.

³ Environmental Protection Specialist, Criminal Investigations Division, Office of Criminal Enforcement, Forensics and Training U.S. EPA, 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20460, shepherd.matthew@epa.gov.

SUMMARY

Over the last two years, the United States Environmental Protection Agency (EPA) has taken a major new step to reach out and enlist the general public to help identify potential violations by asking citizens to provide information about possible harmful environmental activities in their communities and workplaces. Formally known as "Report a Violation," individuals can go directly to EPA's website to alert authorities to potential violations that might lead to civil or criminal enforcement. This process has resulted in new enforcement cases that have advanced the cause of environmental protection.

1 INTRODUCTION

To protect the environment, the United States Government has enacted a series of laws, regulations, and standards to control the amount of pollution that businesses, industries, or persons can legally discharge or emit into the air, land, or water. Since its creation in 1970, it has been the responsibility of the EPA's enforcement program to ensure there is compliance with these laws and regulations.

EPA uses several methods to determine if an entity is violating the law by discharging or emitting excess pollution. Historically, the most widely used method is regularly scheduled inspections by EPA or state environmental personnel, who look at the facility's records and manufacturing processes to see if they are consistent with and following the facility's operating permits.

Another way that federal and state environmental inspectors assess whether a facility may be violating the law is through that facility's "self-reporting" of environmental discharges or emissions, *e.g.*, the amount of wastewater it discharges monthly

or the total amount of toxic chemicals it releases annually into the environment. Government regulators can then determine if the amount of pollution released is greater than the amount the facility can legally discharge.

There are other less systematic ways that the government may learn about potential environmental violations. An employee at a facility may come forward to tell authorities about alleged violations he thinks occurred or says he has been told to commit (in the United States, these employees are called “whistleblowers”). Sometimes, members of the general public may notify authorities about things that “don’t look right” and may indicate illegal activity, such as observing dense smoke coming out of a chimney, abandoned drums along a roadside, dead fish in streams or waterways (particularly if the water appears to contain foreign substances such as detergent, bleach, chemicals, or has a strange color), or pipes or valves that appear hidden that would allow for discharge from a plant.

2 REPORTING A VIOLATION BY THE PUBLIC

Over the last two years, EPA has taken a major new step to reach out and enlist the public to help serve as “eyes and ears” in the identification of potential violations by asking citizens to provide information about potentially harmful environmental activities in their communities and in their workplaces. Formally known as “Reporting a Violation” (and informally known as “tips and complaints”), this process has resulted in new enforcement cases that advance the cause of environmental protection.

In January 2006, EPA unveiled a new tool on the home page of its website that greatly expanded the scope and quality of leads from the public about possible environmental infractions. A new icon invites the public to report possible environmental violations or crimes. More than a million people a month who visit the Agency’s home page (www.epa.gov/tips) have the opportunity to help EPA protect public health and the environment by sharing any problems they see in their communities.

When a citizen visits EPA’s “Report a Violation Website” to report a violation, he is first reminded of two important considerations. First, it is important that a citizen understand the distinction between a possible environmental *violation* and a potential *emergency* situation. An environmental violation is a situation which does not comply with an existing environmental law or regulation. An environmental emergency is a *sudden threat* to the public health or the well-being of the environment arising from the release or potential release of oil, radioactive or biological materials, or hazardous chemicals into the air, land, or water. EPA has a distinct and separate reporting scheme for emergency situations when an immediate response is of the essence.

Second, EPA does not want citizens to “play detective” or put themselves in harms way. If citizens do spot anything they think is suspicious, they should not try to

investigate on their own. EPA provides several safety tips, admonishing individuals against entering confined spaces or low-lying areas, leaning over open waste containers, or kicking, rocking or puncturing waste containers, taking samples unless trained, and making sure to keep others away from the scene until assistance arrives.

3 THE PROCESS

A person who wishes to report a potential violation visits the EPA “Report a Violation” website to fill in information fields that elicit as much information as possible about the nature and location of the possible violation as well as who may be responsible for it. See Appendix 1, Screen Shot of the Report a Violation Website.

For example, the citizen is asked to describe the incident or scene he is reporting (*e.g.*, whether it involves dumping, a spill, spraying, or land filling) and whether the pollution involves the land, water or air). He/she is also prompted to identify the suspected violator, if known. While the individual reporting the violation is encouraged to give his name and address so that he can be contacted later by state or federal inspectors or investigators to provide more information, he is not required to identify himself if he wishes to remain anonymous.

The person reporting the violation is also asked to indicate whether the suspected violation is “accidental” or “intentional.” This is a critical distinction for determining how the “tip” will subsequently be reviewed by EPA enforcement personnel. “Accidental” violations will be referred to EPA’s civil enforcement, while “intentional” violations will be reviewed by EPA’s criminal enforcement program.

EPA has both civil and criminal enforcement authority. As a legal matter, in the American criminal justice system environmental criminal liability is triggered through the existence of some level of intent or knowing violations of the law. A “knowing” violation is one in which the defendant is aware of the facts underlying the violation – conscious and informed action brought about the violation, rather than accident or mistake. Thus, an intentional decision to discharge pollutants into a river without a permit, or to bypass a required air pollution control device could be “a knowing violation,” and thus criminal, without regard to the defendant’s knowledge of the law. Individuals who commit criminal environmental violations, for example, run the risk of going to jail, whereas civil violators would only pay a fine.

Civil liability, on the other hand, arises simply through the existence of an environmental violation, without regard to what the responsible party knew about the matter. While the object of civil enforcement is primarily to gain compliance, *i.e.*, having a company take the actions necessary to stop the current violation and prevent future occurrences, criminal enforcement is designed to both “punish” current violators and deter future violators.

This distinction between potentially “criminal” and “civil” violations drives EPA’s “report a violation” internal process. EPA’s Office of Criminal Enforcement, Forensics and Training has the primary responsibility for evaluating and routing these leads as they come in. The system sorts tips based on their potential under criminal, civil or state jurisdiction.

If the violation is described as being “accidental” it goes directly to EPA’s civil enforcement program in the Region where the suspected violation occurred. It can then be further investigated by regional civil enforcement personnel or referred to the appropriate State environmental agency for further action (*e.g.*, if the “violation” does not meet federal standards but might be a violation of state environmental law).

If the violation is described as “intentional” (or if it is described as “unknown”), it is referred to EPA’s criminal enforcement office, where it is reviewed by Special Agents in the Criminal Investigation Division. These agents are fully-authorized federal law enforcement officers, like their counterparts in other U.S. federal law enforcement agencies such as the FBI, U.S. Customs Service and U.S. Secret Service, and they investigate criminal violations of all federal environmental statutes.

Once the potentially “criminal” tip is reviewed by the special agent, it is either:

- closed without further action if determined that no violation (either civil or criminal occurred);
- sent to one of the EPA criminal enforcement field offices for further review if the possibility of a criminal violation exists; or
- sent to the EPA civil enforcement program in the appropriate Region or State where the suspected violation occurred if the “tip” is deemed potentially worthwhile for civil response but not criminal after all.

Tips that result in further enforcement response are tracked through the normal civil and criminal enforcement procedures. As noted, tips that will not result in further federal response may be referred to the states. The State’s response to tips referred from EPA is managed within each State as a regulatory or law enforcement issue. . EPA’s goal with regard to referrals to states is to provide tips containing as much useful information as possible for review.

4 RESULTS

Since the inception of EPA’s Report a Violation program in January 2006, criminal enforcement has screened over 12,675 tips. Most tips are referred to a criminal field office, civil enforcement, or other law enforcement partners (such as the states) within 48 hours of receipt. More than 11,574 tips have been sent directly to the civil program

As of February 1, 2008, 1,402 tips have been referred to criminal enforcement's 46 field offices. Fourteen "tips" have currently been opened as formal criminal cases and the investigations are continuing. One criminal case resulting from a tip has resulted in formal charges being filed and prosecuted.

The charged case involves a company that has been issuing Hazardous Materials certifications and physical fitness reports to untrained temporary workers. Many of these same workers are then dispatched throughout the southeastern United States to do cleanup work at contaminated sites waste sites. Using the "report a violation" website, a witness informed agents that approximately 80 percent of the training certificates issued by the suspect are fraudulent. Following the receipt of the tip and the formal opening of the investigation, state and federal law enforcement personnel served a search warrant for documents and computer records stored at the corporate office. On July 17, 2007 the defendant entered a guilty plea to two felony counts of making a material false statement, *i.e.*, lying to governmental authorities. Sentencing has not yet occurred.

This prosecution demonstrates one of the bonuses of the "report a violation" process. The criminal enforcement program is seeing is not just an increased volume of tips, it is getting more quality information, such as identification of additional witnesses or facts in existing cases.

5 FUTURE STEPS

Since it has only been implemented for a little over two years, the EPA National report a Violation Website is still a work in progress. Over the next year, it will be important to systematically assess and evaluate the utility of the site regarding the degree to which:

- it facilitates a more organized and coordinated effort between EPA's criminal and civil enforcement offices;
- it supports more timely EPA responses to public requests for assistance
- referral of complaint information to EPA's state and local counterparts result in civil or criminal enforcement actions below the federal level
- it facilitates accurate internal EPA tracking of complaint information; and
- it helps support the identification and tracking of national trends in environmental civil and criminal enforcement.

6 CONCLUSION

The purpose and goal of the "report a violation" process is *not* to create more tips for the government to investigate. Rather, it is to increase the *quality* of those tips and

help ensure that both the EPA and the states address the most important violations from an environmental and public health standpoint with the resources they have at their disposal. The tips that are investigated should be of the highest quality.

Appendix 1: Screen Shot of the Report a Violation Website

Report an Environmental Violation | Enforcement and Compliance | U.S. EPA - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss Research

Address <http://www.epa.gov/compliance/complaints/index.html> Go Links Google Settings

Information about the suspected violation

Please provide as much information as you can in the form below. Asterisks (*) indicate required fields. If you do not know the name or address of the alleged violator, please enter "Unknown."

* Suspected Violator's name:

* Suspected Violator's address:

* Suspected Violator's city:

* Suspected Violator's state:

* Suspected Violator's zip code:

Date of incident: If known

Your contact information

You are not required to provide your contact information in order for EPA to review your tip or complaint. However, if you do not provide contact information, EPA may be unable to contact you for additional information that may be needed to determine whether or not an investigation is warranted. If you do provide contact information, this information may be used to initiate follow-up communications with you and may be shared by EPA with appropriate administrative, law enforcement, and judicial entities engaged in investigating or adjudicating the tip or complaint. Please review the [EPA Web Privacy Policy](#) for more information.

Your name:

Your email:

Your phone:

Your address:

Your city:

Your state:

Your zip code:

Is the suspected violation still occurring? ☐ Yes ☐ No

Have you already notified your state/tribal DEP, DEQ, or DEM? ☐ Yes ☐ No

Start | Report an Environ...

Internet 3:18 PM

Report an Environmental Violation | Enforcement and Compliance | U.S. EPA - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss Research

Address <http://www.epa.gov/compliance/complaints/index.html> Go Links Google Settings

Please tell us how you would characterize the suspected violation?

* I would characterize the suspected violation as:

| (Check One) | (Check One) | (Check All That Apply) | (Check One) |
|--|---|--|---|
| <input type="radio"/> Accidental <input type="radio"/> Intentional <input type="radio"/> Unknown | <input type="radio"/> Release <input type="radio"/> Dump/Buried <input type="radio"/> Spill <input type="radio"/> Spray <input type="radio"/> Fill <input type="radio"/> Falsified | <input type="checkbox"/> Land <input type="checkbox"/> Water <input type="checkbox"/> Air <input type="checkbox"/> Worker <input type="checkbox"/> Documents | <input type="radio"/> Individual <input type="radio"/> Company <input type="radio"/> Government/Military <input type="radio"/> Unknown |

* Please describe the incident or hazard:

(text will wrap automatically)

Specific driving/walking/boating directions (from nearest intersection, main road, waterway or supply navigational coordinates, if necessary):

(4000 characters maximum, text will wrap automatically)

* ☐ I understand that I am providing the information in this tip or complaint to the United States Environmental Protection Agency, a federal agency with the authority to investigate and seek penalties for certain violations of law. I understand that any information I provide in this tip or complaint must be true and accurate to the best of my knowledge. I also understand that EPA may review any information provided in

Start | Report an Environ...

Internet 3:18 PM

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ENVIRONMENTAL CITIZEN SUITS AND GOVERNMENT ENFORCEMENT

SMITH, R. JUSTIN¹ and ARMSTRONG, ANDREA²

¹ Attorney, United States Department of Justice, Environment and Natural Resources Division, 950 Pennsylvania Ave N.W., Washington, DC 20044, justin.smith@usdoj.gov.

² Citizen Suit Coordinator, Paralegal, United States Department of Justice, Environment and Natural Resources Division, 950 Pennsylvania Ave N.W., Washington, DC 20044, andrea.armstrong@usdoj.gov.

SUMMARY

Citizen suits play a significant role in the enforcement of federal law in the United States. This article introduces citizen suits as a supplement to government enforcement and identifies the relationship that these suits have to government enforcement.

1 CITIZEN SUITS AS A SUPPLEMENT TO GOVERNMENT ENFORCEMENT

Citizen suits are actions filed by private parties seeking to abate ongoing violations of environmental laws. This paper will discuss these suits, the legal provisions that apply, and governmental oversight of citizen litigation. The environmental laws also have provisions allowing citizens to bring suit against the government; such suits are an Environmental Protection Agency rate topic and will not be addressed in this paper.

The Environment and Natural Resources Division of the U.S. Department of Justice (together with the Environmental Protection Agency) monitors citizen enforcement of federal environmental statutes. Citizen enforcement can be an important component of environmental enforcement, as the government has only limited resources with which to bring its own enforcement actions. From 2000 to 2007, Environment and Natural Resources Division received, on average, eleven Clean Air Act and 53 Clean Water Act citizen suit complaints per year.

The U.S. Congress enacted the first citizen suit provision in the Clean Air Act of 1970 (*see* 42 U.S.C. 7604). Since then, citizen suit provisions have been a component of every major environmental statute with the exception of the Federal Insecticide, Fungicide, and Rodenticide Act. In addition to the Clean Air Act and Clean Water Act, statutes that contain citizen suit provisions include the Safe Drinking Water Act, the Resource Conservation and Recovery Act, the Toxics Substances Control Act, and the Endangered Species Act. Citizen plaintiffs may seek injunctive relief (an order to comply with the law), civil penalties, and attorney fees.

Congress intended to create an incentive for regulated entities to comply with the law by empowering those most affected by pollution to ensure compliance with environmental protection laws when federal or state governments do not do so. The legislative history of these provisions reflect tensions between those who wanted to provide a safety valve when citizens were harmed by pollution and those who feared the courts would be flooded with litigation. These tensions led to safeguards including a requirement for prior notice of suit to the defendant and the government, a bar on suit in cases in which there is prior government enforcement action, and federal government oversight of suits and settlements.

There have been a number of significant citizen suits, and citizen groups often attain substantial relief in citizen suit cases. To cite a recent high-profile example, in 2007, the Supreme Court issued a ruling in *Duke Energy*, a case in which there were both a federal government claim and a claim by a citizen's group against the same defendant, a power company, relating to violations of the Clean Air Act (the Supreme Court had accepted review of the case following a request by the citizen's group). Citations to other notable citizen suit cases may be found in the bibliography, below.

2 FEDERAL OVERSIGHT OF CITIZEN SUITS AND THEIR RELATIONSHIP TO GOVERNMENT ENFORCEMENT

The citizen suit provisions include elements to allow governmental oversight of citizen litigation. These elements include:

2.1 Notice

The citizen suit provisions of the major environmental statutes require citizens to notify the agency with enforcement authority prior to bringing suit. *See* 33 U.S.C. 1365(b) (60-day notice requirement of the Clean Water Act). According to the legislative history, the purpose of the required notice is to allow the government to have an opportunity to enforce. Such notification alerts federal and state agencies to the alleged violations, thus enabling them to take enforcement action. The defendant must also receive notice; this allows the violator to come into compliance, which may enable the potential defendant to avoid suit altogether, to reduce its liability and limit the number of days in violation, or allow the parties to discuss settlement before litigation ensues.

2.2 Government Intervention

The United States does not routinely intervene in citizen suits, but it can and does do so, when appropriate. The citizen suit provisions allow the federal government to intervene as a matter of right.

2.3 Diligent Prosecution

As previously noted, if the United States is diligently enforcing against a violation, a citizen suit against the same violation may be barred. The statutory bar varies from provision to provision, with some bars applying only to governmental enforcement actions in court and others applying equally to administrative enforcement actions.

2.4 45-Day Comment Period

The Clean Water Act, section 505(c)(3), and Clean Air Act, section 304(c)(3), require both complaints and proposed consent decrees to be served on the Environmental Protection Agency and the Attorney General. Once the parties have served the proposed consent decree on the Environmental Protection Agency and the Attorney General, the court is required to wait at least 45 days before it can adopt the proposed consent judgment. The Clean Air Act 45-day notice provision specifies that the Government “may submit its comments on the proposed consent judgment to the court and parties or may intervene as a matter of right” during the reserved comment period (*see* 42 U.S.C. 7604(c)(3)). Clean Water Act legislative history suggests that the 45-day notice provision was intended to protect the public against, “abusive, collusive or inadequate settlements,” and to “maintain the ability of the government to set its own enforcement priorities” (*see* remarks of Senator Chafee, *Legislative History of the Water Quality Act of 1987* at 1351).

2.5 The United States Not Bound by Citizen Suits

Citizen suit settlements do not bind the United States. The case law is clear that the United States is not bound by any settlement of an action brought under an environmental citizen suit. *See, e.g., Hathorn v. Lovorn*, 457 U.S. 255, 268, n.23 (1982) (Attorney General is not bound by cases to which he was not a party); *Sierra Club v. Electronic Controls Design*, 909 F.2d 1350, 1356 n.8 (9th Cir. 1990) (United States is not bound by consent judgment in Clean Water Act citizen suit and can bring its own enforcement action at any time). Thus, the United States remains free at all times to bring its own enforcement action.

3 ELEMENTS OF CITIZEN SUIT SETTLEMENTS

Proposed settlements in Clean Air Act and Clean Water Act citizen suits are generally reviewed by Environment and Natural Resources Division and the Environmental Protection Agency. Environment and Natural Resources Division attorneys take an active role in the review of proposed settlements and may negotiate changes to a proposed settlement, may file comments on a proposed settlement, or may object to entry.

3.1 Consent Decrees

Most environmental citizen suits are resolved by consent decrees. Consent decrees typically include civil penalties paid to the U.S. Treasury, injunctive relief, mitigation projects, or a combination of these remedies. Consent decrees often have a termination date or formula for determining a termination date, with the termination date set sufficiently far in the future to allow for continued compliance.

3.2 Relief

Environment and Natural Resources Division reviews each proposed consent decree under standard criteria. As a reflection of the overarching purposes of the Acts, each proposed consent judgment is reviewed for injunctive relief and stipulated penalties sufficient to bring the defendant into compliance.

3.3 Civil Penalties and Stipulated Penalties

Civil penalties resulting from court order or settlement are paid to the United States Treasury. Civil penalties are imposed for past violations; stipulated penalties are prescribed to ensure future compliance with the consent decree. Stipulated penalties fix a penalty amount on a per day and per violation basis. Most statutes specify maximum penalty amounts and factors for courts to take into account in assessing civil penalties (*see* 33 U.S.C. 1365(a) (Clean Water Act) and 42 U.S.C. 7604(a) (Clean Air Act) (as amended in 1990)). The Environmental Protection Agency developed a civil penalty policy under which it seeks penalties by calculating and recovering the economic benefit the violator has achieved from delayed compliance and adjusting it against other factors, such as the gravity of the violation and good faith efforts of the violator to comply.

3.4 Supplemental Environmental Projects

Citizen suit resolutions at times also incorporate Supplemental Environmental Projects, which are environmentally beneficial projects that defendants agree to undertake in settlement of an enforcement action, and which the defendant would not otherwise perform. Supplemental Environmental Projects include a variety of projects that range from pollution reduction to prevention projects that address the resource that has been affected by a violation. Unlike government enforcement cases where mitigation projects are implemented by the defendant, some projects may be implemented by environmental non-profits, community organizations, or land trusts active in the area where the violation occurred. The United States reviews Supplemental Environmental Projects for their appropriateness and on other criteria.

3.5 No Self-Dealing

A plaintiff cannot obtain damages or other awards in settlement of citizen suit claims. Environmental citizen suits are intended to enable citizens to obtain relief from violations of the environmental laws, and to deter future violations, not to compensate the plaintiff for any losses suffered as a result of the violations. Except for reasonable attorney's fees and litigation costs, which are authorized in citizen suit provisions, a settlement of citizen suit claims should not involve a direct or indirect payment from the defendant to the plaintiff.

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ENVIRONMENTAL POLICING IN THE 21ST CENTURY – BACKGROUND, ORGANISATION AND EXPERIENCE IN THE NETHERLANDS

WIJBENGA, BERT¹, RUESSINK, HENK², DE WIT, ARIE³ and
KAPITEIN, PIM⁴

¹ Chief Constable, Police Region Flevoland, The Netherlands, bert.wijbenga@flevoland.politie.nl.

² Senior Researcher/Lecturer, Police Academy of The Netherlands, henk.ruessink@politieacademie.nl.

³ Senior Advisor, Police Academy of The Netherlands, arie.de.wit@politieacademie.nl.

⁴ Chief Inspector, Southern Office of the General Inspection Service, The Netherlands, p.kapitein@minlnv.nl.

SUMMARY

The current organisation of the environmental enforcement function of the police in the Netherlands is sketched from an historical development perspective. Over the last few decades, the police had to respond to the growing concern in society over environmental issues, the expanding amount of legislation for the protection of environmental values, and the increasing role of domestic and international environmental crime. Furthermore, it was recognised that the fight against environmental offences is a multi-actor activity, where effective cooperation and exchange of information between police and other authorities is crucial.

These developments and considerations have led to an environmental policing function that is organised at four geographical levels: local, regional, supra-regional, and national. Each level has specific responsibilities, tasks, and competences. This structure has been in place since 2005. This paper describes initial results and experiences, as well as the needs identified for further improvements and developments. Although situations and circumstances in other countries with respect to environmental policing may differ in several aspects, elements of the structure presented in this paper are probably useful elsewhere.

1 INTRODUCTION

Police forces in the Netherlands were active in enforcing environmental laws in the 1950s. At that time, the main focus was on counteracting illegal and criminal activities in the area of hunting and poaching. At the same time, due attention was given to the connected phenomenon of illegal possession and use of firearms.

Later, toward the end of the 1970s, initiatives were taken to broaden and extend police control and enforcement activities, particularly in the area of the so-called “brown” environmental issues, such as noise, nuisance, emissions, and waste. At that time, the first more or less specialised entities for environmental policing appeared in the police force. These units continued to be active on the (traditional) “green” enforcement topics as well, and hence had a broad environmental profile. On one hand, their expertise and contribution to the protection of nature and environment was highly valued. On the other hand, there were voices that doubted the need for specialised units within the police, which were seen as expensive.

At the end of the 1980s, it was finally concluded that environmental enforcement should be just one of the general tasks of the police. This implied that each and every police officer should take up environmental enforcement as an integral element of his/her task and duties.

2 DECADE OF GROWING AWARENESS

The recognition that the police had to play an important role with respect to environmental enforcement followed the general awareness of environmental issues that came up in society in the late 1980s. Environmental scandals, serious environmental accidents, and alarming reports underlined that the environment was seriously at risk, and, along with this, the health of humans and nature were negatively influenced. Therefore, it was clear that proper action had to be taken. In fact, these developments underlined the importance of one of the articles of the Dutch Constitution, Article 21, which states that the care of the government is directed towards habitability of the country and the protection and improvement of the environment.

As an important milestone, the First National Environmental Policy Plan “Choosing or Loosing” was published in 1989. The protection of the environment became an issue for politics and society in general. In this plan, the government defined the nature and extent of the environmental problems and presented a policy and according regulation to protect and improve the quality of the environment. It was the task of the industry, the general public, and governments to implement the environmental policy. To realise this, these stakeholders had to develop appropriate knowledge, understanding, capacities and competences. This also refers to the authorities that were responsible for compliance control and law enforcement.

Although – in the Dutch situation – compliance assurance is primarily based on administrative law and sanctions by local, regional, or national administrations. However, in cases of serious offences enforcement by criminal law is also possible. The administrative and criminal law enforcement systems are to a large extend complementary. The police, together with a few specialised non-police services, are responsible for the criminal investigations (the public prosecutor’s office decides on criminal prosecution).

As a result of its growing awareness, the police had to start appropriate initiatives to take up its role in environmental enforcement. Policy papers with respect to issues of organisation, infrastructure, cooperation, and planning were prepared. Police forces invested in projects for training and capacity building of their officers. However, it is fair to say that the big reorganisation of 1993, which changed the system of one national and many municipal police forces into a system of 25 regional forces and one national service unit, initially had a negative impact on the effectiveness of the environmental police function. As a result of earmarked subsidies from relevant ministries, some organisational provisions kept up specific environmental enforcement expertise. Coupled with the personal dedication of many police officers to environmental enforcement, over time the situation improved again.

In general, environmental enforcement is only one of many tasks of the police. Hence, with limited resources there is always a competition for priorities. Along with the fact that the environmental task is not always perceived to be of high importance (*e.g.* because there are often (seemingly) no victims¹) and the belief that environmental enforcement is particularly complex, this leads to a situation where the police is not always very motivated to give sufficient priority to and invest in environmental investigations. Also, the circumstance that citizens generally do not report criminal environmental offences, contributes to this situation.

3 PREPARING FOR THE NEW CENTURY

The role and function of the police in environmental (criminal) enforcement became clearer around the Millennium. The underlying observations and considerations are as follows:

- For an integrated contribution to safety and quality of life, environmental enforcement has to be embedded in the total package of police functions/services in society at large. Small offences that are relatively easy to investigate and enforce, can be dealt with by officers that are active in general (community) policing. In case of more complicated and/or more serious offences, these officers should invoke the assistance of colleagues that are more specialised in environmental issues.
- For successful execution of their environmental tasks, police officers require relevant know-how and competences, adequate information and sufficient capacity. This implies that there needs to be effective training facilities, information systems and – not the least important – clear support from superiors and higher management, not only in wording, but also in acting. So, environmental enforcement requires dedication at all police levels.
- The police are often not the only player in the field of environmental compliance and enforcement. In The Netherlands, as in many other countries, other

organisations such as regional or local administrations have a role as well. For effective and efficient compliance and enforcement, the partner authorities have to work together and coordinate their activities. This refers to aspects like programming, sharing of information and mutual assistance. Today, to a certain extent, legal obligations for inter-agency cooperation are imposed.

- To arrive at a problem-oriented coordinated program for compliance assurance and enforcement, relevant authorities have to sit together and jointly produce an analysis of the state of the environment in terms of quality, developments, risks and the actual level of compliance. From this, a set of priorities for a programmed approach develops. The police should fully participate in this process on the basis of its own expertise, specific information and responsibilities.
- The police activities regarding environmental compliance and enforcement should be in connection with environmental policies, strategies and developments at different levels: local, national and international. In a world that continues its globalisation, all actors – including criminal investigators of the police – have to contribute to combat the negative environmental side-effects, *e.g.* those frustrating sustainable development. But also domestically, contributions are expected to protect the quality of the living environment. This implies that in environmental compliance and enforcement activities the attention of the police should be directed towards:
 1. the increasing pressure on the public space and vital functions which leads to physical and health risks and to an endangered natural environment;
 2. enterprises, institutions and civilians that operate in a calculating manner, trying to run away from their environmental responsibilities at the cost of others and the environment;
 3. criminal “entrepreneurs,” *e.g.*, in the area of waste treatment and disposal, international illicit trade in hazardous waste streams and trade in endangered species of plants and animals that have serious detrimental effects on public health, biodiversity and the environment.
- The “modus operandi” of environmental offences and crimes moves clearly in the direction of illicit operations in structures of chains and networks made up of dynamic flows of waste, recycled materials, products and information. No longer are such crimes of a merely local and straightforward character. In a globalising world, the complex international dimension of environmental crime is of growing importance. Opportunities for illegal operations are especially at stake when and where commodities are transferred from one player in a chain or network, to another, especially when substantial economic benefits can be gained. During these instances and at those places, risks for the environment and health of people are glooming. This implies that enforcement and criminal investigations have to be directed and tailored towards combating infringements and crimes that take place in the chains and networks of illegal actors. The intertwined nature of the underlying structures makes inter-agency cooperation a prerequisite for success.

4 IMPLICATIONS FOR THE ENVIRONMENTAL POLICE FUNCTION

Taking into account the above developments, observations and considerations, the environmental function of the Dutch Police was redefined and reorganised in the first years of the new century. The directly involved ministries of environment, interior, and justice played an important and decisive role in this. This was related to the fact that they are responsible on the political level for adequate enforcement of (environmental) legislation and had invested substantial amounts of money in the environmental task of the police and public prosecutors, which they wanted to give effective output and outcome.

Since the beginning of 2005 the criminal enforcement and investigation function of the police is organised at 4 distinct levels:

- *National level* – the National Investigation Service is responsible for dealing with severe organised environmental crime issues (or suspicions thereof), both in terms of intelligence and information analysis, as in terms of dealing with specific concrete cases. It cooperates with special criminal investigation services at four Ministries (Agriculture/Nature/Food Quality, Environment, Social Affairs and Finance).
- *Supra-regional level* – six so-called Interregional Environmental Teams are responsible for the criminal investigation of cases of serious environmental crime that manifest themselves across borders of individual police-regions and internationally, with a particularly focus on chain- or network-oriented criminal offences. The total capacity for the Interregional Environmental Teams amounts to approximately 120 full-time-equivalents.
- *Regional level* – each of the 25 police-regions in The Netherlands has its own Regional Environmental Team. These teams are responsible for the investigation of environmental crimes of intermediate gravity that do not go beyond the regional scale. For example, criminal offences that take place inside enterprises or in connection to infrastructural developments, such as the illicit application of certain waste-type streams in civil engineering.
- *Local level* – Simple environmental criminal enforcement activities are dealt with by the local police squads as a part of their general police function in city districts and rural areas. The nature of the environmental cases is mostly connected to littering, nuisance, dumping of garbage, small emissions to water, but also offences like illegal manuring of farmland. When the local squads come across environmental offences that are more complex or more serious, they inform the Regional Environmental Team so that experts can take over. In this sense, the local police officers are the eyes and ears (and noses) for their specialised colleagues.

The Office of the Public Prosecutor is ultimately the responsible authority for criminal investigation and enforcement. In order to strengthen its position and abilities to counteract environmental crimes, a so-called Functional Service for environmental crime and fraud was put in place, simultaneously with the reorganisation of the environmental police function. This functional unit is responsible for the steering of criminal investigation activities of the Regional Environmental Team and Interregional Environmental Teams of the police forces and for the prosecution of identified suspects. The unit has a staff of approximately 100 people and operates at the national level.

5 FRAME OF REFERENCE FOR THE ENVIRONMENTAL POLICE FUNCTION

In order to assist and advise the forces in the process of the reorganisation of environmental policing functions, and to do this in an unequivocal way, dedicated terms of reference for the new structure were developed. In fact, these terms of reference can be seen as a model-description of the new organisation, which serves as a reference to monitor how far police forces have progressed with the implementation of the new structure, both individually and collectively.

In the frame of reference the following aspects have specifically been worked out:

- Responsible executive officer who holds the portfolio of (criminal) environmental enforcement within the Board of Chief Constables.
- Responsible executive officer who holds the portfolio of (criminal) environmental enforcement within the regional police forces.
- Definition of “simple environmental offences,” “intermediate environmental crime,” and “serious environmental crime.”
- Steering mechanisms.
- Information management.
- Cooperation with other authorities and services for criminal and administrative enforcement at national and regional level [see Appendix for concrete example].
- International cooperation.
- Job descriptions and required competences.

- Planning, control, monitoring, and reporting.

6 FIRST EXPERIENCES AND FURTHER DEVELOPMENTS

The first experiences with the new environmental police structure and organisation have been evaluated in a midterm review in 2006/2007. The main findings, which all have a mutual relationship, include the following:

- The position of the teams with respect to criminal information and intelligence is rather fragmented. This is related to the problematic mutual sharing of relevant data between the different criminal and administrative enforcement authorities. Major steps forward are required here, so that the analysis and selection of cases and the profiling of criminal activities can improve. This also pertains to the international exchange of information.²
- The integral and quantified picture of serious environmental crime is largely missing. This is mainly a consequence of the limited information position of the police and other authorities, as sketched. Therefore, it is probably just the tip of the iceberg of environmental crime that is noticed and counteracted.
- The professional position of the teams is still vulnerable. This is related to the sometimes limited support and priority of higher management for the environmental police function. The implementation of clear functional profiles for team members could improve the professional status of the teams and the tasks they fulfil. Competitive remuneration is also an element in this context. Furthermore, the allocation of officers to the teams in terms of qualifications and professional skills deserves further attention. A balanced combination of environmental expertise and criminal investigative competences is ideally required.
- Finally, the review made clear that the frame of reference for the environmental police function has not been implemented in a uniform and structured manner throughout the police organisation. Individual police forces followed diverging approaches and interpretations.

The environmental police function is by no means static in nature. Developments in society at large, the police in general and crime patterns specifically, require that environmental policing responds in a dynamic way. Some examples of ongoing developments, also in response to the above interim findings, are the following:

- The Dutch police have put forward first, and altogether distinctive, steps towards *intelligence led policing* in her attempt to clamp down on serious environmental crimes.
- The enforcing agencies, whether on local, regional or national level, have an obligation, to report serious crimes that they encounter to the police/justice department.

- In order to strengthen the intelligence position on serious crimes, a program has been initiated that stimulates employees of organizations and enterprises that are active in the transport and treatment of waste, to report anonymously to the police serious crimes/offences they know of. This had already led to tens of new cases for further investigation.
- Each of the regional police forces is obliged to deliver annually an environmental threat assessment, which serves as a foundation for their environmental enforcement strategy.
- In the coming three years the Dutch police, in close cooperation with its National Police Academy, will invest considerable time and effort in improving the professional quality of field officers, analysts, detectives and 'runners' (informants) in both the criminal world and legal businesses.
- The concrete contributions of the Dutch police to the broader government objective to improve, protect, and maintain the quality of our living environment, will be evaluated every year by independent researchers from the Police Academy. The results will be published by the chief commissioner, who holds portfolio of environmental enforcement, and be presented to the other police chiefs, the justice department and other relevant Ministries.

7 CONCLUSION

The development and the current structure and organisation of the police function in the Netherlands have been outlined in this paper. This description is not meant to serve as a blue-print for police forces in other countries. Different traditions, cultures, legal structures, and even scope of environmental problems prevent generalistic approaches to environmental policing. Nevertheless, the authors are convinced that specific elements of this paper will be of relevance in the international perspective. However, where this applies, it is not a matter of just copying structural or organisational provisions from the Dutch context. Much more will be required to carefully translate and tailor the approaches to the specific situation in other countries. Subsequently, it would be very helpful if police forces share their solutions for better mutual understanding, networking and cooperation. This would serve the ultimately goal, *i.e.* the effective international enforcement of environmental crime.

8 REFERENCES

¹ The casualties and wounded of the Probo-Koala disaster (2006) in the city of Abidjan, Ivory Coast, demonstrate the severe impact that environmental crime – dumping of hazardous waste in this case – may have.

² In this context, Interpol is promoting the use of EcoMessage as a versatile tool for the international exchange of information on cases of environmental (wildlife and pollution) crime. See www.interpol.int for more information.

9 APPENDIX – EXAMPLES OF COOPERATION AND CRIMINAL INVESTIGATIONS

Example 1: Co-operation Between Police and Other Criminal Enforcement Agencies: The General Inspection Service (AID)

The Convention on International Trade in Endangered Species of Wildlife Flora and Fauna (CITES) is one of the most important international conventions for the protection of animal and plant species. The Convention aims to ensure that the existence of wildlife is not threatened as a result of trade. It deals with living protected plants and animals and derived products, such as ivory, turtle shells and seashells.

In the Netherlands, the Minister of Agriculture, Nature and Food Quality is responsible for the implementation and the enforcement of CITES legislation. To this end, the General Inspection Service (AID) of this ministry strives to monitor and improve compliance with CITES in the Netherlands. Together with the policymakers of the ministry, the AID decides which enforcement instruments to apply. These entail monitoring, criminal investigations, or communication measures aimed at specific target groups.

In view of compliance assurance of CITES, inspectors of the AID carry out inspections at animal traders, zoos and fairs throughout the Netherlands where protected species are bought and sold. The information they obtain occasionally leads to larger-scale criminal investigations. These investigations are also part of the overall approach aimed at stimulating CITES compliance. Analyzing possibilities for fraud, identifying trends and developments, directing and conducting (complex) criminal investigations are the domain of the AID's Criminal Investigations Department, one of the four special criminal investigation services in the Netherlands. Time and again, the results of the chosen instruments provide input for future enforcement strategies, where collaboration with the police, customs and other criminal investigation agencies is of utmost importance – as also shown by the following example.

Example 2: (International) CITES case

During an investigation in Belgium, a suspect and a witness stated that a third suspect caught birds and ploved eggs in several countries, including the Netherlands. The relevant department of AID received this information on the basis of a formal request for (international) legal aid and started further work in the Netherlands. This led to an extensive investigation, spanning three Dutch provinces, during which AID cooperated with regional environmental teams of the police. Experts from several institutions and services supported the investigations. Special investigative methods were applied, like observations, wiretaps and radiographic tracing. As a result, several illegal activities could be established, like emptying of bird nests, domestically, but also in Belgium, Germany and even Greece.

Eventually, in 2007 the investigations resulted in house searches in which approximately 250 birds and 1200 eggs were confiscated. Also, illegal catching means were found and seized. The suspects used falsified CITES certificates, reused the rings of dead birds and applied rings for other birds than allowed.

Private bird protection organisations and the Belgian police participated in the investigations. The offences have been reported to the public prosecutor, who will take further action. Belgian authorities have been asked to take proper action as well, and to this end information has been shared.

Example 3: Illegal Discharge of Chemical Waste in Sewage Disposal System

This particular investigation started after an anonymous report about the illegal disposal of chemical waste from the production process of cleaning products into the sewage system. The first suspect appeared to be the managing director of a company that manufactures cleaning products.

The second suspect, a production employee, was first suspended, but later allowed to work under the condition that he paid a fine, because the offence was entirely his initiative.

The case was taken to the court of justice. The environmental public prosecutor's office demanded the managing director pay a fine of € 40.000. The verdict was a fine of € 10.000, of which € 5000 was conditional. The public prosecutor appealed the decision.

The case against the production employee was handled separately, because there was first the need for a probation report of this suspect.

In the meantime, the managing director filed a claim of € 180.000 at the local administrative authorities for closing down his plant during the investigation. The plant was not allowed to produce from Friday until Monday.

Example 4: Illegal Disposal of Shipping Wastewater

This case was a spin-off case from an investigation against another collector of waste. The information concerned the illegal processing of ship wastewater. Ship wastewater is a blend of water and oil from the engine-room in ships. It is against environmental regulations to dispose of this kind of wastewater; it should instead be collected by registered and authorised waste collectors. About 60,000 tons of wastewater arise aboard Dutch ships annually.

As a result of the information gathered, an investigation was started. Four suspects were arrested and their premises were searched. The suspects were the managing directors of two companies to collect ship waste and ship wastewater. The investigation concerned ordinary companies without any suspicious behaviour. The national police force was even a customer of one of the companies with the ships of the river police.

The idea was that the collectors sold the ship waste water to other companies, where the waste water was worked up and blended to fuel oil for heating installations of agriculture market gardens.

The main suspect was focussed to financial advantage and was considered to be the actual and the intellectual suspect. He started the illegal case. The case was not brought to court. The public prosecutor offered the suspects a settlement € 8000 - to € 12.000, which the suspects accepted to pay.

Example 5: Illegal Trade & Storage of Fireworks

This case started with the arrest of a suspect, who transported 200 kilograms of fireworks. The suspect's arrest led to information about the illegal storage of fireworks on four different locations in the province of Noord-Holland. Searches of the four locations revealed 8800 kg of fireworks.

There were three suspects in this case. The main suspect was a 45-year-old owner of a constructing company, who was previously convicted for illegal trade in fireworks. The second suspect was the son of the main suspect. The third suspect was major purchaser of the illegal fireworks.

The illegal import, trade, and storage of fireworks are serious problems in the Netherlands. A couple of years ago, there was a serious disaster with an exploding storage facility in the city of Enschede. As a result of this explosion, 23 people were killed and nearly 1000 injured, along with the complete devastation of a residential area.

Example 6: Illegal export of hazardous waste and chemical compounds

This example concerns the trade and export of hazardous waste to countries outside the European Union. There was spin-off information that triggered the start of an investigation against two waste processing companies. This investigation was entailed a cooperation between the Interregional Environmental Teams of Noord-Oost-Nederland, the customs, the environmental inspection and the seaport police of Rotterdam. It was coordinated by the specialised public prosecutor's office for environmental crime.

During the investigation 40 sea containers were intercepted on their way to Asia and searched. The Dutch national forensic lab scanned the containers with the latest technology. Four containers held (ozone-destructing) chloro-fluorocarbons. In two containers, waste was found. The approach was the same in all cases: legal waste was stored close to the container entrance and the hazardous (illegal) waste was stored deep into the container, harder to detect. Three suspects were arrested for exporting chloro-fluorocarbons. Further, there was a strong suspicion of fraud in the export papers. The Case is still ongoing.

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TRACK C: TRANSBOUNDARY COMPLIANCE AND ENFORCEMENT

COMBATING TRANSBOUNDARY ENVIRONMENTAL CRIME WITH THE HELP OF CUSTOMS' SINGLE WINDOW: EXPERIENCE OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY AS THE U.S. GOVERNMENT DEVELOPS A SINGLE WINDOW FOR TRADE

BEARDEN, JANET¹

¹ Associate Director, International Compliance Assurance Division, Office of Federal Activities, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, N.W., Washington, DC 20460, United States, bearden.janet@epa.gov

SUMMARY

The ability of importers to file electronically the information required by Customs and relevant federal agencies through what is called a “single window” offers multiple benefits both to trade and to the agencies. By eliminating the need to provide duplicate information to multiple parties and eliminating paper filing, it simplifies and streamlines the filing process for trade, resulting in lower costs. It speeds the flow of imported goods, improving the profit margin and enhancing just-in-time deliveries. It allows Customs to do more work with fewer resources, supporting an efficient government. Importantly, it allows participating federal agencies to target for, identify and ultimately stop unsafe and illegal imports, resulting in protecting the public and providing a level playing field for compliant importers.

The experiences of the U.S. Environmental Protection Agency (EPA) in working with U.S. Customs and Border Protection and other U.S. Government federal agencies in the development of a single window for trade offer opportunities for sharing and comparing with others the challenges we have encountered, the early successes we have realized, and the expectations we have for the future. The single window application is expected to be adopted by many countries in the years to come.

This article describes the impetus for our participation, the approaches we have taken, and the enforcement outcomes we are already receiving from our work. And while this is a work in progress, as the U.S. Government Automated Commercial Environment system is still being developed, I will share lessons

learned along the way, some of which may be useful to paper-based single window systems as well.

1 INTRODUCTION

EPA's statutory authorities cover some of the most hazardous and potentially dangerous commodities manufactured and imported into the U.S, including pesticides and pesticide devices, chemical substances and mixtures, hazardous wastes, and ozone depleting substances.¹ EPA also regulates imports of motor vehicle and non-road engines and equipment and the fuels used to power combustion equipment, as well as regulating the amount of lead in drinking water faucets and pesticide residues on food. EPA's responsibilities for imports are spread across multiple program offices and the enforcement office. Information technology support, particularly as it relates to the integration with Customs' single window Automated Commercial Environment system, is provided by our Office of Environmental Information. With one exception, the program offices are "owners" of the six data systems where reference data is collected and maintained for domestic and imported commodities. The enforcement office relies on this data to support compliance determinations.

Here's an example: EPA's Office of Pesticide Programs collects and maintains data on registered pesticides and registered pesticide producing establishments, consistent with our regulatory authority. Of approximately 13,000 registered establishments, 1,300 are located outside of the U.S. The enforcement office (Office of Enforcement and Compliance Assurance), through our 10 regional offices, processes some 20,000 - 30,000 notices from foreign manufacturers of their intent to ship pesticides into the U.S., shipments worth more than \$1 billion dollars annually. These "notices of arrival" are, with few exceptions, paper.

Each of our 10 regional offices is staffed to process these documents, which requires, among other things, going into the program office database to ensure that both the pesticide and the producer are registered. A signed "notice of arrival" is required to accompany the shipment into the country. Customs and Border Protection responsibilities include representing EPA at the border for pesticides and other commodities for which EPA has statutory authority under joint regulatory authority. Without the paper, Customs and Border Protection cannot allow the pesticides shipment to enter the U.S. A large pesticide producer may be importing pesticides at multiple ports around the U.S. Each shipment may go to a different regional office for processing, depending on location of the port of entry.

2 OBSERVATIONS ON OPERATING IN OUR "AS IS" ENVIRONMENT

While the process described in the above example may be cumbersome, it does carry certain benefits. For example, EPA individuals responsible for processing the "notices of arrival" are well trained, able to spot deficiencies in notices and provide personal service to importers and to Customs to address those deficiencies. Staff

recognize when labels are not appropriate to the product being shipped, and are also able to identify for Customs and Border Protection shipments that should be subject to greater scrutiny. At any point in the review process, they can request additional information from the importer to support the “notice of arrival”. Unfortunately, once a “notice of arrival” is processed the copy goes into a file drawer or relies on creation of a separate electronic record by the regional office. Absent a single system, EPA is not able to identify import activity trends involving certain chemicals or importers, share information between regions and with other law enforcement agencies, or even provide basic summaries of activities. Nor is there a reliable system of “closing the loop” between shipments EPA has approved and actual arrivals.

3 EPA’S INTRODUCTION TO AND ENTRY INTO “SINGLE WINDOW”

After September 11, 2001, EPA recognized that it needed to strengthen its relationship with Customs and Border Protection. By early 2003, EPA had formed the EPA/Customs Initiative, designed to improve communication and collaboration between our two agencies, and signed a Memorandum of Understanding with Customs and Border Protection to share information. And while the Memorandum of Understanding provided assurances that EPA would be able to receive data from Customs and Border Protection, EPA soon learned that obtaining that data from Customs and Border Protection’s legacy systems required significant extraction and report preparation that Customs and Border Protection did not have the resources to provide. By 2004, EPA began working with Customs and Border Protection and eight other federal agencies to modernize Customs’ legacy data systems into the Automated Commercial Environment.

EPA was also invited to join the Board of Directors of the International Trade Data System. International Trade Data System is not a separate data system; rather, it is the name given to the collection of U.S. Government agencies that are engaged in development of this now government-wide, single window data system.² Trade participates with the International Trade Data System group through the Trade Support Network, providing a transparent and vital exchange of information.

Initially, participation in the International Trade Data System was voluntary. Between 2004 and 2006, the number of participating government agencies grew from eight to twenty four. However, with passage of the Safe Port Act in October 2006,³ every federal agency with import/export responsibilities was required to participate, and International Trade Data System now includes all of the U.S. Government agencies with import or export responsibilities.

In order to build Automated Commercial Environment, Customs and Border Protection was authorized \$3.3 million/year for 10 years, and International Trade Data System was budgeted to receive approximately \$1.7 million/year. The money is used to fund hardware and software purchases, design and build the system, and provide contractor support to assist the federal agencies through the design

phase. Each agency is expected to design and fund its integration with the central government system. Early EPA estimates for integrating all six of our commodity flows with Automated Commercial Environment range as high as \$15 million, which includes upgrading existing systems.

Moving from the early desire to participate in Automated Commercial Environment to where EPA is today has required a large investment of time and effort. From 2004 to 2007 the effort was led by EPA's enforcement program, recognizing that they have the most to gain from a successful integration with Automated Commercial Environment. Until passage of the Safe Port Act in late 2006, and a following Presidential Executive Order⁴ in July 2007 mandating that each agency demonstrate that its Chief Information Officer support Automated Commercial Environment integration, the enforcement program faced an uphill battle: it lacked ownership of the data systems that needed to be integrated, it lacked the resources to fund the integration, and it lacked the technical expertise to fully manage the project. The Safe Port Act and the Executive Order provided Office of Environmental Information with the direction it required to take ownership of the integration project and to bring a proven Information technology solution for integrating EPA's data systems with Automated Commercial Environment. It also ensured that the program offices would work together with Office of Enforcement and Compliance Assurance to address a shared mission.

When Office of Environmental Information took over the integration phase, a foundation was in place from which to work. EPA staff had examined every paper form required to import a commodity, and each form's data elements had been built into a Standard Data Set designed by Customs and Border Protection. One activity, which played out over a year's time and consumed enormous staff resources, required EPA to sit around a table with Customs and Border Protection and other federal agencies to hammer out the harmonization of data elements. For example, one agency form might call for "Port of Arrival;" another, "Port Where Shipment Arrives;" yet another, "Arrival Port." All parties then had to agree on a common definition for each accepted data element. Only through this somewhat arduous exercise was Customs and Border Protection able to develop a manageable set of data elements it could then map back to each federal agency requiring that data set.

There were many such exercises, including how our individual agency data standards harmonized with the standard data set, with The United Nations Centre for Trade Facilitation and Electronic Business and the World Customs Organization standards. Of particular concern was how our commodity product codes, or lack thereof, would work with Customs and Border Protection's Harmonized Tariff System to ensure commodity identification in Automated Commercial Environment. For example, a single harmonized tariff code might cover more than 100 chemicals on EPA's Toxic Substances Control Act chemical inventory. This could range from fairly innocuous chemicals to chemicals of real concern. Each of the chemicals regulated under the Toxic Substances Control

Act is identified by a unique Chemical Abstract Service number, and only those chemicals on the inventory are legal for import into the U.S. An appropriate approach to commodity codes is still being worked out.

4 EPA'S VISION OF A "TO BE" ENVIRONMENT UNDER THE SINGLE WINDOW

Since 2005, EPA staff has been creating a Concept of Operations document to help Customs understand what our business and Information technology operations are now and how Information technology operations will be used in a single window system. This "as is" and "to be" examination of import programs is the primary planning tool for Automated Commercial Environment integration. The format for the Concept of Operations is identical for every participating agency. Concept of Operations, in conjunction with a related Memorandum of Understanding, will provide the framework for EPA's future work. Both documents are subject to significant negotiation with Customs and Border Protection -- for Information technology, for business operations, and from a legal perspective.

An important function of the Concept of Operations is to identify areas where EPA may lack existing authorities to gather information and look for ways to maximize the information to which we are entitled through Automated Commercial Environment. In some cases, where new authorities may not be forthcoming, this may be addressed by creating Memorandums of Understanding with other agencies for sharing information. For example, it is possible that the U.S. Department of Transportation may receive information about hazardous waste shipments that could be shared with EPA, or vice versa.

Leveraging Automated Commercial Environment to the fullest extent is important, since Customs' vision is that Automated Commercial Environment will enable agencies to assume much of the burden that has historically fallen to Customs and Border Protection for identifying noncompliant imports. This shift in responsibilities can be significant and presents EPA with an unfunded mandate. It also requires of EPA a level of expertise and resource commitment currently lacking. Therefore, each step of the process has to be carefully considered.

EPA currently envisions a three-part plan for Automated Commercial Environment integration: (1) re-engineer our business processes and operations, where we work with Customs and Border Protection to identify opportunities to eliminate redundancies and accelerate our collective business process; (2) upgrade and modernize our existing EPA data systems that collect and exchange trade data so that they can support electronic forms, automated transactions, and provide EPA's data to Customs officials when and where they need it; and (3) leverage EPA's existing environmental data exchange infrastructure/technology. Step 3, utilizing EPA's Exchange Network and the Central Data Exchange, is the cornerstone of EPA's "to be" vision.

In production for more than four years, Central Data Exchange is the system that enables States to report water and air quality data and other information vital to EPA; it allows EPA to provide toxic release inventory data submissions and other data to States; it allows States to exchange data with one another, including homeland security and hazardous waste transporter data, among other functions. All 50 U.S. States and many tribes use Central Data Exchange to file their environmental reports. Importantly, as the central point through which environmental data enters EPA, it provides important functions that will serve EPA well with Automated Commercial Environment, including user registration, authentication, and enhanced security, translation, and data validation. It is through Automated Commercial Environment and the Exchange Network that Automated Commercial Environment will connect to EPA's backend, or reference systems. EPA will test two of its systems, for ozone depleting substances and for toxic chemicals in 2008, and anticipates data flows for these two commodity lines in early 2009.

At the same time the Information technology work is moving forward, EPA staff are going through each step of the operations for each commodity area, determining how operations can be refined to create clearer roles and responsibilities between EPA and Customs and how they can best take advantage of new technologies and infrastructure. We are working to balance the information we need to do our job with the information to which we are legally entitled. As powerful a tool as Automated Commercial Environment may be, it cannot provide us with data for which we lack regulatory authority. Automated Commercial Environment can decrement for us actual hazardous waste shipments against those we have agreed to accept, but we must establish a linkage for that to occur. New rulemaking for electronic filing must be written; staff must be trained. Importantly, we must prepare ourselves that we may soon experience something analogous to drinking from a fire hose. We began this endeavor in 2003 with almost no data from Customs and Border Protection; managing the future will require our best efforts to stay on top of voluminous data.

5 MEASURING OUR SUCCESS, LEARNING TO MANAGE THE FUTURE

Over the past few years, EPA has seen a surge in the number of motor vehicles, motor vehicle engines, and non-road equipment, such as tractors, lawn mowers, generators and other small engines imported into the United States. Many of these products are not certified to meet EPA's air pollution standards under the Clean Air Act. EPA has also identified noncompliant imports of highly toxic pesticides, registered for agricultural use only, that have been used in homes, including naphthalene mothballs, insecticidal chalk, roach killers, mosquito coils, and rat poisons. Managing this increasing threat from illegal and unsafe imports is one of our enforcement priorities.

In 2005, Customs and Border Protection migrated data it was collecting on entered imports onto the early Automated Commercial Environment platform,

and allowed access to participating government agencies, providing individuals held appropriate security clearances and observed strict precautions. Accessing Customs data was an important step for EPA, allowing for an opportunity to work with Customs data for the first time. Six individuals underwent full field background investigations and training, and have steadily enhanced EPA's ability to use the data for identifying noncompliant shipments. In some cases, EPA has determined that importers have reported information on ozone depleting substance imports to Customs different from what they are reporting to EPA; that Toxic Substances Control Act certifications being submitted to Customs by some importers or Customs brokers, working in conjunction with or under contract with the Importer of Record, lack factual verification as to Toxic Substances Control Act compliance, as well as identifying other areas of noncompliance. In addition to the enforcement actions EPA is taking, these early successes are helping us refine our targeting efforts and our outreach to importers and Customs brokers.

6 CONCLUSION

Participating in a single window system promises significant benefits for agencies, as well as for trade. Costs will vary depending on design and other choices made during the process, and a carefully-crafted plan of operations, while critical, is not enough. The program must be affordable, able to be implemented and measured, and have the support of agency managers. Further, it is clear to EPA, based on experience to date, that all parties will benefit from coming to the multi-agency table early and advocating for our specific interests throughout the design and build process.

EPA has learned that the integration process is complicated by the range of regulatory authorities and EPA's "stove-piped" organizational structure. EPA has also learned that absent a mandatory requirement for government-wide participation, a fully successful outcome is far more difficult to achieve.

EPA's earlier efforts to partner with Customs are paying off in developing operational plans related to Automated Commercial Environment integration, as each agency better understands how we can build and then implement a system that supports our shared and critical mission of protecting the people of the United States from unsafe and illegal imports.

Ultimately, as governments adopt the single window application around the world, we will need to establish standards that enable multiple single window systems to communicate data with each other in a secure manner.

7 REFERENCES

¹ Toxic Substances Control Act; 40 CFR Subchapter R, and part 707.20 and 19 CFR Sections 12.118-12.127 and 127.28(i); Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Federal Food, Drug and Cosmetic Act (FFDCA), 40 CFR

Subchapter E, and 19 CFR sections 12.1 and 12.110 – 12.117; Resource Conservation and Recovery Act (RCRA) Subtitle C, 40 CFR sections 262-265; Clean Air Act (CAA) section 203, 4- CFR parts 85-94 and 1039 – 1068; CAA section 211, 40 CFR part 79-80; CAA, Title VI, 40 CFR part 82. Available at <http://www.epa.gov> and <http://www.cbp.gov>.

² International Trade Data System Report to Congress, November 2007. Available at <http://www.itds.gov>.

³ Security and Accountability for Every (SAFE) Port Act of 2006, (P.L. 109-347), section 405.

⁴ Executive Order 13439, Establishing an Interagency Working Group on Import Safety, July 18, 2007. Available at <http://www.importsafety.gov>.

VERIFICATION OF WASTE DESTINATION: A QUESTION OF PRIORITY?

DOLS, NIEKOL¹, HUIJBREGTS, CARL² and LOONSTRA, ANNO³

¹ Program manager international waste enforcement

² Project manager enforcement of Asian waste shipments

³ Project manager enforcement of African waste shipments

The Inspectorate of the Ministry of Housing, Spatial Planning and the Environment in The Netherlands

Department of Enforcement Policy

P.O. Box 20951

2500 EZ The Hague

Ipc 530

Email: MeldkamerEvoa@minvrom.nl

SUMMARY

The Inspectorate of the Netherlands Ministry of Housing, Spatial Planning and Environment is the competent authority for transboundary waste shipments in the Netherlands. Waste and/or second-hand goods are shipped all over the world for recycling or re-use. In most cases, waste ends up in environmentally-sound processing facilities. However, sometimes shippers merely act in order to make as much profit as possible and seek the way of least resistance by which waste ends up at illegal dumpsites causing environmental and/or human harm. Therefore, the Inspectorates wishes to set up contacts with key officials of competent authorities (e.g. environmental authorities, customs, port authorities) in Asian and African countries to exchange information on a case-by-case basis focusing on waste destination and waste management. In this article authors pose a few questions to these key officials and highly appreciate their contributions.

1 INTRODUCTION

1.1 General

This article provides an overview of the expectations of the Netherlands Environmental Inspectorate underlying the request for contacts with relevant stakeholders in countries outside the European Community either from the government or from (local) NGOs. The Inspectorate wishes to exchange information with these stakeholders, in general and on a case-by-case basis, regarding waste destination and recycling in the waste receiving countries, in order to promote the implementation of the legal procedures for waste trade and to prevent harmful waste shipments. Verification of the final destination, a critical factor in achieving an essential target of waste shipment regulations, ensures that

waste is processed in an environmentally-sound manner, and in accordance with local environmental regulations. By verification as such, enforcement of waste shipment regulations becomes more than a 'dead letter'.

1.2 Background

On 12 July 2007 a new Regulation (EC No 1013/2006) on transboundary shipments of waste came into force in the European Community. This Regulation is the follow-up to the Waste Shipment Regulation (259/1993) and aims to simplify and streamline waste shipment procedures.¹ This paper focuses on article 49, which states in summary:

That the producer, the informant and other parties involved in a shipment of waste and/or its recovery or disposal shall take the necessary steps to ensure that every waste they ship is managed without endangering human health and in an environmentally sound manner (ESM) throughout the whole period of shipment and during its recovery and disposal. In case of export from the EU to third countries of destination, the competent authority of dispatch are responsible for its compliance and shall require information about the shipment and its processing.

Environmentally sound management may be assumed as regards the waste recovery or disposal operation concerned, if the informant or the competent authority in the country of destination can demonstrate that the facility receiving the waste operates in accordance with human health and environmental protection standards comparable to standards established in Community legislation².

Article 49 of the Waste Shipment Regulation requires European authorities to verify that waste leaving Europe is processed in a way that no harm is done to the environment or to human health. Herewith this article is one of the legal bases to prevent dumping of waste in third countries.

Waste is shipped globally due to high demand of secondary material, low processing and disposal costs in the South and European recycling targets. The Netherlands Inspectorate of the Ministry of Housing, Spatial Planning and Environment (which is the competent authority for enforcement of mentioned EU-regulation) is not aiming to hamper legal trade, the Netherlands wishes to prevent environmental damage in other countries and the Inspectorate is seeking ways to manage its responsibilities in a way that benefits both the countries of destination and dispatch.

Additionally, illegal shipments cause false competition between involved companies and ports. The Dutch seaports (Rotterdam, Amsterdam) are the main shipping (transit) ports of European waste. Most of these shipments are legal and the waste will be used as good quality raw materials in the country of destination. Illegal shipments, however, may damage the image of the country and its ports.

In order to improve verification of waste destination the Netherlands Inspectorate initiated two projects concerning shipments and processing of waste leaving

Europe via Netherlands' ports and focus on setting up contacts with concerned competent authorities in Africa and Asia.

2 VERIFICATION

2.1 Definition

Verification of waste destination is defined as a broad check to:

- Determine whether waste arrives and is processed at the indicated destination and whether recovery operations follow requirements of both legal systems of the administration of the country of dispatch and of destination;
- Ensure that waste is processed in an environmentally sound manner in accordance with local environmental regulations and
- Determine if the imported waste and the rest stream after recovery match and if it meets with the relevant environmental (and/or trade) goals.

Apart from an environmental perspective, verification of waste destinations is necessary, in part because:

- Investigations in the Netherlands demonstrate that shippers sometimes present incorrect, false or fictitious companies of destination in the official documents to hide the real destination. Occasionally even names of well-known waste facilities are misused.
- Like other material, waste is regularly resold during shipment. By this, waste ends up in a different company than the one indicated in the original documents. Often this is due to rerouting to a cheaper recycler with fewer facilities, which could possibly cause environmental damage. Occasionally, waste is rerouted for reasons of tax evasion.

By working together, the authorities will be able to follow the waste from cradle to grave. Both countries will gain knowledge about the characteristics of waste trade. For receiving countries this generates better possibilities to prevent environmental damage in their country. Since illegal waste shipments are often linked with other criminal activities, such as import tariffs fraud or trade in stolen goods, collaboration of environmental authorities could also help to get a better grip on these activities.

Effective cooperation will also help to solve problems of completed illegal shipments because procedures for returning such shipments will become easier. The authorities will be better able to tackle illegal shippers and to prevent further environmental damage.

2.2 Verification in Africa

Export of waste to African countries (non-OECD) is allowed when the importing country has explicitly communicated to the EU the specifications of the waste they wish to receive (third countries regulation^{2,3}).

In practice, the interpretation and execution of this rule is more complicated:

- Is waste or non-waste at issue (especially difficult in the case of second hand goods)?
- The gap between 'paper' and 'practice': do the documents really cover the content of the transport?
- Will recycling be completed in a licensed facility?
- What is meant by the national standards of receiving country as stated in Column D of the regulation (EC) No 1418/2007?³

It is of utmost importance for the competent authorities in the Netherlands, and in other EU-member states, to have relevant contacts in "receiving" countries to facilitate verification of the above-mentioned at their disposal. Only then, will Dutch and other European national authorities be able to take immediate action in case of doubts as a result of inspections of goods or waste ready for transportation. For importing countries, it is also particularly important to provide the competent authorities in the exporting countries with relevant information, to ensure that their standards are taken into account during inspections or in the preparations and issuing of export-permits.

In general it is assumed that a structural cooperation will facilitate enforcement of the regulations in both the exporting and the importing countries.

For the Netherlands the following African destinations are currently important:

- | | |
|---------------|----------------|
| - Benin | - Egypt |
| - Ethiopia | - Ghana |
| - Ivory Coast | - Kenya |
| - Nigeria | - South Africa |

In order to further improve the process of verification of waste destinations for both the exporting country and the importing African countries, the following information would be helpful:

1. Figures on waste and/or second hand goods import into these countries from The Netherlands / Europe / developed countries in general.

2. The extent to which African countries consider the import of waste from 'developed countries' a problem, and the concrete nature/magnitude of such problems.
3. Names, functions and (email) addresses of key officials of the competent authorities of the countries of destination (Environmental Authorities, Transport- or Trade – related authorities, Customs, etc.).
4. The existence of specific waste regulations other than mentioned in column D of the green list regulation (see endnote 3) and general environmental regulations in these countries?

2.3 Verification in Asia

In general it is very important that authorities of shipping and receiving countries have regular contact to know and understand the main features of each other's national legislation. Through this process, countries learn to understand and respect the specific strict rules that are sometimes applicable. Because of lack of recovery capacity, some countries ban more (non-) hazardous waste streams than others. Also, several countries imposed a ban on the import of all second hand abandoned electronics because of proven environmental damage of e-waste processing practices.

For the Netherlands the following Asian destinations are important:

- | | |
|--------------------------------------|-------------|
| - P.R. China (cooperation has begun) | - India |
| - Vietnam | - Malaysia |
| - Philippines | - Indonesia |
| - Bangladesh | - Sri Lanka |
| | - Pakistan |

In order to further facilitate the process of verification of waste destinations for both exporting country and the importing Asian countries, the following information would be helpful.

1. The extent to which imported waste causes problems and the nature of such waste problems. Information on (cases with) involvement of shippers from The Netherlands.
2. The way in which countries are dealing with recurring questions (*such as definitions with respect to waste/non-waste, hazardous/non-hazardous, allowed/not-allowed*).
3. The existence of recycling facilities and their legal possibilities to receive waste.

4. Information regarding the correspondence of the recycling method with the information in the export documents.
5. Information on actual (environmentally sound) recycling of waste.

3 VERIFICATION: A MATTER OF PRIORITY

Verification is not a question, but a matter of priority, since it is an essential element of sound management and enforcement of international waste streams. The authors hope that authorities concerned in both the countries of dispatch and destination find further ways and means to join forces in order to strengthen approaches and activities for verification of waste destinations and in the end both benefit from it. The authors highly welcome observations and comments on this paper.

The authors appreciate to learn from environmental authorities, customs and other relevant organisations in the above mention African and Asian:

- names, functions and (email) addresses of their key officials;
- figures on waste and/of second hand goods imports from Holland/Europe;
- relevant regulations regarding import and processing of waste;
- 'problematic' transboundary shipments of waste from Holland; and
- other items mentioned in § 2.2 and § 2.3.

The authors would like to stress the importance of your contribution to make verification of waste destination a matter of priority.

Please contact the Inspectorates Waste Shipment incident room via email: meldkamerevoa@minvrom.nl or contact directly Mr. Anno Loonstra for African countries or Mr. Carl Huijbregts for Asian countries via above mentioned email address.

4 REFERENCES

Website: IMPEL-TFS final report on Verification of waste destination, 'What you see is what you get?' published by IMPEL, June 2006, and project newsletters website: http://ec.europa.eu/environment/impel/tfs_projects.htm#verification

5 ENDNOTES

¹ The Waste Shipment Regulation formalizes the control procedures for transporting waste within, into and out of the EU. The aim is to ensure a high

level of environmental and human health protection, while at the same time safeguarding trading rights. This Regulation integrates the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal and the OECD Decision on Control of transfrontier movements of wastes destined for recovery operations. The Regulation covers shipments of all types of waste, for final disposal or for recovery. Among waste for recovery, the non-hazardous waste (so-called “green list waste” represents a useful secondary source raw material for EU and non-EU trading partners.

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THE PROBO KOALA INCIDENT IN ABIJAN CÔTE D'IVOIRE: A CRITIQUE OF THE BASEL CONVENTION COMPLIANCE MECHANISM

EZE, CHUKWUKA N. LLM (DALHOUSIE)¹

¹ Secretariat of the Basel Convention, United Nations Environment Programme, Geneva, Switzerland.

SUMMARY

The alarming rate of illegal dumping of hazardous wastes witnessed in the late 1980s appeared to have been checked in the early 1990s by the adoption and subsequent entry into force of the Basel Convention and some regional instruments on the subject. The Probo Koala incident in Abidjan, Cote d'Ivoire in August 2006, however, has brought to the remembrance of the global community the harsh health and environmental consequences of this unwholesome practice. More importantly, it constitutes a litmus test for the existing instruments, revealing their strengths and weaknesses. Thus, against the background of the Probo Koala incident, this paper undertakes a critical analysis of the Basel Convention compliance mechanism, identifying inadequacies in the mandate of the Basel Secretariat and the poor exchange of information requirements under the Convention as major contributors to the Cote d'Ivoire tragedy.

1 INTRODUCTION

The dumping of hazardous wastes in Abidjan, Cote d'Ivoire in August 2006 by the tanker - The Probo Koala (hereinafter "the Probo Koala incident") has brought to the limelight, not only the thriving business of transboundary movement of hazardous wastes around the world, but also the adverse health and environmental implications of this infamous trade.¹ It has also brought to light institutional and operational deficiencies, as well as a drastic lack of capacity of a large number of countries to manage waste in an environmentally sound manner.² It questions the effectiveness of the existing relevant international instruments in combating this trade around the world, particularly from the developed to the developing countries, and underscores the questionable nature of the parties' compliance with the regulatory instruments. Recognizing this fact, the former Executive Secretary of the Basel Secretariat, Mrs. Kuwabara-Yamamoto stated that: One of the important lessons from the situation in Abidjan is that we have a serious problem with enforcement. National and international laws are in place to regulate these exports, but problems arise because of the lack of legal and technical institutional capacity in many developing countries to monitor traffic across their borders. Strengthening the enforcement capacity of the Parties will therefore remain a priority for the Basel Convention in years to come³

Furthermore, besides revealing cracks in the current structure of international environment governance,⁴ the incident specifically questions the efficacy of the Basel Convention on the Control of the Transboundary Movements of Hazardous Wastes and their Disposal ("the Basel convention")⁵ in fulfilling its mandate of protecting human health and the environment against the adverse effects of the generation, transboundary movements and management of hazardous wastes.

In light of the Probo Koala incident, this paper undertakes a critical analysis of the Basel Convention compliance mechanism. In order to address the relevant issues raised by the subject, the paper is divided into five parts. Part II provides an account of the Probo Koala incident and Part III discusses the existing compliance mechanism under the Basel Convention. Part IV critically assesses the Basel Compliance mechanism against the events of the Probo Koala. Part V concludes the discussion, making recommendations for improving the compliance mechanism of the Basel Convention.

2 THE PROBO KOALA INCIDENT

The series of events which culminated in the Cote d'Ivoire tragedy began when a Korean-built, Greek-managed, but Panamanian-flagged tanker chartered by the multibillion dollar (euro) Dutch commodities trading company *Trafigura Beheer BV* ("Trafigura") docked in Amsterdam to discharge its load on 2 July 2006. As the ship discharged a portion of its cargo in a barge that was moored alongside the ship, a west wind carried its sharp stench into nearby residential neighborhoods, where residents notified the police. "This is the worst stench we have ever experienced here," said an employee of Amsterdam Port Services, a waste disposal company.⁶ Amsterdam Port Services took a sample of the black substance from one of the tanker's tanks. Though declared as "waste water" used to clean gasoline shipping tanks, chemical analysis told a different story. The hydrocarbons in the material contained high concentrations of mercaptan, a substance which is highly toxic and odorous in high concentrations.⁷ After an analysis of the residues, it was decided that the disposal operation required the use of specialist facilities in Rotterdam and would cost in the range of Euros 250,000 – 300,000 and not Euros 19,000 as originally envisaged, due to the high toxicity of the waste. Trafigura stopped the discharge of the residues, refusing Amsterdam Port Services' new quotation for the disposal of the slops. The slops were reloaded on the Probo Koala and the tanker left with the consent of the Amsterdam Port Authorities. Trafigura assured the Port Authorities that the residues would be managed safely elsewhere.

Three days later, the Probo Koala set sail to Estonia. Amsterdam port officials sent an urgent message to their counterparts in Paldiski, an Estonian port, informing them that a ship with a "suspicious cargo" was headed their way. Thus, the Probo Koala was unable to get rid of its 'chemical soup' in Paldiski, where it took on a consignment of gasoline bound for Africa. After unloading the gasoline in the port of Lagos, Nigeria, it arrived in Cote d'Ivoire in August. A company called *Tommy*, which had just been established in July, took delivery of the slop which

the European ports had turned away. Ivorian officials and witnesses say more than a dozen trucks contracted by *Tommy* simply poured 528 tons of the waste at 17 public sites around Abidjan after midnight of August 19. In the early hours of Monday 21 August 2006, residents of several parts of the district of Abidjan were awoken by a thick and suffocating smell. By morning, eyes were stinging, noses bleeding, stomachs, chests and ears were aching. Tests later confirmed the sludge contained mercaptans and hydrogen sulfide, a potent poison that, particularly in confined spaces, can cause blackouts, respiratory failure and death. Alerted, the Ministry of Environment and Forestry mobilized its services whose initial investigations led to the discovery of the dumping of some substance on several sites of the district of Abidjan.

The incident evolved into a crisis and a tragedy from sanitary, psychological, ecological and socio-economical perspectives. It led to massive displacement of residents living near the dump sites, and violent public demonstrations throughout the district of Abidjan. In view of the magnitude of the crisis, the Prime Minister and the Government resigned on 7 September 2006. A new Government was formed with the Ministers of Environment and Transport replaced by new individuals. The heads of the Customs Services, the Abidjan Harbour and the Governor of the District of Abidjan were all relieved of their duties.⁸ Interestingly, it has also led to an upsurge in calls for a reassessment of the compliance mechanism of the Basel Convention.

3 THE BASEL CONVENTION COMPLIANCE MECHANISM

Articles 4 and 6 of the Basel Convention impose obligations on parties to prevent pollution due to hazardous wastes. With the object of preventing the adverse health and environmental implications of hazardous wastes generation, movement and disposal, the Convention regulates the generation, movement and disposal of hazardous wastes. Adopting a preventive approach, the Convention enjoins parties to take appropriate measures to ensure the reduction, to a minimum, of the generation of hazardous wastes within their territories, taking into account social, technological and economic aspects.⁹ It also requires parties to cooperate in the development and implementation of new low-waste technologies, with a view to eliminating, as far as practicable, the generation of hazardous wastes.¹⁰ In regulating the transboundary movement of wastes, it prescribes the Prior Informed Consent procedure.¹¹ The Prior Informed Consent procedure imposes a duty on the state of export to notify the prospective states of import or transit, of any intended transboundary movement of hazardous wastes. The state of export can either provide this information itself or require the generator or exporter to do so through the channel of its competent authority.¹² The state of import shall respond to the notifier in writing, either consenting to the movement with or without conditions, or denying permission for the movement, or requesting additional information.¹³ A copy of the final response of the state of import shall be sent to the competent authorities of the states parties concerned. In this regard, the state of export shall not allow the generator or exporter to commence the transboundary movement until it has received written confirmation that:

- (a) The notifier has received the written consent of the state of import; and
- (b) The notifier has received from the state of import confirmation of the existence of a contract between the exporter and the disposer specifying environmentally sound management of the wastes in question.¹⁴

More so, each state of transit is obligated to promptly acknowledge to the notifier receipt of the notification. It may subsequently respond to the notifier in writing, within 60 days, consenting to the movement with or without conditions, or denying permission for the movement, or requesting additional information. To this end, the state of export shall not allow the transboundary movement to commence until it has received the written consent of the state of transit.¹⁵ When the waste finally arrives in the state of import, the Convention enjoins parties to dispose of such wastes in an environmentally sound manner. This entails taking all practicable steps to ensure that the wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes.¹⁶

In addition, the Convention obliges parties to take appropriate measures to ensure *inter alia*: (a) the availability of adequate disposal facilities for the environmentally sound management of hazardous wastes;¹⁷ (b) that the transboundary movement of hazardous wastes is reduced to the minimum;¹⁸ and (c) prevent the import of hazardous wastes if it has reason to believe that it will not be managed in an environmentally sound manner.¹⁹

4 THE PROBO KOALA INCIDENT AND THE BASEL CONVENTION COMPLIANCE MECHANISM: A CRITICAL ANALYSIS

The sequence of events that precipitated the Probo Koala incident reveals the inadequacies of the regulatory procedures/mechanism of the Basel Convention. As earlier noted, the tanker – Probo Koala carried the hazardous wastes from the port of Amsterdam to Paldiski, Estonia, and further down the road to the port of Lagos, Nigeria before its final dumping in Abidjan, Côte d’Ivoire. I am persuaded that a more efficient international regulatory framework would have intercepted the waste in transit and averted the eventual disaster in Abidjan. There are obvious weaknesses in the policing of parties’ compliance under the Basel Convention. Two areas of weakness that facilitated the Côte d’Ivoire tragedy are discussed in this paper, namely, (1) the absence of the duty on parties to inform neighbouring states of the presence of a vessel with hazardous wastes within their region; and (2) the lack of supervisory role for the Basel Secretariat in waste shipments. It is noteworthy that these two are not the only areas of weakness in the Basel Convention, but the ones that provided a leeway for the Probo Koala incident.²⁰

4.1 Absence of the duty to inform

The notification requirement under the Prior Informed Consent procedure, article 13(1) of the Basel Convention obligates parties to inform other states which are

likely to be affected by an accident which occurred during the transboundary movement of wastes or their disposal. Clearly, this duty arises only after the occurrence of an accident, and the information should be given to states which are likely to be affected by the accident only. There is no obligation in the Basel Convention for a party to inform its neighbours of the movement or transit of hazardous wastes within their coastal waters. The absence of this duty is particularly worrisome given the widespread capacity deficiency amongst parties to the Convention. In the case of the Probo Koala, Amsterdam port officials had to send an urgent message to their counterparts in Paldiski, Estonian using the Port State Control database as required by the EU Directive,²¹ but the Estonian authorities found themselves under no obligation to inform African countries when the ship headed for Africa. Similarly, after offloading its consignment of gasoline in Nigeria, the Nigerian authorities, even though informally informed of the ship and its cargo,²² did not find themselves obliged to alert fellow African countries of the 'suspicious cargo' aboard the Probo Koala. This gives room for the assumption that, had there been such a duty to inform, information about the slop aboard the Probo Koala would have been made available to the appropriate authorities, thereby foreclosing any reason why any state might have for accepting the waste.

This point is aptly supported by the UNEP Project Document on the Capacity-building Programme for the Monitoring and Control of Hazardous Wastes and Toxic Chemicals in the Gulf of Guinea, which identified the need for proper information sharing among neighbouring states as a veritable tool for averting a reoccurrence of such incident, thus –

The sequence of events and the route followed by the Probo Koala in the Gulf of Guinea before she eventually discharged the waste in the port of Abidjan confirms the regional dimension of the problem. It also highlights the absolute need for the sharing of appropriate information between port facilities in the sub-region. It also confirms the necessity for a fluid and efficient mechanism for information sharing as well as early warning procedures in the case of illegal traffic. *This mechanism should be regulated under an adequate legal framework.*²³

I sympathize with this observation and will reiterate that the absence of a duty to inform in the Basel Convention is a major limitation of the instrument and a key contributor to the Côte d'Ivoire incident.

4.2 Lack of supervisory role for the Basel Secretariat in waste shipments

Article 16 of the Basel Convention enumerates the functions of the Basel Secretariat to include arranging and servicing meetings provided by the Convention, preparing and transmitting reports of meetings, communicating with focal points and competent authorities of parties, compiling information concerning authorized national sites and facilities. Hence, the core functions of the Basel Secretariat are

that of coordinating and monitoring, with very limited supervisory functions.²⁴ This limited supervisory authority of the Secretariat in wastes shipments (e.g., in the Prior Informed Consent procedure) has been identified as a major weakness of the Convention.²⁵ Consequently, the effective implementation of the Convention depends on the extent and quality of its implementation at the national level. Thus, given the prevalent lack of capacity to dispose wastes in an environmentally sound manner amongst parties to the Convention, breach should be expected.

This weakness played-out in the Cote d'Ivoire episode. Had the Secretariat been clothed with adequate supervisory functions over waste shipments, it could have been notified by one of the parties that had business with the Probo Koala before the incident (i.e., the Netherlands, Estonia, or Nigeria). This could have triggered the intervention of the Secretariat to prevent the eventual health and environmental disaster in Cote d'Ivoire. As long as the Secretariat is expected to stay aloof of wastes shipments, expecting parties to play according to rules in the absence of an umpire, more disasters may be looming. It is indeed a great pity that the Secretariat is to be notified concerning any given transboundary movement of hazardous wastes only when a party which considers that its environment may be affected by such movement has requested that this should be done.²⁶ Apart from this situation, the Secretariat will be considered a trespasser or a meddlesome interloper if it ventures into issues relating to the transboundary movement of wastes between parties. The Bamako Convention on the Ban of the Importation into Africa and the Control of Transboundary Movement and Management of Hazardous wastes within Africa²⁷ makes a better provision in this respect. It obligates its parties to ensure that copies of each notification concerning any transboundary movement of hazardous wastes and the response to it are sent to the Secretariat. Clearly, such notification requirement enhances the Secretariat's participation in the shipment of wastes.

5 CONCLUSION

The dumping of hazardous wastes in Abidjan, Cote d'Ivoire has once again awoken the global community to the adverse health and environmental consequences of the hazardous wastes trade. As efforts are being made in several fora to prevent a reoccurrence of such an incident, and to improve the capacity of states in handling similar disasters, it is necessary that the international community returns to the drawing board, by taking a look at the legal superstructure upon which waste trades are regulated. Since the Basel Convention is the principal instrument in this regard, the foregoing analysis has revealed areas of possible amendment of the instrument in order to strengthen its regulatory framework. To this end, there is need to impose a duty on parties, to inform neighbouring states of the presence of vessel(s) with suspicious cargo within their region, and to accord the Secretariat a supervisory role over inter-parties shipment of wastes. It would appear wanting in discretion to expect parties to conduct themselves in accordance with the provisions of the Convention in the event of waste shipments without a supervisory body to ensure compliance.

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¹ The adverse health and environmental dangers posed by the transboundary movement of hazardous wastes are frightening: (i) In the village of some developing countries, children have been found playing with spheres containing radioactive isotopes formerly used in x-ray machines. John May, *The Greenpeace Book of The Nuclear Age: The Hidden History, The Human Cost* (1990) 364; (ii) In another instance, some Mexicans split open an x-ray machine sphere that contained a radioactive isotope dust. As a result of its luminescent quality, the Mexicans believed the dust to be a good luck charm. In the course of venerating the deadly dust, it was spread throughout the city, and placed upon bodies of many of those who came in contact with it. Consequently, some of the city ground was contaminated and had to be removed and replaced. All of those who came in contact with the dust became ill, and some died; (iii) Residents of developing nations also find dangerous uses for the container of improperly disposed hazardous wastes - old x-ray machines have been cut up and the metal which may be radioactive, sold for scrap and latter combined into new metal or built into a house, *World Common on Environment and Development, Our Common Future* (1987) 226; (iv) In 1988, many drums of toxic wastes were dumped at the backyard of a compound in a village located along the Delta of the River Niger, Nigeria. Several months later, the contents had eaten up the drums and spilled to the land, thereby creating very serious environmental pollution problems. Many people lost their lives and the health of several people was adversely affected. See Ekosse, George. "Transboundary Movement of Hazardous Wastes" in *Pollution Control and Waste Management in Developing Countries* edited by Rogers W'O Okot-Uma *et al*, (2000) UK, London, Commonwealth Secretariat, 417 at 425; (v) The Peruvian incident seems more pathetic. On June 2nd, 2000, a truck from the Yanacocha Mine spilled 151 kilograms of liquid mercury along a 40-kilometer stretch of highway passing through Choropampa and two neighboring villages. People gathered up the mercury, believing it to be a valuable metal. According to conservative government estimates, more than 900 people were poisoned. Symptoms of mercury poisoning (skin irritation, headaches, diminished eye sight, kidney problems, stomach aches, etc.) emerged a few days after the spill. Several of the victims were hospitalized, and one woman went blind. Juana Martínez from the Choropampa Defense Front said: "Several children have been born missing fingers and toes. Nothing like this ever happened in our village before the mercury spill." Miscarriages are also occurring at an alarming rate, while children suffer from chronic nosebleeds, respiratory infections, loss of sight and hearing, chronic migraine headaches and an inability to concentrate. See *Dividing and Polluting – Yanacocha Gold Mine in Peru*, online: Friends of the Earth International, <http://www.foei.org/publications/link/mining/22.html>; (vi) More recently, following the Abidjan illegal dumping of hazardous wastes, the name of one Jean Jacques Kakou has been added to the list of victims of this infamous trade. Jean, a 27 years old construction worker, like thousands of others awoke to an overpowering stench that burned his eyes and made it hard to breathe. Three weeks later, he was dead. Authorities suspect that one out of 10 deaths could be linked to the

illegally dumped hazardous waste. See *From Rich to Poor: Ivory Coast Tragedy Highlights Hazardous Waste Trade on Rise* by The Associated Press, International Herald Tribune (France) 17 October 2006, online: Basel Action Network, <http://www.ban.org/ban_news/2006/061017_rich_to_poor.html>. The probe panel blames the illegal dump on administrative failures and negligence. See Ivorian Toxic Waste Probe slams errors by officials, online: Basel Convention Regional Centre Pretoria, <<http://www.baselpretoria.org.za/News.htm#un>>. For similar examples, see Gwan, Cyril Uchenna. "Adverse Effects of the Illicit Movement and Dumping of Hazardous, Toxic and Dangerous Wastes and Products on the Enjoyment of Human Rights" (2002) 14 Florida Journal of International Law 427 at 432-433.

² For an account of the paucity of capacity in handling the wastes by the Ivorian government, see the United Nations Environment Programme "Regional Capacity-building Programme for the Monitoring and Control of Transboundary Movement of Hazardous Wastes and Toxic Chemicals in the Context of the Implementation of the Basel Convention and other Related Multilateral Environmental Agreements in the Gulf of Guinea." [Unpublished] (Hereinafter "The UNEP Project Document").

³ United Nations Environment Programme, "Liability for Côte D'Ivoire Hazardous Waste Clean-Up", online at <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=485&Article>

⁴ This incident reveals a gap in the existing multilateral instruments as it has remained unclear whether the incident falls within the mandate of the Basel Convention or that of the International Convention for the Prevention of Pollution from ships 1973/78 (MARPOL 1973/78). As the waste in question was generated in a vessel, some analysts see it as wastes derived from the normal operations of a ship, the discharge of which is covered by another international instrument, expressly excluded from the regulation of the Basel Convention by its article 1(4). Similarly, others argue that there was no transboundary movement of the waste in question to trigger the application of the Basel Convention. On the contrary, some have contended that the offloading and reloading of the wastes in Amsterdam before its final disposal in Cote d'Ivoire satisfies the requirement of transboundary movement etc. Obviously, there are points in each argument, revealing the gap in the current global regime on the transboundary movement of hazardous wastes.

⁵ The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal ("The Basel Convention") is the main multilateral instrument regulating the transboundary movements of hazardous wastes around the world.

⁶ See Sebastian Knauer, Thilo Thielke and Gerald Traufetter, *Profits for Europe, Industrial Slop for Africa*, on 18 September 2006, online at <http://www.spiegel.de/international/spiegel/html>

⁷ *Ibid.*

⁸ For detailed account of the Probo Koala incident, see Eze, Chukwuka N. "Bamako Convention on the Ban of the Import into Africa and the Control of the Transboundary Movement and Management of Hazardous Wastes within Africa: A Milestone in Environmental Protection?" (2007) 15:2 African Journal of International and Comparative Law, 208 at 211; The UNEP Project Document, *supra*, note 2; *From Rich to Poor: Ivory Coast Tragedy Highlights Hazardous Waste Trade*

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⁹ Basel Convention, Article 4(2)(a); See also Kummer, Katharina. *International Management of Hazardous Wastes: The Basel Convention and Related Legal Rules* (Oxford: Oxford University Press, 1995) at 55.

¹⁰ Basel Convention, Article 10(2)©; Kummer, Katharina, *ibid*.

¹¹ The PIC procedure is regulated by Articles 6, 7 & Annex VA of the Basel Convention.

¹² Basel Convention, Article 6(1); Kummer, Katharina, *supra*, note 9 at 65 and 66.

¹³ Basel Convention, *supra*, Article 6(2).

¹⁴ *Ibid.*, Article 6(3).

¹⁵ *Ibid.*, Article 6(4).

¹⁶ *Ibid.*, Article 2(8) defines the Environmentally Sound Management (ESM). This definition has been criticized for being very general in terms, see Abrams David. "Regulating the International Hazardous Waste Trade: A Proposed Global Solution" (1990) 28 Columbian Journal of Transnational Law, 801 at 828.

¹⁷ *Ibid.*, Article 4(2)(b).

¹⁸ *Ibid.*, Article 4(2)(d).

¹⁹ *Ibid.*, Article 4(2)(e).

²⁰ There are other areas of weakness in the compliance mechanism of the Basel Convention. One such example is the Compliance Committee of the Convention which has not handled any case for over six years of its establishment, owing to the negative perception amongst Parties that "resort to the Committee could be a strong diplomatic act." See Report of the Fifth Session of the Compliance Committee of the Basel Convention, online at http://www.basel.int/legalmatters/compcommittee/reports/cc5_06.doc

²¹ See The UNEP Project Document *supra*, note 2 at 14, where it was stated that "The officials of the Shipping Division of the Transport and Water Management Inspectorate (IVW) notified the next port using the PSC (Port State Control) database in order to ask this port to carry out a check on the quantity of slops on board the Probo Koala."

²² See the Report of the International Enquiry Commission on the Discharge of Toxic Waste in Abidjan, 24 February 2007.

²³ Emphasis supplied, See The UNEP Project Document *supra*, note 2 at 15.

²⁴ See Basel Convention, Article 13; Kummer, Katharina, *supra*, note 9 at 82.

²⁵ *Ibid*; Abrams David. *supra*, note 16 at 835.

²⁶ Basel Convention, Article 13(4).

²⁷ The Bamako Convention, 1991 was adopted in Bamako, Mali, on 30 January 1991 and came into force on 10 March 1999. As at 31 October 2007, there are 29 African states signatories and 22 parties to the convention. Bamako Convention, online: Basel Action Network http://www.ban.org/Library/bamako_treaty.html

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RAPID APPRAISAL OF THE PHILIPPINE COMPLIANCE WITH, AND IMPLEMENTATION OF ITS VARIOUS MULTILATERAL ENVIRONMENTAL AGREEMENTS' OBLIGATIONS

FLORANO, EBINEZER R.¹, PRIETO, PREJEAN A.
and DIG, EUGENIO ANTONIO E.²

¹ Assistant Professor and Research Fellow, University of the Philippines-National College of Public Administration and Governance, Diliman, 1101 Quezon City, Philippines, efloranoy@yahoo.com and ebinezer.florano@up.edu.ph

² Research Assistants, University of the Philippines-National College of Public Administration and Governance, Diliman, 1101 Quezon City, Philippines, prejudice_1985@yahoo.com and gene-no@yahoo.com

SUMMARY

This study evaluates the implementation of 10 multilateral environmental agreements to which the Philippines is a signatory and/or has ratified. Out of these 10 multilateral environmental agreements eight are global, and 2 are regional. They represent various environmental concerns, such as climate change, ozone depletion, biodiversity, bio-safety, heritage sites, forests, oceans and seas, and transboundary air pollution. Using the rapid appraisal method, the study identified variables which serve as either facilitating or hindering factor in the effective implementation of these multilateral environmental agreements.

1 INTRODUCTION

The Philippines' intention and ability to comply with and domestically implement multilateral environmental agreements to which it is a signatory and/or has ratified have been a subject of many case studies. Observations vary in their assessment of the Philippine performance. Some are critical while others are cautiously positive. Negative reviews usually center on institutional dysfunctions, e.g., over-coordination of environmental policy formulation, implementation, and review involving the Department of Environment and Natural Resources, the Philippine Council for Sustainable Development, and the National Economic and Development Authority;¹ and fragmentation and communication failures primarily between the Department of Foreign Affairs and the Department of Environment and Natural Resources (DENR) on negotiating multilateral environmental agreements, etc.² Positive reviews, on the other hand, highlight the adaptability of the Philippines to respond to the demands of the various multilateral environmental agreements and the strategies being used for multilateral environmental agreement implementation. There are also those which examine the Philippines' extent of compliance depending on the nature of the multilateral environmental agreement.³ Yet, most of these reports do not employ systematic

analysis of the causes of compliance (or non-compliance) of the Philippines. Most of them concluded their reports by citing procedural accomplishments, e.g., ratification of multilateral environmental agreements, enacting of enabling national/domestic laws and measures, reduction of Ozone-Depleting Substances, etc. Unfortunately, these are not enough to understand the Philippines' level of compliance and implementation successes (or failures).

1.1 Objectives

This rapid appraisal aims not only to determine the levels of compliance (or non-compliance) of the Philippines with its various multilateral environmental agreements obligations, but explain the reasons behind them by analyzing the factors that affect their effective implementation. The multilateral environmental agreements considered in this study are listed in Table 1 (The 10 Multilateral Environmental Agreements).

Table 1: The 10 Multilateral Environmental Agreements

| Multilateral Environmental Agreement | Year of Approval/ Open for Signature | Year of Entry Into Force | Year of Ratification by the Philippines | Lead Government Agency in the Philippines |
|---|---|---------------------------------|--|--|
| Kyoto Protocol | 1997 | 2005 | 2003 | EMB |
| Montreal Protocol on Substances that Deplete the Ozone Layer | 1987 | 1989 | 1991 | POD |
| Convention on Biological Diversity | 1992 | 1993 | 1993 | PAWB |
| Cartagena Protocol on Bio-Safety | 2000 | 2003 | 2006 | NCBP |
| Convention Concerning the Protection of the World Cultural and Natural Heritage | 1972 | 1975 | 1985 | NCCA & DENR |
| International Tropical Timber Agreement-1994 | 1994 | 1997 | 1994 | FMB |
| United Nations Convention on the Law of the Sea | 1982 | 1994 | 1982 | MOAC |
| Basel Convention on the Transboundary Movement of Toxic and Hazardous Wastes and Their Disposal | 1989 | 1992 | 1993 | EMB |
| ASEAN Agreement on the Conservation of Nature and Natural Resources | 1985 | --- | 1986 | DENR |
| ASEAN Agreement on Transboundary Haze Pollution | 2002 | --- | --- | PHTF-EMB |

1.2 Theoretical Framework

This study builds on INECE's collection of literature on compliance theories. In particular, this study uses Weiss and Jacobson's framework entitled, "A Comprehensive Model of Factors that Affect Implementation, Compliance, and Effectiveness."⁴ The model posits that the implementation and effectiveness of,

and compliance with, international environmental accords could be explained by variables grouped into four broad categories. These four groups of variables and the specific hypotheses under them are as follows:

1. *Characteristics of the Activities Involved:* An accord can be effectively implemented if there are smaller numbers of actors involved; there is a positive implementation cost-benefit ratio; large transnational corporations are monitored; and a regional hegemon provides good implementation examples to others.
2. *Characteristics of the Accord:* An accord leads to effective implementation if it adopts the differentiated obligations principle; it has precise objectives and obligations; it utilizes scientific and technical advice from the epistemic community; it requires party-signatories to submit reports to the secretariat; it provides other forms of monitoring member-signatories' compliance; it provides for an effective and efficient secretariat; and there are incentive and sanction provisions.
3. *International Environment:* A conducive international environment for effective implementation is one where international conferences are held to discuss issues and problems; international media and informed public opinion and non-governmental organizations pressure governments to deal with environmental issues; and major international organizations and international financial institutions are able to provide moral persuasion and financial/technical assistance.
4. *Factors involving the Country:* Factors inherent to the country lead to effective implementation if: the countries' history and culture are pro-environment/eco-centric; the countries are democratic and rich; there is high local administrative and technical capability; there is active participation from local non-governmental organizations; and there are pro-environment political leaders.

1.3. Methodologies

This study employed the Rapid Appraisal Methods which are quick, low-cost ways to gather the views and feedback of beneficiaries and other stakeholders on the implementation of multilateral environmental agreements which concern them. Data were also gathered from the Department of Environment and Natural Resources and its various bureaus, and from the libraries, databases, and websites of the 10 multilateral environmental agreements.

2 SUMMARY OF FINDINGS AND ANALYSES

Philippine laws as enabling instruments for the domestic implementation of international accords are inter-related. Like multilateral environmental agreements, domestic laws influence each other. The Local Government Code

of 1991 influences almost all the other environmental laws as it provides for the devolution of environmental protection services. Thus, environmental programs and projects usually involve local government units and the participation of the people from the grassroots. The National Integrated Protected Areas System Law also takes part in the implementation of various environmental programs as it encompasses the marine, forest and terrestrial environments as long as they are considered protected areas. The National Integrated Protected Areas System Law has a transcending authority over the other sub-sectors of the environment.

Interconnections between and among domestic laws and between multilateral environmental agreements are also perceivable and this is manifested by the management of a single site or program in compliance with two or more multilateral environmental agreements. For example, the Tubbataha Reef National Marine Park is managed as a marine protected area (under the Convention on Biological Diversity (CBD)), as a sanctuary of marine resources under the United Nations Convention on the Law of the Sea (UNCLOS), as a world heritage site under the World Heritage Convention, and as a protected wetland under the Ramsar Convention. The same is true for the Puerto Princesa Subterranean River National Park as a PA and as a world heritage site. Some forestlands are also managed as protected areas under National Integrated Protected Areas System and as forest reserves under International Tropical Timber Agreement-1994 (ITTA).

Due to the complexity and interrelationship of domestic laws, coordination among the different government agencies is a must. Thus, implementation of some laws is done in an inter-agency approach. The agricultural aspect of the Fisheries Code of 1998, for example, is implemented by the Department of Agriculture's Bureau of Fisheries and Aquatic Resources through its fishery and livelihood programs. In addition, the Department of Environment and Natural Resources takes part in the implementation of the code's environmental aspect through its marine and coastal resources management programs. But, both of these are in compliance with the United Nations Convention on the Law of the Sea. In the case of the Montreal Protocol, the Philippine Ozone Desk (POD) takes the lead, with the support from other agencies like the Bureau of Customs, Department of Trade and Industry, Department of Health, among others. Likewise, the implementation of the Cartagena Protocol is undertaken by the National Committee on Bio-safety of the Philippines (NCBP) and Bureau of Plant Industry as lead agencies.

In some cases, the inter-connectivity of domestic laws leads to multilateral environmental agreement implementation conflicts. The National Integrated Protected Areas System and IPRA Laws, for example, conflict with each other in protected area management because the former upholds participatory approach, while the latter promotes (indigenous peoples') rights-based approach. The case of the indigenous peoples of Coron Island in Palawan is one example where the IPRA Law dominated the National Integrated Protected Areas System Law, i.e., the indigenous peoples' rights were upheld over those of the majority's rights for a healthful ecology.

Philippine compliance with the 10 multilateral environmental agreements can be plotted in a spectrum of procedural and substantial compliance. In terms of substantial compliance, some of the provisions and obligations under some multilateral environmental agreements have already been undertaken by the Philippines even before their ratification and entry into force in the country. Thus, we may call this as “perfunctory compliance” because of the routinary activities or practices prior to the multilateral environmental agreements’ enforcement. Some protected areas, for example, have been established as early as the 1980s. The National Committee on Bio-safety of the Philippines has also been engaged in genetically-modified organism issues and concerns since 1990. Government agencies like the Cabinet Committee-Maritime and Ocean Affairs and Maritime and Ocean Affairs Center, have also been engaged in marine environmental protection and baselines and territory identification prior to the United Nations Convention on the Law of the Sea.

Among many other factors, financial incentives may have attracted the Philippines to ratify many multilateral environmental agreements. Majority of the multilateral environmental agreements under study provide financial assistance for developing countries to implement them. Nine of these multilateral environmental agreements have been ratified by the Philippines, the most recent of which is the Cartagena Protocol (October 2006).

Table 2: Multilateral Environmental Agreements Ratification and Provision for Financial Assistance

| Multilateral Environmental Agreements | Philippine Ratification/ Signature | Available Financial Assistance |
|---------------------------------------|---------------------------------------|--------------------------------|
| ITTA | X | X |
| CBD | X | X |
| WHC | X | X |
| UNCLOS | X | X |
| ACNNR | | |
| Basel ^a | X | X |
| Montreal | X | X |
| Cartagena | X | X |
| ATHP ^a | X | X |
| Kyoto | X | X |

Note:

^a Financial assistance is based on voluntary contribution.

Generally, the Philippines is strong in procedural compliance, including the submission of national reports, attendance in international meetings and conferences, and membership in subsidiary bodies created by the international conventions. The Protected Area and Wildlife Bureau, for example, has already submitted its "Third National Report to the Convention on Biological Diversity." Likewise, the Forest Management Bureau has transmitted its "Second National Report to the International Tropical Timber Organization." The National Commission for Culture and Arts also transmits regularly its "National Report to the World Heritage Committee" which is supplemented by the conservation reports of local organizations in charge of the management of the world heritage sites. The Environmental Management Bureau has also completed its "National Reporting" and "National Communication" to the Basel Convention and Kyoto Protocol, respectively.

Other examples of procedural compliance of the Philippines are: the development of criteria and indicators system and issuance of tenurial agreements (International Tropical Timber Agreement -1994); the issuance of permits to recyclers, and transporters to operate (Basel Convention); the issuance of permits to conduct business (Cartagena Protocol); and the establishment of protected areas (Convention on Biological Diversity). Still, substantial improvements on the condition of environment are hardly recorded or reported. Without these accomplishments reported, interested parties may get lost or confused when measuring the multilateral environmental agreements' effectiveness because the real measures as to the improvement of the environment are not apparent.

This study affirms that financial capability is a very significant factor in effectively implementing multilateral environmental agreements at the local/ground level. In the case of the Convention on Biological Diversity, a trend of effective management is observed in revenue-earning protected areas. This is true in the cases of the Tubbataha Reef National Marine Park (user fee is imposed), and the Rice Terraces of the Cordilleras (no user fee is imposed). The former is effectively protected using the funds generated from the user fees, while the latter is not because, aside from the fact that individual lots of the terraces are privately owned, user fees cannot be imposed which could be used to renovate the slowly eroding rice terraces. In the forestry sector, reforestation effort was at its peak when there was still money from the ADB-funded National Reforestation Program. However, reforestation began to wane when there were no longer enough funds to conduct massive reforestation again. In the case of the Montreal Protocol, the effective implementation of the National CFC Phase-Out Plan is partly attributed to the funds provided by the Multilateral Fund and World Bank (multilateral assistance), and Swedish International Development and Cooperation Agency (bilateral assistance).

The skills of officials in charge (e.g., managers or superintendents of protected areas, foresters, custom examiners, agriculturists, etc.) of the implementation of the multilateral environmental agreements are also necessary to achieve effective

implementation. Most of the protected area superintendents or managers in the Philippines are not knowledgeable in the field, hence, most of the protected areas are also not managed effectively, according to the Haribon Foundation, an environmental NGO. Likewise, customs officials may have to be trained to check multilateral environmental agreements' objects of control (e.g., hazardous wastes, genetically-modified organisms, Ozone-Depleting Substances, biodiversity species for trade, etc.) at the port-of-entry. Lack of knowledge or its inadequacy among Bureau of Customs personnel would put the country in jeopardy with hazardous wastes and its multilateral environmental agreement obligations. One such case is the entry of Ozone-Depleting Substances in a port in Cebu. The Department of Environment and Natural Resources also admits that there are illegal entries of Ozone-Depleting Substances in the country, but these are not monitored and usually unreported. Apart from the lack of knowledge of officials, the geographic character of the Philippines, an archipelagic country, contributes to the illegal entry of Ozone-Depleting Substances, genetically-modified organisms, and hazardous wastes because each part of the country's coasts may be considered as possible ports of entry.

Personnel turnover (i.e., resignation, transfer, retirement) is also a factor that hinders effective implementation of some accords. In the Philippines, personnel turnover does not provide for the continuation of programs and activities. Hence, new staff begins from scratch because the knowledge of the previous staff are not passed on to them. In the case of the ASEAN Agreement on Transboundary Haze Pollution (ATHP), for example, the retirement of the focal person has led to the partial loss of knowledge and expertise in the field.

The study encountered some difficulties in assessing the effectiveness of implementation of two multilateral environmental agreements, namely, United Nations Convention on the Law of the Sea and ASEAN Agreement on the Conservation of Nature and Natural Resources (ACNNR). The United Nations Convention on the Law of the Sea, a document composed of more than 200 pages, is a very broad accord and this has not permitted the researchers to make a substantial assessment. Although the study on United Nations Convention on the Law of the Sea focused on the provisions of marine environmental protection, difficulty in analysis was still encountered. This is because the provisions on marine environmental protection are highly related and inseparable to the other contents of the accord such as shipping, marine pollution due to oil spills, and exploration of seabed. In addition, the sheer size of the Philippine marine territory makes it difficult to assess the effectiveness of the accord's implementation.

Agreement on the Conservation of Nature and Natural Resources is another multilateral environmental agreement with which the study had difficulty in assessing. It was ratified by the Philippines, but it has never entered into force due to the failure of other member-countries of the Association of Southeast Asian Nations to ratify it.

3 CONCLUSION

The Philippines is one of the countries which has the most number of multilateral environmental agreements, i.e., 28. It is well-noted that the country “possesses one of the most responsive institutional and legislative mechanisms for environmental management in South East Asia.”⁵ Yet, it also has its share of environmental law and regulation implementation problems especially in fulfilling its multilateral environmental agreement obligations. In this study, the following variables were observed as facilitating or hindering factors in the effective implementation of multilateral environmental agreement obligations in the Philippines: political will, funds, technical knowledge in implementing environmental laws, cooperation of civil society organizations and the business sector, coordination between and among national and local authorities and government agencies, and harmony among national/domestic environmental and various other laws.

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BALLAST WATER MANAGEMENT IN CROATIA

BELAMARIC, GORAN, GORANA, JELIC-MRCELIC, MERICA, SLISKOVIC and
RANKA, PETRINOVIC¹

¹ Faculty of Maritime Studies Split, Zrinskofrankopanska 38, 21000 Split, Croatia,
gjelic@pfst.hr.

SUMMARY

The World Health Organization, as well as Port Authorities, have expressed great concern regarding the growing menace of harmful aquatic organisms and pathogens released from the ballast tanks of freighters partaking in international voyages. Management and control measures include (1) minimizing the uptake of organisms during ballasting by avoiding areas where populations of harmful organisms are known to occur; (2) cleaning ballast tanks, such as removing mud and sediments that accumulate in tanks, which may harbour harmful organisms; and (3) avoiding unnecessary discharge of ballast. Ballast Water Exchange is the operational method currently used by all ships that are subjected to existing regulations, this exchange strives to remove exotic species from ballast tanks by replacing seawater taken on in port and near shore areas with seawater from the deep, open ocean. International regulations concerning the problem of ballast water were first introduced in the late 1980s. In 2004, The Ballast Water Convention was adopted, consisting of Articles and an Annex which includes technical standards and requirements for the control and management of ships' ballast water and sediments. By adoption of the Maritime Code in 2004, which is based about 80 percent on Maritime Code of the Republic of Croatia enacted in 1994, Croatia was obliged to create legislation on ballast waters control and management within the period of two years from the enforcement of the Code.

1 INTRODUCTION

International Maritime Organization estimates that ten billion tons of ballast water with 10,000 species of marine organisms is transferred each year worldwide. The introduction of invasive marine species into new environments has been identified as one of the four greatest threats to the world's oceans. The vast majority of marine species carried in ballast water do not survive the journey. Even those that do survive a voyage and discharging, the chances of surviving in the new environmental conditions, including predation by and/or competition from native species, are low. However, when all factors are favourable, an introduced species may become invasive, out-competing native species, and multiplying into pest proportions. There are hundreds of examples of catastrophic introductions around the world resulting in economic and/or ecological impacts in the native environment, and causing severe consequences to human health. Unlike other forms of marine pollution, such as oil spills, where ameliorative action can be

taken and from which the environment will eventually recover, the impacts of invasive marine species are most often irreversible. Further, municipal and industrial water users have spent large sums of money in recent decades cleaning infested waters. Also, commercial and recreational fisheries throughout the world have sustained economic losses due to the depletion of native species. Action to prevent and control future invasions is essential.

2 BALLAST WATER MANAGEMENT

Ballast Water Exchange is the method currently used by all ships that are subject to existing regulations, which requires seawater taken on in port and near shore areas to be exchanged with seawater from the deep, open ocean. This exchange can be accomplished by the sequential (empty and refill) method or by the overflow/flow-through method. The sequential method requires completely emptying segregated ballast tanks and refilling them with open ocean water. The overflow method entails pumping open ocean water into a full, ballast tank for a length of time that will exchange the ballast water tank volume at least three times. The biological effectiveness of ballast water exchange has not yet been confirmed and exchange occasionally cannot be performed due to safety concerns. Ballast water exchange is not completely effective and may have safety and cost implications for the operation of the ship. Other options include (1) mechanical treatment methods such as filtration and separation; (2) physical treatment methods such as sterilisation by ozone, ultra-violet light, electric currents and heat treatment; and (3) chemical treatment methods such as adding biocides to ballast water to kill organisms and various combinations of the above. Due to the limitations of Ballast Water Exchange, it is clear that practical and economical onboard treatment methods must be developed and their efficacy confirmed.

3 BALLAST MANAGEMENT TIPS

The following measures are recommended to minimize the uptake and release of harmful aquatic organisms. These measures are of the utmost importance to improve environmental compliance and enforcement within ballast water management.

3.1 Minimize Ballasting in Ports and Coast Areas

Although most merchant ships require ballast water for stability, minimizing the amount of ballast water taken in from ports and coastal areas will reduce the number of potential invaders transported to the next port.

3.2 Perform Open Ocean Ballast Exchange Within Safety Permits

Most open ocean species cannot survive in the near shore environment. With open ocean exchange, ballast water containing organisms from near shore sites is replaced within open ocean water containing species not well adapted to the near

shore environment. Croatia must adopt a law requiring exchange of ballast water at open sea or following other specified management requirements.

3.3 Avoid Ballast Uptake Over Night

Some organisms rise in the water column to feed or reproduce during the day, making them more available for uptake. The chance for bottom dwelling organisms and sediments being entrained with ballast water increases when ballasting in shallow ports where sediments are disturbed by propeller wash.

3.4 Avoid Ballast Uptake in “Hot Spots”

“Hot spots” are water bodies that are particularly infested with non-native species, have toxic algal blooms or are contaminated by sewage outfalls. Scientists are trying to identify global hot spots.

3.5 Reduce Invasions Via Hull and Anchor Fouling

Non-native species can attach to hull, pipes and tanks. They should be removed and disposed off on a regular basis. Anchors and anchor chains should be rinsed during all retrievals to prevent transport of nuisance species from their point of origin.

3.6 Keep Records of Ballasting Operations

Masters of all vessels carrying ballast water into Croatian waters after operating beyond the Exclusive Economic Zone, unless specifically exempted, are required to keep records and provide written information to the Authorities (Harbour Master).

4 CROATIAN MARINE AND COASTAL AREAS

The exceptional natural beauty of Croatia’s coastal and marine areas and the irrational use of natural resources gives rise to the fear that these areas will be contaminated by invasive species due to ballast water exchange. Consequently, the imposition of an efficient marine and coastal management system appears to be an extremely important objective. A comprehensive assessment on the country’s marine and coastal areas would go beyond the scope of this paper but some of the most significant problems should be mentioned:

- Seriously insufficient level of scientific knowledge about marine ecosystems and species;
- The lack of coastal management plans;
- The absence of specially designated and managed marine areas;

- Inefficient control due to physical features of marine areas (well-indented coast and numerous islands makes control both difficult and expensive);
- Intensive and often illegal building activities along the coastline and related problems;
- The development of nautical tourism, which results in rapidly increasing number of recreational crafts and related problems; and
- The disrespect of sustainable capacity of marine environment in general.

5 ENVIRONMENTAL LEGISLATION ENFORCEMENT

At the national level, responsibility for the environment belongs to the recently established Ministry of Environmental Protection and Physical Planning, which has significantly strengthened the competence and capacity of environmental protection in Croatia. Inadequate working conditions (the lack of human resources, financial sources, equipment, on-the-job training opportunities, etc) and enforcement agencies (inspection, administrative offices), particularly their local branches, are the major institutional problems. The Ministry of Environmental Protection and Physical Planning has authorized environmental inspectors, but their number is far from sufficient. Such understaffing is mostly apparent in major towns such as Zagreb, Rijeka, Split, and Osijek. In addition, insufficient coordination with other governmental bodies (such as the Navy, Maritime Police, Ministry of Maritime Affairs, Business and Commerce) results in a lack of awareness of their responsibilities. Further, at the local level, the uneven and often scarce capabilities of local administration are responsible for failures in enforcements of environmental laws and regulations.

Regarding Croatia's environmental legislation practice, the following facts should be emphasized:

- Environmental legislation still needs to be harmonized with ratified international treaties and EU legislation;
- The lack of utilization of the Croatian judiciary system in environmental matters makes both courts and attorneys inexperienced in regard to relevant cases;
- The inefficiency of the judiciary system in general; and
- The insufficient rate of public participation in environmental decision-making procedures due to the lack of proper information and awareness.

The lack of environmental protection programs adopted at the regional level illustrates inefficient law enforcement in Croatia. The failure to implement local

environmental programs results from the incompetence of regional environmental authorities and the lack of experts to carry out these tasks. However, the Croatian government is motivated to impede environmental degradation in their country. For example, in 1997, Croatia invested about 0.2-0.3 percent of their GDP directly to environmental protection (the equivalent of \$30-35 million U.S. dollars). Regardless, it is the opinion of the authors that corruption significantly contributes to environmental problems, particularly in certain regions and fields of interests. Such cases include the issuance of building permits for the coastal zone without respecting physical planning documents, or allowing the exploitation of certain natural resources, such as gravel and rocks.

6 BALLAST WATER REGULATIONS

International regulations concerning the problem of ballast water were first introduced in the late 1980s. Canada and Australia brought their concerns to the attention of the International Maritime Organization's Marine Environment Protection Committee after experiencing particular problems with marine flora and fauna devastations caused by unwanted species. In 1991, Marine Environment Protection Committee Resolution 50 (31) - Guidelines for Preventing the Introduction of Unwanted Organisms and Pathogens from Ships' Ballast Water and Sediment - was adopted by Marine Environment Protection Committee. Two years later, International Maritime Organization Assembly adopted resolution A774 (18) with same title. The resolution required updating of the original guidelines according to development of international applicable legally-binding provisions by Marine Environment Protection Committee and MSC.

On February 13, 2004 the International Convention for the Control and Management of Ships Ballast Water and Sediments (Ballast Water Convention) was adopted at International Maritime Organization Diplomatic Conference in London. The Ballast Water Convention consists of Articles and an Annex which includes technical standards and requirements for the control and management of ships' ballast water and sediments. In accordance with the Ballast Water Convention, coastal countries have a right to take, individually or jointly with other Parties, more stringent measures with respect to the prevention, reduction, or elimination of harmful aquatic organisms transfer in consistency with international law. Ships have to be surveyed, certified, and remain open to inspection by Port State control. The Ballast Water Convention will come into force twelve months after the Convention is ratified by 30 States representing 35 percent of world ships tonnage. Between 2009 and 2016, the introduction of mandatory ballast water management is necessary in order to eliminate the common practice of vessels discharging untreated ballast water. During the transition period, ships are allowed to exchange ballast water, but it must be at least 200 nautical miles from nearest land and at least of 200 meters depth. If it is not possible, the ship should stay at least 50 nautical miles from the nearest land and at 200 meters depth. When these requirements cannot be met, special areas may be designated jointly by neighboring states where ships can exchange ballast water. For example, the North

Adriatic Sea is less than 100 meters deep sea and the ballast waters should be exchanged only at the Strait of Ontranto.

In recent years, the public in Croatia has gained awareness of the need to manage ballast water. The problem of ballast water in the Adriatic Sea is extremely serious because eight million tons of ballast water is discharged every year. The Adriatic Sea is a shallow, semi-closed sea with a slow shift of currents. Although the maximum depth is 1300 meters, it does not exceed 100 meters in the North and 20 meters in the Trieste gulf. The Adriatic Sea's ecosystem is highly sensitive and the preservation of balance is of vital importance. By adoption of the Maritime Code in 2004, which is based about 80 percent on Maritime Code of the Republic of Croatia enacted in 1994, the Minister in charge of maritime affairs, with consent of Minister of Environment, was obliged to bring legislation on ballast waters control and management within the period of two years from the enforcement of the Code. In 2007, Croatian Code for the management and control of Ship Ballast Water was set out. The recent Croatian initiative is to identify the Adriatic Sea as Particularly Sensitive Sea Area.

7 CONCLUSION

In summarizing the issues covered by this ballast water management analysis, it is apparent that many problems are connected to *improper pollution control by ships, industries and waste management* in general. Ballast water, pollution, and waste are in various ways the principal contributors to the degradation of Croatia's marine and coastal areas. The existing ballast water management system, characterized by numerous vessels operating without proper preventive measures fails in both technical and educational aspects. Croatia has created a comprehensive legal framework for sound environmental management, mostly based on the "command and control" principle, but it has not been fully adopted yet. However, there is still a need for further adjustment of *legislation* by following contemporary environmental legal standards, especially those of the EU. These adjustments have to be done with respect to Croatian conditions and circumstances. Furthermore, a balancing of domestic environmental laws and regulations with some traditional laws covering related issues (coastal/marine management, water management) is necessary to make their application more efficient.

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ENVIRONMENTAL PROTECTION THROUGH BORDER PROTECTION

ISIN, AMELIE¹, WICK, ANNE² and KUSHNER, ADAM M.³

¹ Program Analyst, Air Enforcement Division, Office of Enforcement and Compliance Assurance, United States Environmental Protection Agency, isin.amelie@epa.gov.

² Vehicles and Engines Team Leader, Air Enforcement Division, Office of Enforcement and Compliance Assurance, United States Environmental Protection Agency, wick.anne@epa.gov.

³ Director, Air Enforcement Division, Office of Enforcement and Compliance Assurance, United States Environmental Protection Agency, kushner.adam@epa.gov.

SUMMARY

The U.S. Environmental Protection Agency's (EPA) mission is to protect human health and the environment; this includes responsibilities for the safety of imported commodities. EPA regulates products ranging from pesticides to vehicles, and takes action when imports are not in compliance with environmental laws. In addition, EPA collaborates with other agencies and stakeholders to identify and prevent noncompliance in imported merchandise. This paper discusses the role of EPA's enforcement program with regard to illegal imports, and presents as a case study EPA's coordination with U.S. Customs and Border Protection Patrol (Customs) to identify more effectively imports that violate U.S. Clean Air Act standards; one example of this collaboration is in the importation of uncertified vehicles and engines into the United States.

1 INTRODUCTION AND BACKGROUND

EPA statutes such as the Clean Air Act the Federal Insecticide, Fungicide, and Rodenticide Act, the Resource Conservation and Recovery Act, and the Toxic Substances Control Act all contain restrictions on imports and exports. These statutes cover some of the most hazardous commodities imported into the United States. EPA applies its regulatory authorities to evaluate and control the potential risks of new products before they are manufactured or imported and takes enforcement actions when these commodities are in violation of environmental regulations.

Events in 2007, such as the lead-contaminated toy recalls that occurred over the winter holidays and the recall of more than 5,300 melamine-laced pet food products, have resulted in heightened interest in what the U.S. government is doing to safeguard the health of its citizens with regard to imported consumer

products.¹ This concern over import safety has been the subject of numerous articles in the press, as well as Congressional inquiries, and has led some to reflect on how government resources can be used most effectively in this area.

In July of 2007, President Bush signed Executive Order 13439 establishing an Interagency Working Group on Import Safety. This Working Group consists of over ten government agencies including EPA and the Departments of Health and Human Services, Homeland Security, State, Treasury, Justice, Agriculture, and Transportation. The wide range of agencies involved in this Working Group illustrates the breadth of import issues and the depth of expertise and experience necessary to address them. The establishment of this Working Group also emphasizes the need for interagency collaboration to effectively regulate imports, a strategy already in use by EPA's Office of Enforcement and Compliance Assurance (OECA).

This paper will describe the many ways in which EPA has adapted its traditional enforcement activities to address the challenges of monitoring, assessing, and enforcing violations as they occur in the importation of products into the United States. EPA has progressed, in recent years, from a rote case-by-case enforcement approach to a multifaceted strategy for environmental protection based on compliance assistance, outreach, targeted inspections, self-disclosures, and cooperative efforts with other U.S. regulatory agencies and foreign governments.

2 COLLABORATION AS PART OF EPA'S ENFORCEMENT AND COMPLIANCE ACTIVITY RELATED TO ILLEGAL IMPORTS

EPA's enforcement program is addressing the problem of illegal imports on two fronts: enforcement and outreach. EPA takes enforcement actions, often in cooperation with Customs, against importers of goods that do not comply with environmental laws. With respect to outreach, EPA is working with importers and manufacturers, other U.S. agencies, foreign governments, and other stakeholders to stem the importation of unsafe products upon entry into the United States. EPA and the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (AQSIQ) signed a Memorandum of Understanding in fall of 2007 to facilitate cooperation on environmental compliance. EPA's enforcement program also works with environmental and enforcement agencies in Canada and Mexico to determine how information about noncompliant or suspect imports can be shared appropriately between countries.

This collaborative approach is critical to addressing the challenges of import safety and, at the same time, protecting the environment. For example, some of EPA's challenges in enforcing the Clean Air Act with regard to consumer products originate from the fact that EPA's regulations limit liability to the importer of the illegal goods, not the foreign manufacturer of the product or the retailer selling the illegal product. Another complicating factor is the prevalence of small business importers, who are often unaware of the environmental regulations that apply to

their goods. Lastly, the volume of imported goods has increased steadily over time, leading to more opportunities for noncompliant imports.

3 RECENT SURGE IN CLEAN AIR ACT VIOLATIONS IN IMPORTED PRODUCTS

The most numerous Clean Air Act violations caused by imported goods involve mobile sources or devices containing ozone-depleting substances, usually chlorofluorocarbons (CFCs). EPA has pursued dozens of actions over the past few years to address these violations and to control the air pollution caused from the violations. Consistent with the Clean Air Act and U.S. obligations under the Montreal Protocol on Ozone-Depleting Substances, EPA takes action against release of substances that harm human health and the environment by depleting ozone in the upper atmosphere. This includes enforcement against persons who continue to sell and distribute banned ozone-depleting substances, such as CFCs, formerly used as refrigerants.

In the last few years, EPA has noticed a surge in the number of illegal motor vehicles, motor vehicle engines, and nonroad equipment, such as tractors, lawn mowers, generators, and other small engines imported into the United States. EPA requires the certification and testing of these products. Certified engines and vehicles must also bear permanent emission labels that identify these products as certified.

A large portion of the imported engines that have been inspected by Customs are not certified to meet EPA air pollution standards under the Clean Air Act. Uncertified engines can emit air pollutants at levels as much as 30 percent above EPA standards. This is of concern because roughly half the air pollution in the United States is caused by on-road and off-road mobile sources, thereby increasing the risk of respiratory illness and other adverse health effects.

4 OUTREACH ON VEHICLES AND ENGINES

Outreach is an essential component of EPA's air enforcement strategy for illegal vehicle and engine imports. EPA publishes "Enforcement Alert" newsletters to inform the public and those regulated by environmental laws about important environmental enforcement issues, recent trends, and significant enforcement actions. The information in these newsletters should help the regulated community comply with environmental laws and applicable regulations. Each issue also provides readers with links to relevant EPA websites and other resources to learn more about the laws and regulations and how to comply with them. EPA's September 2006 Enforcement Alert described standards for nonroad engines.²

There are other sources of information for importers. For example, EPA supports an imports hotline, which provides telephone assistance on how to legally import goods into the United States. EPA also encourages companies to self-disclose

violations. In cases where a company discovers a violation, promptly discloses the violation to EPA, and expeditiously corrects the violation, the company may be eligible for penalty mitigation under EPA's "Audit Policy."

In 1996, EPA and Customs signed a Memorandum of Understanding to formalize cooperative nonroad engine and motor vehicle enforcement activities. Customs also adopted regulations corresponding to EPA's at Title 19 Code of Federal Regulations (C.F.R.) Parts 12.73 and 12.74. In addition, a Protocol signed by the two agencies in 2000 establishes specific procedures for examining and processing nonroad engines, and specifies the information that Customs may share with EPA on these cases.

Given the fact that the commodities being imported are often not obviously non-compliant, EPA routinely conducts several inspector training sessions for various Customs ports each year. In the last two years, EPA has held ten training sessions on different kinds of vehicle and engine violations for both Customs employees and import brokers, in locations ranging between Orlando, Florida, and Oakland, California. EPA also plans to expand the available training opportunities for Customs staff and import brokers by developing online modules that provide information on regulated equipment, specifically mobile source case development and enforcement.

In addition to working with Customs, EPA maintains a tips database and tip hotline, where anyone can report an environmental violation. This service is often used by competitors who are marketing similar products and have inside information about violations that might not be readily apparent at the border.³

Once their products are seized at one port, importers often change the port of entry for subsequent shipments. To catch any subsequent violations, communication between ports, as well as between EPA and Customs, needs to be operating at a high level of efficiency. EPA has access to Customs' Automated Commercial Environment (ACE) database, and frequently works with Customs headquarters to enter "criteria" into their system in order to target specific importers or specific types of goods for inspection.

The cases this year have reflected the continued increase in imports from China which began in fall 2004. Initially the majority of import violations concerned engines that had not been certified. Recently, many more manufacturers have obtained certification. EPA's mobile air enforcement program interprets this trend as a sign that its efforts in the enforcement arena are beginning to take effect. However, now the nature of the violations has shifted to engines that are missing the required emissions controls, do not bear the proper emissions labels, and/or do not meet emission standards over the full regulatory life of the equipment. Although manufacturers cannot be directly held accountable by EPA, EPA's outreach to agencies such as the AQSIQ of the People's Republic of China and the Memorandum of Understanding signed in fall of 2007 specifically address

prevention of the manufacture and importation of noncompliant gasoline and diesel engines through a variety of information exchange programs.

5 ENFORCEMENT ON VEHICLES AND ENGINES

Over the past 18 months, EPA has administratively settled 58 cases concerning approximately 48,000 illegal importations of motorcycles, automobiles, generators, tractors, and construction equipment. The sum of the penalties paid to settle these administrative cases has totaled nearly \$2.4 million. This number does not include the U.S. Customs civil penalties, the storage fees, the cost of exporting the illegal equipment or correcting the violations, and the cost of implementing a compliance plan. The majority of the violators are small businesses. Due to the fact that these violations are usually their first, they are given a reduced penalty.

EPA's penalty is an important deterrent, because noncompliant imports can often be cheaper than legal alternatives. According to Clean Air Act Section 205, EPA is required to take into account the gravity of the violation, the economic benefit or savings, the size of the violator's business, the violator's history of compliance, any action taken to remedy the violation, and the violator's ability to pay when determining the amount of civil penalty. The statutory maximum penalty for illegally importing an engine or vehicle is currently \$32,500 per engine.

In addition to the cases led by EPA, Customs has initiated about 68 separate actions against importers of nonroad engines and vehicles with assistance from EPA in the past 18 months. Every settlement agreement signed by EPA in recent years is available on EPA's website; public access to this information also serves as a deterrent.

To supplement information received from Customs, EPA's mobile source air enforcement program may invoke its Clean Air Act Section 208 information request authority to inquire about importers' past activities. In this way, EPA can resolve current and past environmental infractions at the same time.

In order to address the difficulties of enforcing against companies who have no U.S. presence, EPA has explored several ways of working outside the U.S. to stop the flow of illegal imports. Some EPA permits and licenses (such as EPA certificates of conformity) can be withdrawn when the foreign factory refuses entry to an EPA inspector. Withdrawal of the license effectively stops the foreign company's ability to export to the U.S. In addition, the country in which the company is located may have its own laws against criminal or otherwise illegal actions committed by the company. A domestic enforcement action may curtail the company's business activities, thus illustrating the necessity of coordination between EPA and the environmental regulatory agency in the foreign country.

The focus of this paper has been EPA's efforts with regard to illegal imports; however one country's imports are another country's exports. All U.S. environmental statutes contain bans on U.S. exports that do not comply with

international laws or the laws of other sovereign nations. For instance, U.S. nonroad engine exports must meet the emission standards of the country to which they are being exported. Another example is the prohibition on the exportation of hazardous waste in violation of foreign laws.

6 MOVING THE PROGRAM FORWARD

This year EPA intends to focus on emissions compliance testing over paper-based compliance evaluations in its mobile source enforcement program. This is in response to the observed shift in violation type from uncertified engines to engines that do not conform to certified specifications.

EPA will continue to explore new enforcement strategies to leverage scarce resources while striving to ensure safe imports of products from the U.S. U.S. Customs is redesigning its data systems and EPA is involved step-by-step to ensure EPA enforcement needs are met. EPA enforcement is involved in all aspects of rule-making to enhance enforcement where permitted by law, and with efforts to change the law where necessary to fill enforcement loopholes.

EPA would like to eventually move toward the development of clean air regulations that place responsibility on retailers of noncompliant commodities, in addition to importers of these goods. In addition, future rulemaking could include broadly interpreting the causation of prohibited acts and requiring bonding to cover post-certification responsibilities such as recall and warranty.

7 CONCLUSION

EPA enforcement against illegal imports relies on traditional approaches such as inspection and legal action, as well as more innovative approaches such as interagency cooperation, outreach to stakeholders, and foreign cooperative agreements. This multifaceted approach has been applied to the case study of the illegal importation of motor vehicles and engines.

EPA management and staff continue to learn about new ways to improve outreach and enforcement. While EPA has benefited from working with many partners on monitoring, assessing, preventing, and enforcing violations at the U.S. border, EPA's partners have also benefited from working with EPA. EPA is committed to working to ensure that U.S. exports are compliant with international environmental laws. This type of mutually beneficial arrangement is of key importance to the success and sustainability of interagency partnerships.

This paper has described how EPA fulfills its mission to protect human health and the environment by promoting the safety of imported products. As demonstrated by its accomplishments, EPA's multi-faceted, multi-partner approach is versatile enough to address the myriad types of environmental noncompliance found at the ports of the country that is the world's largest importer.

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**INSPECTION AND ENFORCEMENT
OF HAZARDOUS WASTE AND GOODS:
FOSTERING INTERNATIONAL CROSS-BORDER COLLABORATION
BY THE INAUGURATION OF A SEAPORT NETWORK**

ISARIN, NANCY¹

¹ Project manager, Ambiendura, Estrada de Quelfes 5A 1º esq., 8700-207 Olhão, Portugal, Nancy.Isarin@ambiendura.com.

SUMMARY

The Seaport Environmental Security Network consists of authorities involved in the monitoring and control of cross-border movements of waste shipped through ports. The ultimate success of the Seaport project is dependent on the drafting of feasible plans and proper supervision of all stages of the project. Environmental protection is a complex field that requires an integral approach, encompassing economic aspects along with focusing on the protection of the environment and human health. The impact of expanding global markets on the environment makes cross-border cooperation a necessity.

This paper discusses the need for the Seaport Network because the ports are vital components of the logistical chain of waste shipments. Cooperation between the various organisations operational concern with seaports (including customs, maritime police, port authorities, and environmental agencies) must be enhanced. Divergences between these organizations include cultural differences, ineffective reporting and exchange of information, competence issues, lack of experience, and inadequate capacity. One of the goals of this paper is to act as a stimulus for discussion on improvements to the existing structures for effective cross-border cooperation, including methods to reduce current obstacles.

1 INTRODUCTION

The Seaport Environmental Security Network is comprised of authorities involved in the monitoring and control of cross-border movements of waste shipped through ports. This Network creates a bridge between principle and practice. Multilateral agreements, such as the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, do not automatically strengthen the principle of cross-border cooperation and enforcement. The provisions of such international agreements have limited impact on enforcement until they are imbedded into a country's national legislation and policy. Further, solid cooperation mechanisms and enforcement structures need to be developed to enable the implementation of

these international agreements. Enforcement is an integral part of the regulatory cycle; however, it is often given low priority.

Cooperation through the Seaport Network stimulates awareness and encourages the creation of domestic policy while maintaining the "Sovereign Principle" in cases of cross-border control and enforcement. Seaports are strategic hubs in the logistical chain of waste shipments, resulting in the great need for an effective Seaport Network to promote environmental compliance and enforcement. Cooperation between the various agencies and organisations involved in regulating seaports must be enhanced. This paper aims to stimulate discussion surrounding improvements to the existing structures for effective cross-border cooperation and ways in which current obstacles can be reduced.

2 THE ROLE OF SEAPORTS

Seaports are the crucial global hubs in the movements of goods and waste. The seaport network provides the infrastructure through which intelligence and administrative information can pass. Conduits already exist for the exchange of administrative information, such as historic bills of lading, which is a document issued by a carrier acknowledging that specified goods are onboard for conveyance to a specific location and person. However, experience has proven that these documents do not always contain accurate information either in content or as valid proof of the cargo's antecedence. It is neither practicable nor desirable that a system be imposed that requires every item to be double-checked. However, the tracking of goods should strive for a life-cycle approach. For example, if there is continuity of registration in the system it should be possible to trace a shipment back to its place of origin and forward to its destination.

Many agencies are involved in the handling and control of shipments, including the port authority, customs, the police, shipping agents, and cargo handlers. The priorities given to the various stages of control, storage, and trans-shipment are a matter for the regime in the port where the cargo rests at any given time – this is known as the "Sovereign Principle." These priorities will not necessarily coincide with other ports on the shipments journey to its destination. For example, checks carried out in a modern container port, such as Rotterdam, will likely involve more sophisticated control mechanisms and inter-agency cooperation than would be the norm in a busy, less affluent port in a developing country. With the introduction of a comparison process, a joint working programme between ports could be implemented. This would create a continuity of procedure that would facilitate an enhanced flow of information; as a result, enforcement structures and compliance controls would be supported.

3 THE REGULATORY PROCESS

Involving various authorities in the monitoring and control of cross-border movements of waste shipped through ports will help enhance the regulatory

process related to port management. Developing policy, law-making, permitting, and enforcement are all aspects of the regulatory process and are interrelated. Enhancing cooperation is a core aim of the Seaport Network; improving the processes of assessment, review, and development will generate valuable feedback for all those involved, including governments, port authorities, and attendant agencies. Guidance is necessary for sound management and implementation of environmental enforcement and compliance strategies at the ports. Regulations in the field of environmental protection are complex and can even appear contradictory; as a result, cooperation and dialogue provide an opportunity for a better understanding of the regulations resulting in improved compliance.

4 THE OBSTACLES TO COOPERATION

The obstacles to cooperation vary with the location of the port. Cultural differences are often underestimated in the international forum. Concepts are freely given as are proposed solutions, but dispersal of ideas does not ensure that these concepts will be well received or considered necessary from a cultural perspective. Political considerations are by their very nature in a constant state of flux. However, economic realities are usually more static. Likewise, the presence or absence of good governance is also a factor worthy of careful consideration.

Where there is a simple lack of experience, competence, or skill, support must accompany the proposed cooperation. The Seaport Network needs to consider the importance of technology transfer between ports. Likewise, available information technology capability is a factor in the efficient exchange of information and intelligence. Given the extent of global networks, access of digital information is usually not a problem. However, the manner of its use, especially in regard to information databases, often raises challenges. For example, many governments regard the existence of any database that they do not exclusively control as a possible threat; which is the reason why in certain countries there is no link between information concerning criminals and administrative records. Mutual cooperation, including information exchange, between the various port authorities and agencies must be enhanced.

Some countries believe that any form of environmental regulation will adversely affect competitiveness. However, this view has never been substantiated. In contrast, the World Bank concluded in the 1994 publication *Competitiveness and Environmental Standards* that the higher environmental standards achieved in industrial countries has not adversely affected their competitive position internationally.

The final obstacle that warrants discussion is corruption. In many countries corruption is viewed as a business norm, and bribes are not unusual or considered dishonest. Bribes often occur between two individuals, one of whom has power over the other. For example, one person requires a permit for something and the other has the official position of authority to issue the desired permit. Where

inherent corruption exists the permit applicant will accept that he or she must make a payment to the official before the document required will be issued. This transaction is never recorded and no complaint will be made. A request for cooperation in such an environment will be greeted with warm enthusiasm, but the actual cooperation will not materialise unless it is considered to be to the advantage (financial or otherwise) of the individual concerned.

5 EXAMPLE OF INTERNATIONAL ENFORCEMENT COLLABORATION

The project “Sky-Hole-Patching” is an example of how international cooperation and collaboration can result in the prevention of illegal movements of hazardous goods and waste. The project, launched in September 2006, is an initiative of the UNEP Regional Office for Asia and the Pacific together with the World Customs Organization Regional Intelligence Liaison Office for Asia and the Pacific. The project developed a tracking, notification, and monitoring system to follow movement of suspicious shipments of ozone depleting substances (ODS) and dangerous commodities across several customs territories. The system enabled the involved authorities to: (1) follow shipments; (2) exchange information and intelligence; and (3) take immediate enforcement action on any abnormality detected during the monitoring process. The initiative has intercepted several cases of illegal movements of ODS and hazardous wastes.

6 WASTE IN DISGUISE

Hazardous waste presents a clear and present danger. Non-hazardous waste, destined for unlawful or incompetent disposal or treatment, carries with it an insidious danger to the environment and human health. When the figures for waste tonnage collected for recycling or disposal are compared with the capacity available to process it, there is no doubt that a considerable amount of it just “disappears.” Such disappearance often occurs in affluent societies due to the rising costs of processing and disposing of the waste. The container’s documentation does not always accurately reflect its content and without port checks it will unjustly become another country’s problem. It is imperative that this traffic be stopped.

There are many legitimate recycling companies. They operate an “open door” policy and prove that waste can be profitably sorted and safely shipped abroad to be recycled. Conversely, there are unscrupulous companies that ship waste without the intent to recycle or safely dispose of the hazardous material, resulting in an eventual health hazard. This waste, even when intercepted, cannot be easily traced back to its original source, resulting in the perpetrator being free of any responsibility for the illegal shipping, the potential health risks, and the violation of national and international laws. Without cross-border cooperation between ports, an increase in domestic regulation, and a strengthening of environmental compliance and enforcement, the present international legislation is powerless.

7 SEAPORT ENVIRONMENTAL SECURITY NETWORK

INECE is establishing a Seaport Environmental Security Network to facilitate capacity building and compliance cooperation on issues associated with the trade in environmentally sensitive commodities. This project will initially focus on the transboundary movement of wastes, but could eventually be expanded to other threats such as chemicals and smuggled wildlife.

In order to prevent illegal transboundary movements, the Network will promote compliance with provisions related to transboundary movements and management of waste.

Fostering national and international collaboration will also be a priority. The Network will also offer support regarding inspections and enforcement of transboundary movements of waste.

To accomplish the abovementioned aims, the project will set up an active and practical network of focal points involved in the monitoring and enforcement of waste shipments shipped via seaports around the world, making use of already existing structures and platforms, linking and expanding them. The Network will also conduct a needs assessment within the network. This assessment will be done with a questionnaire and interviews and should provide information regarding the current situation with respect to capacity, cooperation, legal powers, legal and executive frameworks, and knowledge. Also, the assessment should give a clear view of the different needs to improve the situation. Developing a toolkit to build capacity and support inspections, enforcement, and collaboration should also occur. This toolkit could, for example, include inspection manuals (based on already existing documents), the organization of trainings and workshops, the exchange of inspectors, and the development a communication tool for information exchange. Finally, the Network should organise and facilitate joint cooperation with respect to actual inspections in seaports and their follow-up.

8 CONCLUSION

Cross-border cooperation, achieved through the Network, is paramount to the effectiveness of international laws for the control of waste movements globally and the ongoing protection of the environment. This will be achieved by stimulating and facilitating cooperation between the relevant authorities and related enforcement bodies. It is proposed that the Seaport Network also develops tools such as manuals, memorandum of understanding, and joint working programmes. The Network should also carry out an assessment of current enforcement structures. Additional tools, training, instruction in risk assessment, and awareness raising will also be included.

The Seaport Network will encourage awareness, foster cross-border cooperation, enhance and empower enforcement, and facilitate the adoption of coherent

national policies. Accomplishing this will result in increasing the significance and enforcement of international agreements. Additionally, these factors will help ensure a stable and healthier future environment.

(The aim of this paper is to promote membership of the Seaport Network by demonstrating the necessity for the Network and the added value of membership. Delegates are invited to join the Seaport Network and support its vital role in the future of Inspection and enforcement of hazardous waste and goods and international cross-border collaboration. For more information, please visit www.inece.org/seaport.)

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MANAGING EXPIRED PESTICIDES AS HAZARDOUS WASTE ACROSS BORDERS

KREISLER, EVA¹ and HEISS, ROBERT²

¹ Senior Attorney, International Compliance Assurance Division, Office of Federal Activities, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, N.W. Washington, DC, 20460, United States, kreisler.eva@epa.gov.

² Director, International Compliance Assurance Division, Office of Federal Activities, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, N.W. Washington, DC, 20460, United States, heiss.robert@epa.gov.

SUMMARY

The notification process for controlling transboundary movements of hazardous waste under the Basel Convention and other international agreements also applies to transboundary movements of expired pesticides. Collecting expired pesticides from farmers and exporting them under a notification process in order to obtain safe disposal, however, poses unique problems. As a result, it is necessary to develop innovative approaches to deal with the practical and legal problems that are associated with managing these wastes to ensure compliance with applicable environmental laws. In this article we discuss the challenge to human health and the environment that is presented by growing stockpiles of expired pesticides around the world; analyze the unique problems associated with managing transboundary movements of these pesticides in established notification schemes; describe a pilot project by the U.S. Environmental Protection Agency (USEPA) to reduce the amount of expired pesticides in the United States–Mexico border region; and offer lessons learned to help with cleanups involving transboundary movements.

1 INTRODUCTION

Unlike other generators of hazardous waste, farmers do not actively produce pesticides as hazardous wastes. Instead, others manufacture the pesticides, which farmers acquire and store as chemical products for intended agricultural application. It is the expiration of the manufacturers' specified use dates that causes the pesticides to be re-classified as wastes because they are no longer suitable for their original intended purpose. Furthermore, since farming is not an economic process that regularly produces any kinds of hazardous wastes as byproducts, farmers are not accustomed to performing the role of a hazardous waste manager. Moreover, the quantities of particular expired pesticides held by each farmer may be small and may represent an inconsequential part of their farming operations,

even though the collective problem of managing expired pesticides in agricultural areas of a country may be large.

At both the domestic and transboundary level, pesticide wastes present particular challenges to enforcement programs, and do not lend themselves to an aggressive punitive response. Since most of the “violators” are diverse, small farmers, discovering the violations is a resource intensive exercise for inspectors. In addition, the penalty or sanction to an individual farmer is likely to be very low based on the small amount of pesticides they may have at their farm. The individual attention required for a traditional inspection and enforcement response approach demands great resources, while the benefits for each individual case may be very low. The collective harm caused, however, may be great, so compliance programs must look for other ways to address the collective problem with low investments at the individual level. Stockpiles that accumulate in countries that lack domestic facilities for the proper disposal of waste pesticides pose international environmental risks unless management pathways available elsewhere can be utilized for their disposal. Successfully managing these wastes before they become a compliance or enforcement problem is a challenge for the world community. Ultimately, for environmental enforcers worldwide, this is truly an instance, as the old adage says, where “an ounce of prevention is worth a pound of cure”.

Border areas between countries share common ecosystems and, therefore, need coordinated and comprehensive environmental protection. Nevertheless the existence of different governmental and legal systems in close proximity may offer unintended opportunities for the unscrupulous to deceive authorities and to mismanage expired pesticides in cross-border activities.

Adequate disposal facilities for waste pesticides may be located across borders or even across oceans from where the waste pesticides are stockpiled, requiring their transboundary movement. Established systems for controlling transboundary movements of hazardous waste are based on notice-and-consent schemes requiring prior informed consent for the shipment of identified maximum quantities and types of hazardous wastes.

2 WORLDWIDE PROBLEM OF SOUND ENVIRONMENTAL MANAGEMENT OF EXPIRED PESTICIDES

Expired pesticides are “those pesticides that can no longer be used for their intended purpose.”¹ For example, pesticides are sometimes left over from pest control campaigns and stored well after their shelf-life, leading to “physical or chemical changes that result in phytotoxic effects on the target crop, or an unacceptable hazard to human health or the environment”.² In other situations, stockpiles may consist of pesticides that have been banned for use or which were abandoned decades ago.³

Unfortunately, agricultural communities tend to be poor, rural populations that lack access to up-to-date information on the chemicals they are exposed to or the means to properly store or dispose of them. In addition, while proper management of pesticides requires continuous updating of inventory records, this is not always done.⁴ Thus, stockpiles can range “from well-stored products that can still be used in the field, to products that have leaked from corroded steel drums and other containers into the soil.”⁵

The multilateral environmental agreement known as the Basel Convention, the OECD Council Decision controlling transboundary movements of hazardous waste, and, in the United States, the Resource Conservation and Recovery Act, part of the Solid Waste Disposal Act, all treat expired pesticides as hazardous waste.⁶ Chemicals comprising pesticides deteriorate over time, resulting in hazardous waste that is more toxic than the original product and which poses a threat to human health and the environment.⁷ Unfortunately, expired pesticide stockpiles in developing nations are usually not stored properly, possibly leading to spillage, blending or illegal dumping. According to the UN Food and Agriculture Organization, “high quantities of toxic chemical waste from unused or obsolete pesticides are posing a continuing and worsening threat to people and the environment in Eastern Europe, Africa, Asia, the Middle East and Latin America”.⁸ Moreover, most of these countries do not have facilities for the destruction of these chemicals.⁹

Poorly stored hazardous waste that leaks into environment can cause a variety of problems to human health and the environment. Hazardous waste leachate may contain dangerous insecticides, such as the Persistent Organic Pollutants aldrin, chlordane, DDT, dieldrin, endrin, heptachlor and organophosphates.¹⁰ Leaching hazardous waste can lead to the chronic poisoning of entire communities, possibly resulting in death, cancer, or reproductive and neurological disorders.¹¹ “The UN World Health Organization estimates that three million people are poisoned by pesticides every year, most of them in developing countries. Every year some 20,000 of these poisoning victims die.”¹² As pesticides degrade, they may leach into soil and water, or they may be windswept or volatilized reaching neighboring, or far away, areas.¹³ Thus, the clean-up of hazardous waste stockpiles is an urgent matter around the globe.

An additional concern regarding waste pesticide stockpiles is that they can become the target of black markets.¹⁴ The chemicals sold in these black markets may be obsolete, banned or created for a different purpose from the one peddled by the sellers.¹⁵ Unfortunately, farmers may not be aware of the source of the pesticides sold to them and unwittingly introduce dangerous chemicals into the environment.

Countries with the capacity to properly dispose of hazardous waste are in a unique position to assist nations without facilities that can handle expired pesticides.

Their assistance could help eliminate existing stockpiles and prevent future accumulations around the world.¹⁶

3 UNITED STATES-MEXICO BORDER EXPIRED PESTICIDE CLEAN-UP PROJECT

The United States-Mexico Environmental Program, Border 2012, is a partnership between the United States and Mexico, represented by Federal environmental agencies, 10 border states and U.S. border tribes, is designed to improve the environment and protect the health of the nearly 12 million people living along the common border. Under Goal IV of the program, the United States and Mexico are working jointly to address pesticide issues at the border.

One of the projects undertaken as part of this initiative is a waste pesticide collection effort. The first of these collections took place in August 2006, in the areas of Yuma, Arizona, U.S and the San Luis Valley in Sonora, Mexico, resulting in the gathering and disposal of 72,000 pounds of hazardous waste at a U.S. facility. Another collection event, along the Baja California and California border, is tentatively scheduled for February 2008.

The USEPA and the Secretaria de Medio Ambiente y Recursos Naturales selected the Yuma-San Luis Valley area for collection because it was a highly productive agricultural area which, over time, had seen an increase in the amount of old or unwanted pesticides. Agricultural growers on both sides of the border were offered free collection and disposal of their stocks of unwanted or obsolete pesticides. In order to identify the types and amounts of hazardous waste to be collected from each grower, a registration form in both English and Spanish was developed. The types and maximum amounts of pesticides to be collected from each grower were predetermined to ensure a large number of participants. In addition, it was necessary for officials to know the universe and amounts of hazardous waste to be exported from Mexico in order to: 1) obtain the necessary export and import permits and consents in a timely manner; 2) determine the number of vehicles necessary to transport the hazardous waste; and 3) select the final destination facilities.

On collection day, the project team found a storage shed with many leaking and corroded pesticide drums at the San Luis Valley collection site. The amount of hazardous waste in these drums caused the quantity of waste at the site to exceed the limit in the document showing the U.S. consent for the import of hazardous waste. In response, staff from participating agencies coordinated their efforts to collect and properly store this extra waste until the waste could be exported. Secretaria de Medio Ambiente y Recursos Naturales staff submitted an amendment to its initial notice of intent to export, and USEPA gave its consent to the import without delay. Three months later the extra waste was shipped to the U.S. for proper disposal.¹⁷

4 EXPORT/IMPORT OF HAZARDOUS WASTE BETWEEN MEXICO AND THE UNITED STATES

The pesticide collection project invoked the requirements of *The Agreement of Cooperation Between the United States of America and the United Mexican States Regarding the Transboundary Shipments of Hazardous Wastes and Hazardous Substances* (The Agreement). This bilateral Agreement establishes notification procedures for importing and exporting waste between the U.S. and Mexico. While The Agreement itself has no binding affect on importers and exporters, both USEPA and Secretaria de Medio Ambiente y Recursos Naturales have promulgated standards under their hazardous waste regulations to ensure that the movement of hazardous waste across the U.S./Mexico border occurs after the receiving country has provided its prior informed consent.¹⁸

The process for the exportation of hazardous waste from Mexico to the U.S. is straightforward. The Mexican exporter submits a Notice of Intent (NOI) to export to Secretaria de Medio Ambiente y Recursos Naturales headquarters. This NOI must describe the quantity and type of hazardous waste to be exported during a 12-month period, or once if that is all that is needed. The process includes an exchange of cables between Relaciones Exteriores,¹⁹ and the U.S. Department of State. Upon obtaining consent, Secretaria de Medio Ambiente y Recursos Naturales processes all other documentation required for exports under its regulations, including insurance and bonds, before allowing the export to proceed.

For the pesticide collection project, USEPA and Secretaria de Medio Ambiente y Recursos Naturales staff worked together to acquire the appropriate import and export documentation. Secretaria de Medio Ambiente y Recursos Naturales's regional office in Sonora assumed responsibility as the exporter and requested consent to import from the USEPA. In order to streamline the process, USEPA regional and headquarters staff worked side by side with Secretaria de Medio Ambiente y Recursos Naturales regional and headquarters staff to ensure timely delivery of needed documentation. They instituted an expedited process for submission and approval of the notice of intent to export, and USEPA and Secretaria de Medio Ambiente y Recursos Naturales staff maintained open lines of communication to ensure that the permit process met no obstacles.

5 LESSONS LEARNED

Along with the immediate benefit of reducing the aggregate hazardous waste stockpile of expired pesticides, the extensive, hands-on cooperation that is required of the participating nations in a waste pesticide collection project yields a practical model for conducting sound environmental management, and anticipating and avoiding future compliance problems. The following lessons emerged from the United States-Mexico pesticide collection project:

5.1 In order to ensure that the complex process is successfully completed, the appropriate national and state authorities, or some other organization, must *coordinate all phases of the collection project*—from the notification process beforehand through the physical collection, movement, and disposal stages. Because the farmers are not organized for these purposes, leadership for the effort must be provided from somewhere else. Furthermore, the *coordinator* of the waste collection must serve, or find someone to serve, as the *exporter* who will pursue the notification process between the governments of the participating countries.

5.2 Whenever possible, local agency personnel, from regional or state offices, should be part of the coordinating team. Their area-based knowledge is invaluable in planning activities, communicating with the local population, and identifying potential pitfalls in implementation.

5.3 Because government authorities at the national and regional/state levels play vital roles in the *notification process*, they must participate in the early planning of the project and devise means to facilitate the approval phase of the project. Their knowledge of and experience with international agreements and domestic regulations for the transboundary movement of hazardous waste, and the issuance of import/export permits and consents is critical to the timely issuance of the appropriate documents to allow the waste pesticides to legally move internationally. If the sending country itself, or its sub-national unit, agrees to serve as the *exporter*, then the planning is somewhat simplified.

5.4 The coordinator(s) of the collection and ultimate disposal of the hazardous waste must have *adequate technical expertise* to tackle these activities. The handling of hazardous waste is a dangerous endeavor which necessitates highly skilled personnel in order to avoid human and environmental exposures.

5.5 The *private sector* has a role in these projects. Transporters and disposal facilities can be brought in to assist in the collection process. In the United States-Mexico project, a private party handled the transportation and final disposal of the hazardous waste. In future endeavors, hazardous waste management companies may be hired to act as the hazardous waste exporters. This would reduce the burden on government personnel and resources.

5.6 Based on the United States-Mexico border project, it is advisable to *estimate generously the potential quantity of waste pesticides for collection*. Some farmers may underestimate their stockpile during the planning phase, and some farmers may not even initially participate in the planning phase. Nevertheless they may deliver additional quantities on the collection day. The receiving country's consent to a notice, however, is limited to the maximum potential amount identified in the notice. Therefore, nothing can be done at the time of collection to increase the quantity allowance for the export, since consent to the additional amount will require either amendment of the existing notice or a new notice. So a generous initial estimate of the total quantity of the waste pesticides for export will avoid the cost of a follow-up collection.

5.7 The participation of the print and electronic press in promoting the collection projects as well as disseminating information concerning the proper handling of hazardous wastes will assist the government's *compliance assistance and outreach* to the agricultural sector.

5.8 *Press coverage on the day of the collection* itself can further assist in disseminating information both to industry and the public. In particular it can raise *citizen awareness* of the problem of waste pesticide stockpiles and can generate public interest in a continuing program of stockpile management and proper disposal. This augments government resources available for compliance assistance and inspections.

5.9 Collection projects should also emphasize that *prevention* is the goal of their program. This can be achieved by offering agricultural communities instruction on pesticide inventory management, regulatory controls on hazardous waste, and the proper handling and storage of hazardous waste. Training of this kind will raise the *awareness of agricultural communities*.

5.10 Whenever possible, countries should also establish ongoing assistance to encourage the transport and disposal of hazardous waste at appropriate disposal facilities. The Yuma-San Luis Valley project raised the awareness of the agricultural communities to the benefits of this type of program. As a direct result of this project, Arizona has budgeted \$100,000 per year for at least three years to collect and dispose of unwanted pesticides throughout the state. In Mexico, the collection events have led Federal agricultural leaders to request that all agricultural regions survey growers to report on quantities of unwanted pesticides that may be in storage. This is an important first step in building momentum for a *sustainable national collection program*.

5.11 The technical assistance provided during collection projects as well as the actual collection, shipping, and disposal of expired pesticides all cost money. Although these expenses should be internalized in the prices charged for the crops, that is generally not the case. As a result, governments and international organizations must step in with *funding* in order to reduce environmental risks and avoid damage.

6 CONCLUSION

To avoid the contamination of soil and groundwater from leaking expired pesticide containers, the misapplication of these pesticides on crops, and the dumping of these dangerous chemicals, a comprehensive, world-wide management strategy with adequate funding is needed for expired pesticides. Countries that possess adequate facilities to handle these hazardous wastes must ensure compliance with existing requirements for storage and disposal in their own countries through inspections and compliance assistance. For all other countries, the eradication of waste pesticide stockpiles remains a serious challenge for the world's environment.

Effective management in these circumstances is a complex endeavor best achieved through cooperation between nations and their respective governmental and non-governmental organizations. Where facilities exist across borders, or even in countries that are an ocean away, it is important to facilitate access to effective stewardship elsewhere through controlled transboundary movement, rather than letting illegal disposal occur where the stockpiles exist.

The United States-Mexico border project for the collection and disposal of waste pesticides offers one model to consider. The comprehensive effort conducted simultaneously in both countries reduced the potential opportunity for private parties to take advantage of the situation in either country, effectively reduced the existing stockpiles on both sides of the border, and ensured compliance with applicable environmental requirements.

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² Id. at 7. Pesticides generally have a shelf-life of two years from the date of release.

³ Id. at 17.

⁴ Id. at 18.

⁵ Id.

⁶ Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal (1989), Article 1, paragraph 1(a); OECD Decision of the Council Concerning the Transfrontier Movements of Hazardous Wastes as Amended (2001), Chapter II, A (i) and (ii), and the Solid Waste Disposal Act, Resource Conservation and Recovery Act, 40 USC 261.32 and 33 .

⁷ Obsolete Pesticides, United Nations Food and Agricultural Organization, (2006) available at <http://www.fao.org/ag/AGP/AGPP/Pesticid/Disposal/en/what/103380/index.html>.

⁸ FAO warns of pesticide waste time bomb in poor countries. United Nations Food and Agricultural Organization, (9 September 2004) available at <http://www.fao.org/newsoom/en/news/2004/50119/index.html>.

⁹ There is no destruction or final disposal facility in most Latin American countries. Practical Guideline, *supra* note 3, p. 25.

¹⁰ Id.

¹¹ Obsolete Pesticides, *supra* note 9, p. 2.

¹² Id.

¹³ In the Caribbean, for example, "[t]he impact of the mismanagement of such stocks is further aggravated by the vulnerability of small-island developing states to severe natural disasters. For example, stockpiles of pesticides are easy targets for hurricanes in the Caribbean, which help spread waste into the sea, or leach into scarce groundwater supplies with direct and immediate impact on local populations and the environment." Thus, UNEP has called for resource mobilization in order to initiate a Project for the final disposal of existing waste

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RADIO FREQUENCY IDENTIFICATION TRACKING OF INTERNATIONAL SHIPMENTS OF HAZARDOUS AND RADIOACTIVE MATERIALS

KOPSICK, DEBORAH¹ and BEARDEN, JANET²

¹ Environmental Scientist, Radiation Protection Division, Office of Air and Radiation, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue (6608J) N.W., Washington, D.C., United States 20460 kopsick.deborah@epa.gov.

² Associate Director, International Compliance Assurance Division, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue (2254A) N.W., Washington, D.C., United States 20460 bearden.janet@epa.gov.

SUMMARY

The U.S. Environmental Protection Agency (EPA), working with other stakeholders, is exploring the feasibility of using radio frequency technology to track hazardous wastes entering the U.S. It is anticipated that this technology can provide near real-time, accurate data to enforcement and compliance officials on the status of international shipments of hazardous and radioactive materials. While the demonstration pilot is focused on the U.S./Mexican border, the results from this pilot may inform the application of this technology to a much broader range of international trade in environmentally dangerous goods and substances. Currently, there is no accurate inventory or accounting of hazardous waste entering the United States from foreign-owned Mexican manufacturing plants known as maquiladoras. The current paper-based manifesting system does not allow for timely tracking of shipments that enter the U.S. but do not arrive at the designated receiving facility. Inspection evidence has indicated that some of this material is being abandoned in warehouses on both sides of the border. An enhanced tracking system that provides timely, accurate data to regulatory officials is needed to prevent illegal disposal. An integration of a tracking technology, such as radio frequency identification, with the current manifest system may allow near real-time tracking of international hazardous waste shipments from the generator to the receiving facility. This article provides information about a range of radio frequency identification technology applications the U.S. will test in a series of import/export hazardous waste shipping scenarios to determine if it is an appropriate technology for voluntary implementation by generators and shippers of trans-border waste. While this article focuses on hazardous and radioactive materials, it is feasible that this technology could be used to track other materials of interest. With "just-in-time" inventory systems being used globally, where supplies of raw materials are not maintained on-site, any tracking system that can reduce time spent crossing international borders will be advantageous to these facilities.

1 INTRODUCTION

There is a lack of accurate information concerning the hundreds of thousands of tons of hazardous waste that cross into the United States each year from Mexico¹. Much of this waste is from the foreign-owned maquiladora (manufacturing and assembly) facilities in the Mexican border zone. The Resource Conservation and Recovery Act, part of the Solid Waste Disposal Act, requires that all hazardous waste be tracked from cradle-to-grave. Currently, due to the paper-based manifest system being used, the U.S. Environmental Protection Agency (EPA) is unable to fully determine when the maquiladora waste enters the U.S. and when, or if, the waste reaches the designated receiving facility. Mexico is not required to file a Notice of Intent to import these materials, as they classify them as returned product and not hazardous waste. The Department of Homeland Security has identified hazardous material shipments as being vulnerable to terrorist attack²; therefore greater accountability of these shipments while in transport is needed.

The need for tracking and monitoring international shipments of hazardous wastes is a global one. For example in Europe, the European Union Network for the Implementation and Enforcement of Environmental Law – TransFrontier Shipment Seaport Project, which inspected cross-border shipments of hazardous wastes from Europe to overseas countries, found that 20% of the inspected wastes shipments were illegal³.

2 MEXICAN MAQUILADORA SYSTEM

In 1965, Mexico introduced their Border Industrialization Program or maquiladora program. This program encouraged foreign corporations to locate their manufacturing and assembly plants in Mexico by eliminating duties on raw materials imported into Mexico. Raw materials can be imported into Mexico without import duties, as long as the waste products from these materials are exported to the country of origin. Foreign-owned companies took advantage of the lower labor costs and reduced shipping distances for products, resulting in heavy industrialization in the Mexican border zone. As of October 2006, there are more than 2,294 maquiladora facilities in the six Mexican border states, employing close to 1 million people. These facilities produce a number of goods, including chemicals, electronic parts, textiles, automotive components and machinery, valued at more than \$112 billion in 2005⁴.

3 LEGAL REQUIREMENTS

3.1 U.S. Legal Requirements

Hazardous waste in the U.S. is regulated through Resource Conservation and Recovery Act which is administered by the EPA and the states⁵. Resource Conservation and Recovery Act's requirement for cradle-to-grave tracking of wastes is made more complex when the generator is in one country and

the receiving facility is in another. Each shipment of waste is required to be accompanied by a Uniform Hazardous Waste Manifest. EPA is considering implementation of an electronic manifesting system to allow automation of the process, improving the timeliness of the tracking of these shipments. There is no regulatory requirement for the physical tracking of maquiladora waste, and any adoption of radio frequency identification tracking of hazardous waste will be on a voluntary basis.

3.2 Mexican Legal Requirements

The foreign-owned maquiladoras operate solely under Mexican laws and regulations. The Secretariat of Environment and Natural Resources is responsible for setting standards and administering the General Law of Ecological Balance and Environmental Protection. Article 153 of the Fourth Title, Chapter VI outlines the procedure for the export of hazardous waste to other countries. Formed in 1992, the Federal Attorney General for Environmental Protection enforces the environmental regulations and conducts inspections of maquiladora facilities.

Numerous countries, including the United States, Germany, Japan and Korea, participate in the maquiladora program. If the raw materials supplied to any of these facilities originate in the U.S., the wastes derived from these raw materials are returned to the U.S. Because Mexico does not consider these exported materials a hazardous waste, but instead a returned product, they do not submit a Notice of Intent to the U.S.

3.3 International Treaties Governing Mexican Hazardous Waste

Wastes from “temporarily imported” raw materials must be returned to the country of origin, as stated in Annex III of the Agreement between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area, known as the La Paz Agreement. The U.S. and Mexico signed the La Paz Agreement in 1983. The current Border 2012 program, which evolved from the La Paz Agreement, states under its Goal # 3 that it will “by 2004, evaluate the hazardous waste tracking systems in the United States and Mexico, and during the year 2006, develop and consolidate the link between both tracking systems”⁶. Due to operational deficiencies in both the Mexican and the U.S. waste tracking databases, both systems have been discontinued, and this Border 2012 goal has not been achieved as of this publication. Goal # 6 of the Border 2012 program is to “Improve environmental performance through compliance, enforcement, pollution prevention, and promotion of environmental stewardship,” and this project will help ensure compliance with the Resource Conservation and Recovery Act waste tracking requirements.

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal went into force in 1992⁷. Mexico has ratified the

Convention but the United States has not. The Basel Convention can take precedence over the North American Free Trade Agreement (NAFTA), allowing countries to ban hazardous waste imports if they will not be managed in an environmentally sound manner.

Mexico, the U.S. and Canada are signatories to NAFTA, which went into effect in 1994. The Preamble to NAFTA states that its purpose is to reduce distortions to trade, increase competitiveness and create an expanded and secure market for goods, in a manner consistent with environmental protection and conservation. Signatories to the agreement also agree to strengthen the development and enforcement of environmental laws. Separate from NAFTA, but strongly aligned to it, is the Supplemental Agreement on the Environment, which promotes environmental enforcement.

4 RADIO FREQUENCY IDENTIFICATION TECHNOLOGY

4.1 Technology Description

A typical radio frequency identification system consists of four main components: tags, an encoder, readers and central processing unit. An radio frequency identification tag consists of a micro-transceiver and a flexible antenna sealed in a plastic-coated inlay, which can be applied to or incorporated into a product for the purpose of identification. The encoder writes information to the tag that is acquired by a reader. The radio frequency identification system operates by transmitting data using radio waves for communication between a tag and a reader, and ultimately to a database. Power is supplied either by a battery or by energy from the reader. The distance from the reader at which a tag can be read varies from a few feet to over 100 feet, depending on the type of tag used. Line of sight of the reader with the tag is not required, as is the case with barcodes.

4.2 Current Applications of Radio Frequency Identification to Track International Movements of Goods

Radio frequency identification technology is a proven, commercially ready tracking technology in the global supply chain, having been tested and implemented in a large number of applications worldwide. EPA and Oak Ridge National Laboratory have successfully demonstrated the use of radio frequency identification technology to track radioactive materials in commerce⁸. The U.S. government is currently pilot-testing radio frequency identification for a wide variety of applications^{9, 10} as is the commercial sector. For cross-border applications, U.S. Customs and Border Protection (CBP), part of the U.S. Department of Homeland Security, is using radio frequency identification and other technologies to track both people and goods entering the U.S. "The development of wireless technology and radio frequency identification will guide the future of communications and tracking technology"¹¹. Information on specific programs can be found at the CBP website^{12,13}.

5 TECHNOLOGY TESTING APPROACH

5.1 EPA's Technology Verification Program

EPA's radio frequency identification testing will be conducted under its Environmental Technology Verification Program, established in 1995 to develop testing protocols and verify the performance of innovative technologies that have the potential to improve the protection of human health and the environment. The goal of the Environmental Technology Verification Program is to provide credible performance data for commercially ready environmental technologies, collected through rigorous and verifiable testing, to speed implementation for the benefit of purchasers, vendors, stakeholders and the public.

In 2005, the Environmental Technology Verification Program began a new element to evaluate innovative and commercially ready technologies that have the potential to address high-risk environmental problems. This new program, Environmental and Sustainable Technology Evaluations continues to maintain the quality assurance, cost sharing, and stakeholder involvement that are fundamental operating principles of Environmental Technology Verification. The radio frequency identification project was competitively chosen as one of the initial technologies to be tested. The Environmental Technology Verification / Environmental and Sustainable Technology Evaluations Program is a partial cost-sharing program with stakeholders, where vendors supply their technology and participate during testing. The testing process is transparent, with all results being published on EPA's Environmental Technology Verification website, <http://www.epa.gov/etv/>. EPA anticipates conducting verifications of up to 10 potential vendors in the first round of testing.

5.2 Stakeholder Involvement

Officials from Mexico, the United States and Canada have agreed to participate in radio frequency identification technology verification. Mexican officials will include representatives from The Secretariat of Environment and Natural Resources (regulatory), Federal Attorney General for Environmental Protection (enforcement) and Aduana (Customs). Officials with the EPA Office of Enforcement Compliance and Assurance, Office of International Affairs, Office of Solid Waste and Region VI and XI will be active partners. Other federal agencies include the U.S. Department of Homeland Security, including CBP, and the U.S. Department of Transportation. The test information will be shared with the U.S. Intra-Gov Working Group for Radio Frequency Identification, where U.S. agencies using radio frequency identification technology transfer information on implementation and work toward standardization. Environment Canada will track progress on the testing, as the testing is designed to allow for the transfer of the radio frequency identification systems to the U.S./Canada border.

State agencies, including the Texas Commission on Environmental Quality and the New Mexico Border Authority, will participate in the data gathering effort. Three maquiladoras and two Mexican trucking firms will volunteer their time and equipment to support the testing. Up to 10 radio frequency identification vendors will be demonstrating their system's capabilities during separate testing events. Each vendor is responsible for providing their hardware and software, and setting up and maintaining their radio frequency identification equipment at the testing locations.

6 RADIO FREQUENCY IDENTIFICATION TESTING PROTOCOL

The site selected for this pilot is a U.S./Mexico border crossing away from a more heavily utilized crossing, in an attempt to avoid any slowing of trade as the tests are carried out. This pilot is also sensitive to and will assess the potential for multiple readers to conflict with other signals used in other tracking applications.

To accurately simulate hazardous waste and raw material shipments, three types of containers will be tracked, including: 55-gallon poly drums, 55-gallon metal drums and corrugated cardboard cubic yard boxes. It is anticipated the radio frequency identification signals will respond differently when attached to each of these material types. Packing configuration within the truck will also be varied to determine the effect on the radio frequency identification signal. The radio frequency identification tags will read at five checkpoints, including the generator facility, the Mexico border crossing, the New Mexico customs crossing, a warehouse facility and the simulated receiving facility.

For testing, each radio frequency identification tag will be programmed with a unique number that will link to information in a secure web-based database, containing data from EPA's Uniform Hazardous Waste Manifest. Hazardous waste is identified and shipped by separate waste streams, reflecting the specific composition of each waste. Therefore, each separate container of waste, rather than the full load on the vehicle, is the relevant tracking unit. It is the need for more focused tracking and data gathering, down to the container level and providing information that links to the specific waste stream that differentiates this application of radio frequency identification from other tracking applications currently in use.

During the testing, the measurement parameters will include radio frequency identification tag read accuracy, operational frequency, effective radiated power (power level), environmental conditions (temperature, humidity, wind speed, particulates), truck trailer conditions (shock, vibration, temperature, humidity) and truck velocity. Supplemental evaluations will be conducted on information technology systems compatibility, system security (ability to cause interference), cost and ease of operation.

While we know generally that active battery-powered tags are more expensive to acquire and operate than passive tags, this pilot will provide more specific cost data for implementing an radio frequency identification system on a container basis than is currently available. Due to the different approaches being proposed by the individual vendors, it is too early to predict actual operating costs. Based on costs determined during the 2005 EPA radio frequency identification tracking of radioactive materials in commerce study¹⁴, unit costs for hardware included \$3,400 per reader and \$85 per active battery-powered tag. One time software and installation costs totaled \$10,300. The radio frequency identification industry predicts that system costs will become more economical as standardized protocols are adopted and more applications are brought on-line. Field testing will begin when all funding sources for the pilot are in place.

7 CONCLUSION

In order to be able to verify cradle-to-grave tracking of hazardous waste from Mexican maquiladoras, as required by Resource Conservation and Recovery Act, EPA needs more near-real time accountability of this material. Tracking of hazardous materials with radio frequency identification could provide timely, verifiable information to U.S. enforcement officials regarding the quantity and composition of the material entering the country and confirm that the material has reached the designated receiving facility. Mexican enforcement and Customs officials will receive verification that the waste has returned to the country of origin, as required by Mexican environmental law. With a viable radio frequency identification system in place, regulators, generators, shippers and importers would all benefit from this additional layer of visibility, ensuring accurate and timely documentation that their waste shipments reach the correct facility and were not abandoned or inappropriately disposed of along the way.

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**PAKOOTAS, ET AL., V. TECK COMINCO:
A CASE STUDY IN TRANSBOUNDARY POLLUTION ENFORCEMENT**

KOWALSKI, EDWARD¹

¹ Regional Counsel, Region X, United States Environmental Protection Agency, 1200 Sixth Street, Seattle, Washington, 98101, USA, kowalski.edward@epa.gov

SUMMARY

On Monday, January 7, 2008, quietly sandwiched among the hundreds of routine orders issued by the United States Supreme Court on pending requests for review, without comment beyond the simple heading, "CERTIORARI DENIED," appeared case No. 06-1188 *TeckCominco Metals, Ltd. V. Pakootas, Joseph A., et al.*¹ The Court's sparse order, however, betray both the environmental significance and the adversarial vigor of the underlying battle to which it brought successful conclusion. The complex case demonstrates how multiple environmental enforcement and diplomatic tools can be effectively integrated to address environmental harm in one country resulting from activities by a company located in a different country.

1 BACKGROUND ON TECK COMINCO CASE

1.1 Contamination of the Upper Columbia River

The Teck Cominco story begins on the banks of the Upper Columbia River in Trail, British Columbia, approximately 10 miles north of the U.S.-Canadian border. Here, for over 100 years, Teck Cominco has owned and operated the world's largest lead and zinc smelter. From the 1890s to 1995, the Trail smelter discharged approximately 15 million tons of contaminated slag directly into the river. In 1991, EPA sent a letter to British Columbia officials expressing concern about the continued slag disposal, requesting that any future permit extensions for the company be conditioned on addressing the slag discharge.² A response the following month indicated that British Columbia officials were trying to develop a timetable of improvements to resolve environmental concerns, "taking into account Cominco's current economic and technological uncertainties."³

Concern with the contamination remained a topic of senior-level meetings between the two countries over the next two years before the Canadian Government notified EPA in January 1994 that no future permit amendments would allow slag discharge beyond December 31, 1995.⁴ For nearly a century, however, the slag, a black, sandy, metal-laden needle-like particulate, abrasive to fish gills and absorbed by fish, was transported by the swift-flowing waters of the Upper Columbia across the border into the United States. Once in the U.S., the river slows into a more lake-like environment, due to the presence of the Grand Coulee Dam, located 150 miles

downstream. The reduced flow caused the slag to settle throughout 150 miles of slow-flow deposition areas, including stream banks, sediments and recreational beaches, north of the dam. This area of the river, also known as Lake Roosevelt, is a popular national recreation area, providing recreational opportunities including swimming, fishing, boating and hunting to an estimated 1.3 million visitors per year.

1.2 Efforts to Study the Contamination

In August 1999, the Confederated Tribes of the Colville Reservation (“Colvilles”), subsistence users of the Upper Columbia, which flowed through their reservation lands, petitioned the U.S. Environmental Agency (“EPA”) under the Comprehensive Environmental Response, Compensation, and Liability Act to assess the threat of contamination in and along the river. Comprehensive Environmental Response, Compensation, and Liability Act is the U.S. law that addresses remediation of environmental contamination caused by releases or threatened releases of hazardous substances into the environment. This law authorizes EPA to study and take cleanup actions at polluted sites, and uses a “polluter pays” principle to impose strict liability on several classes of persons who caused or contributed to the contamination - site owners and operators, and persons who arranged for disposal or transported hazardous substances for disposal. These classes of persons are liable for conducting site cleanup and for reimbursing costs incurred by EPA for site investigation or cleanup. The Colvilles had the right under Comprehensive Environmental Response, Compensation, and Liability Act to request that EPA conduct a site investigation.⁵ EPA completed its initial site assessment work in March 2003, concluding that site contamination, including arsenic, lead, copper, cadmium, zinc and mercury, was significant enough to merit more comprehensive study in the form of a formal “remedial investigation and feasibility study to evaluate the risks posed by the contamination to human health and the environment.”⁶

EPA notified Teck Cominco, the smelter’s owner and operator, of its potential liability under Comprehensive Environmental Response, Compensation, and Liability Act, offering it the opportunity to perform the study.⁷ The company responded that as a Canadian corporation, it was not subject to personal jurisdiction in the United States nor was it subject to its environmental law, Comprehensive Environmental Response, Compensation, and Liability Act. Despite its jurisdictional objections, the company agreed to enter negotiations with EPA through its American subsidiary, Teck Cominco American, Inc., to attempt to reach an agreement guiding the site investigation. After almost a year of negotiations, it was clear that the company was unwilling to enter an agreement providing the scope and depth of investigation required by U.S. law and which EPA believed appropriate for the site.

2 COORDINATION WITH FEDERAL, STATE, AND LOCAL AUTHORITIES

EPA recognized the transboundary issues raised by pursuing a Canadian corporation under U.S. environmental law to address pollution in the United States, but which originated in Canada. By the time negotiations with the company broke down in November 2003, EPA had begun what would become an unprecedented degree of legal analysis and coordination with other stakeholders. Prior to entering negotiations with the company, EPA regional representatives in Seattle⁸ had initiated consultations with senior officials in EPA Headquarters. In addition, the regional office brought the U.S. Department of State and Department of Justice into early discussions. Because the site involved lands and resources owned and managed by other federal agencies, the U.S. Department of Interior⁹ was consulted as well.

Nor was interest in the site limited to the federal government. The Colvilles were joined by the Spokane Tribe of Indians, whose reservation also bordered on the Upper Columbia, the State of Washington and several environmental groups, all of which expressed strong support for an investigation of contamination at the site consistent with Comprehensive Environmental Response, Compensation, and Liability Act requirements. On the other hand, the seven local counties surrounding the Upper Columbia had, at Teck Cominco's urging, formed a working group, which separately approached EPA with a proposal to negotiate a voluntary human health assessment of the river. Their proposal was designed to answer 3 basic questions: was the water safe to drink; were the fish safe to eat; and were the beaches safe to use. Their approach would not require strict adherence to the Comprehensive Environmental Response, Compensation, and Liability Act process or standards.

3 BREAKDOWN IN NEGOTIATIONS

The breakdown in negotiations with Teck Cominco left EPA with several options:

3.1 Accept the limited investigations proposed by Teck or the counties. In EPA's opinion, however, these studies would not ensure protectiveness of human health and the environment. Moreover, because they would not be performed under Comprehensive Environmental Response, Compensation, and Liability Act, consistent with the National Contingency Plan¹⁰, EPA might jeopardize its ability to ensure future implementation of whatever cleanup might ultimately be determined necessary at the site.¹¹ The legal mechanisms under which the investigations were offered to be performed also raised a number of concerns about enforceability of those agreements.

3.2 List the site on Comprehensive Environmental Response, Compensation, and Liability Act's National Priorities List, EPA's list of most contaminated sites, use U.S. government funds to perform the necessary investigations and pursue the

company for reimbursement. However, EPA policy is to have the polluter pay for investigation and cleanup when there is a financially viable party to perform the work. In addition, Teck Cominco and the counties were strongly opposed to NPL listing,¹² arguing that listing would stigmatize the area, harming its recreational economy. Other stakeholders also preferred a resolution short of listing.

3.3 Ask the State of Washington to use its state authorities to secure the investigation and cleanup.¹³ Similarly, EPA could look to the tribes or environmental groups to use their respective legal authorities to compel performance of the work. Earlier discussions along these lines, however, had encountered resistance because the local authorities had limited resources, and felt that federal mechanisms were more appropriate.

3.4 Utilize the 1909 Boundary Waters Treaty¹⁴ between the United States and Great Britain, which recognized an obligation not to pollute waters flowing between Canada and the United States, and established an International Joint Commission to resolve disputes over transboundary waters. Issues raised by using the treaty process to address the situation, included how well it would address a dispute involving cleanup of large contaminated areas, rather than point source discharges; concern that the International Joint Commission referral process involved less certain timeframes; and concern that unless both Canada and the U.S. Senate consented to referring the matter to the International Joint Commission for a binding decision, any determination would be in the form of a nonbinding recommendation.

3.5 Request the U.S. Department of Justice file a court action against Teck Cominco, asking the court to order the company to perform the study, issue a declaratory judgment establishing its liability and require payment of all costs. Any action filed by the Department of Justice would be on behalf of the United States, and would require close coordination of all federal agencies' interests at the site. This course of action also would require resolution of the legal question of the U.S. courts' jurisdiction to require Teck Cominco to perform this work under U.S. law.

3.6 Issue a unilateral administrative order to Teck Cominco under Comprehensive Environmental Response, Compensation, and Liability Act, ordering it to perform the study.¹⁵

4 EXTRATERRITORIAL OR DOMESTIC LEGAL AUTHORITIES

Filing an enforcement action against Teck Cominco in U.S. courts would raise the legal question of whether a judicial enforcement action against Teck Cominco would be considered a "domestic" or "extraterritorial" application of U.S. law. EPA would have to argue either that application of U.S. law in this situation is a "domestic" application of Comprehensive Environmental Response, Compensation, and Liability Act or that it is a permissible "extraterritorial"

application under U.S. law. Longstanding U.S. law provides that Congressional legislation, unless a contrary intent appears, is meant to apply only within the territorial jurisdiction of the United States.¹⁶ However, an important exception to this general principle, holds that U.S. courts may apply U.S. law extraterritorially where the actions of a foreign entity outside the U.S. have significant adverse impacts within the United States and are contrary to the U.S. national public interest.¹⁷

5 UNILATERAL ORDER AND SUBSEQUENT COURT ACTION

5.1 EPA's Unilateral Administrative Order and Diplomatic Objections

Having analyzed its options, on December 11, 2003, EPA issued Teck Cominco a unilateral administrative order, requiring it to conduct a study for the Upper Columbia River Site within United States territory.¹⁸ The Canadian Government responded with a Diplomatic Note to the Department of State on January 8, 2004, objecting to EPA's attempt to enforce its laws against a Canadian company, and encouraging EPA to rescind the order and re-examine Teck Cominco's earlier offer.¹⁹ Teck Cominco responded four days later, notifying EPA of its intent not to comply with the order and resubmitting its previously rejected proposal.²⁰ U.S. officials met with a Canadian Government delegation in February 2004 to discuss the impasse. That meeting was followed a month later with a Canadian Government proposal that the two governments negotiate a Memorandum of Understanding to address the site through a joint scientific process bearing many similarities to Teck Cominco's last proposal. The Canadian Government's proposal launched the beginning of many months of negotiations between the two countries in an attempt to reach a diplomatic resolution concerning the site. With no agreement concluded, however, EPA initiated its own remedial investigation and feasibility study at the site in 2004.

5.2 Tribe and State Obtain Court Enforcement of EPA's Order

While diplomatic discussions between the U.S. and Canada continued alongside separate intermittent negotiations with the company, two members of the Colvilles filed an action in federal district court for the Eastern District of Washington on July 21, 2004, seeking enforcement of EPA's order. Washington State intervened in the lawsuit. Teck Cominco moved to dismiss the suit based upon lack of jurisdiction. On November 8, 2004, the district court denied Teck Cominco's motion to dismiss.²¹ While the court recognized that the case involved applying a domestic law to clean up a site located entirely within the United States, for purposes of its analysis, it went on to assume the case involved an extraterritorial application of Comprehensive Environmental Response, Compensation, and Liability Act to conduct occurring outside of U.S. borders. The court held that though extraterritorial, the application of Comprehensive Environmental Response, Compensation, and Liability Act was appropriate in the case given Comprehensive Environmental Response, Compensation, and Liability Act's

purpose to remedy domestic conditions and the well-established principle that the presumption against extraterritorial application is not applied where failure to do so will result in adverse effects within the United States.

Teck Cominco appealed to the Ninth Circuit Court of Appeals. The appeal was extensively briefed, with multiple amicus briefs being filed on behalf of each side of the jurisdictional issue.²² A unanimous 9th Circuit panel affirmed the district court ruling, holding that the case did not involve an extraterritorial application of Comprehensive Environmental Response, Compensation, and Liability Act. Rather, the court reasoned, it involved a domestic application of Comprehensive Environmental Response, Compensation, and Liability Act to a facility located entirely within the United States and the release, leaching from the slag, also occurred in the U.S.²³ When Teck Cominco's Petition for Rehearing to the Ninth Circuit was denied, it sought United States Supreme Court review.

5.3 Settlement With Company and Supreme Court Review

While the citizens' suit litigation was winding its way through the courts, settlement discussions between the U.S., Canada, Washington State, Tribes and Teck Cominco continued. On June 2, 2006, in the time between the 9th Circuit oral argument and the court's decision, the United States and Teck Cominco reached a settlement agreement under which Teck Cominco agreed to conduct the remedial investigation, consistent with Comprehensive Environmental Response, Compensation, and Liability Act's National Contingency Plan, in return for EPA's withdrawal of its unilateral administrative order.

As the case went before the Supreme Court, EPA had Teck Cominco's commitment to perform the investigation and an appellate ruling that the company was subject to Comprehensive Environmental Response, Compensation, and Liability Act. When the Supreme Court asked the U.S. for its position before ruling on Teck Cominco's petition for review, the U.S. government first argued the case was moot given the settlement with Teck Cominco and withdrawal of the administrative order. Second, it argued the questions presented by the case did not merit Supreme Court review, as there was no conflict among the appellate courts on those issues. Finally, given the interlocutory nature of the appeal, it argued that the lack of factual development in the district court made the case a poor vehicle to develop law on any of the questions raised in the petition.

6 CONCLUSION

The Supreme Court had several choices for ruling on Teck Cominco's petition. It could grant review, and upon review proceed to affirm the 9th Circuit's application of Comprehensive Environmental Response, Compensation, and Liability Act to transboundary pollution or overturn that finding. It could decline review, with or without additional ruling. For example, the court could deny review but vacate the 9th Circuit opinion, in effect erasing that precedent and sending the parties back to the beginning in district court.

On January 7, 2008, the Supreme Court denied the Petition for Certiorari without comment. Therefore, Teck Cominco remains subject to Comprehensive Environmental Response, Compensation, and Liability Act jurisdiction and responsible for evaluating the environmental damage it caused and the feasibility of remedies to address it. Through effective coordination and application of a creative mix of enforcement and diplomatic tools, federal, state and local stakeholders were able to achieve the best results for the environment in and around the Upper Columbia River.

(The views expressed herein are those of the author and do not represent the views of the USEPA)

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³ December 17, 1991 letter from Rick Crozier, Assistant Regional Waste Manager to Robert Burd, Manager, Water Programs.

⁴ January 10, 1994 letter from E.D. Anthony, Regional Director General, to Gerald A. Emison, Acting Regional Administrator.

⁵ See 42 U.S.C. Sec. 9605(d): "Any person who is, or may be, affected by a release or threatened release of a hazardous substance or pollutant or contaminant, may petition the President to conduct a preliminary assessment of the hazards to public health and the environment which are associated with such release or threatened release."

⁶ Under the Comprehensive Environmental Response, Compensation, and Liability Act process, following the initial assessment finding contamination at a site, the RI/FS is the usual next step in the cleanup process. The RI is intended to determine the nature and extent of the problem presented by the release. The FS develops and evaluates options for cleanup of the contamination.

⁷ See 42 U.S.C. Sec. 9604(a): "When the President determines that such action will be done properly and promptly by the owner or operator of the facility or vessel or by any other responsible party, the President may allow such person to carry out the action, conduct the remedial investigation, or conduct the feasibility study in accordance with section 9622 of this title."

⁸ Although headquartered in Washington, D.C., EPA has 10 regional offices located throughout the United States. The regional office in Seattle has been delegated much of the responsibility for environmental matters arising in Alaska, Washington, Idaho and Oregon.

⁹ In addition to the Bureau of Reclamation, other federal agencies under the Department of Interior with interests impacted by the site included United States Geological Survey, Bureau of Indian Affairs, U.S. Fish & Wildlife Service, National Parks Service and Bureau of Land Management. In addition, the Department of Energy was consulted because of Bonneville Power Administration involvement in dam operations.

¹⁰ The National Contingency Plan, located at 40 CFR Part 300, is the EPA rule promulgated under Comprehensive Environmental Response, Compensation, and Liability Act which lays out in great detail the framework for implementing the Comprehensive Environmental Response, Compensation, and Liability Act statute, including the process by which contaminated sites are investigated and ultimately cleaned up. American courts have given great deference to EPA in challenges to its decisions and actions as long as they were determined to be “consistent with the National Contingency Plan.”

¹¹ Under Comprehensive Environmental Response, Compensation, and Liability Act's structure, EPA separately negotiates with, or can legally require, responsible parties to perform the RI/FS, or site investigation, and RD/RA, remedial design/remedial action or site cleanup. In this case, if EPA entered into an agreement for a site investigation not consistent with the National Contingency Plan, and later brought an enforcement action to require site cleanup, it might subject itself to a defense that the selected cleanup it was seeking to require was unenforceable on the ground that the process leading to its selection was not consistent with the National Contingency Plan.

¹² Only sites listed on EPA's National Priorities List can receive remedial action funding from the government.

¹³ In fact, Washington has a cleanup law modeled on Comprehensive Environmental Response, Compensation, and Liability Act, known the Model Toxics Control Act, RCW 70.105D.010 et seq.

¹⁴ Treaty Between the United States and Great Britain Relating to Boundary Waters Between the United States and Canada, U.S.-Gr. Brit., Jan. 11, 1909, 36 Stat. 2448.

¹⁵ 42 U.S.C. Sec. 106(a) provides: “In addition to any other action taken by a State or local government, when the President determines that there may be an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from a facility, he may require the Attorney General of the United States to secure such relief as may be necessary to abate such danger or threat, and the district court of the United States in the district in which the threat occurs shall have jurisdiction to grant such relief as the public interest and the equities of the case may require. The President may also, after notice to the affected State, take other action under this section including, but not limited to, issuing such orders as may be necessary to protect public health and welfare and the environment.”

¹⁶ See *Foley Bros., Inc. v. Filardo*, 336 U.S. 281, 285 (1949).

¹⁷ See *U.S. v. Aluminum Company of America*, 148 F.2d 416 (2d Cir. 1945).

¹⁸ December 11, 2003 Unilateral Administrative Order, Docket. No. CERCLA-10-2004-0018.

¹⁹ January 3, 2004 Diplomatic Note from the Ambassador of Canada, Note No. 0001.

²⁰ January 12, 2004 letter from G. Leonard Manuel, Vice President & General Counsel, to Michael Gearheard, Director, Environmental Cleanup Office.

²¹ *Pakootas v. Teck Cominco Metals, Ltd.*, 2004 U.S. Dist. LEXIS 23041 (E.D. Wash. 2004).

²² As it did in the district court litigation, the United States did not participate in the appellate proceedings.

²³ 452 F.3d 1066 (9th Cir. 2006).

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A NEW DYNAMIC FOR THE HAZARDOUS WASTE TRADE IN NORTH AMERICA

WHITEHOUSE, TIM¹ AND RAIN, KELLY²

¹ INECE & Associates, 2300 Wisconsin Avenue NW, Suite 300B, Washington, DC 20007, twhitehouse@inece.org.

² Law Fellow, Institute for Governance & Sustainable Development, 2300 Wisconsin Avenue NW, Suite 300B, Washington, DC 20007, kelly.rain@gmail.com.

SUMMARY

The United States is moving beyond an import-safety approach where decisions are made at the border to one that targets critical points in the imports life cycle. This trend is occurring in the hazardous waste trade in North America, where significant weaknesses exist in the United States' ability to track hazardous waste across North American borders. This paper reviews on-going efforts to improve hazardous waste tracking across borders in North America. To build on these efforts, this paper recommends that the United States and Mexican governments require foreign consignees of United States or Mexican hazardous waste to send a certification back to them stating that the recycling or disposal activity has occurred. It also recommends that the United States and Mexico manually share data on hazardous waste shipments from *Maquiladoras* to the United States. These two steps would greatly improve the ability of North American governments to monitor hazardous waste shipments. These efforts should occur as part of a larger effort to ensure that the borders do not act as a shield to protect wrong doing in any NAFTA country, and that all actors in the production, distribution, and sale of imports are held accountable for ensuring that their products meet the environmental, health, and safety standards of the country where they are being sold.

1 INTRODUCTION

This paper evaluates the United States' experience working to improve the tracking of transboundary hazardous waste shipments with Canada and Mexico. These efforts are largely consistent with the framework presented in the recent United States government report, *Action Plan for Import Safety: A Roadmap for Continual Improvement*.¹ We offer suggestions for how these three countries can work together to ensure that their borders do not act as a shield to protect wrong doing in any NAFTA country.

2 THE PROBLEM

Public institutions have had difficulty keeping pace with the scope, pace, and complexity of the rapid growth in international commerce. Since 1950, global trade

has grown twenty-seven fold to an estimated U.S. \$16 trillion in 2007, equal to 31 percent of world gross domestic product (GDP).²

In countries throughout the world, this difficulty is evidenced by serious health, safety, and environmental problems with certain imported products. Examples in the United States include cadmium-contaminated zinc sulfate fertilizer from China, lead-tainted toy jewelry from Mexico and China, engines that are non-compliant with the Clean Air Act, smuggled wildlife, and ozone depleting substances from all parts of the globe.³

Trade-related hazardous waste issues are more nuanced. Most hazardous waste generated in the United States, Mexico or Canada remains in North America. Problems have been documented in this North American trade in hazardous waste and with hazardous waste management along the United States-Mexico border. Yet no recent gripping or “smoking gun” situation has galvanized political attention on compliance-related problems that may exist with this trade.⁴

A number of reasons exist why the United States is taking steps to improve its ability to better manage these shipments despite this lack of a “smoking gun.” Hazardous waste has become a border security issue, both because of the dangers inherent in the waste itself and because of the difficult nature of properly inspecting the sealed drums containing these wastes. Moreover, because generators have to pay to dispose of hazardous wastes, strong incentives exist to illegally dispose of these wastes if adequate compliance monitoring controls do not exist. Finally, governments in North America have felt acute political pressures to make sure NAFTA does not cause a “race to the bottom” in terms of environmental standards.

3 AN EVOLVING RESPONSE

Governments have historically responded to trade-related problems by increasing the number of border requirements applicable to imported goods. The United States Customs and Border Protection (Customs) now monitors imported goods for compliance with more than 400 laws and 34 international treaties, statutes, agreements and conventions on behalf of 40 federal agencies. Some agencies such as the Department of Agriculture, the Food and Drug Administration, and the Fish and Wildlife Service have inspectors at border ports to assist in these inspections.

Border inspections alone, however, can no longer ensure that international trade is compliant with domestic environmental laws. Customs typically is able to inspect only about 3 to 5 percent of all shipments.⁵ Even if Customs were able to raise the amount of cargo it could inspect, most ports have little space for trucks or containers to wait and backups would cause gridlocks in the transportation system.

These border realities have caused the United States to move beyond an import-safety approach where decisions are made at the border to one that targets critical points in the imports life cycle. The *Action Plan for Import Safety* finds that the border should be one of many spots in a network of interconnected points in the import process where verification and inspection of goods occurs.

The plan puts forth five “building blocks” to advance a common vision of the safety of product imports. These are: increasing accountability, enforcement, and deterrence; focusing on risks over the life-cycle of an imported product; building interoperable systems; fostering a culture of collaboration; and promoting technological and innovative and new science.

Underlying this plan is a call for government agencies to work with the private sector and foreign governments to “prevent harm in the first place” by improving manufacturing and distribution processes of U.S. imports.

This framework is consistent with many on-going governmental efforts to improve import compliance. Customs, for example, is leading a federal government effort under a partnership known as the International Trade Data System, to utilize the new Customs electronic data management system, the Automated Commercial Environment, for the electronic collection, use and sharing of international trade data. This system will offer single window electronic filing of documents to the trade community and support the electronic exchange of information between government agencies.

A number of federal agencies are also working to promote compliance before the point of entry. Currently, for example, the Food and Drug Administration inspects foreign medical factories importing products to the United States⁶ and the U.S. Department of Agriculture evaluates the equivalence of foreign meat and poultry food regulatory systems and sanitary measures to insure the product meets U.S. import requirements.⁷

4 TRACKING HAZARDOUS WASTE SHIPMENTS IN NORTH AMERICA

The United States, Canada and Mexico employ the concept of prior informed consent to control transboundary hazardous waste shipments. Under this system, material regulated in one country as hazardous waste may only be exported with the prior consent of the importing country. A number of weaknesses exist in the system that makes it difficult to track international shipments of hazardous waste from cradle-to-grave.

4.1 The Current System

The prior informed consent concept and domestic hazardous waste management laws rely on government agencies sharing information on transboundary hazardous waste shipments. In all three countries, importers and exporters must

obtain written approvals from national governments to ship hazardous waste or hazardous recyclable material from one country to another. Consent must also be obtained from the destination country. Under this notice system, importers will receive permission to ship a specific kind and amount of waste from one country to another for a designated period of time.

Facilities that accept hazardous waste from foreign generators must notify the U.S. EPA region before the first shipment arrives, but are not required to re-notify the U.S. EPA unless the character or source of the waste changes. When an actual shipment crosses the border, the U.S. receiving facility is required to send a copy of the manifest to EPA Headquarters within 30 days of receipt.

This notice-based system does not track actual shipments, and does not operate on a "real-time" basis. It does give the United States some control over what hazardous waste enters the country, where it should be going and how it will be treated. For the reasons discussed in the next section, however, collecting and matching all the paperwork necessary to identify whether specific hazardous waste shipments are going where they are suppose to be going is extremely difficult, undermining effective compliance monitoring.

4.2 Weakness in the System

At least three major weaknesses exist in this system. The first weakness is that the notice system is paper-based, and consequently imposes a high administrative burden on the governments and limits their ability to use the information for compliance monitoring. Currently, countries share export requests and consent documents with one another by sending copies through the mail, by fax, or by cable and enter data into multiple systems manually. It does not allow for the real-time exchange of information between governments and government agencies, resulting in processing backlogs and inaccuracies in existing data systems because data must be entered manually.⁸

The second weakness is that *maquildora* industries, assembly factories in Mexico operating under a special tax program, are exempt from this system. Under Mexican law, *maquiladoras* are required to export their hazardous waste. Although almost all of this waste goes to the United States, *maquildoras* are exempt from the notice system under the La Paz Agreement.⁹ As a result, the Environmental Protection Agency does not have accurate information on the quantity, type, origin, method of handling, of *maquiladoras* sending waste into the United States. In the past, the manifest was the critical document for beginning any compliance review of *maquiladoras*. However, efforts to collect manifests at the border and enter them manually into a data base called HAZTRAKs proved extremely unreliable, time consuming and expensive. In addition, logistical and financial obstacles derailed efforts to link the HAZTRAKs database with other United States hazardous waste databases and with Mexican data bases.

The final weakness in this system is that no return notice system is in place in the United States as it is in Canada to ensure that the waste actually goes where it is suppose to go. Only Canada has an integrated transboundary hazardous waste management system. In Canada, the consignee of hazardous waste must send a certification to Environment Canada stating that the recycling or disposal activity has occurred. So, for example, if a Canadian company receives permission from Environment Canada to send hazardous waste to the United States, once the waste actually arrives at its destination facility in the United States, that facility must notify Environment Canada when it has recycled or disposed of that waste. With shipments originating in the United States, or Mexico for that matter, no such return notice is required. The United States does not know whether shipments leaving the country actually reach their approved destination. Likewise, Mexico does not know whether shipments that are supposed to enter the United States actually reach their destination.

5 A NEW DYNAMIC FOR THE HAZARDOUS WASTE TRADE

5.1 The Framework for Cooperation

Efforts to address these problems have evolved along the lines of the building blocks put forth in the United States *Action Plan on Import Safety*. These efforts are occurring largely — but not exclusively — through the work of the Commission for Environmental Cooperation, often referred to as the environmental side agreement to NAFTA.

In 2003, the Environmental Ministers of the Commission for Environmental Cooperation put forth a resolution to promote greater cooperation on the transboundary hazardous waste trade in North America. The resolution called on the three countries to work to strengthen the environmentally sound management of hazardous waste and hazardous recyclables on waste streams of common concern; to work toward the interoperability of waste tracking systems; and to support capacity building needs in Mexico. This resolution reinvigorated the work of the Commission for Environmental Cooperation's Hazardous Waste Task Force, which has been largely dormant the preceding years.

5.2 Developing a Business Process Model

The first step of the hazardous waste task force was to understand how the North American hazardous waste trade actually worked. The task force held three public workshops to develop schemas, known as business process models, which outlined all the steps that need to occur for hazardous waste to be traded between the three countries. Although the purpose of the business process models was to lay the ground work for the electronic exchange of information between the countries, it also ended up giving the governments a complete understanding of the trade process, and as a consequence helped identify ways to maximize government efficiencies, direct resources toward weak spots and to look for points of collaboration.¹⁰

5.3 First Steps Toward Inter-operability

With respect to the electronic exchange of information, the governments are developing common data standards for export requests and consent documents and a method for sharing this information electronically. The Commission for Environmental Cooperation project will allow governments to exchange this export request and consent information electronically. This will reduce government administrative burdens, improve data quality, make it easier to provide data to environmental enforcement and border protection agencies, facilitate the adoption of emerging tracking technologies and help the governments provide more timely and coherent information on what crosses their national borders. This project will also enhance compliance. The new electronic system will include information on shipment requirements contained in the notice and consent documents. This will allow the governments to compare the requirements with the actual shipment information in order to determine possible violations.¹¹

5.4 Electronic Tracking of Waste

The U.S. Environmental Protection Agency (EPA) is exploring the feasibility of using radio frequency technology (RFID) to track actual hazardous waste shipments entering the United States. Currently, EPA is designing a demonstration pilot for *maquiladora* waste entering the United States. RFID refers to small electronic devices that consist of a small chip and an antenna. The RFID chip can transmit manifest data on the hazardous waste shipment to government agencies in near real-time at designated points in the process, such as the generating facility, the border and the treatment, storage and disposal facility. The results from this pilot may inform the application of this technology to a much broader range of international trade in environmentally dangerous goods and substances.

6 CONCLUSIONS

Unlike the Food and Drug Administration or USDA's inspection work overseas, the United States Environmental Protection Agency does not have a compelling public health, safety or environmental reason for the regular inspection of Mexican or Canadian generators or transporters of hazardous waste. However, all three countries have compelling reasons to want to know whether waste shipped within North America actually reach its intended destination and that the borders are not used as a shield to protect unlawful behavior. The work described above represents important first steps in this process. Some additional steps by the United States could greatly enhance this effort.

6.1 Develop a Close-Looped, Canadian-Style System

Only Canada has the ability to track hazardous waste shipments from cradle-to-grave. The simplest, easiest way to improve the ability of the United States to monitor shipments would be for the United States and Mexico to adopt a similar

system to that of Canada, where the consignee of the waste must notify the exporter's government that the shipment has actually arrived at its destination.

6.2 Share Data on Maquiladora Shipments

The idea of linking HATRAKs with Mexican databases was ahead of its time. However, the goal of linking databases should not obscure the fact that the United States and Mexico could manually share information to determine the extent of compliance-related issues with *maquiladora* shipments.

In Mexico, a *maquiladora* determines whether a waste is hazardous in Mexico and the United States. If the waste is hazardous in the United States, the *maquiladora* arranges with a U.S. facility to receive its hazardous waste before preparing an *aviso de retorno* (return notice application). The information collected on an *aviso de retorno* is entered into a data base in Mexico. This information includes information on the generator, the destination and shipping route of the waste, and the company that will handle the return of the waste.

If the United States should receive this information from Mexico, EPA and the states could incorporate this information into the routine, periodic inspection cycle.

6.3 Develop a Common Vision, Objectives and Strategies

North America has made tremendous progress in cooperating on ways to improve the compliance monitoring of hazardous waste shipments. Given that governments of Canada and Mexico have changed since the Commission for Environmental Cooperation's Council Resolution 03-08, it may be time to consider another resolution which puts forth a comprehensive framework for improving the compliance monitoring of transboundary hazardous waste shipments. This framework could reinforce ongoing trilateral efforts while emphasizing the need to share information on actual shipments, promote cradle to grave tracking of waste shipments, and reinforce the need for proper training of border inspectors.

This framework should be part of a larger vision, with clearly defined objectives and strategies, that work to ensure that the borders do not act as a shield to protect wrong doing in any NAFTA country, and that all actors in the production, distribution and sale of imports are held accountable for ensuring that their products meet the environmental, health and safety standards of the country where they are being sold.

7 REFERENCES

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⁴ Some of the problems have been document in publications such as *Strengthening U.S.-Mexico Transboundary Environmental Enforcement: Legal Strategies for Preventing the Use of the Border as a Shield Against Liability* (Environmental Law Institute, 2002, http://www.elistore.org/reports_detail.asp?ID=10706); *The Generation and Management of Hazardous Wastes and Transboundary Hazardous Waste Shipments between Mexico, Canada, and the United States Since NAFTA: A 2004 Update* (Texas Center for Policy Studies, 2004, www.texascenter.org/publications/hazwaste04.pdf); and *Crossing Over: US Lacks Good Data on Hazardous Materials Trucked from Mexico* (The San Diego Union-Tribune (June 12, 2006), www.signonsandiego.com/uniontrib/20060612/news_1n12waste.html).

⁵ Variations of this number have been reported; for example, the Food and Drug Administration examines 1-1.5 percent of food imports. Diedra Henderson, *Food Imports Seldom Checked*, THE BOSTON GLOBE (1 May 2007) (Since 1997, FDA officials say, they have examined just 1 to 1.5 percent of food imports, while shipments skyrocketed from more than 4 million entries in 1997 to more than 15 million in 2006); see Press Release, Senator Maria Cantwell, *Senate Passes Comprehensive Cantwell-Backed Port Security Package* (14 Sept. 2006), <http://cantwell.senate.gov/news/record.cfm?id=263078> (“... we are inspecting the contents of less than 3 percent of the more than six million containers entering our country each year.”).

⁶ Overseas medical facilities are inspected at a rate of once every 13 years. In comparison, American medical facilities are inspected every two years. The problems arising from such a disparity has been highlighted by at least four deaths and hundreds of allergic reactions related to the Chinese-supplied blood thinner heparin. *FDA Inspections Lag in Overseas Drug Factories*, The Washington Times (28 Feb. 2008), <http://www.washingtontimes.com/apps/pbcs.dll/article?AID=/20080228/BUSINESS/906826390/1001>.

⁷ See *Process for Evaluating the Equivalence of Foreign Meat and Poultry Food Regulatory Systems*, USDA: Food Safety and Inspection Service (Oct. 2003), <http://www.fsis.usda.gov/OPPDE/IPS/EQ/EQProcess.pdf>.

⁸ Commission for Environmental Cooperation, *Tracking Hazardous Waste: Improving the Transboundary Tracking of Hazardous Waste in North America: A Regional Approach to a Global Effort* (Sept. 2007), at 1, http://www.cec.org/files/PDF/LAWPOLICY/hazwaste%20tracking_en.pdf; Commission for Environmental Cooperation, *Tracking and Enforcement of Transborder Hazardous Waste Shipment in North America: A Needs Assessment* (1999), at 36, <http://www.cec.org/files/PDF/LAWPOLICY/HazW-Ang.pdf>.

⁹ La Paz Agreement, 80 Stat. 271; 1 U.S.C. 113 (signed August 14, 1983, approved July 8, 1966), <http://yosemite.epa.gov/oia/MexUSA.nsf/ae0396372fe73b828825671c007e0b90/208f81d47fde81b9882566b10061cbc2!OpenDocument>.

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TRACK D: BIODIVERSITY, ECOSYSTEMS AND ENFORCEMENT

THE FORMAL AND INFORMAL ORDERS IN LAND CLEARANCE REGULATION IN AUSTRALIA

BARTEL, DR. ROBYN¹

¹ School of Behavioural, Cognitive and Social Sciences, University of New England, Armidale, NSW, 2351, Australia, rbartel@une.edu.au.

SUMMARY

Regulation of land clearance in Australia is attempting to curtail the big three environmental threats facing humanity: the enhanced greenhouse effect, biodiversity losses, and land degradation/desertification. This paper will review the current legislative regimes in place to reduce the rates of land clearance and some of the reasons why they have fallen short of generating compliance and, therefore, regulatory success. Chief amongst these are the “disconnects” between the “informal” codes or orders of behaviour upheld by norms within the regulated community, as well as the regulators, and the “formal” order of norms promoted by legislation. This paper will also describe how past regulatory failures may herald a future of regulatory success resulting from the development of a culture of learning and professionalism within agencies charged with implementation and enforcement. As a consequence, the narrowing of the gap between the formal order of the law and the informal order of society will likely occur.

1 INTRODUCTION

One of the major problems threatening Australia’s environmental quality and security of ecosystem benefit provision is clearance of native vegetation, resulting from the lack of effective land regulation.¹ Australia is the fifth highest land clearing nation in the world, following only Brazil, Indonesia, the Democratic Republic of Congo, and Bolivia.² Past and continuing clearance of native vegetation has dire consequences for the sustainability of natural environments and production landscapes. Land clearance is linked causally to water and land degradation, biodiversity losses, increases in greenhouse gas emissions, and threats to the viability of agricultural industries. The term “desertification” is readily applied to similar circumstances internationally. While land clearance in Australia is not a new phenomenon, clearance rates have been greatest in the last 50 years, with the area cleared equal to that cleared in the first 150 years of white

settlement.³ Government intervention in recent decades has reversed a historic preference for clearance, which satisfied the growth agenda of the colonizers and agricultural production, and made most acts of land clearance on private land illegal without a permit. Government agencies are responsible for implementation, administering permit allocations, and monitoring and enforcement of clearance activities.

2 REGULATORY EVOLUTION

Australia has been governed through a Federal system since 1901, with a central seat of power controlling areas of national importance, such as defence. Additionally, six states and two territories have broad jurisdiction within their own boundaries. In the century since establishment of a federal system of government, the original demarcation of control has been eroded in favour of the national government, which increasingly intervenes in state matters. Regardless, the state governments remain in general control of natural resource management and in particular control of land clearance.

In the states of South Australia and Victoria land clearance legislation dates from the 1980s, with the remaining states introducing controls from the mid-1990s (see Table 1). Regulation in most states is increasingly:

- Command and control in approach with regard to monitoring, enforcement, and penalties;
- Technologically advanced, satellite imagery dependant, information intensive, and reliant on vegetation maps classifying areas as deserving of different levels of protection and requiring different levels of control;
- Adoptive of new approaches; for example, off-set arrangements where clearance of one area may be made conditional on the saving of a similar or greater area from clearance; and
- Adaptive and responsive to local conditions, with increasing devolution to communities and “grass-roots” governance.

Table 1: Timeline and Selected Features of Land Clearance Regulation in Australia*

| STATE | LEGISLATION | Recent reforms |
|-------------------|---|--|
| New South Wales | Native Vegetation Act 2003 (took effect 2005) and Regulations 2005 | Maximum penalty for unpermitted clearance is \$1.1 million. Regionally-based Catchment Management Authorities (CMAs) are the permit authorities and can not permit broad-scale clearance unless the overall effect is to improve or maintain the environment. All permits are conditional upon 15 year Property Vegetation Plans. |
| | Native Vegetation Conservation Act 1997 | |
| | State Environment Planning Policy (SEPP) 46 1995 (Protection and Management of Native Vegetation Policy) | |
| South Australia | Native Vegetation Act 1991 South Australia (as amended 2002) | Amendments in 2002 increased the maximum penalty from \$40,000 to \$100,000, made permits conditional on achieving a significant environmental gain; and placed the cost of data provision for determining applications on the landholder. |
| | Planning Act 1982 | |
| Victoria | Native Vegetation Management Framework: A Framework for Action (DNRE, 2002) | In 2002 an earlier policy aim of no net loss of vegetation was replaced with that of achieving a net gain. Vegetation is classified through a "habitat hectare" system of quality assessment, which includes measures of a particular site's condition and landscape context which is used to assess and compare areas. |
| | Native Vegetation Retention Planning Control program 1989 | |
| Western Australia | Environmental Protection (Clearing of Native Vegetation) Regulations 2004 | Amendments in 2004 raised the maximum penalties from \$3,000 to \$250,000 for individuals and \$500,000 for corporations. |
| | Soil and Land Conservation Act 1945 (included land clearance since 1986) | |
| Queensland | State Policy for Vegetation Management, May 2004, amended Nov 2006 Vegetation Management Regulation 2000 | Reforms have introduced an offsets policy, on-the-spot fines, a minimum penalty scale, removed the privilege against self-incrimination and added presumptions of landholder responsibility for clearance and satellite data accuracy. Vegetation across the state has been classified as either remnant or non-remnant and a complete phase out of broad-scale clearance of remnant vegetation is the current aim. All applications to clear require a property vegetation management plan (PVMP) which must meet the performance requirements of the regional vegetation management codes. |
| (free-hold) | Freehold land regulation - Vegetation Management Act 1999 (freehold regulations introduced 2000) | |
| (lease-hold) | Land Act 1994 (leasehold regulations introduced in 1995) | |
| Tasmania | Forest Practices Act 1985 (commercial forestry restrictions extended to private forestry in 2002) | Tasmania has lagged behind the other states in having no state-wide legislation until 2002 |

* Note that Australia is a Federation and land clearance is in the control of the States.

3 REGULATORY FAILURE

The regulatory reforms outlined above have been enacted in response to regulatory failures that have been evidenced through continuing high rates of land clearance and poor implementation. Several studies, including those performed by this author, have attributed these regulatory failures to a suite of difficulties.⁴ A lack of political will and inadequate resourcing at a government level are often identified problems, but there may also be inadequate “back up” of the law by appropriate penalties and court sentencing.

At an agency level there may be a lack of agency personnel with the skill sets and culture conducive to enforcement, education, or implementation generally, which may be compounded by inadequate monitoring, knowledge, and information. In the past, agencies have been accused of complicity in non-compliance, due to their lax monitoring and poor enforcement.⁵ This is changing and is further discussed below.

Amongst those being regulated there may be inadequate norm activation or moral agreement with the law, along with various conflicts of interests between sectors of the community. There are also perceived, and actual, inequities in the application of the regulations, and the costs imposed on the regulated may be unable to be borne. Additionally, market failures exist along with perverse incentives to break the law.⁶ While maximum statutory penalties may be high, actual fines are often low and of little deterrent value. In parallel, sentences also a lack of appreciation of the seriousness of contraventions within the judicial, and also wider, community.

4 THE FORMAL AND INFORMAL ORDER OF LAW

The function of criminal law is to declare standards of moral conduct and mete out punishment for violations, but Australian land clearance laws have been accused of lacking the prerequisite moral repugnance and for attracting mainly administrative penalties. Sentences that are imposed are inadequate, which indicates that violation of land clearance laws is acceptable.

Certain sectors of society may perceive environmental crimes, such as land clearance, as “not really crime.” However, the argument that environmental violations are legitimate crimes deserving punishment is achieving more prominence; perhaps especially as global fears for human-induced climate change become more mainstream. Such divergence of opinion is not unexpected, particularly considering that land clearance was previously promoted by governments and central to the vision of Australia held by European settlers.

The norms and cultures which exist within society may or may not be mirrored by the “official” norms codified in legislation. The degree of convergence between the “formal” and “informal” orders of law is important for raising compliance, especially voluntary compliance, on which the efficacy of the regulatory system

relies. According to Teubner, the efficacy of a law may be compromised where there is a value conflict between the regulations, the regulators and those being regulated, and also where there is a conflict between the norms underpinning the legal system and other social systems.⁷ However, Teubner also recognises that regulation may still succeed if avenues of implementation are adopted that work with internal motivators rather than against them.

5 COMPLIANCE MODELS AND MOTIVATIONS

Compliance has been traditionally sought via deterrence. However, deterrence-based options have increasingly been strengthened in an attempt to trigger the change in behaviour required. The “Benthamite” factors of deterrence may have particular weight in encouraging compliance as land clearance occurs primarily for agricultural expansion; therefore, the clearance is economic in motivation.

Other mechanisms of behavioural change must also be utilised so that voluntary compliance with land clearance laws increases. Compliance motivations include both the economic incitements and social influences. Social actor models demonstrate the importance of social methods of enforcement (known as informal sanctions), such as disapproval, approval, shame, and conferring of status, that provide socially meted incentives and disincentives for behaviour. Social actor models further suggest that deterrence efforts may be counterproductive when the values underpinning the aims of the legislation are not shared by the community because resistance to change will become socially galvanised (as groups identify as anti-regulation or anti-government this becomes self-supporting of anti-regulation behaviour).⁸ Members of the regulated community may indeed adopt what is termed a “motivational posture” that is purposively non-compliant and resistant to regulation.⁹ While such a posture may be adopted individually, a shared posture will be stronger due to the informal sanctions operating amongst social groups, it also becomes politically volatile in a democracy.

Therefore it is crucial that attempts to strengthen the deterrence approach are not counterproductive. This is especially important as the empirical evidence increasingly suggests that the adoption of a mix of implementation tools, including punishment and persuasion, is vital in building compliance, as is building trust between those being regulated and the regulators.¹⁰

There are some salutary lessons to be learned from the (imperfect) adoption and application of regulatory compliance models. For example, one model for improving social regard for regulation is public participation. Devolution of regulatory responsibilities in the environmental arena to regional communities and community overseership of administrative functions has been adopted by several states and is federally supported.¹¹ It is seen as a move towards more geographically and socially responsive regulation, increasing biophysical appreciation and social acceptance and understanding. However, such regulatory models may suffer if inadequately resourced and if governance processes are

not well established. Certainly public participation may have great benefits, as research has shown that if people are involved in the process of rule creation then they may be more likely to accept rule application.¹²

For example, previous legislation in the state of New South Wales established Regional Vegetation Management Committees to produce regional plans outlining where land clearance could occur and what types of conditions and permit requirements would be required for clearance. The system was intended to decentralise the assessment process to the regions, with each operating under a community-built and designed plan particular for each region. Additionally, an attempt was made to democratise the administration by including representatives from all major stakeholder, industry, and conservation groups within each committee, along with representatives from the government departments involved. Unfortunately, those appointed from each of the more "farmer-friendly" groups formed coalitions and produced "majority" reports opposing the conclusions of the reports produced by alliances formed between the environmentalist and scientific representatives. The committees also became paralyzed by a lack of adequate data, and were completely undone by the basic conflict of values inherent in competing views about land use. The Regional Vegetation Management Committees have been disbanded and have been replaced under legislation by Catchment Management Authorities which are charged with the management of water as well as native vegetation. Similar to Regional Vegetation Management Committees in make-up, they are designed to be representative of all the interests. It is too early to say how they will fare, but the story of their antecedents, combined with other failures, has reflected badly on government agencies and damaged public trust. Agencies have been accused of heavy handedness and inflexibility by one side, while at the same time being accused by others of being hands-off and ineffectual. Any model of improving regulatory compliance must generate acceptance, behavioural change, and voluntary compliance amongst those being regulated. Additionally, and possibly most importantly, the compliance regime must be understood, adopted, implemented, and evaluated by agencies existing in an often politically unpredictable and resource poor environment (especially at the state-level in Australia). One optimal way for this to happen is for agencies to develop cultures of professionalism and learning so that past experiences of regulatory failures and successes are learned by agencies and disseminated within and across state boundaries to other natural resource management agencies experiencing similar issues. While perhaps the most important lesson to be learned about regulatory success is its dependency on context (social, economic and environmental) it is the development of a culture of learning that can truly enable agencies to develop the skills necessary to appreciate the lessons of contingency.

6 AGENCIES AS CHANGE AGENTS

Many Australian agencies now charged with enforcement functions have historically held, and may continue to hold, extension and support functions. Often, these agencies regulate communities that possess norms counter to the

regulations, or who may be resistant for other reasons. There are often informal orders within agencies as well, which are not immutable to change. Some agencies have adopted more strategic approaches and recruited and retrained personnel appropriate to enforcement tasks. They have begun to evaluate and audit implementation activity.

From “humble” beginnings as an informal network between several agency staff, a network of environmental enforcement agencies, called the Australian Environmental Law Enforcement and Regulators Network, was established in 2003. This network provides a forum and support for cross-border enforcement issues, awareness-raising, and professional development. As a result, agency personnel are increasingly taking more proactive means to ensure that agency activity is conducted in a professional manner with the requisite technical capacity and expertise. The network promotes moves toward identifying and adopting best practice; for example, to secure effective elements of deterrence as well as informal coupling with social enforcement mechanisms. Most importantly, the network provides a counter to the more traditional bureaucratic “silo” mentality of some agencies and has assisted in developing within agencies cultures which enable and promote learning.¹³ Agencies are developing “cultures” of professionalism, learning, and engagement, both with other agencies within and across jurisdictions, as well with those being regulated. This evolution of agency style means that agencies will be more effective in the analysis and development of regulatory practice as well as more effective “on the ground” to attain environmental goals, build and regain public trust, and provide public benefits.

7 CONCLUSION

Past regulatory failures in the land clearance context in Australia may be signs of the current problematic regulatory approach occurring in the country. However, these failures, once learnt from, will likely contribute to the eventual successful enforcement of environmental compliance in Australia. For example, the environmental consequences of regulatory failures are raising the moral and political imperatives for change. These are being felt and responded to, both by those being regulated and within regulatory agencies and government.

Government, government agencies and regulated communities are all “reflexive” to current conditions and, existing norms are being challenged and replaced with alternatives more conducive to increasing the efficacy of environmental regulation. The culture within implementing agencies is changing, which is critical for ensuring regulatory success.

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ENFORCEMENT OF CITES AT O.R. TAMBO INTERNATIONAL AIRPORT, SOUTH AFRICA

DU TOIT, JACQUES¹ and CRAIGIE, FRANCES²

¹ Assistant Director: Strategic Compliance and Enforcement, Gauteng Department of Agriculture, Conservation and Environment, OR Tambo International Airport, Johannesburg, South Africa Jacques.dutoit@gauteng.gov.za

² Director: Strategic Compliance and Enforcement, Gauteng Department of Agriculture, Conservation and Environment, Market Street, Johannesburg, South Africa Frances.Craigie@gauteng.gov.za

SUMMARY

This paper presents a snapshot of the work being undertaken by a dedicated group of officials, who have assumed responsibility for enforcing the Convention on International Trade in Endangered Species of Wild Fauna and Flora at the busiest airport in Southern Africa. Although an enormous number of challenges face these officials in their daily work, an initiative focussing on compliance and enforcement awareness and training has recently yielded significant results, examples of which are illustrated through case studies. The paper also shares some insight into the modus operandi of these smugglers.

1 INTRODUCTION

As a signatory to the Convention on International Trade in Endangered Species of Wild Fauna and Flora, South Africa co-operates with other signatory countries in the fight against unsustainable international wildlife trade and the protection of biodiversity. The convention prohibits international trade in endangered species and regulates international trade in species vulnerable to over-exploitation.

However, the question must be asked: Is South Africa winning this battle, or are the criminals, with so many opportunities for smuggling, able to remain one step ahead of the authorities tasked with enforcing the law? A small unit of environmental enforcement officials stationed at the international airport located in Johannesburg, South Africa have recently achieved a number of successes through increased detection of criminal activities.

2 THE AIRPORT

The OR Tambo International Airport in Johannesburg, South Africa is recognised as the gateway into and out of South Africa. As the largest airport in the region, the OR Tambo International Airport is able to handle significant daily volumes of passengers, luggage, cargo and mail (traffic) with approximately seven million

(7 779 000) passengers¹ passing through the airport annually. The total volume of passenger luggage, cargo and mail entering and leaving the country through the airport is overwhelming with, for example, in the region of one hundred and fifty million (150 151 690) items entering through the cargo section alone on an annual basis. OR Tambo International Airport, as is the case with most international airports, encompasses a large ground surface area, covering an estimated 8km², with the various activities scattered across this area.

Imagine for a moment the opportunities that exist should a criminal wish to make use of the parcels, crates or suitcases to convey environmental contraband. The sheer volume of traffic at the airport makes detection of such contraband virtually impossible, particularly if one considers that only six officials comprise the airport's compliance and enforcement unit.

3 ENFORCEMENT UNITS AT OR TAMBO INTERNATIONAL AIRPORT

3.1 Environmental Enforcement Unit

Although the Gauteng Department of Agriculture, Conservation and Environment regulates a number of different environmental laws, the OR Tambo International Airport was identified as a key point area that requires specific attention from the Department. A permanent enforcement unit (Special Investigations) within the Compliance and Enforcement Branch of Gauteng Department of Agriculture, Conservation and Environment has therefore been stationed at this airport. The unit fulfils both a compliance monitoring and an enforcement function in relation to legislation pertaining to illegal trade in endangered species.

The officials in the unit, who are also designated as Environmental Management Inspectors in terms of South Africa's National Environmental Management Act², are responsible for conducting inspections to ensure compliance with the obligations of Convention on International Trade in Endangered Species of Wild Fauna and Flora and the associated Gauteng Nature Conservation Ordinance (domestic enabling legislation), and to detect and investigate illegal international trade in environmental contraband. The inspections are primarily conducted in the cargo area and international mailing section at the airport, although passengers and passenger luggage are also inspected on a regular basis.

As the international movement of endangered species is a highly specialised field requiring consistent monitoring in order to effectively control the illegal trade and exploitation of natural resources, the permanent placement of an environmental investigative unit at the airport is important to maintain awareness amongst other enforcement role players and provide support, where necessary. Due to the technical nature of Convention on International Trade in Endangered Species of Wild Fauna and Flora (such as permit types, identification numbers, micro chips, ring numbers and punch numbers as well as the array of possible species involved) typical law enforcement officials do not have the knowledge and expertise to investigate these matters.

3.2 Other Law Enforcement Role Players

As with most international airports, a variety of law enforcement agencies are present to fulfil their respective mandates, as is the case at OR Tambo International Airport. Agencies such as Customs, Police Services, National Intelligence, Immigration, Port Health, Agriculture, Veterinary services, Crime Intelligence and airport security, to name but a few, operate on a daily basis at the airport.

4 STRATEGIC APPROACH: AWARENESS RAISING

Acknowledging the overwhelming quantity of people and items moving internationally through the airport as well as the limited budget and therefore number of environmental enforcement officials stationed at the airport, it was essential for Gauteng Department of Agriculture, Conservation and Environment to adopt a more strategic approach focussing on awareness raising in order to:

- increase detection rates;
- create a sound understanding of the international smuggling of Convention on International Trade in Endangered Species of Wild Fauna and Flora -listed species and the close relationship between these illegal activities and other types of organised crime;
- provide EMI investigative support to other enforcement units at the airport after detection of the environmental contraband; and
- create a foundation for sound co-operative governance which ensures the understanding that further investigation and handling of cases after detection of the contraband is the responsibility of the Environmental Management Inspectors stationed at the airport.

The initial focus for this awareness programme was on the enforcement agencies working within the OR Tambo International Airport. It was necessary to identify the various role players, to summarise their respective mandates and key point focus areas, in order to ultimately identify common ground from which to approach these agencies for assistance in the battle against the international smuggling of endangered commodities. The importance of this step cannot be overemphasised as these agencies comprise individuals who often do not share the same vision and ethical approach towards the conservation of endangered species. Identified individuals within these agencies were therefore only approached after careful consideration of all relevant issues and with an aim to ensuring the support and understanding of the subject matter.

The second focus area for the awareness programme looked at those enforcement agencies operating outside the boundaries of the airport in order to ensure early detection and protection of live specimens rather than later detection (at the

airport) when, in many cases, the specie has already been destroyed. Detection of these crimes within the country is therefore vital for the survival of endangered species. In many instances, it is also more likely that illegal activities will be detected outside the chaotic environment of an international airport.

The third crucial leg to the strategic awareness programme aimed at creating a deeper understanding within the justice system of crimes involving endangered species, is considering the impact these crimes have globally. Amidst a society driven by money, it is easy for an investigating officer (as well as a prosecutor) to place too much emphasis on the monetary value of the illegal items found and confiscated. This emphasis often conceals the underlying importance of conserving the species and does not provide an accurate indication of the seriousness of the crime. By focussing on financial value, a court may agree to a less significant sentence in cases where the quantity of items seized is less. Officials within the justice system are therefore made aware, for example, of the true conservation value of the last few species of an endangered species. The Department's approach is to create a scientific and ethical foundation from which to obtain a conviction which also serves as a deterrent for future transgressors.

While increasing the levels of awareness in relation to illegal activities involving endangered species, it is also necessary to educate the environmental enforcement officials on other criminal offences that may be detected during their compliance monitoring inspections. Examples of such offences include counterfeit goods, falsified passports, drugs, pornography and activities involving restricted medicines. This increases the detection rate in relation to these crimes and provides a platform for effective co-operative governance and builds professional working relationships between the law enforcement agencies.

5 CASE STUDIES ILLUSTRATING SUCCESS OF APPROACH

5.1 Rhino Horn Seizure

Approximately a week after presenting the first training and awareness course to Customs passenger administration officers at OR Tambo International Airport, four White Rhino Horns were found hidden inside a suitcase that was destined to be exported to China / Vietnam (see Figure 1 below). Upon detection of the horns, which were wrapped in newspaper and sealed with tape, Customs officials contacted the Environmental Management Inspectors stationed at the airport. An investigation by the Environmental Management Inspectors led to the apprehension of two Vietnamese citizens; one of whom was successfully prosecuted. Although the second suspect was released, subsequent investigations have linked him to a syndicate operating in South Africa.

Figure 1: White Rhino Horn Seized at OR Tambo International Airport



5.2 Snakes

After the initial awareness training sessions, which focussed on security and Customs personnel responsible for the parcel screening points at the international mail centre, six separate parcels over a period of five (5) months were identified both entering and leaving the country containing live venomous and non-venomous snakes (see example in Figure 2 below). Investigation by Environmental Management Inspectors led to the location and prosecution of all the suspects involved. Enforcement agencies in the countries of origin for a number of these snakes have also been notified and Environmental Management Inspectors in South Africa are co-operating with these agencies in ongoing investigations into these matters.

Figure 2: Saw-Scale Viper Smuggled through Mail Centre



6 COMMON MODUS OPERANDI FOR SMUGGLING ENDANGERED SPECIES

Although many species are smuggled in the absence of a Convention on International Trade in Endangered Species of Wild Fauna and Flora permit, many organised syndicates utilize the permit system associated with Convention on International Trade in Endangered Species of Wild Fauna and Flora and other conservation legislation to increase their efficiency when performing illegal activities.

The examples set out below clearly illustrate how the Convention on International Trade in Endangered Species of Wild Fauna and Flora permit system is utilized to commit crimes.

Syndicates create fraudulent Convention on International Trade in Endangered Species of Wild Fauna and Flora permits. For this reason, Convention on International Trade in Endangered Species of Wild Fauna and Flora permits have various security measures in place to detect fraudulent permits, although these measures are worthless if relevant enforcement agencies outside conservation circles are not properly informed of them. For example, a consignment of 250 African Greys were imported on a fraudulent Convention on International Trade in Endangered Species of Wild Fauna and Flora permit from Congo to South Africa. The original permit only allowed for 50 parrots; however, the airline, freight handler and initial inspection did not notice that the permit was fraudulent and the number had been increased by two hundred.

Syndicates apply for original Convention on International Trade in Endangered Species of Wild Fauna and Flora permits and then resort to utilising the permit more than once, thus increasing their profit margins and ultimately threatening various wild populations. A company in South Africa dealing with orchids, imported three separate consignments from Thailand on a single Convention on International Trade in Endangered Species of Wild Fauna and Flora permit. Although a Convention on International Trade in Endangered Species of Wild Fauna and Flora permit makes provision for the inspection and subsequent endorsement of the original permit, syndicates avoid inspections for as long as possible.

Original Convention on International Trade in Endangered Species of Wild Fauna and Flora permits allowing for the movement of certain species are also often utilized to move a different specie. A prime example of this exists with birds, such as parrots. In one case a permit was obtained to export Convention on International Trade in Endangered Species of Wild Fauna and Flora II listed parrots from South Africa to China. Upon exportation of the consignment, Convention on International Trade in Endangered Species of Wild Fauna and Flora I listed parrots (several times more valuable than ones indicated on the permit) were found amongst the Convention on International Trade in Endangered Species of Wild

Fauna and Flora II consignment. Upon searching the suspect's home an e-mail was found stipulating the location and amount of Convention on International Trade in Endangered Species of Wild Fauna and Flora I parrots that were to be smuggled in this manner, as well as a previous consignment that had been sent undetected. Certain parrot species look very similar, especially when young, making detection more difficult. The co-operative approach between Gauteng Department of Agriculture, Conservation and Environment and the local revenue service office in relation to this matter also resulted in the suspect being further assessed for six million Rand in undeclared income.

OR Tambo International Airport, due to its location at the southern tip of Africa, receives numerous in-transit shipments. Syndicates therefore obtain Convention on International Trade in Endangered Species of Wild Fauna and Flora permits to import items from one country to another, knowing these shipments will pass through OR Tambo International Airport en-route to the destination country. Many of these consignments are then intercepted at OR Tambo International Airport and the goods smuggled into South Africa. The Department is in the process of implementing a notification system between Customs and the environmental enforcement unit in relation to consignments containing endangered species that are being moved in-transit through the airport.

7 DETECTION OF ILLEGAL ACTIVITIES AND RESULT OF STRATEGIC AWARENESS PROGRAMME

The implementation of a set of additional permit conditions³ (attached to all Convention on International Trade in Endangered Species of Wild Fauna and Flora permits issued in South Africa) forces people to notify the Gauteng Department of Agriculture, Conservation and Environment office of any movement of Convention on International Trade in Endangered Species of Wild Fauna and Flora listed species, and to instruct them to submit all relevant documentation prior to such movement. The inspector can therefore effectively undertake an inspection that verifies the legitimacy of the consignment and detect any irregularities associated with such consignments. After this inspection and verification process the permits are endorsed, preventing an individual from utilising the permit again. It should also be noted that non-adherence to this condition constitutes an offence.

In order to increase efficiency and productivity the use of scanning or x-ray machines is crucial in the detection of possible endangered contraband amongst large numbers of parcels, luggage or cargo. The Department is currently in the process of purchasing two mobile machines that can be operated in any area of the airport. This will enable the unit to perform strategic scanning and plan specific operational work at different identified sections within the airport.

As machines are already used at various points within the airport by security personnel due to modern-day threats that are associated with any international airport, security personnel were included in the awareness programme which

included demonstrations of what various endangered species as well as derivatives thereof looked like when passing through the x-ray machines. Use of these personnel ensures that efforts are not duplicated and that the Department taps into existing detection opportunities, detection of endangered species by existing airport security and Customs in the past happened on average around three to four times a year. After the initiation of the awareness programme, detection by these other role players has increased to approximately four to five times a month. Due to the high success rate following the initiation of the awareness programme, the Department is now in the process of creating colour posters illustrating what the illegal environmental contraband looks like when moving through scanning machines. These will be distributed to all scanning ports and will no doubt further increase awareness at the security points.

The awareness programme and training provided to other law enforcement officials at the airport was initiated in mid-2007 and has resulted in an almost 200% increase in the number of Convention on International Trade in Endangered Species of Wild Fauna and Flora cases originating at OR Tambo International Airport between the first and second quarters of the 2007/2008 financial year. This was a direct result of the increase in the detection rate following the roll out of the awareness programme. In order to recognise this significant contribution and to show appreciation and professionalism, the Department has now instituted a report and recognition system that singles out individuals within these other enforcement agencies.

8 CONCLUSION

Despite the recent successes discussed in this paper at OR Tambo International Airport, the question still remains: Is South Africa winning the battle, or are criminals and syndicates, with so many opportunities for smuggling, able to remain one step ahead of the authorities tasked with enforcing the law? It is unlikely that we will see a decrease in these illegal activities due to the high demand for endangered species and profit margins that are associated with international smuggling of these species. Consistent and ongoing evaluation and upgrading of detection procedures will need to take place in addition to elevating this problem at a national level to ensure political support and additional resources, particularly ahead of the 2010 Soccer World Cup in South Africa which will increase traffic in and out of the country.

Due to the serious global environmental threats posed by illegal trade of endangered species, international co-operation is also essential and the establishment of a Convention on International Trade in Endangered Species of Wild Fauna and Flora enforcement forum should be seriously considered in order to more effectively control and share information regarding the international smuggling of endangered species.

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¹ The number of pieces of passenger luggage moving through the airport is approximately 21 176 000 per annum.

² No. 107 of 1998.

³ Explaining to importers and exporters of Convention on International Trade in Endangered Species of Wild Fauna and Flora products the procedure to be followed when utilizing OR Tambo International Airport.

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SUSTAINABLE FORESTS MANAGEMENT; ARE DELEGATIONS APPROPRIATE?

MOSHIBUDI, RAMPEDI¹

¹ Department of Water Affairs and Forestry, Private Bag X313, Pretoria, 0001, South Africa, rampedim@dwaf.gov.za

SUMMARY

Sustainable forests management in South Africa is regulated by the National Forests Act, 1998 (Act no 84 of 1998) as amended. This paper is an attempt to present lessons learnt from an executive decision of the Department of Water Affairs of the government of South Africa with regard to the strategic management of environmental compliance and enforcement programs for sustainable forests management. In this case the selected sustainable forests management option contributes to better regulation of forest resources. It is the implementation of a system of regulation that creates a strategic option for better service.

Compliance and enforcement of the Act is done on the basis of delegation of powers and duties. The delegation of powers and duties in terms of the Act is a mix of a centralized and decentralized administrative system. Further review of this administrative system reveals that it effects the provisions of the Constitution of the Republic of South Africa; and enhances the delivery of government services while addressing the geographic dynamics of the country and the nuances of the forest sector. Lessons learnt from the past years indicated that the administration and implementation of the Act by delegating powers and duties led to better regulation and sustainable forests management in South Africa and has instilled a sense of shared responsibility among the forest officers.

1 INTRODUCTION

South Africa's framework for sustainable forests development, co-operative governance and participation is provided by the White Paper on Sustainable Forest Development (1996), the National Forestry Action Programme (1997) and the resultant National Forests Act (1998). The Department of Water Affairs and Forestry's main responsibility is to provide policy and a regulatory framework within which appropriate institutions can manage forest resources.

Department of Water Affairs and Forestry is legislatively mandated by the National Forests Act (No. 84 of 1998) and the National Veld and Forest Fire Act (No.101 of 1998). The National Veld and Forest Fire Act (No.101 of 1998) prevents and combats veld, forest and mountain fires throughout the country, thereby limiting and reducing the damage and losses caused by fires to life, fixed property, infrastructure, movable property, stock, crops, fauna and flora and veld in South Africa. The provisions of the National Forest Act will be referred to later.

Sustainable forests management in South Africa is informed by these pieces of legislation as well as other nationally appropriate policies and laws. Broadly, the National forest laws have the following elements of promoting the sustainable management and development of forests; providing social measures for protection of certain forests and trees; sustainable use of forests for environmental, economic, educational, recreational, cultural, health and spiritual purposes; community forestry; and greater participation in all aspects of forestry and the forest products industry by persons previously disadvantaged by discrimination.

Elements referred to above are covered by the two Acts referred to above as well as the Forestry Laws Amendment Act no 35 of 2005. In addition to these laws and policy framework, forest management in South Africa is affected and influenced by related legislation, including, for example, water, biodiversity, protected areas, land, heritage, labour, wildlife, environment, tourism, agriculture and mining frameworks. The related legislation is obtainable through the South African government information portal (www.gov.za) or through the specific departments' websites. For purposes of this paper only the National Forests Act (No. 84 of 1998) as amended will be addressed.

2 PROVISIONS OF THE NATIONAL FORESTS ACT, 1998 (ACT NO 84 OF 1998)

The National Forests Act, 1998 (Act no 84 of 1998) promotes and enforces the sustainable management and development of forests for the benefit of all, the promotion of sustainable use of forests as well as the provision of special measures for the protection of forests and trees. The Act balances the protection of forests with sustainable use; it regulates a wide range of uses, and sets out the right of everyone to have a reasonable right of access to State forests for non-consumptive purposes. The rights to use, manage, control and operate State forests and their produce rests with the Minister of Water Affairs and Forestry.

Furthermore, the National Forests Act sets parameters for the administration thereof, offences, penalties and enforcement measures. Noting that this paper is addressing strategic management of environmental compliance and enforcement programmes emphasizing better regulation; the paper will focus on the administration of the Act, offences, penalties and enforcement. In administering the National Forests Act, the responsible Minister has the power to assign and withdraw certain powers and duties; he/she may delegate certain powers and duties; expropriate property for forestry, reserve State land for forestry and make regulations.

The National Forests Act makes provision for the duties and powers to be delegated to a named official in the Department of Water Affairs and Forestry; to the holder of an office in the department (Department of Water Affairs and Forestry); to an organ of state; and a person who or which is not an organ of state. Delegations referred to here are done in writing; are subject to conditions, must

specify the period for which it lasts. The Minister is not prevented from exercising the power of performing the said duties and functions if he/she so deems it necessary. Certain of the duties and powers may not be delegated; there includes the power to assign, making regulations, developing policy and appointing members of the Council (in this case the National Forests Advisory Council). The National Forests Act provides for the Accounting Officer (the Director General) to perform powers and duties as in the Act and as delegated by the Minister. An Accounting Officer may further delegate certain powers and duties following the same prescripts as outlined earlier with regard to the responsible Minister.

Compliance and enforcement of the National Forests Act is further strengthened and consolidated by the provisions of the Act that sets out the relevant offences and applicable penalties as well forest officers who the enforcers; they police the provisions of the Act effectively. Relevant Forest Law Enforcers are deemed to be peace officers intern of section 1 of the Criminal Procedure Act, 1977 (Act no 51 of 1977). Offences are classified into categories.

There are five categories of offence; the categories are based on the severity of the offence and its potential impact on the sustainable management of forests. A fourth category offence is of lesser impact as compared to first category offence. The table below gives examples of an offence and the relevant penalty.

Table 1: Offences and penalties, the National Forests Act, 1998 (Act no 84 of 1998)

| Sections of the Act | category | offence | penalty |
|---|----------|--|---|
| Section 58 (1) and sections 62 and 63 | first | Any person who, without a license or other authority cuts, disturbs, damages, destroys, removes or receives seven-week ferns (<i>Rumohra adiantiforme</i>) from any forest | Maybe sentenced to a fine or imprisonment for a period of up to three years or both fine and such and imprisonment |
| Section 58 (2) and sections 62, 63 and 64 | second | Any person who cuts, disturbs, damages, or destroys any indigenous, living tree in , or remove or receive any such tree from, a natural forest except in terms of a license issued | Maybe sentenced on first conviction for that offence to fine or imprisonment for a period of up to two years, or both a fine and such imprisonment |
| Sections of the Act | category | offence | penalty |
| Section 58 (3) and sections 62 and 63 | third | Any person who contravenes the prohibition on the cutting, disturbance, damage or destruction of forest produce in or the removal or receipt of forest produce from a protected area | Maybe sentenced on a first conviction for that offence to fine or imprisonment for a period of up to one year, or both a fine and such imprisonment |
| Section 58 (4) and sections 63 and 64 | fourth | Any person who without authority, enters an area of a forest which is not designated for access for recreation, education, culture or spiritual fulfilment | Maybe sentenced on a first conviction for that offence to fine or community service for a period of up to six months or to both a fine and such a service |
| Section 58 (6) and section 61 | fifth | A forest officer who fails to inform an owner who is in breach of a standard by written notice | May not be sentenced to imprisonment, but may be sentenced to a fine up to 50 000 (ZAR) |

A person who is guilty of a second, third or fourth category offence may be sentenced on a second conviction of that offence as if he or she has committed a first, second or third category offence respectively. The Minister responsible may amend the Section 58 (6) penalty by a notice in a government gazette to counteract inflation. A court which convicts a person of offence in terms of this Act may suspend or revoke a licence granted to the offender under section 7 or 23 of the Act.

3 THE DELEGATION OF POWERS AND DUTIES IN TERMS OF THE NATIONAL FORESTS ACT, 1998 (ACT NO 84 OF 1998)

Section 48 and 56 of the National Forests Act gives the responsible Minister and the Accounting Officer to respectively delegate powers and duties. Delegations are first by the Minister to the Accounting Officer. The Accounting Officer then delegates to the incumbents and future incumbents of posts in the Department of Water Affairs and Forestry program managing forests. A reference to the incumbent in a particular post includes the incumbent of a post senior to the holder of the post in the functional line. This is in line with section 48 (1) (b) and section 56 (2) (b). In the event that the incumbent of a senior post exercises the powers and performs the delegated duties; it shall be so with a good reason and be held accountable and much as such must be recorded in writing. The right to withdraw or amend or replace any delegation is reserved at all times.

Delegations range from duties and functions performed by designated senior government officials based in Pretoria, the national office of the Ministry of Water Affairs and Forestry to forest officers based in provincial and local offices in the entire. The figure below shows the location of the offices referred to. In some instances the delegations include a first and a second delegation. The incumbent of a post indicated under first delegation in schedule may further delegate to the incumbent of a post under the second delegation. In this instance accountability remains with the incumbent of the first delegation.

The delegation of duties and functions is guided by the nature of the provision of the Act as well as the strategic nature of the functions and its potential impact on the sustainable management of forests. Table 2 gives an example of delegated and non-delegated duties and functions

Table 2: Delegations under the National Forests Act, 1998

| section | power | first delegation | second delegation |
|------------|--|-----------------------------------|---------------------------|
| 4 (2) | Determination of criteria, indicators and standards | Not delegated | |
| 4 (3) (b) | Identification of punishable breaches of standards | Director general | |
| 6 (1) | Monitoring of forests | Head of Forestry: Region | Deputy Director: Forestry |
| 16 (1) | Request to the Registrar of Deeds to record the protection against title deed | Director: Forestry Regulation | |
| 23 (1) (d) | Licensing of the removal or receipt of any other forest produce | Forester | |
| 28 (1) | Entering into contracts to sell timber or other forest produce from a state forest | Director General | |
| 32 (2) (c) | Provision of material or financial assistance for community forestry | Deputy Director General: Forestry | |

4 IMPLEMENTATION OF THE DELEGATIONS

Implementation of delegated duties and powers require administrative guidelines to ensure consistency. The Department of Water Affairs and Forestry had to develop and implement policies, regulations, licensing business processes, criteria and indicators to guide officials. For example the implementation of provision of material or financial assistance for community forestry (Section 32 (2) (c) of the National Forests Act) is guided by the Policy for the Provision of Financial Support. The policy was approved by the Forestry Functional Management Committee of the Department of Water Affairs and Forestry. The department initiated a process to investigate and develop national minimum standards for the Sustainable Forest Management against Criteria, Indicators and Standards. Other measures taken include holding Compliance and Enforcement workshops and developing a Compliance and Enforcement Handbook and a Transgressions Recording System. Department of Water Affairs and Forestry works with the National Prosecuting Authority, the Justice College and the Department of Environmental Affairs and Tourism among other state institutions as well as the private sector to ensure coherent and sustainable compliance and enforcement efforts.

Enforcement of the National Forests Act by the department has yielded positive results. For example Department of Water Affairs and Forestry the Western Cape region received 136 Section 7 applications (license to cut, damage or destroy any indigenous, living tree in, or remove or receive any such tree from a natural forest) and issued 129 licenses in time following 130 site inspections. For the rest of the country 680 Section 15 applications were received, 505 site inspections were conducted followed by the issuing of 435 licenses. Licenses are issued with conditions; 19 incidences of non-compliance with acts were recorded. The table below shows other achievements of the regional offices in the past reporting period (Department of Water Affairs and Forestry, Annual Report 2007/2008) with regard to enforcement of the National Forests Act

Table 3: Results of the implementation of the National Forests Act

| region | Number of cases |
|---------------|-----------------|
| Eastern Cape | 47 |
| Western Cape | 4 |
| Gauteng | 3 |
| Northern Cape | 4 |
| Limpopo | 36 |
| Free State | 19 |
| North West | 14 |
| Mpumalanga | 21 |

The implementation of the National Forests Act on a mix of a centralized and a decentralized administrative decision-making system ensures that the users of forests have access services. It appears that the implementation is working because it is aided by proper monitoring and program accountability that provides information to the decision makers at all levels (Markowitz. et. al., 2005). Other measures observed are that the Department of Water Affairs and Forestry has provided resources for the delegations to implement and provides a support system to the forestry officers as the accountability for all enforcement actions lies with the responsible Minister. The implementation system gives a clear differentiation of responsibility between the forestry officials and is supported by the Intergovernmental Relations Framework that formalizes the working relationship of state institutions.

A mix of a centralized and a decentralized decision making system is not always favored by all officials as it puts limits to their actions; ideally most officers would prefer a total decentralization. Kishor and Rosenbaum (2005) refer to illegal

practices as capable of leading to a leakage of resources, such as tax revenue, the same can be said for South Africa. The South African forestry industry contributes an estimate of 12, 274 billion ZAR to the South African economy on an annual basis and generates 170,000 jobs (this range from permanent, contract and informal workers). The majority of the jobs created are low skilled based and concentrated in rural areas where there is high unemployment. In comparison the forest sector contributes about 1,1% to the total Gross Domestic Product of the Republic of South Africa and 1,4% to the total formal employment; this is comparable to other large sectors of the economy. It is therefore critical that Department of Water Affairs and Forestry continues to implement and find other innovative ways of protecting the forest resources.

5 CONCLUSION

South Africa is maintaining a sustainable forests management framework. The government's effort has been successful because of proper monitoring, program accountability, capacity building, making information available and allocating resources to the Forestry program. Officials given the responsibility do appreciate the integral contribution of forests to the state of the environment. Their efforts to implement the National Forests Act, 1998 (Act no 84 of 1998) are broader in intent and recognize the contribution of forests to ecological services.

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STUCK IN STAGES: THE EVOLVING ROLE OF ENFORCEMENT IN LIBERIA FOREST SECTOR REFORM

ROCHOW, JAMES K. W.¹

¹ International/Environmental Consultant, 33 Alexandria Drive, Oxon Hill, MD 20745, U.S.A., jrochow@globalleadnet.org

SUMMARY

Liberia became notorious for its internal collapse of civil order and its role as an epicenter of regional conflict, of which “conflict timber” as well as “blood diamonds” proved both cause and symptom. Pressured by UN sanctions and with the support and cooperation of the international community and Liberian civil society, the post-conflict Liberian government undertook a comprehensive reform of the forest sector, beginning with a review of all existing forest concessions. The ensuing legislative, regulatory, and management revisions and reforms formed a program based on transparent transactions, competitive bidding, “cradle-to-grave” timber tracking, community involvement, and public participation. But the reform program’s enforcement provisions do not completely match its comprehensiveness. If environmental enforcement is viewed as proceeding through stages from a “state of nature” to administrative-centered regulation that emphasizes prevention and planning, the reformed enforcement provisions are “stuck in stages.” Also, enforcement provisions lack administrative order, authority, and civil penalty assessment without consent. These limitations, which stem from a suspicion of executive power rooted in past abuses, will especially handicap enforcement of the “technical” tracking and permit requirements that form the core of the forest sector reform program. The forest management reforms includes an interdisciplinary in-house strike force (Enforcement Division) lodged in the forest agency, which could serve to support and professionalize the field inspection force, as well as handle priority cases. However, reaction to past abuses has led some to conclude that the Enforcement Division should constitute an internal affairs investigative unit. That view presents another illustration of how understandable concern about not repeating the tragic immediate past can impede the effectiveness of present and future enforcement efforts.

1 “CONFLICT TIMBER” AND PERVASIVE ILLEGALITY IN LIBERIA

1.1 Liberia as a Failed State

Liberia has eponymously exemplified a “failed state” and constituted an epicenter of disorder for almost two decades. It is a country whose internal convulsions ushered in a long civil war and regional *bouleversement* characterized by rebel factions and warlords brutally contending for corrupt advantage and territorial control across the permeable boundaries of Liberia and its West African

neighbors. As a result of a peace agreement reached in 2003, Liberia is currently functioning as a relatively stable and democratic government, with President Ellen Johnson Sirleaf working with the international community to carry out a host of legal, economic, and social reform programs. President Sirleaf is attempting to accomplish the Herculean task of rebuilding Liberia almost from scratch and, while doing so, tempering peoples' unrealistic expectations while retaining a sense of optimism in the society. The United Nations Mission in Liberia remains the world's largest peacekeeping mission, consisting of both soldiers and civil police, designed to help keep the peace during Liberia's reformation.

1.2 "Conflict Timber": UN sanctions and the Liberia Forest Initiative

The illicit trade in "blood diamonds" centering in Sierra Leone and Liberia has gained international recognition as a cause and dramatic symbol of civil disorder and gruesome brutality – indeed it has become the subject and title of a recent Hollywood movie. But illegal trade in "conflict timber" also played a major role in perpetuating convulsive lawlessness in Liberia and in fueling conflict in West Africa.¹ Consequently, the UN Security Council embargoed both timber and diamonds in the export sanctions it placed on Liberian exports pending Liberia's transition to democratic government and institution of comprehensive reforms in its management of the country's natural resources.

As a response to the UN sanctions and the recognized need to reform the forest sector, key governments, international institutions, and NGOs (including the European Union, the World Bank, the U.S. Government, and Conservation International) formed the Liberia Forest Initiative in 2003. The Liberia Forest Initiative embarked on a program of technical assistance and capacity building based on the "3 C's" of forest management: (1) developing a sustainable industry through Commercial Forestry; (2) democratizing process and profits through Community Forestry; and (3) protecting biodiversity through Conservation.

2 THE LIBERIA FOREST CONCESSION REVIEW AND LAW REFORM

2.1 The Liberia Forest Concession Review

Recognizing the need to review all existing forest (timber) concessions in Liberia as one of the first steps toward lifting the UN timber sanctions and reinstituting control of the forest sector through systematic process and the rule of law, the Forest Development Authority of Liberia instituted two in-house concession reviews. Liberian civil society, however, refused to accept these reviews as transparent and valid. To resolve those concerns and under prodding from the international community, the government of Liberia mandated a third review (Concession Review) by a Forest Concession Review Committee composed of both Liberian and international representatives, including those from the government, Liberia civil society, United Nations Mission in Liberia, and the Liberia Forest Initiative. The concession review was conducted by a Technical Secretariat

consisting of Liberian experts and international counterparts² under the direction and control of the Forest Concession Review Committee.

The concession review x-rayed a pervasive pattern of lawlessness – it revealed that two and a half times the entire surface forested area of Liberia had been granted in concessions (pointing to a pattern of usurpative overlap) and that concession holders owed over 64 million U.S. dollars in back taxes and financial arrears. Of the 47 concessions reviewed on a case-by-case basis (the 23 others failed to respond to the review and were automatically voided), not a single one could demonstrate compliance with even minimum legal requirements (such as possessing a current business license). Moreover, twelve of the concessions reviewed were identified by the UN as associated with warlordism, insurrection, and illicit commerce. As a result of these and similar findings, the Forest Concession Review Committee recommended that all existing forest concessions be voided and the Liberian Ministry of Justice duly followed up by sending formal cancellation notices to each of the concession holders.³

2.2 The Concession Review as the Foundation of Forest Law Reform

The concession review in design and practice served as an animating model for the restoration of the rule of law in post-conflict Liberia.⁴ The Forest Concession Review Committee was explicitly mandated to recommend forest sector reform measures based on the information collected and organized by the concession review.

After considering the results of the concession review, the Forest Concession Review Committee recommended a set of sweeping changes to the existing forest legal regime. Those recommendations were founded on instituting formal and transparent procedures for granting future concessions. These procedures include competitive bidding, mandating a “cradle to grave” chain of custody system for tracking timber, requiring concessions to adhere to site specific environmental planning (including the preparation of environmental impact assessments), and to comply as well with broader conservation plans and protected areas designations. The newly elected Johnson Sirleaf administration adopted the Forest Concession Review Committee’s recommendations for concession cancellations and reform measures in their entirety by executive order in one of its first official acts.⁵

2.3 Enactment of the Forest Sector Reform Program

The package of reforms recommended by the Forest Concession Review Committee and endorsed by Executive Order No. 1 was enacted into legislation virtually in their entirety.⁶ The Forest Development Authority of Liberia then prepared a package of detailed rules and regulations to carry out the legislation, most of which have now been issued. Moreover, the Forest Development Authority of Liberia (with the support of the Liberia Forest Initiative) is in the process of drafting field manuals and policy guidance documents to elaborate legal

requirements and operational procedures. In parallel, the Forest Development Authority of Liberia has been undergoing an administrative reorganization and streamlining to enable it to implement the detailed responsibilities of the reformed forest sector regime.

4 ROLE OF ENFORCEMENT IN FOREST SECTOR REFORM: A MIXED MESSAGE

4.1 Background: Three-Stage Theory of Environmental Enforcement

The three-stage theory of environmental enforcement provides a framework for analyzing the enforcement provisions of Liberia's new forest law.⁷ That theory postulates a typified evolution starting with a state of nature – no or very little environmental regulation – and proceeding later in the first stage to the use of private remedies sounding in tort for individualized damages for after-the-fact harm. The second stage represents the transition to reliance on administrative action and public remedies, including binding administrative orders develop as a principal and efficient tool, governing statutes prescribe a panoply of civil and criminal judicial remedies (including prospective (injunctive) relief), and prevention of pollution based on violation of regulatory standards rather than belated correction of and compensation for actual harm becomes the central standard.

The concept of a permit links the second and third stages. The permit institutionalizes prevention by translating general requirements into operation specific requirements. As it evolves, the third stage emphasizes integrated approaches (such as multi-media permits tied to environmental impact assessments), coordination of permits with planning, and systematic data collection (where every permit becomes, in effect, an experimental permit whose monitoring data systematically generates information). The third stage also increasingly rationalizes remedies, such as basing administrative civil penalties on recouping the economic benefits of non-compliance.⁸

4.2 Enforcement under the Reformed Forest Sector Regime: Third Stage Features

Based on the preceding description of the comprehensive structure for forest sector reform that Liberia has established as a response to the civil disorder that "conflict timber" helped spawn and sustain, one would logically assume that the enforcement provisions in the revised law would likewise be as comprehensive and advanced. Indeed, the whole elaborate forest reform effort ultimately depends on enforcement, the point of the pyramid. In considerable part, that view is correct: the enforcement provisions of the revised Liberian Forest Law contain some basic second stage provisions, as well as some innovative third stage features.

Foundationally, the new forest law incorporates the Precautionary Principle, and explicitly mandates the Forest Development Authority of Liberia to take a precautionary approach to its administration and enforcement.⁹ Operationally, the law makes it clear that all of the categories of permissions it requires – whether they are labeled contracts (*e.g.*, Forest Management Contracts) or permits (*e.g.*, Forest Use Permits) – are essentially licenses.¹⁰

The significance of the law's pervasive license requirement for enforcement is two-fold. First, licenses carry out the precautionary approach by requiring pre-operation review of management plans and the filing of an environmental impact assessment as part of the approval process.¹¹ Licenses are also conditioned on submittal of an annual operations plan on the status and progress of the operation. Second, the licensing system gives the Forest Development Authority of Liberia, theoretically at least, the upper hand in enforcement. A license is a unilateral and revocable permission granted by the government to individuals and enterprises to conduct activities under terms and conditions specified in law; whereas, a contract is a freely negotiated agreement between parties assumed to be equal.

Enforcement through prevention is also embedded in the key operational concepts of the new forest law. For example, pre-qualification under the competitive bid system¹² is designed to enhance environmental compliance and enforcement by weeding out unqualified and incapable operators and “bad actors” from the very beginning of the process. The chain of custody requirement,¹³ to take another example, prescribes a “cradle to grave” tracking system based on continuity of documentation.

Moreover, the new forest law mandates the collection and collation of data related to enforcement and compliance by requiring the Forest Development Authority of Liberia to prepare an annual report on its enforcement activities.¹⁴

4.3 Historical Ambivalence: The Missing Second Stage in Liberian Forest Enforcement

Given the pronounced presence of third-stage provisions in the new forest law, it is at least somewhat surprising that its enforcement provisions at the same time lack some key second stage authority. As a result, these provisions pose the potential of hindering the implementation of those reforms. Although the new forest law does authorize prospective relief in the form of injunctions and allows the Forest Development Authority of Liberia to sue in court for both civil and criminal penalties, it provides no authority whatsoever for the Forest Development Authority of Liberia to issue administrative orders and uniquely provides that administrative civil penalties may only be imposed with the written consent of the assessed.¹⁵

A salient characteristic of the second stage is its reliance on administrative remedies. The most efficient way to ensure strong and proactive enforcement

is to provide a set of remedies the agency itself may initiate, including cease orders. The new forest law's lack of provisions for administrative orders and its limitation of administrative penalties to cases of consent especially handicap the kind of technical enforcement that is necessary to vindicate the reformed statutory scheme, which is grounded on a chain of custody tracking of commercial timber. Under such a scheme, "technical" violations – those involving record-keeping inaccuracies or unplanned timbering off-site, for example – need to be addressed through routine administrative remedies to protect the integrity of the system.¹⁶

The common explanation for these limitations is that they reflect a profound distrust of executive power given Liberia's recent history. The usurpative history of forest concessions in Liberia dramatically illustrates those executive abuses. Forest enforcement, when it occurred at all, was characteristically corrupt – government inspectors would use the threat of enforcement action to obtain bribes. Although Liberian civil society backed the limitations on administrative remedies in the new forest law, the rationale for doing so seems unconvincing. The requirement of written consent for administrative civil penalties will not necessarily vitiate coercion: while written consent forms should enable comparative tracking of civil penalties assessed and paid in, unreported bribes can still be coerced if a culture of government corruption exists. The rationale also assumes that the judiciary is itself incorruptible and unreliable. In fact, the Liberian judiciary did not prove a bulwark against past executive abuse and more recently has not uniformly demonstrated an understanding of the meaning and importance of environmental requirements.¹⁷

4.4 A Test Case: The Forest Development Authority of Liberia's Enforcement Division

Another prominent feature of the Forest Development Authority of Liberia's enforcement program is the Enforcement Division, created last year within the Forest Development Authority of Liberia as part of its management reform. On its face, the Enforcement Division appears to embody a "strike force" concept, statutorily conceived as a largely autonomous unit within the Forest Development Authority of Liberia composed of inspectors and technical staff, with its director reporting directly to the Forest Development Authority of Liberia's Managing Director. However, the role of the Enforcement Division, however, has been subject to a debate that reflects the legacy of historical ambivalence that compromised the second stage remedies in the new forest law. Reflecting the trauma caused by past abuses, some argue that the Enforcement Division should concentrate not on enforcement, but on rooting out corruption among the Forest Development Authority of Liberia inspectorate and enforcement personnel. While the reasons for that view are historically understandable, the better view is to utilize the Enforcement Division in two badly needed roles: to train inspectors and rebuild the Forest Development Authority of Liberia's enforcement capacity and to draw together experts from the different Forest Development Authority of Liberia technical divisions into an interdisciplinary team to support the field inspectors

and to handle priority cases. The Enforcement Division should not mix those environmental strike force functions with an anti-corruption mission. Turning the Enforcement Division into an internal affair investigatory unit will discourage the kind of cooperation with the field inspectors on the basis of mutual trust and support that is necessary to fulfill the strike force concept. More positively put, the strike force model will help fight corruption by fostering a highly professional and competent interdisciplinary inspection force.

5 CONCLUSION

Liberia's comprehensive forest sector reform program generally provides a model for the post-conflict reinstitution of the rule of law in "failed states." In partial contrast, the enforcement provisions of the new forest law represent second and third stage remedies emphasizing administrative regulation oriented toward prevention inharmoniously mixed with a first stage absence of basic administrative powers. Most notably is the lack of agency authority to issue orders and to collect contested civil penalties. Such ambivalent enforcement authority traces back to the legacy of Liberia's convulsive recent past, which (as the forest concession review systematically confirmed) was characterized by pervasive abuse of executive power. But the success of the forest sector reforms largely depends on the agency's ability to enforce technical requirements such as chain of custody verification on the spot (subject of course to due process challenges). Handicapping the enforcement of the reform program through inapt analogies to the past would detract from, not advance the rule of law and constitute a notable historical irony.

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¹ While "blood diamonds" are more portable, easier to conceal, and perhaps more notorious as sources of illicit funds than timber, forest concessions enable territorial control and usurpation while also generating revenues channeled to private militias and corrupt enrichment (Reno 1999; Global Witness 2004).

² The author was the International Lawyer on the Technical Secretariat of the concession review.

³ For a summary of the methodology of the concession review see Rochow 2006, esp. p. 89.

⁴ Rochow 2006. .

⁵ GOL 2006.

⁶ The National Forestry Reform Law of 2006, Part III, Liberian Code of Laws Revised (hereinafter "New Forestry Law").

⁷ K. W. J. Rochow, "The Far Side of Paradox," 81 W. Va. L. Rev. 559 (1979) (included in *Land Use & Environment Law Review* [1980]).

⁸ One could identify a fourth stage of alternative, market-based regulation, which depends upon the foundation of comprehensive command and control regulation for market signals and baseline standards.

⁹ Section 3.1 b. of the New Forestry Law.

¹⁰ Section 1.3 of the New Forestry Law (definition of "Forest Resource License").

¹¹ Sections 5.3 b. (iii) and 5.3 b. (iv)) of the New Forestry Law.

¹² See Section 5.2 of the New Forestry Law.

¹³ Section 13.5 of the New Forestry Law.

¹⁴ Section 20.11 of the New Forestry Law.

¹⁵ Section 20.9 b. of the New Forestry Law.

¹⁶ It is possible to cobble together an approach focused on administrative remedies even given the second stage limitations of the Forest Law. Notices of violation accompanied by a proposed consensual fine (something like a traffic ticket) with a signature line could constitute one such procedure. But it still would not obviate the enforcement problems stemming from non-coercive remedies and the consequent overreliance on the courts – it would be easy enough for violators not to sign the notice of violation “ticket” and force the Forest Development Authority of Liberia to chase them through the Liberian court system for even minor violations.

¹⁷ Judicial training courses are planned as part of the forest sector reform effort.

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STATE OF BIO-DIVERSITY AND CONSERVATION COMPLIANCE IN BANGLADESH

YOUSUF, ABDULLAH¹ and UDDIN, NASIR²

¹ State of Bio-Diversity and Conservation Compliance in Bangladesh, Institute for Environment and Development Studies, 5/12-15, Eastern View (5th floor), 50, D.I.T Extension Road, Dhaka-1000, Bangladesh, iendesbk@accesstel.net.

² State of Bio-Diversity and Conservation Compliance in Bangladesh, Institute for Environment and Development Studies, 5/12-15, Eastern View (5th floor), 50, D.I.T Extension Road, Dhaka-1000, Bangladesh, iendesbk@accesstel.net.

SUMMARY

Indiscriminate and imprudent uses of lands and water in Bangladesh have had significant impacts on natural ecosystems, changing the land's character and ability to sustain biological resources. Both flora and fauna are threatened by the loss of habitat resulting from increasing human populations and unwise utilization of natural resources. A focus on biodiversity has been emphasized in the Forest Policy and Environment Policy; however, a separate policy on biodiversity has not been formulated. As a result, various departments of the government are responsible for conservation of biodiversity. The Bangladesh National Biodiversity Strategy and Action Plan is under preparation as a national obligation to the Convention on Biological Diversity. Currently, the Forest and National Environment Policy sets the policy framework for biodiversity and environmental protection. Serious efforts must be taken to prevent further exploitation of Bangladesh's natural resources; additionally, sustainable management plans need to be formulated and implemented.

1 INTRODUCTION

Bangladesh is a transitional zone of flora and fauna because of its geographical settings and climatic characteristics. Unfortunately, the degradation and loss of natural resources in Bangladesh started a long time ago. A country traditionally rich in biodiversity, the natural resources of Bangladesh have become greatly depleted. Biological resources are consumed at an alarming rate, and indiscriminate and imprudent uses of lands and water have had significant impacts on natural ecosystems. The Ministry on Environment in Bangladesh has promulgated and enforced a few environmental regulations, but it is clear that a strategy and action plan to specifically protect biodiversity is needed.

2 BIODIVERSITY OF BANGLADESH

Bangladesh supports approximately 5000 floral species, of which about 300 species are being actively cultivated. There are many rivers and streams existing

in the country covering a length of 22,155 kilometers. Both flora and fauna are threatened by the loss of habitat resulting from increasing human populations and unwise utilization of natural resources. Increasing demand for timber and fuel-wood, general human encroachment, and *Jhum* (shifting) cultivation in the hilly districts, are aggravating factors contributing to deforestation and environmental degradation. The unplanned rapid urbanization and industrialization are leading to waste and pollution problems that negatively stress natural ecosystems.

2.1 Impact of Habitat Depletion on Bangladesh's Flora

According to a recent estimate, total forest lands including plantations, gardens, and homesteads cover about 2,600,000 hectares in Bangladesh, which is 17.87 percent of the land surface of the country. Most of the forests of Bangladesh are located in the Greater Districts of Chittagong, Chittagong Hill Tracts, Sylhet, Khulna, Dhaka, Mymensingh, and Tangail. The lack of environmental stewardship in Bangladesh has resulted in over 100 threatened plants in this country. Further, many plants with medicinal value may yet to be discovered.

For example, there are more than 100 species of orchids found in Bangladesh. These plants have become immensely popular among urban dwellers, resulting in their secret collection by businessmen. Also, Bangladesh has one of the most biologically resourceful and unique forests known as the Sundarbans. The Sundarbans, the world's largest mangrove forest, is very rich in biodiversity and supports 334 species of plants. Additionally, the Sunderbans is the only remaining habitat of the famous Royal Bengal Tiger (*Panthera tigris*) and harbors a large number of threatened wildlife. Out of 26 species of mangroves, some are used in newsprint mills for paper production, for fuel-wood, timber, and the leaves of some mangrove species are used for thatching. Uncontrolled logging and agricultural expansion threatens as the Sundarbans, along with other mangrove forests in Bangladesh.

2.2 Impact of Habitat Depletion on Bangladesh's Fauna

Fish is the main dietary source of protein in Bangladesh; the country is rich in fish and other aquatic resources. For example, Bangladesh's inland water bodies are known to be the habitat of 266 species of indigenous fish, thirteen exotic fish, 56 prawns, about 26 freshwater mollusks, and 150 birds. The marine water bodies (200 nautical miles along the coast) are home to 442 species of fish.

Fisheries supply over 85 percent of the total animal protein intake by the population. The fisheries resources of Bangladesh are among the richest in the world and the inland fisheries production ranks third globally, behind China and India. Fish stocks in Bangladesh are in grave danger due to over consumption in this densely populated country, including large scale water abstraction for irrigation, construction of embankments for flood control, degradation caused by siltation, soil erosion due to deforestation in the catchment water, and pollution

from industrial, agriculture and municipal waste have placed great stress on fisheries and decreased water quality. IUCN Red List (2000) revealed 54 threatened species of fishes in Bangladesh.

Additionally, Bangladesh's mammal populations face an uncertain future as critical habitat is destroyed. Furthermore, the conversion of wetlands into agricultural lands, large-scale deforestation, and human overpopulation are considered to be the major factors causing many species of birds in Bangladesh to be threatened.

3 ENVIRONMENTAL COMPLIANCE & ENFORCEMENT IN BANGLADESH

Bangladesh is a signatory to about 28 environmental treaties, conventions, and protocols. Bangladesh signed the Biodiversity Convention at Rio in 1992, and ratified it in 1994. Currently, there is an overall focus on biodiversity emphasized in Bangladesh's Forest Policy and Environment Policy. However, a separate policy on biodiversity has not yet been formulated. As a result, various departments of the government are responsible for conservation of biodiversity. The Bangladesh National Biodiversity Strategy and Action Plan is under preparation as a national obligation to the Convention on Biological Diversity.

Forest and National Environment Policy in Bangladesh sets the policy framework for biodiversity and environmental action, in combination with a set of broad sectoral guidelines. It emphasizes the need to focus on maintaining ecological balance in Bangladesh, along with the need to focus on the overall development of environmental protection and policy. The Forest and National Environment Policy also highlights the need for identification and control of all types of activities related to pollution and degradation of environment, including environmentally sound development in all sectors and active association with international environmental initiatives.

4 CONCLUSION

Biological diversity is crucial for the survival and progress of nature and humanity in Bangladesh. The numerous direct and indirect human causes of environmental devastation must be curtailed with the implementation of sound environmental policy. Biological resources and biological diversity form the backbone of the economy in Bangladesh. There is a great potential in Bangladesh for biodiversity-based sustainable development. In spite of threatened flora and fauna, nearly 10,000 species of plants, animals, and microbial organisms still flourish in this country. Serious efforts must be taken to promote environmental stewardship in Bangladesh and prevent further exploitation of its valuable biological resources, including the implementation of environmental policies and sustainable management plans.

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TRACK F: CREATING A CULTURE OF COMPLIANCE

‘DRINKING IN THE LAST CHANCE SALOON? NON-GOVERNMENTAL ORGANIZATION ROLES IN VERIFYING LEGALITY IN THE TROPICAL TIMBER TRADE’

BROWN, DAVID¹

¹ Research Fellow of the Overseas Development Institute (ODI), 111 Westminster Bridge Road, London SW1 7JD, England, and Director of *VERIFOR**. d.brown@odi.org.uk

SUMMARY

This paper examines some of the transnational dimensions and arising issues of rule-making and enforcement in the forest sector. The main interest is in the role of non-governmental organisations in verifying the legality of tropical timber production. The experience of advocacy and rights-oriented non-governmental organisations in countries like Cambodia, Cameroon, Ecuador, Indonesia and The Philippines provides case material to explore these themes. The paper draws on the findings of the *VERIFOR* project, an international collaboration exploring options for the verification of legality in the international timber trade.

The impact of non-governmental organisations working as environmental rights monitors is examined, focusing on both the early innovators which opened up the tropical forest sector to external scrutiny, and the subsequent and ongoing consolidation phase, where attempts are made to routine forest monitoring. The paper seeks to account for the likely disjuncture between the high impacts of such non-governmental organisation monitors in the former case, and their less certain roles in the latter. A number of practical measures are suggested which might improve timber verification practice.

It should be emphasised that this is very much a ‘work in progress’ in that the processes in question are generally still under development, and innovative institutions (such as the EU voluntary partnership agreements) are not yet in place.

1 TROPICAL FOREST GOVERNANCE

Tropical forest policy is well-known to be a problem area for international policy. While tropical forests have important global public goods dimensions, they are managed almost universally as sovereign resources of the state. The major

producer countries are very mindful of their sovereignty and defend it assiduously. Attempts to bring forested areas under an international convention have failed to make any ground, and look most unlikely to do so in the foreseeable future. Thus, to the extent that international organisations wish to defend the global public goods dimensions of forests, they are unable to require compliance with their interests, still less to enforce them, and have instead to rely on soft norms and influencing mechanisms. In such situations, information gathering takes on a heightened role, and non-governmental organisations have been particularly prominent. Encouraging environmental rights non-governmental organisations to 'name and shame' has grown in favour as a means to encourage compliance, particularly when targeted on countries that are highly dependent on external markets, and protective of their commercial image.

The forest sector is also problematic from the perspective of public governance, and by and large the problem is greatest in tropical environments. This is partly due to the practicalities of tropical production, but such problems are massively inflated by the ways in which high windfall profits from timber production impact upon the political economy of the encompassing societies. As Ross has noted¹, while conventional wisdom would suggest that involvement in the international economy should be beneficial to states, this is not necessarily the case with the forest sector. Governments attract foreign investment in manufacturing when they maintain sound economic policies, but extractive industries operate rather differently. In such cases, super-rents are generated in boom periods, far in excess of the actual costs of production. These economic rents are there to be captured regardless of the overall state of the economy – indeed it could be argued that they are highest where disorder is greatest. High windfall rents lead to the twin evils of *rent seeking* and *rent seizing* – the former implying attempts of private actors to 'capture economic rents in a manner that is socially unproductive', the latter implying rent seeking within the state, in which 'public officials seek the right to *allocate* the rents held by ... government'.² Rent seizing is a much more pernicious problem than rent seeking in that it fundamentally alters the institutions in which it occurs.³ Forest administrations and regulatory bodies are likely to be largely ineffective during times of economic boom (assuming that they were ever functional), a reflection of their subordination to the political order. This has implications for legality verification, both in terms of the effectiveness of institutions and their likely impacts, as will be later discussed.

The exceptional growth of resource rents in the tropical forest sub-sector in the 1980s and 1990s increased the temptations for rent seeking and seizing and led to a widespread perception that the sector was in disarray. The decline of some producer states into anarchy, part-fuelled by timber revenues (Liberia, Cambodia, Democratic Republic of Congo) only increased the international concern. Various attempts to improved management were initiated by the development assistance community, with varying levels of success. These included aid conditionality to leverage reform of the industry and the forest administration (more rigorous planning requirements, enhancing revenue capture, etc.); encouragement to

private sector initiatives in the areas of standard setting and certification; and funding to a range of non-governmental organisations to 'kick-start' governance reform through information generation at the state/industry interface.

It is with the third of these that this paper is concerned. As its title suggests, recourse to non-governmental actors as the spearhead of forest reform was often a last ditch effort of donor agencies to justify continued interest and investment in a sector with an unattractive image and poor social record. The strategies employed were in many ways the reverse of those that were coming into fashion elsewhere in aid circles.

2 NON-STATE ACTORS AND ATTEMPTS TO IMPROVE FOREST GOVERNANCE

In recent years, mainstream aid donors outside of the forest sector have largely abandoned the old aid conditionality and have sought to reinforce the ownership and initiatives of recipient governments. Their own contributions have been limited to agreeing the broad outlines of an aid contract aligned with policy, as represented by the nationally-owned poverty reduction strategy and supportive of the Millennium Development Goals.⁴ Their various contributions have been harmonised, applying only minimum conditions provided certain key welfare objectives are met. Forest sector aid in the same period has proceeded in the reverse direction, using aid conditionality and other pressures to force forest ministries to accept reforms in which they often show little interest. The most renowned instance of this has been in Cambodia, where the World Bank and some western bilateral donors persuaded the government to implement a forest crime detection programme in 1999. *Inter alia*, this involved the introduction of an independent forest monitor to assess and comment on the effectiveness of the government's own internal controls. This role (sometimes also described - perhaps more accurately - as 'independent observation') was given to Global Witness, a UK-based environmental rights non-governmental organisation which had spent the previous four years exposing corruption within the Cambodian forest industry and laying out its close links to the government. Following some initial success, the World Bank and other donors then persuaded a second partner, the Government of Cameroon, that Global Witness should also undertake pilot activities there. This was integrated within a wider process of forest governance reform, involving three levels of monitors: a private sector legal and accountancy firm to monitor concession allocations; an activist non-governmental organisation (Global Witness) to monitor forest operations; and surveillance by a specialist non-governmental organisation (the World Resources Institute's 'Global Forest Watch') to track changes in forest cover and exploitation by remote sensing techniques. Global Witness operated from 2000-2004 on a succession of temporary contracts to the Government of Cameroon, and was eventually replaced by another environmental monitor, Resource Extraction Monitoring.⁵ Global Witness and Resource Extraction Monitoring have also been funded by donors to undertake similar independent forest monitor work on a variety of exploratory contracts

in countries as diverse as DR Congo (where Global Witness has worked on a pilot contract to the Government), Honduras, Ghana, Congo-Brazzaville and Mozambique. Funding has been provided to another environmental rights monitor in Indonesia, the Environmental Investigation Agency, independent of the Indonesian government. (Such unofficial activities might be described as 'external monitoring' to distinguish them from official 'independent monitoring').⁶

Independent forest monitor activities of the type undertaken in Cambodia, Cameroon, and elsewhere provide one model for the independent forest monitor component being promoted by the European Union in its 'voluntary partnership agreements' with selected tropical producer states.⁷ These voluntary partnership agreements are an outcome of the EU's Forest Law Enforcement, Governance and Trade Action Plan, which includes a proposal (voluntary in its early stages, though the intention is to move to binding legislation at some point) to restrict timber imports into the territory of the EU to 'verified legal' production. Negotiations are presently underway with four tropical producers (Malaysia, Indonesia, Ghana and Cameroon) to establish the first set of voluntary partnership agreements.

Such attempts to reform the functioning of the forest sector by additional pressures on the existing forest control bodies were not entirely new. A Forest Practices Board was established in Tasmania, Australia in 1985. 'Multistakeholder forest protection committees' were formed in the Philippines beginning in 1992, with World Bank support and with a remit to report on maladministration and illegal logging activities. In British Columbia, Canada, a Forest Practices Board was set up by the government in 1995, following activism by Canadian and US environmental non-governmental organisations. An 'outsourced monitoring system' was put in place by the Government of Ecuador with some donor support, beginning in 1999, under pressure from national environmental non-governmental organisations.

All of these innovations are worthy of note but it is the independent forest monitor activities of the non-governmental organisations that are of particular interest here, because of the ways in which they signal the movement of non-state actors into territory which was formerly the exclusive domain of the state.⁸ The rest of this paper focuses on the roles that such activist non-governmental organisations may play in improving forest governance.

3 THE NON-GOVERNMENTAL ORGANIZATION RECORD

At one level, the non-state environmental monitors appear to have had a very significant impact on the management of the sector. It is arguable, for example, that the momentum which is carrying the voluntary partnership agreements forward would not have occurred without strong pressure from the non-governmental organisation lobby, and without the types of information that the independent forest monitors and other external monitors have so tenaciously unearthed. Even where the reforms have been resisted (and this is the case in almost all the major instances), the governance of the sector is not what it was

before, and some significant and positive changes can be identified. Considering the complexity of the forest sector and the fact that the movement in question had none of the force or legitimacy of an international convention, this must be worthy of note. If some of the early voluntary partnership agreements negotiations come rapidly to agreement, others are almost certain to follow. While the benefits to the adopters will be largely reputational – for (judging by the experience of the forest certification movement) very little is likely to follow by way of a price increment and non-signatories will not be excluded from the market (at least in the early years) – ‘verified legal timber’ is now very firmly on the forest trade agenda.

Interestingly, however, while non-governmental organisations were the driving force of the early initiatives which laid bare the contribution of forest industry to poor governance, there seems much less likelihood that they will be major actors in the second wave of reform now underway, which seeks to routine independent monitoring within trade regimes. While it is difficult to predict the manner in which the sector will evolve in the coming months, it seems unlikely at this juncture that the environmental rights non-governmental organisations will continue to play such central and decisive roles. This would not have been entirely unexpected even in the early days. Despite the immense publicity they generated and the great praise heaped on them by environmental activists, their activities have always courted controversy particularly in producer states. Global Witness was dismissed from its contract to the Government of Cambodia in 2003, for instance, and replaced by a private sector operator, *Société Générale de Surveillance*, with a narrower set of terms of reference and much reduced ambition. This contract was not renewed after its first term. The process went better in Cameroon, after a somewhat shaky start. A particularly innovative feature here was the new institutional structure created to support the independent forest monitor, involving a ‘Reading Committee’ (*Comité de lecture*), to review and validate the monitor’s reports. However, Global Witness did not apply for renewal when the initial experimental phase expired, and its replacement has worked under increasing difficulties. Similarly, in Ecuador, the outsourced monitoring system has suffered some significant challenges, constitutional and other, which have come close to destroying it completely. The reform continues, though, with limited non-governmental organisation support. The Philippines programme was less controversial (its industry was already in decline) and still survives in some provinces, though impetus was greatly diminished when World Bank funding ended.

4 QUESTIONS OF IMPACT

Some interesting questions are thus raised about these attempts to improve the compliance of the forest industry with its ostensible contractual terms, and to introduce additional verification measures into the existing (and often malfunctioning) control agencies of the producer ministries. For example:

- How do the different legal categories of actor perform in comparative terms? These include various types of private sector agencies, both specialist

forest auditors and legal/accountancy firms; activist and 'more neutral' non-governmental organisations, as well as government agencies.

- Can any conclusions be drawn about the impacts of different types of monitoring, and the different areas of activity (concession monitoring vs. field monitoring of forest operations, for example)?
- What kinds of constituencies and concerns are likely to prevail at the end of the day – industry, environment, the poverty lobby, good governance?
- How can the fluctuations in influence of the different actors, particularly non-governmental organisation monitors, be explained?

We will review each of these in turn, and then consider what can be learnt from these initiatives of wider interest to compliance practice.

4.1 Issues of legal status

Though the superiority of non-governmental organisation approaches has been quite widely extolled, it is not necessarily the case that non-profit organisations always perform better than profit-oriented ones, nor that they function well in all respects. Instances can be found in which both public and commercial actors have operated in exemplary fashion. Interpretation of the evidence requires care, not least because non-governmental organisations are free to publicise their work in ways that are denied many other operators, particularly those working to industry standards and/or as financial auditors. This has some advantages, most prominently the heightened power it gives to advocacy-oriented organisations through the threat of publicity. No class of actor is necessarily inherently superior, though the terms on which they are permitted to function exert a strong influence over their effectiveness.

4.2 Effectiveness of different types of monitoring

Again, advocacy-oriented non-governmental organisations have significant advantages here, in the high profile that they are able to adopt, but this may be at the expense of long-term sustainability, particularly where they operate across sensitive national boundaries. Given the governance considerations earlier discussed, the most radical and cost-effective initiatives are not necessarily the ones that make the most noise, but may be those that attack patrimonialism at its roots. Thus, in the case of Cameroon, it could be argued that the greatest impact overall will come from the monitoring of concession allocations – because this goes to the heart of the patronage relationships that are responsible for poor forest governance. By contrast, the environmental monitors can claim greater success in publicising realities on the ground, but are not necessarily in a position to do much about them, particularly in the longer term. Still, there is also a view that the most effective interventions are likely to be multifaceted ones – combining transparent

concession allocations with independent observation of field operations, and backed up by satellite monitoring to track the condition of the forest and infrastructural developments over the longer term.

4.3 What constituencies are likely to prevail?

It is too early to assess the likely impact of all the measures that are being put in place, some of which could lead to a significant tightening up of forest administration. However, there is a view that what began as a courageous governance reform strategy with strong equity and environmental links could well end up being captured and domesticated by the industrial lobby, and converted into a facet of ecolabeling with restricted (and largely commercial) aims. If this occurs, the explanation might be as follows. The movement started off with four sets of objectives, all of them held to be mutually supportive (trade legalisation, governance reform, pro-poor development and environmental conservation). However, the sovereign character of the forest estate reduces the likelihood that all four dimensions will be taken up into policy. Least likely to be acceded to are the pro-poor and governance dimensions. Addressing the former requires a radical process of tenurial reform, of a kind that is only really guaranteed in a situation of major social transformation. It is less likely to come about through administrative edict (and if such is the case, then the danger is that the reform will be captured by elites). Addressing the governance dimension would require dismantling of the kinds of politico-economic forces that lead to the association of the forest sector with poor overall governance. To the extent that the major culprit is the windfall profits that international market integration offers extractive industries, then the best way to reform governance would be to suppress the export trade. However, because of the sovereignty and global trade dimensions, the international community has to limit its brief to reform, and to focus on trade sanitisation not trade suppression. The environmental rights monitors are generally hostile to large-scale industry (and may well have good grounds to be so), but given this position, the willingness of some of them to sign up to contracts as official industry monitors is questionable. Pursuing an anti-industry agenda is arguably incompatible with maintaining the independence from all sectional interests that official verification work requires. Thus, non-governmental organisation monitors actively associated with anti-industry campaigns either are unlikely to retain official contracts for long, or have to change their orientation to make them more business friendly if they are to sustain their activities.

This leaves only the trade and environmental dimensions. Trade sanitisation measures may be welcomed by the legitimate international industry, which has much to gain by squeezing out the less reputable local 'political' operators. It also fits in with the processes of industry consolidation, on both the supply and demand sides. These have their origins in the same environmental pressures but also serve other competitive interests and address other aspects of commercial risk. Trade sanitisation is supportive of environmental sustainability – at least at enterprise level. While this is likely to be much better than the *status quo* for

tropical forests and their residents, it does not guarantee forest conservation in the longer term, particularly in the more complex old growth forest environments. Nor does it completely immunize the forest sector from the 'extractive industry curse'. Such initiatives find it difficult to reform the basic structure of forest governance, which is itself a product of that curse. Despite almost a decade of donor pressure and conditionalities, and of independent monitoring, many of the less functional tropical forest ministries are still marked by unbalanced and over-concentrated structures of decision-making (powerful ministers but in weak ministries), non-transparency as regards sanctions for breaches of law and regulations, and excessively discretionary, unchecked powers for key individuals. It will be interesting to see if the voluntary partnership agreements currently under negotiation are able to address these difficulties.

4.4 Inconsistent influence

The last point may also help to illuminate the uneven role played by non-governmental organisations in the processes of forest sector reform. Steadily increasing influence of such non-state actors in standard setting and monitoring of state performance is by no means assured, nor is their ability to control the direction of change in line with their own value commitments. There is a distinct risk of perverse effects. Among the reasons for this are the following:

- Non-governmental organisations use various strategies to find a seat at the table in forestry negotiations, but are highly dependent on patronage. For external non-state actors, this usually means reliance on donor support. This support is intermittent and uncertain, and the relationship is ambiguous. At the national level, the lack of legal status of non-governmental organisations in Forest Law Enforcement, Governance and Trade negotiations also weakens their bargaining power. National non-governmental organisations are not precluded from influential roles, but these are also likely to depend on patronage. This is particularly disadvantageous to advocacy groups that operate largely in negative mode.¹
- The heterogeneity of non-state actors, the rivalries between them (both ideological and for funding) and the different positions adopted by external and local non-governmental organisations add to the difficulties. They are often unable to gain weight through cooperation amongst themselves.
- Non-governmental organisations may be thrown into competition with commercial organisations, and this may either limit their radicalism or alternatively reinforce it. The former would lead to convergence with private sector operators. The latter would have more potential, though it could diminish the room for manoeuvre in the producer context, while perhaps reinforcing it externally.

- The context of policy development in this sector is multi-faceted. Non-governmental organisations are unusual in the extent to which they are likely to support three sets of values: biodiversity, governance and poverty alleviation. These values are not always compatible. By their vocation, advocacy non-governmental organisations are unfavourably disposed to trade-offs, and are not well-placed to accommodate them.
- Finally, there are multiple financial factors to be considered. The financing of verification is a controversial issue, and whatever way it is resolved, advocacy non-governmental organisations are unlikely to be advantaged. To the extent that the issues relate to global and national public goods, then putting the burden of compliance onto the timber industry may appear unjust. But transferring the whole burden of compliance onto the national level is not only also unjust (to the extent that the values under discussion are global public goods), but is also likely to marginalise actors such as advocacy non-governmental organisations which those national governments see as a thorn in their flesh.

5 LESSONS FOR COMPLIANCE PRACTICE?

This paper is being presented in the section of the conference on ‘creating a culture of compliance’. While the verification of legal timber lies largely outside the boundaries of international law, the need to create a culture of compliance still presents itself, and is probably the main challenge to the Forest Law Enforcement, Governance and Trade movement today. Various practical measures might be suggested, most notably the utility of a set of internationally-recognised ‘principles of responsible verification’. These could serve to reassure producer governments that official monitors will respect their sovereignty and authority, though they could also reassure doubters that information about the realities of forest governance will be openly and transparently shared. Institutional innovations such as *Comités de lecture* could play a confidence building role, though these need to be freed from over-dependence on single authorities and politicians if they are to function effectively. Additional measures might be required to convince governments that verification is not a threat to legitimate forest industry (for example, broadening involvement in independent forest monitor through peer review mechanisms). Professional accreditation of prospective independent forest monitors might also be advised, in recognition of both the need to standardise provision in a field with important international trade dimensions and also on grounds of ‘*Quis custodiet ipsos custodes?*’ (here implying ‘who monitors the monitor?’). However, the number of providers is presently very small, and the ideological gulf between different classes of operator fairly substantial, so such formal accreditation may be premature.

Attempts to reform the sector confront a ‘governance conundrum’. A complete reform of forest governance is often required, but where such radical reform is most needed, the government is least likely to accede. This underlines the size of

the task which confronts the movement for forestry reform in many societies. It also points to the need to ensure that whatever steps are taken to address poor forest governance should see enlargement of the spheres of engagement and ownership – in short, generating high levels of public legitimacy - as a primary concern.

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[*VERIFOR is applied policy research project involving four partners: ODI, London [lead agency]; CATIE, Costa Rica; CIFOR, Cameroon; and RECOFTC, Thailand. It is funded by the European Commission and the Governments of the Netherlands and Germany. See: www.verifor.org/]

COMPLIANCE AND ENFORCEMENT IN A CO-OPERATIVE GOVERNANCE STRUCTURE – CHALLENGES AND SOME SOLUTIONS FOR THE SOUTH AFRICAN SITUATION

BOSMAN, C.¹ and BOYD, L.²

¹ Executive Director, Carin Bosman Sustainable Solutions, PO Box 26442, Gezina, 0031, Republic of South Africa, cbosman@global.co.za.

² Specialist Advisor, Golder Associates Africa (Pty) Ltd Thandanani Park, Halfway Gardens, Midrand, 1685, LBoyd@golder.co.za.

SUMMARY

Following the advent of a democratic South Africa, the top priority of the South African Government has been, and still is, the delivery of services, especially to people in the “second economy.” To enhance developmental delivery, the government has created a cooperative governance structure, in which government is constituted in national, provincial, and local spheres. These spheres are distinctive, interdependent, and interrelated, with specific roles and responsibilities. The national government is mainly tasked with regulation, while local government has the responsibility of ensuring the actual delivery of services. Some of the services delivered by local government, such as wastewater treatment, could have serious detrimental effects on both human health and the environment. However, traditional criminal enforcement actions cannot be taken in a cooperative governance environment context, and a dilemma is hence faced with regard to ensuring compliance.

This paper outlines the interrelationships of the three spheres of government in South Africa in the context of the principles of cooperative governance, and highlights some environmental problems experienced during the last few years as a result of the cooperative governance structure. Some creative compliance and enforcement strategies have been under investigation as potential solutions to this dilemma, and are briefly discussed.

1 INTERRELATIONSHIPS OF THE THREE SPHERES OF GOVERNMENT

The Constitution of the Republic of South Africa Act 108 of 1996 (‘the Constitution’) (RSA, 1996) has assigned key executive, regulatory, administrative, and service provision roles, responsibilities, and functions to national, provincial, and local government, which has certain implications for sustainable environmental management from a co-operative governance perspective. Some of their responsibilities overlap, or have a direct influence on each other, specifically with regard to environmental impact. A Local Government (or “municipality”) specifically has a dual role to play in this regard, both as frontline regulator and as a provider of basic services.

In terms of section 151 of the Constitution (RSA, 1996), a municipality has the right to govern the affairs of its community in a democratic and accountable manner (*regulatory* role). Section 152 assigns local government the responsibility of providing democratic and accountable governance to its community, ensuring the provision of sustainable services, promoting a safe and healthy environment and involving communities and community organisations in its matters, subject to compliance with national and provincial legislation (*regulated* role). In terms of section 154, the national and provincial governments, by legislative and other measures, must also support and strengthen the capacity of municipalities to manage their own affairs, to exercise their powers and to perform their functions.

In accordance with the above, the Constitution assigned the power to national government to pass legislation with regard to any matter; including a matter within a functional area listed in its Schedule 4, but excluding a matter within a functional area listed in Schedule 5 (section 44). The Constitution also delegated to provincial government the power to pass legislation for its province with regard to any matter within a functional area listed in Schedule 4 and Schedule 5 (section 104). A local government has executive authority (section 156) in respect of, and has the right to administer the local government matters listed in Part B of Schedule 4 and Part B of Schedule 5. Some of the matters listed in Schedules 4 and 5 that relate to the environment are outlined in Table 1 below:

Table 1: Some Matters Listed in Schedules 4 and 5 to the Constitution that Relate to the Environment (RSA, 1996)

| Schedule 4: CONCURRENT NATIONAL AND PROVINCIAL LEGISLATIVE COMPETENCE | Schedule 5: FUNCTIONAL AREAS OF EXCLUSIVE PROVINCIAL LEGISLATIVE COMPETENCE |
|---|--|
| Part A | Part A |
| Administration of indigenous forests Agriculture Animal control and diseases Cultural matters Disaster management Environment Health services Housing Pollution control Regional planning and development Soil conservation Urban and rural development | Abattoirs Provincial planning Provincial cultural matters |
| Part B - local government matters | Part B - local government matters |
| Air pollution Building regulations Electricity and gas reticulation Municipal planning Municipal health services Stormwater management systems in built-up areas Water and sanitation services limited to potable water supply systems and domestic waste-water and sewage disposal systems | Cemeteries, funeral parlours and crematoria Cleansing Control of public nuisances Facilities for the accommodation, care and burial of animals Municipal abattoirs Noise pollution Refuse removal, refuse dumps and solid waste disposal |

According to Weale (1992), the most obvious feature of potential environmental impacts and pollution problems is that they affect both public health and resources (for example the water resource), which are public goods, but the risk of pollution often arises from otherwise legitimate activities within society, such as the accommodation of waste or wastewater in the environment. The consequence is that the control of potential impacts on humans and the environment is typically a regulatory function, since society must be protected from pollution by government action.

National government departments are generally charged with the management of resources that are held in public trust. Some of the services rendered by local government are however directly dependant on, and affected by, the integrity or quality of such resources, such as the provision of potable water supply services. In addition, some of the services provided by local government, such as sewage

and solid waste disposal systems may have the potential to pollute these natural resources, in particular the water resource. In these different responsibilities and competencies of the different spheres of government thus lies the potential for conflict, specifically with regard to environmental management aspects.

1.1 Principles of Cooperative Government

This potential for conflict was recognised by the drafters of the Constitution, and section 41 of the Bill of Rights (RSA, 1996) makes specific provision for principles of co-operative governance and intergovernmental relations. Some of these principles, which are relevant in this context, are:

All spheres of government and all organs of state within each sphere must:

- respect the constitutional status, institutions, powers and functions of government in the other spheres;
- not assume any power or function except those conferred on them in terms of the Constitution;
- exercise their powers and perform their functions in a manner that does not encroach on the geographical, functional or institutional integrity of government in another sphere; and
- co-operate with one another in mutual trust and good faith by:
 - 1 fostering friendly relations;
 - 2 assisting and supporting one another;
 - 3 informing one another of, and consulting one another on, matters of common interest;
 - 4 coordinating their actions and legislation with one another;
 - 5 adhering to agreed procedures; and
 - 6 avoiding legal proceedings against one another.

1.2 Conflict Resolution and Intervention

In accordance with the sections in the Constitution dealing with co-operative governance, all reasonable measures to resolve conflict must be explored before legal action is taken. Where municipalities fail to fulfil their constitutional functions or executive obligations in terms of legislation, and the regulation of their executive powers does not succeed in ensuring that they perform their

functions effectively, intervention may be required. In terms of Section 139 of the Constitution, provincial government has the power to intervene and may take any appropriate steps to ensure that the municipality fulfils its obligation, including:

- Issuing a directive to the municipal council, describing the extent of its failure to fulfil its obligations and stating any steps required to meet its obligations.
- Assuming responsibility for the relevant obligation of that municipality to the extent required to maintain essential national standards or meet established minimum standards for the rendering of a service; to prevent that municipal council from taking unreasonable action that is prejudicial to the interests of another municipality or to the province; and to maintain economic unity.

Although provincial government is primarily responsible for intervention, national government may also need to intervene together with provincial government. This may be necessary in instances (1) where a provincial government fails to intervene; (2) where national fiscal resources are implicated; (3) where such intervention is required to maintain economic unity, essential national standards, and national security; or (4) to prevent unreasonable actions that are prejudicial to a province or the country as a whole.

The White Paper on Co-operative Governance prepared by the Department of Provincial and Local Government states that the fair and even exercise of intervention powers requires a level of uniformity across the country (RSA, 1997). Predictability with respect to the exercise of intervention powers is also an important requirement for stabilising the relationship between municipalities and financial markets. For these reasons, national guidelines on the process of intervention are based on the following principles:

- Steps should be taken to remove the need for intervention. This includes ensuring that all municipalities have access to adequate training, capacity-building, funding, and support systems to enable them to perform their functions and manage their administrations properly. Good monitoring and information systems are required to indicate potential problems before they become crises, so that municipalities are able to take their own corrective measures where problems arise.
- Clear responsibility and financial liability for mismanagement, maladministration or fraud must be established, with rapid procedures for prosecuting offenders at both the political and administrative level.
- National and provincial government should exercise the power given to them in terms of Section 155(7) of the Constitution, to regulate the executive authority of municipalities to ensure that municipalities perform their functions effectively. It is anticipated that, in most instances, the regulation of municipal executive authority will be sufficient to ensure that municipal

functions are effectively performed, and intervention in terms of Section 139 of the Constitution will be a rare occurrence.

- Where intervention is required, the level of intervention needs to be appropriate to the context, ranging from support and advice through issuing directives for specific actions, to the assumption of executive authority for a municipal function by another sphere of government.
- The ultimate sanction against a municipal council for persistent non-performance is the loss of executive power. This should occur only where all other mechanisms to improve the situation have failed and in a way which will lead to the re-establishment of the municipal Council's executive power as soon as possible.
- Powers of intervention should be seen a measure of last resort, where the problem cannot be resolved through ordinary intergovernmental processes. There is broad agreement that both national and provincial government are committed to ensuring the stabilisation of the local government environment to such an extent that interventions are exceptional and not regular occurrences.

These principles have been incorporated into the Intergovernmental Relations Framework Act 13 of 2005, which mainly provides for the establishment of Intergovernmental Relations Forums, where performance and disputes are to be discussed and resolved, mainly by means of providing technical and training support to local governments who are not meeting their obligations.

2 CHALLENGES OF COOPERATIVE GOVERNANCE FOR COMPLIANCE AND ENFORCEMENT OF ENVIRONMENTAL IMPACTS

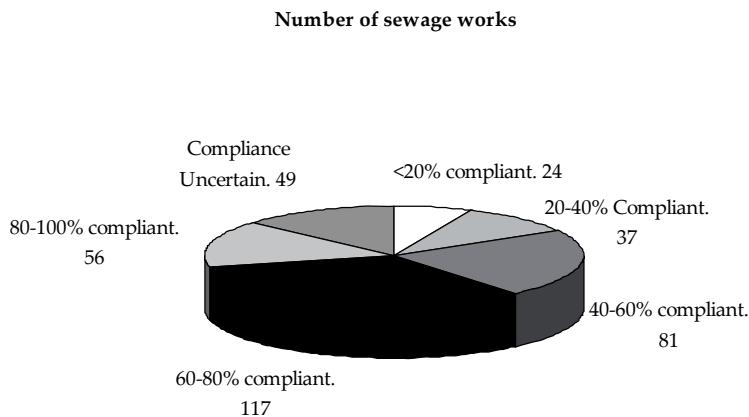
Although these principles seem sound in theory, they create a number of practical problems and challenges, especially with regard to environmental compliance and enforcement. Some of these problems and challenges are briefly discussed below:

2.1 Direct Impacts on Human Health and the Environment

Due to the fact that cooperative governance principles are preventing the implementation of legal proceedings, the "command-and-control" approach to ensuring environment compliance is no longer an incentive. As a result of large scale housing and other developments, reticulation systems, pumping stations, wastewater treatment works and waste disposal sites are not upgraded, and cannot cope with the increased volumes of effluent and waste, and regularly spill into the surrounding environment, in particular affecting water resources. One example of this is the town of Delmas, where a typhoid epidemic broke out in both 2002 and 2005, as a result of both inadequate sanitation systems and insufficient potable water treatment services by the municipality. In 2005, more than 3000 people fell ill, and five casualties were reported. However, no legal

action was taken against the municipality, and in fact, the municipal manager responsible for the treatment of drinking water and sanitation received a bonus for overtime work during the crisis. A second example is the town of Emfuleni, where a total breakdown of the local government services relating to sewage treatment (pumping stations are continuously overflowing, and sewage works cannot handle the load of effluent) has caused chronic pollution of the Vaal River and Vaal Barrage, one of South Africa's major storage reservoirs, leading to regular fish kills, and odour complaints from tourists visiting recreation resorts on the banks of the Vaal River. These are but two examples of a growing problem – it is estimated that more than 70 percent of the towns in South Africa are no longer complying with the conditions of the licenses governing their effluent treatment works. In a survey conducted by the Department of Water Affairs and Forestry in 2006 among district municipalities in five regions, the percentage non-compliance was found to be alarming, as illustrated in Figure 1 below:

Figure 1: Percentage Compliance with Licence Conditions of sewage works



From this Figure, the lack of appropriate service delivery insofar as ensuring appropriate wastewater treatment is concerned is clear, and intervention to facilitate compliance is a matter of high priority. The following section will discuss the current approach towards such intervention.

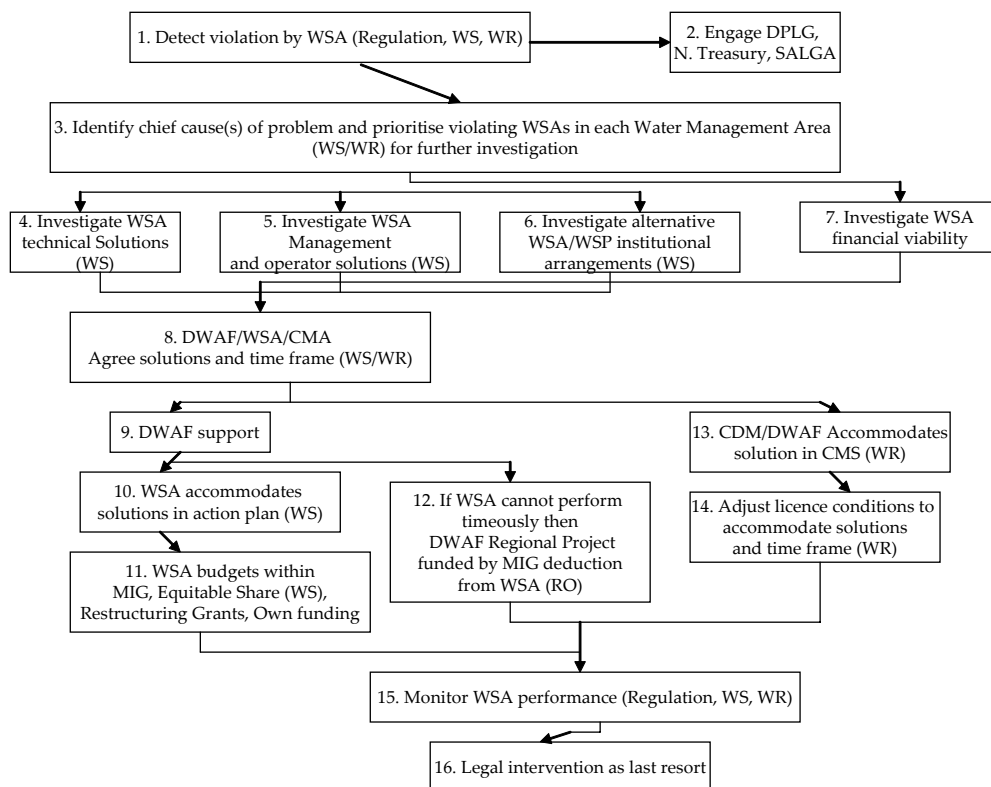
2.2 Administrative red tape

The intervention protocol that has been suggested by Department of Water Affairs and Forestry to deal with non-compliant municipalities (or 'water services authorities' (WSA's) as termed under the Water Services Act 108 of 1997 (WSA)) is illustrated in Figure 2 below. According to this protocol (Department of Water Affairs and Forestry, 2005), fifteen steps need to be followed before legal enforcement action can be taken. These steps are as follows:

- Step 1. Detect and prioritise the violating municipalities in each Water Management Area
- Step 2. The solutions will require the cooperation of National Treasury, Department of Provincial and Local Government and South African Local Government Association (SALGA)
- Step 3: Identify main cause of problem in each high priority WSA to guide detailed investigations
- Step 4: Investigate technical solutions for prioritised WSAs
- Step 5: Investigate Management and Operation solutions for prioritised WSAs
- Step 6: Determine possible institutional solutions for prioritised WSAs
- Step 7 Address the financial viability of proposed solutions
- Step 8: Agree on timeframes for implementation of proposed financially viable solution
- Steps 9 and 10: Department of Water Affairs and Forestry to support WSA with preparation of an action plan and budget for the solution in the agreed time frame
- Step 11: WSA obtains funding for the solution, own funds or other grants
- Step 12 Establish Department of Water Affairs and Forestry Project if WSA cannot implement the solution
- Step 13: Accommodate solution in Catchment Management Strategy
- Step 14: Adjust license of WSA to accommodate the time frame of the solution
- Step 15: Monitor performance of WSA to evaluate if solution is effective
- Step 16: Legal Remedies if lack of cooperation

Figure 2: Proposed Department of Water Affairs and Forestry Intervention Protocol to deal with Non-Compliant Local Government

**TYPICALINTERVENTION BUSINESS PROCESS
(APPLIES ONLY TO WSAs WHO ARE NOT COMPLYING WITH DISCHARGE STANDARDS)**



The demands of this process are evident, not only with regard to human resources, but particularly with regard to timeframes of implementation. It may take years from identifying a problem of non-compliance to actually implementing the solution that will address the non-compliance. By the time the solution is being implemented, severe environmental degradation and effects on human health may have occurred. In addition, it creates a duplicate system of intervention, where compliance and enforcement for industries and mines follow a different route from intervention for local government.

2.3 Legislative Inconsistencies

Most environmental legislation in South Africa, for example the National Environmental Management Act 107 of 1998, the National Water Act 36 of 1998, and others, criminalises non-compliance with its requirements, regulations,

standards, and authorisations. None of these laws makes separate provision for dealing with non-compliance by local government. In terms of these laws, all non-compliances should be dealt with and treated equally. However, the requirements of cooperative governance precludes the taking of legal action against non-compliant local governments, unless after following a long process, as outlined above. Not implementing these criminal actions against non-compliant local governments as they would have been taken against non-compliant industries or mines creates an inconsistency of enforcement which weakens the overall enforcement regime. It cannot be justified to prosecute a polluting industry or mine, while the local government in whose area of jurisdiction the mine is located is causing similar, if not worse, pollution problems.

3 POSSIBLE SOLUTIONS TO THESE CHALLENGES

McLoughlin and Bellinger EG (1993) identify four options that can be used for sustainable environmental governance. These are:

- **Command and control systems** where criminal legal action is taken or a polluter is shut down, because of non-compliance to environmental authorisations;
- **Market instruments** that may include, for example, fees for discharging contaminants into rivers so that it makes more economic sense for the industry to treat the polluted water before discharge, or incentives such as grants;
- **Agreements** between various parties, which allow an industry or mine to keep operating or assisting a local authority to provide its services on condition that certain agreed targets are achieved; and
- **Civil instruments** that include environmental awareness, the media, and society based organisations, performance reporting and eco-labelling.

Traditionally, compliance and enforcement approaches are heavily reliant on the command and control approach. However, as illustrated above, in a cooperative governance structure, command and control interventions to ensure compliance are emasculated. Hence, the other policy options should be investigated as possible solutions to ensure improved compliance by especially local governments. Furthermore, these instruments should best be used in a hybrid approach. Command and control instruments have been well developed, but are alone not sufficient to address the problem. Market based instruments, for example by use of a subsidy system, needs to be investigated, and the mechanism of agreements requires a protocol for implementation. The fourth tool of civil instruments also needs to be investigated for use as a compliance mechanism.

3.1 Market Instruments

Two examples serve to illustrate the use of market instruments to facilitate improved compliance, namely the Waste Discharge Charge System, and grants and subsidies.

3.1.1 Waste Discharge Charge System

The Department of Water Affairs and Forestry is currently developing a market-based instrument, namely a Waste Discharge Charge System as part of the Pricing Strategy provided for in the National Water Act. The Waste Discharge Charge System will introduce financial and economic instruments, designed to internalise costs associated with waste and to encourage the reduction in waste and the minimisation of detrimental impacts on water resources. The Waste Discharge Charge System is based on the polluter-pays principle and aims to:

- promote the sustainable development and efficient use of water resources;
- promote the internalisation of environmental costs by impactors;
- recover some of the costs of managing water quality; and
- create financial incentives for dischargers to reduce waste and use water resources in a more optimal way.

As such, the Waste Discharge Charge System is based on the concept of internalising externalities and will consist of two types of charges, namely an incentive charge and a mitigation charge. The main purpose of the incentive charge is to ensure the optimal use of the resource for discharging or disposal of waste. It is based on charging for the use of the resource rather than directly on recovering costs. The mitigation charge component of the Waste Discharge Charge System will be focused on the recovery and disbursement of quantifiable costs incurred in the implementation of mitigation measures against impacts of waste discharge in the resource.

It is expected that the Waste Discharge Charge System will provide financial incentives to polluters to improve their performance, rather than a “command and control” incentive. Its implementation may have a huge implication on the fiscus of a local government and with many municipalities being already cash-strapped, it is uncertain what the remedies will be should a municipality fail to pay the charges levied against it.

3.1.2 Grants or Subsidies

A second type of market instrument is the provision of grants or subsidies. The Intervention Protocol discussed in paragraph 0 (Figure 2) includes providing

grants to non-compliant local governments. An example of where grants were implemented is in Emfuleni, one of the towns described in paragraph 0. In 2004, National Treasury allocated R 140 million to Emfuleni through a restructuring grant, and Department of Water Affairs and Forestry and National Treasury agreed upon priority Key Performance Indicators which revolved around appropriate water service provider institutional arrangements for the development and implementation of a water services infrastructure refurbishment plan, and the development and implementation of a water services operations plan with ring-fenced budget, appropriate staffing and operational standards. Unfortunately, in 2008, very little, if any improvement was evident, and the matter was highlighted again in a Carte Blanche television expose aired on 3 February 2008. This example, however, showed some elements of an agreement, which is further discussed below.

3.2 Environmental Management Cooperation Agreements

An Environmental Management Co-operation Agreement is a negotiated agreement and complimentary policy tool for improving environmental performance. These agreements are therefore a way in which to implement co-operative governance to achieve compliance. In terms of Section 35 of the National Environmental Management Act, the main objective of an Environmental Management Cooperation Agreement is to promote compliance with the principles of sustainability contained within Section 2 of National Environmental Management Act. Every municipality may enter into Environmental Management Co-operation Agreements with any person for the purpose of promoting compliance with the principles laid down in National Environmental Management Act, and section 35 indicate the following as aspects that Environmental Management Co-operation Agreement's must contain:

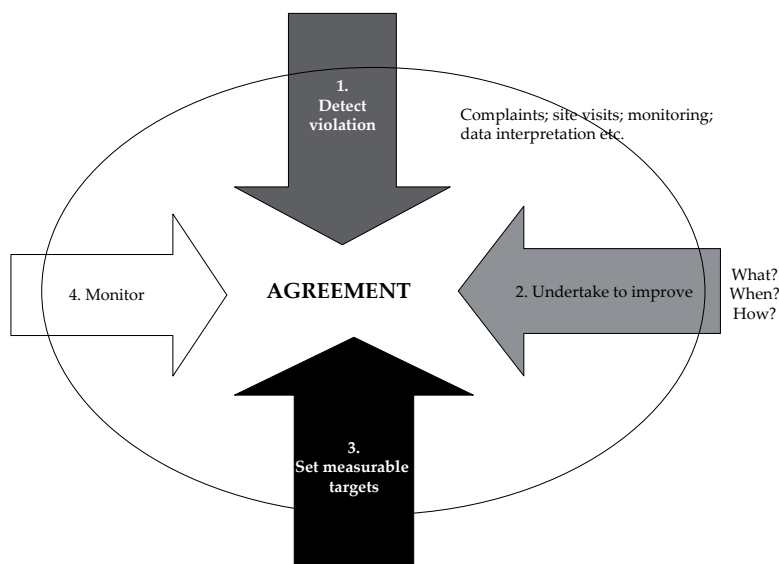
- an undertaking by those concerned to improve on the standards laid down by law for the protection of the environment which are applicable to the subject matter of the agreement;
- a set of measurable targets for fulfilling the undertaking; and
- provision for periodic monitoring and reporting of performance against targets, independent verification of reports, regular independent monitoring, and inspections.

Guidelines published by the National Department of Environmental Affairs and Tourism state that Environmental Management Co-operation Agreement's should *promote a more co-ordinated regulatory approach* (National Department of Environmental Affairs and Tourism, 2003) and outlines the procedures for public participation, stating that.

- Environmental Management Co-operation Agreements must only be entered into with the agreement of every organ of state which has jurisdiction over any activity to which such Environmental Management Co-operation Agreement relates;
- Environmental Management Co-operation Agreements must only be entered into with the agreement of the Minister of National Department of Environmental Affairs and Tourism and the MEC concerned and after compliance with such procedures for public participation as may be prescribed by the Minister; and
- The Minister of Environmental Affairs and Tourism must sign all Environmental Management Co-operation Agreements.

This requires a process of consultation, and a typical process towards the establishment of an Environmental Management Co-operation Agreement is illustrated in Figure 3 below:

Figure 3: Steps in Implementing an Environmental Management Co-operation Agreement as Tool to Improve Compliance



The first example of such an agreement is Potchefstroom City Council– a Department of Water Affairs and Forestry Agreement where upstream mining activities under control of the Department of Water Affairs and Forestry had the potential to impact on water services provision by the Potchefstroom City Council. The agreement addresses amongst others, the improvement of environmental

performance, has mutual support and involvement as well as joint monitoring and investigation.

Although Environmental Management Co-operation Agreements was probably not initially, with the drafting of section 35 of National Environmental Management Act, envisaged as a tool for co-operative governance, as a negotiated agreement and complementary policy instrument for promoting improved environmental performance (National Department of Environmental Affairs and Tourism, 2003), it lends itself exceptionally well to promote and define co-operative governance, especially where the roles of the different spheres of government interrelate. As a result, Environmental Management Co-operation Agreements need to be further explored in determining implementation thereof in a formal manner to facilitate improved compliance. The use of Environmental Management Co-operation Agreements has the further advantage that the public are aware of the undertakings of their local government, and can therefore hold them accountable. However, this leads to the discussion of civil instruments, below.

3.3 Civil Instruments, for example a Municipal Performance Rating System

To date, not many governments explored the use of civil instruments to facilitate improved compliance in environmental performance. Usually, complaints by civil society reach the media, and both national and local government are then pressed to do crisis management to preserve their images. At a workshop held in February 2006 between 38 responsible senior officials of the Department of Water Affairs and Forestry to discuss solutions to achieve improved service delivery regarding environmental compliance, the following creative proposal was formulated:

- All municipalities should be subject to a national rating system, which should be displayed at the entrance of each town and publicly announced via the print, broadcast and electronic media. The rating system should be based on a minimum standard of performance. Achievement of a standard well above the minimum would result in a high rating (e.g. gold status), which would qualify the municipality for some kind of added remuneration / rewards / bonuses, and failure to achieve these minimum standards would result in a low rating (e.g. brown status), which would result in immediate compulsory assistance. Such assistance, funded nationally, could range from compulsory training of local government councillors and officials, to taking over the management of the water treatment works by competent personnel.

The rationale is that as the local communities will be aware of how their local government is performing with regard to the treatment of their water supplies, waste water and waste disposal, they would be able to put public pressure on municipal officials to achieve the highest rating, and hence getting value for their rates and taxes. Tourism and business will also be affected, as municipalities with a low rating will be avoided by tourists and investors, resulting in a major loss

of income, and additional pressure on the municipal authorities by local business. This proposal has not yet been implemented, but holds great potential towards facilitating improved compliance by local government.

4 CONCLUSIONS AND RECOMMENDATIONS

Environmental compliance and enforcement is extremely challenging in a cooperative governance structure. Challenges relate to the specific instruction to avoid legal action against local government unless as a last resort in extreme cases, and the actual poor performance of local government, resulting in very real and direct threats to both public health and environmental integrity. The principles outlined by the Department of Provincial and Local Government and the protocols suggested by the Department of Water Affairs and Forestry are, while sound in theory, quite cumbersome in practice. Ensuring compliance in a cooperative governance structure requires innovative use of governance instruments other than command-and-control enforcement, such as market-based instruments, environmental co-operation agreements, and civil instruments, such as a rating system. Specific guidelines need to be developed for the use of these instruments as tools for ensuring compliance in a co-operative governance structure.

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REFLECTIONS ON THE ROLE OF JUDGES IN ENFORCING ENVIRONMENTAL LAW

AMEDEO POSTIGLIONE¹

¹ Judge of the Supreme Court of Cassation of Italy, Vice President - European Forum of Judges for the Environment, Director - International Court of the Environment Foundation (ICEF), Via Cardinal Pacca 19 – 00165 Rome (Italy), icef.postiglione@tiscali.it.

SUMMARY

Judges play a critical role in compliance and enforcement of environmental laws. This paper discusses the obstacles to environmental enforcement that Judges must overcome.

1 INTRODUCTION

The role of Judges is necessary for enforcing the law, because it is Judges who must interpret the law and find the right solutions in actual cases. For substantive environmental law, which is relatively recent in the various national legal systems and possesses a strong technical content, the role of Judges has recently appeared to be decisive, but this is slowly changing. The lack of the specific training of Judges with regard to the environment, except for some praise-worthy exceptions, is not compatible with current environmental laws, which embraces almost all legal sectors and often appears in cases before the courts. The focus of this brief paper will be on some of the progress that has been made in training Judges and, most importantly, on identifying the politico-institutional role of the judiciary in guaranteeing the greater effectiveness of environmental law. The paper will also stress that the ineffectiveness of environmental law has deep roots, which must be faced pragmatically and removed.

2 OBSTACLES TO THE ENFORCEMENT OF ENVIRONMENTAL LAW

Environmental law encounters many difficulties in its actual enforcement. There are many complex explanations for such obstacles, including cultural, political, economic, technical, and scientific causes. Despite the enactment of numerous environmental laws and regulations, the environmental crisis continues to worsen because the issues triggering the problem have not been removed. The need to improve environmental enforcement and compliance is apparent in national, regional, and international law. In other words, this is a “common challenge” for which a “common response” has not yet been found.

Certainly, there are practical, and even legal obstacles, in the process of concrete enforcement of environmental law at the various levels (local, national, regional,

and international), but the removal and attenuation of these obstacles (even though proper and useful) must not make us forget the more general implications of the problem. The role of the Judge is an important component of the legal system because – thanks to his/her professional activities – the law is verified through his/her ability to solve actual cases, in accordance with the principles of consistency and equity. An evaluation of obstacles to improving environmental compliance and enforcement follows, below.

2.1 Cultural Obstacles

The role of the “environment” is still dynamic in modern society. The conceptual importance of the environment has matured, and it is no longer considered important by only a marginal segment of society. However, cultural maturity towards the environment has not as yet been translated into coherent social behaviour as society, and individuals, are still bombarded by contrary input. The removal of cultural obstacles is a priority in order to promote environmental “truth” and “justice” in the interest of sustainable development for all.

Regardless of the progression of society, it must be questioned whether there are existing “cultural obstacles” among Judges if they still considered environmental protection to be a marginal problem.

2.2 Political Obstacles

The existence of approximately 190 sovereign States does not facilitate the adoption of effective measures at international level. The lack of effective supranational executive and adjudicating bodies for the global environment is justified by valid political obstacles, and it is the duty of the political world to remove these difficulties. Clearly, there are few other viable alternatives to protection of the global environment. Even within many individual countries, the environment does not as yet have an “integrated” place within the overall policies of the national government.

It must be acknowledged that progress has been made within the system of the European Union, the United Nations, the International Network for Environmental Compliance & Enforcement, various regional organizations, and through constitutional amendments. The question remains of whether there is awareness amongst judges of the positive role of “dialogue” with political institutions on the environment.

2.3 Economic Obstacles

The lack of sustainable consumption and production results in a negative impact on the environment. In order to achieving economic growth while respecting environmental limits, regulations must favour methods of production and consumption that are less polluting. Some issues remain, such as absorbing

potential cost increases and promoting the adoption in practice of best available technologies. The involvement of parties with economic interests is fundamental for obtaining positive environmental results. Regardless, does the so-called “incapacity of the economy to recover” justify breaking the law?

2.4 Technical & Scientific Obstacles

Regulations on the environment are often very “technical” in their content (emission levels, dumping rates, electromagnetic pollution levels, etc.). Often, Judges do not have the interdisciplinary competence to understand the practical implications of his or her choices, but are still obligated to decide and enforce the law. Further, some environmental problems have a high level of scientific uncertainty, such as the precautionary principle, which may create uneasiness for some Judges.

2.5 Legal Obstacles

Legal obstacles arise due to the interdisciplinary nature of the environment and the relatively recent development of environmental law. Further, the sectorial nature of environmental regulation, coupled with the lack of co-ordination between institutions, has resulted in many issues pertaining to environmental compliance and enforcement. Last, obstacles emerge from the often imprecise language of environmental regulations.

2.6 Practical obstacles

Many important obstacles will only be overcome by adjusting the priorities of judges and other institutions pertaining to environmental issues. Currently, there is a lack of official case law reports, official statistics, and law journals on the environment. Further, there has also been a deficiency of policy assisting non-governmental organizations in regard to the legal aspects of their activities, such as providing exemption from the costs of bringing civil proceedings. Throughout time, such obstacles will hopefully be overcome as the environmental law and regulation increases in popularity.

3 TRAINING

It is necessary that Judges become more competent in environmental matters. For example, the inclusion of environmental law in one’s legal education must become more widespread. The “value” of the environment in the evaluation of judges when they are undergoing their competitive examinations must be recognized. Further, local courses and initiatives promoting compliance and enforcement with environmental laws should be provided.

4 IMPROVING THE LEGISLATIVE FRAMEWORK FOR THE PURPOSE OF ENFORCEMENT

In order to promote compliance and enforcement with environmental law, the role of the Judge must be linked with that of the other institutions involved. In other words, Judges must participate in a cross-sector approach to environmental protection. This includes the use of plain and easily understandable language, without confusion between technical aspects and legal rules. Judges should work to integrate the objective profiles of environmental law with the subjective profiles, in the sense of defending the procedural role of the human right to the environment (information, participation and access) and beginning to better define the “substantive” content of the human right to the environment (right to water, to food, etc.).

Judge can also increase compliance with environmental regulations by strengthening criminal penalties in some sectors, and introducing mandatory civil action for environmental damage. This can include working with the international community to encourage “economic” penalties whenever there is a failure to comply with the obligations of a multilateral environmental agreement.

5 CONCLUSION

Judges from countries around the world realize that there is a great sensitivity surrounding the need for environmental protection. Judges have the ability to provide justice to individuals experiencing degradation of their environment. However, access to such justice remains problematic in international law. Judges must continue to actively work to create a system of environmental governance to prevent increasing occurrence of environmental harm.

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PROMOTING WATER QUALITY LAWS ENFORCEMENT AND IMPLEMENTATION IN ZIMBABWE'S URBAN AREAS

MTISIS, SHAMISO¹

¹ Zimbabwe Environmental Law Association- Zimbabwe, No. 6 London Derry Road, Eastlea, Harare, Zimbabwe, www.zela.org, mtisik@yahoo.com.

SUMMARY

The governing of how water is distributed, how it is used, and how clean it is, are the substance of a substantial body of law at the local, national and international levels.² However, the rights of urban residents to access clean, safe, and adequate water in Zimbabwe are being infringed as the implementation and enforcement of water quality laws and policies are inadequate and ineffective. This paper unravels the mix of factors inhibiting the provision of clean water to residents and access to justice. These include economic decline, poor local governance structures, political interference, corruption, population growth, the decaying water supply infrastructure, and sheer disregard of water quality standards and laws.

This paper is a synthesis of theory and practice. Theoretically, it highlights the key legislative, policy, and institutional gaps and weaknesses in the implementation and enforcement of water quality laws, such as the low penalties for water quality related crimes, promotion of the "polluter pays" principle by the effluent disposal permit system, and the absence of a constitutionally guaranteed environmental right in Zimbabwe. From a practical perspective, the paper mixes theory and practice by analysing civil and criminal court cases handled by the Zimbabwe Environmental Law Association, a public interest environmental law group, based on water pollution in Harare, Gweru, and Mutare. Notably, the major hindrance to enforcing water quality standards through litigation are identified as the lack of an environmental ethic within the judiciary and law enforcement agencies, the long court process, and the current economic problems. Therefore, the thrust of this paper is to create the foundation for political and economic reforms that enhance compliance with environmental laws and access to justice. Additionally, this paper promotes the development of an environmental ethic in the water management and supply institutions, the judiciary, law enforcement agencies, local authorities, the industrial sector, and households. Thematically, this paper falls under the creation of a culture of compliance section, with an emphasis on public access to justice and communicating a compliance message based on practical examples.

1 OVERVIEW OF THE WATER QUALITY SITUATION IN URBAN AREAS

The discharge of untreated industrial, municipal, domestic waste, and washing of agricultural chemicals into water bodies are the major sources of pollution in urban areas of Harare, Mutare, and Gweru. The net effect includes water supply

problems, unpleasant odors and taste in tap water, death of fish, and increased growth of weeds, as well as the escalation of water borne diseases, such as diarrhoea, cholera, and dysentery.³ Consequently, compliance with water quality standards is of paramount importance as water for human consumption must be of high quality and access to safe water should be understood as a basic human right.⁴

Over the years, Harare's sources of water, like Lake Chivero, have become heavily polluted⁵ leading the Zimbabwe National Water Authority and the municipality to use eight chemicals to treat the water for drinking. The chemicals are often unavailable which has led to water rationing and people fetching water from unclean sources or boiling tap water. As a result, a number of deaths due to intermittent cholera outbreaks and poor sanitation in high-density suburbs have been reported.⁶ On the other hand, the City of Gweru has also faced water quality problems over the years. In 2003, the municipality negligently discharged sewage into drinking water pipes and this contamination caused an outbreak of cholera and diarrhoea in Mkoba suburb.⁷ In 1997, the Gweru municipality discharged untreated sewage effluent into Gweru River, which caused the growth of algae and blockage of irrigation pipes belonging to a group of farmers in Mambanjeni communal lands. The farmers were greatly affected as their crops dried and the water could not be used for bathing and washing as it caused itching of the skin.⁸ The same situation played out in Mutare where the municipality has been continuously discharging untreated sewage effluent into Sakubva River, negatively impacting the livelihoods of a community living downstream.⁹

It should therefore be pointed out that the protection of rivers and dams that supply water to urban areas is of utmost importance. This can only be achieved if water quality standards are set out in national legislation, regulations, and by-laws. Further, water policies must be effectively implemented and enforced to ensure compliance by the industries, local authorities, and individuals. The following sections will highlight the key administrative, legislative, economic, and political factors inhibiting compliance and enforcement of water quality laws in the country.

2 ANALYSIS OF LEGISLATIVE, ADMINISTRATIVE AND JUDICIAL MECHANISMS TO PROMOTE COMPLIANCE

There is a plethora of legal frameworks that regulate water quality, such as the Water Act (Chapter 20:22), the Water (Waste and Effluent Disposal) Regulations (S.I 274/2000), the Public Health Act (Chapter 15:09), and the Environmental Management Act (Chapter 20:27) as well as by-laws passed by local authorities. These laws stipulate and prescribe administrative measures for ensuring compliance with water quality standards such as effluent discharge permits, investigation and monitoring of pollution. In legal parlance, judicial remedies such as criminal sanctions and civil action are also used as functions of a legal compliance and enforcement structure. Imperatively, the strengths and weaknesses

of administrative and judicial measures in ensuring compliance with water quality standards should be assessed.

2.1 Pollution Permit

The issuance of effluent discharge permits is being used as a tool to ensure compliance with water quality legislation. Essentially, the Water Act in Section 68 (1)(a) and the Water (Waste and Effluent Disposal) Regulations criminalize the disposal of waste effluent without a permit issued by the Pollution Control Unit.¹⁰ Color codes, green, blue, yellow and red are used to indicate the threat level of effluent disposals. A blue permit indicates environmentally safe effluent disposals while a red permit indicates environmentally harmful disposals. Conceptually, the permit system denotes the application of the polluter pays principle in the sense that permit holders pay for registration, an environmental monitoring fee, and municipal fees.¹¹ Polluters in the red category pay more fees for the permit and this was aimed at forcing them to strive to reduce pollution and attain better categories. Nevertheless, the permit system has been rendered ineffective in combating water pollution and promoting compliance with legal requirements due to the low permit fees paid by major polluters, such as local authorities and industries, who find it cheaper to pollute than to invest in costly pollution control technology when they are trying to cut production and operational costs due to the adverse economic and political situation. Zimbabwe National Water Authority water quality technicians confessed that some industries and local authorities in Harare, Mutare, and Gweru that started in the red permit category when the permit system was introduced are still in that category as the red permit fees do not act as an effective disincentive to polluters.¹² Additionally, the fees are not constantly reviewed while inflation is rising.

2.2 Monitoring and Investigating Pollution Cases

Through an effective, accurate, and well resourced monitoring and investigation system, unauthorized disposal of waste water and effluent can be easily detected through biological, chemical, and physical analysis. Monitoring and investigation of non-compliance with water quality standards is the duty of officers and inspectors in the Pollution Control Unit in terms of the Water (Waste and Effluent Disposal) Regulations and the Environmental Management Act.

However, monitoring and inspection of pollution cases has been hampered by the economic problems. As a result, the Pollution Control Unit and local authorities in Harare, Mutare, and Gweru are facing critical financial and human resources problems. Many water quality experts and technicians have left Zimbabwe, and most water quality monitoring stations do not have modern laboratory equipment and continuously struggle with transport and fuel shortages.¹³ A combination of these factors have emasculated and adversely affected the ability of the Pollution Control Unit to conduct quarterly water quality compliance inspections. Further, inspectors may find it difficult to monitor compliance at night as the Water Act

and the Water (Waste and Effluent Disposal) Regulations only allow them to access disposal sites during normal working hours for purposes of inspection and collection of water samples.

2.3 Use of Criminal Sanctions

Criminal law is the most widely used method of enforcing environmental law although its effectiveness is a subject of debate in many jurisdictions.¹⁴ Accordingly, the Water Act in Section 68 and the Environmental Management Act in Section 57 prohibits water pollution and makes it an offense punishable by a fine or imprisonment. A spot fine can also be levied on a polluter in terms of Statutory Instrument 30 of 2005. For example, Mutare City Council was criminally charged and convicted of polluting Sakubva River and for failing to apply for an effluent discharge permit. Nonetheless, the major criticism against the use of criminal sanctions in promoting compliance with environmental law is the low penalties or monetary fines paid by those convicted of polluting water.¹⁵ For example, in the Mutare Municipality case the criminal court ordered the municipality to pay a paltry fine of Z\$1,500,000 in 2005.

However, despite the low monetary penalty, the judgment is theoretically significant as the court in addition to the fine, ordered the municipality to repair its sewage treatment facilities and to construct a footbridge for the people to cross the polluted river without contracting diseases. Rather depressing is the fact that on the ground the municipality has not complied with the court order as it cites lack of financial resources to upgrade the sewage treatment facilities and to construct the footbridge. Another handicap for using criminal sanctions to enforce water quality standards through the judicial process is the lack of appreciation and awareness of the elements of environmental crimes by magistrates, prosecutors, police officers, and even water quality inspectors. Additionally, while water pollution cases require expert evidence, enforcement has also been hampered by the long delays in the judicial process in Zimbabwe.¹⁶

2.4 Use of Civil Remedies

Civil law remedies are an equally important method of compelling compliance with water legislation in Zimbabwe for those who suffer personal or economic harm by claiming compensation and applying for court orders compelling polluters to stop polluting water sources or to take other measures. Until recently, not many people relied on civil law remedies to enforce water quality legislation or environmental legislation.¹⁷ The major hindrance to access to justice for many communities is the aspect of legal standing (*locus standi*). However, the Class Actions Act (Chapter 8:17) provides scope for public interest litigation, but the limitation is that before instituting legal action on behalf of others a person is required to make an application to the High Court to have his/her legal standing tested and confirmed by the court before instituting the legal action. In the same vein, there are conceptual constitutional problems in enforcing water and

environmental rights in Zimbabwe. Unlike a number of other African countries, the Constitution of Zimbabwe does not recognize environmental rights, neither does it recognize economic, social or cultural rights.¹⁸ Although the Environmental Management Act¹⁹ espouses environmental rights, these rights are not enforceable as they are just statements of intent.

In spite of this gloomy situation, there has been a steady upsurge of civil law cases based on water pollution as well as nascent positive responses by the courts to enforce the law.²⁰ In the case of *Moses Mazhande and others v. Chitungwiza Municipality*, residents sued a municipality for negligently discharging raw sewage into homes and Manyame River.²¹ The High Court ordered the municipality to take steps to close the sewage drain, to repair its sewage treatment works and to rehabilitate the contaminated land. Another pending case is that of *Dora Community v. Mutare City Council* which also highlights the use of civil law remedies in enforcing water quality standards. The community sought an order to compel the Mutare City Council to stop polluting Sakubva River and to construct a footbridge across the river.²² Theoretically, the court decision in the *Mazhande* Case was testimony that civil litigation or the threat of it can be a potent tool to enforce and compel compliance with water quality standards. In that case, the municipality was jolted into action, appealing for funds from the government to upgrade the sewage system after receiving court summons. However, the current political and economic problems are impeding litigation efforts as the municipalities and polluters plead the lack of funds as a defense.

3 ECONOMIC AND POLITICAL FACTORS

The enforcement and implementation of water quality regime in Zimbabwe can not be isolated from the broader political, social, and political context; doing so hinders compliance. Ideally, a clean water supply system requires infrastructure development by replacing old water networks and improving technology, transparency, and accountability in local governance structures, as well as sustainable and equitable tariffs, effective revenue collection, and investment to improve efficiency. However, Zimbabwe has an ailing economy, characterised by the highest inflation rate in the world standing at over 15 000% and rising. As a result, there are acute shortages of foreign exchange, fuel, spare parts, laboratory equipment, and even experts to repair, refurbish, and expand the sewage treatment plants. Industries are no longer investing in pollution control while local authorities and the Zimbabwe National Water Authority are overwhelmed by the water supply situation.

Political interference and corruption have made matters worse as the Minister of Local Government and National Housing dismissed all local authority councils controlled by opposition political parties replacing them with Commissions and eventually giving the Zimbabwe National Water Authority the mandate to treat and supply water in many municipalities.²³ Political manipulation also affected the water pricing systems as government has consistently controlled the

water pricing structure under the guise of making water affordable to the poor, yet as a way of attracting urban voters during elections. The unsustainable and uneconomic rates being charged for water in urban areas in the face of huge costs for water purification and supply make compliance with water quality standards difficult.²⁴ In sum, the takeovers, uneconomic and low water charges, and political interference create a fertile ground for corruption in the water treatment and supply business and significantly inhibit the enforcement and implementation of water quality and supply standards.

4 CONCLUSIONS AND RECOMMENDATIONS

From the above analysis a number of institutional, policy, and legal conclusions and recommendations can be made to promote compliance with water quality laws and standards.

First, the overarching issue in Zimbabwe is that as environmental management is linked to the broader political and economic issues in the country, and there is a need for concrete political and economic reforms. This will trigger investment and the availability of resources required to improve the clean water supply infrastructure and technologies and systematic governance structures. These resources include foreign currency, fuel, spare parts and laboratory equipment, retaining technical experts, and more.

Second, there is need for a new Constitutional dispensation that will protect economic, social, and cultural rights, including a person's right to live in a clean and healthy environment. This will in turn help in the creation and promotion of a culture of compliance and enforcement of environmental laws.

Third, there is need to ensure that criminal monetary penalties and effluent disposal permits are regularly reviewed in line with the hyperinflation trends in the country to make them deterrent and discourage local authorities, individuals, and industries from polluting.

Fourth, there is need to establish an Environmental Court that can deal with all environmental cases, including water quality cases. This should be supported by judicial training on environmental law.

Fifth, public interest law organisations should be capacitated and strengthened to take up cases on behalf of poor communities affected by water pollution and environmental harm.

Sixth point is that training workshops on monitoring and investigation of water quality crimes and environmental crimes for the police, municipal police and the local authorities should also be prioritized, while awareness campaigns must also be conducted among the citizenry on water quality legislation to ensure that they

know their duties and obligations in relation to water quality management thereby creating an environmental ethic and values for compliance.

Last, public policy dialogues for decision makers should be held targeting the national budget and policy making processes to ensure the promulgation of laws and policies that can be implemented with the available financial resources.

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- ¹⁰ Section 5(1) of Water (Waste and Effluent Disposal) Regulations and Section 68 of the Water Act.
- ¹¹ This principle means that any person who causes environmental pollution or environmental damage is expected to remedy or pay for the damage caused. It is found in Section 4 (2).
- ¹² Interview with Water Quality technicians in Harare, May 2005.
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RULE OF LAW AND THE ENVIRONMENT IN A GLOBALIZED WORLD

SPERLING, LAWRENCE I.¹

¹ Senior Adviser, Bureau of Oceans, Environment and Science, U.S. Department of State, 2201 C St. N.W. Washington, DC 20520; sperlingli@state.gov.

SUMMARY

Transnational crime organizations in many parts of our globalized world subvert stability, rule of law, democracy, and legitimate economies while spreading corruption and environmental degradation and undermining sustainable development. Highly networked criminal organizations are attracted to the high profits and low enforcement risks of international environmental crime. Effective enforcement of environmental laws is a key to good governance at the national level, which is critical for achieving sustainable development. Promoting effective environmental law enforcement in the developing world is an important part of United States' efforts to promote well governed states that provide for the needs of their people and act responsibly in the international system. The United States has been a leader of efforts to combat wildlife trafficking, illegal logging, and illegal, unregulated and unreported fishing, and to build environmental law enforcement capacity in developing countries through cooperation with U.S. trade partners and through efforts of international organizations such as the United Nations Environment Program. While these initiatives have produced significant results and demonstrated world-wide interest in collaboration to improve environmental law enforcement, sustained efforts are needed to enhance political will, build technical capacity throughout the enforcement chain, and promote interagency and international cooperation in improved environmental law enforcement.

1 ENVIRONMENTAL CRIME: AN ATTRACTIVE NUISANCE FOR CRIME NETWORKS

Globalization has given the world's poor access to much of the same information and technology as the rich; it is helping to spur global demand for democracy and to provide economic opportunity to entire segments of the world's population previously without hope of advancement.² Yet, some of these same forces are also creating new challenges for both the environment and for the rule of law.

In many parts of³ the world, criminals exploit the opportunities and vulnerabilities offered by globalization. Criminal organizations try to take advantage of the information superhighway and of the increased flow of goods across borders to confound states and to circumvent their laws and enforcement efforts. They often have extensive worldwide networks to support their operations and are inherently nimble, adapting quickly to change. These transnational criminal organizations and networks destabilize societies by undermining the rule of law and democracy,

subverting legitimate economies and threatening sustainable development efforts globally. They undermine the safety and security of communities through activities such as drug, human and contraband smuggling, financial fraud, product counterfeiting, cyber crime, and environmental crimes. International organized criminals also seek to corrupt public officials to protect their illegal operations and increase their sphere of influence, often with tremendous financial resources and sparing no expense to corrupt government and law enforcement officials. Often, their activities produce devastating harm to the environment, whether through trafficking in endangered wildlife species and timber products, or through illegal dumping or trade in toxic wastes and chemicals.

These highly networked criminal organizations are attracted to the high profits derived from criminal activity and jurisdictions that have high-levels of corruption, weak law enforcement structures and the lack of political will to prosecute criminals. While law enforcement agencies often focus limited resources to combat “traditional” crimes, a wide range of “newer” highly profitable illegal activities requires greater collaboration between law enforcement and technical agencies to detect and prosecute, as well as an informed judiciary and adequate legal provisions to ensure an effective deterrence. Highly networked and accessing all the tools of the information age, criminal organizations take advantage of the distrust that law enforcement agencies often exhibit for sharing information with sister agencies in-country or counterparts in neighboring countries, trying out new, high-profit crimes that are less likely to be the target of vigilance and enforcement.⁴

A 2000 study characterized international environmental crime as one of the fastest growing and most profitable areas of international organized crime, and estimated the economic “value” of international trade in environmentally regulated goods and products at between \$22 and \$31 billion annually.⁵ A growing body of anecdotal evidence demonstrates a range of linkages between environmental crime and other types of international crime.⁶

1.1 A Range of Linkages

Illegal profits are particularly high in the area of illegal wildlife trafficking, with mounting evidence of links to organized crime, including the smuggling of drugs, weapons, and people. There is evidence that smugglers of contraband tend to use the same routes and methods, regardless of the items smuggled.⁷ Profits to be made from wildlife trafficking are huge with less risk than other crimes.⁸

But high profits and links to organized crime also characterize other areas of environmental crime. More recently, Interpol’s Pollution Crimes Working Group embarked on an evaluation of the linkages between environmental crime and organized crime. Results of the first phase of that study suggested self-evident linkages to organized crime in the majority of 36 case studies of international pollution crime examined.⁹ Some linkages to other crime are direct, such as the use

of ozone-depleting substances banned or restricted under the Montreal Protocol on Substances that Deplete the Ozone Layer as a precursor chemical in the production of methamphetamine.¹⁰

An emerging problem is the use of natural protected areas as a safe haven for a range of illegal activities. This may occur on a grand scale, where vast, under patrolled protected areas serve, in effect as ungoverned spaces where drug traffickers, wildlife traffickers, illegal antiquities dealers, and illegal logging operations convene and commingle.¹¹ However, as our field trip during the INECE Conference in Cape Town pointed out, even urban protected areas can serve as a safe haven for all kinds of illicit activity, from petty thievery to poaching of rare plants and animals to serving as a dumping ground for the victims of murder.

Along with the links between environmental crime and other, organized forms of crime comes official corruption as well. Given the size and logistics of moving timber products, official corruption seems to go particularly hand in hand with illegal logging, which costs countries \$10-15 billion each year in lost revenues, destroy forest ecosystems, undercuts legal trade in forest products, and sometimes finances civil conflict.¹²

Among the anecdotal evidence of linkages to other crimes are occasional suggestions that environmental crime may be a lucrative source of financing for terrorist organizations. For example, a recent article suggested that Islamic militants are sponsoring poaching and transboundary trafficking in wildlife for profit in South Asia.¹³

While environmental authorities in many countries are committed to address these threats, often their ability to do so is weakened by inadequate budgets and insufficient political will throughout government. Traditional law enforcement agencies often do not view environmental crimes with the same level of priority as other crimes that are considered more pressing, and lack the technical expertise needed to build good cases. Environmental agencies lack adequate resources to provide the monitoring, detection and technical support needed to ensure adequate law enforcement. While these conditions may occur in rich and poor countries alike, the inadequacy of will and resources to address these problems is particularly daunting in the developing world.

2 SUSTAINABLE DEVELOPMENT AND GOOD GOVERNANCE

Indeed, the ability of a country to develop sustainably in a manner that provides for the needs of its people and for those of future generations depends on its ability to govern well. Democracy and sustainable development strategies can succeed only when the rule of law is adhered to and when government is transparent to its people. The rule of law, including effective enforcement of laws to protect the environment and natural resources, is at the core of sustainable development. At the World Summit on Sustainable Development (Johannesburg, 2002), developed

and developing countries alike acknowledged that sustainable development begins at home, with good governance.¹⁴ In fact, since economic development often depends on how a society uses natural resources, environment and natural resources are the very stuff of development. Sustainable development depends particularly on nations adopting effective laws and enforcement programs to protect the environment, and a commitment to values of honest governance, openness, just conduct, and the rule of law in their implementation. Such laws and their effective enforcement are essential to set the basic ground rules of management and efficient use of those resources to ensure that they will continue to serve the needs of today's citizens and future generations.

3 ENVIRONMENTAL GOOD GOVERNANCE: A CROSS-CUTTING THEME FOR U.S. FOREIGN POLICY

The State Department's Bureau of Oceans, Environment and Science is one of the few operations in the U.S. federal government that addresses the full range of environmental issues, on land and sea. The bureau promotes improved chemicals management, sustainable management of forests and wildlife, sustainable fisheries and marine resources. As it negotiates international agreements and other instruments, it also seeks to ensure their effective implementation. Promoting effective laws and enforcement programs at the national level is a critical part of Bureau of Oceans, Environment and Science's goal to protect the environment from both industrial pollution and over-exploitation of natural resources on land and at sea.

Promoting good environmental governance not only helps to protect the environment, but also helps countries set the conditions for sustainable economic opportunity, while building demand for and experience with rule of law and democratic decision-making processes in a sector vital to any country's economic and political development. Moreover, promoting cooperation between countries in the management of shared resources and the implementation of laws that address transboundary environmental concerns can help reduce sources of international tension and instability. This mission is a central part of the evolving role of diplomatic and foreign assistance efforts of the United States in promoting well-governed states that provide for the needs of their people.¹⁵

3.1 Combating Wildlife Trafficking and Illegal Logging

U.S. efforts in recent years, lead in large measure by Bureau of Oceans, Environment and Science, have included a strong focus on the problems of wildlife trafficking and illegal logging, by:

- Spearheading the Coalition Against Wildlife Trafficking, which promoted the Association of Southeast Asia Nations Wildlife Enforcement Network that has already launched several successful operations against traffickers, and which is

assisting the South Asia Cooperative Environment Program establish a similar regional enforcement network.

- Negotiating Memoranda of Understanding on illegal logging with China and Indonesia and committing an initial \$1 million to train Indonesian customs and judicial officials, and help Indonesia implement a new standard to assess the legality of timber harvested and exported.
- Co-sponsoring, with Indonesia, Australia, the Philippines, and Thailand, a resolution adopted in April 2007 in the UN Commission on Crime Prevention and Criminal Justice on "International cooperation in preventing and combating illicit international trafficking in forest products, including timber, wildlife and other forest biological resources" -- a significant first step to engage the law enforcement community writ large to address forest and wildlife crimes.
- Helping Liberia restore rule of law in its forest sector, ravaged by illegal logging during the Taylor regime. If sustainably managed, the country's forests could generate substantial foreign exchange earnings and employ thousands of workers.

3.2 Promoting a Level Playing Field for Free Trade

Free trade agreements that the United States negotiates include commitments by trade partners to effectively enforce their respective environmental laws. With Bureau of Oceans, Environment and Science leadership, the U.S. supports this commitment through environmental cooperation agreements and work programs to build its trade partners' enforcement capacity.

Most notably, the U.S. allocated over \$18 million annually over the last three years to implement a comprehensive environmental capacity building program with its partners in the Central America - Dominican Republic Free Trade Agreement. A large portion of this funding is focused on strengthening enforcement of environmental laws, and improving private sector environmental compliance. A team of U.S. agencies that include the U.S. Departments of State, Interior and Justice, the Environmental Protection Agency (EPA), as well as international and local non-governmental organizations (NGOs) has:

- Trained over 300 environmental compliance inspectors, prosecutors, and other enforcement personnel in every Central America - Dominican Republic Free Trade Agreement country, many of whom are now training other officials to enforce environmental laws effectively.
- Assessed protected area laws in five Central America - Dominican Republic Free Trade Agreement countries and, in Guatemala, provided the first-ever protected area law enforcement training courses.

- Strengthened enforcement of the Convention on International Trade in Endangered Species by supporting local organizations and initiatives.
- Helped the Central America - Dominican Republic Free Trade Agreement Parties establish a Secretariat for Environmental Matters to receive and process submissions from the public alleging that a Central America - Dominican Republic Free Trade Agreement Party is failing to enforce its environmental laws effectively.

While efforts are most comprehensive with Central America and the Dominican Republic, the U.S. also assists other Free Trade Agreement partners to build environmental enforcement capacity. For example, it has:

- Developed training programs for Chilean judges and prosecutors on environmental law enforcement.
- Sponsored numerous trainings in Morocco, Bahrain and Oman to strengthen environmental enforcement and build inspection capacity.
- Assisted Jordan in creating a 400 person Environmental Rangers unit.
- With Singapore, trained port inspectors and custom authorities to identify illegal shipments of Ramin wood, a tropical hardwood listed on Appendix II of CITES.

3.3 Marine Conservation and Fisheries Enforcement

For the last 18 years Bureau of Oceans, Environment and Science, the U.S. National Oceanic and Atmospheric Administration and the U.S. Coast Guard have worked with countries and Regional Fisheries Management Organizations around the world to strengthen their fisheries enforcement capacity. We have conducted workshops and seminars on fishing gear regulations and enforcement techniques in relation to the U.S. program to implement the shrimp/turtle law, which promotes the mandatory use of turtle excluder devices in trawl nets on commercial shrimp vessels.¹⁶

In partnership with National Oceanic and Atmospheric Administration and the U.S. Coast Guard, Bureau of Oceans, Environment and Science is undertaking a comprehensive push to ensure that Regional Fisheries Management Organizations have consistent and effective mechanisms to identify and deter States and vessels engaged in illegal, unreported, and unregulated fishing. In 2007, Bureau of Oceans, Environment and Science successfully shepherded new measures in three Regional Fisheries Management Organizations that allow stronger action against illegal, unreported, and unregulated vessels while ensuring proper due process. Bureau of Oceans, Environment and Science recently chaired a group of experts who prepared a first draft of a new agreement to set minimum standards

for port States to take against vessels who participate in illegal, unreported, and unregulated fishing. The U.S. will be working closely with other States to craft an effective tool for changing the economics of illegal, unreported, and unregulated fishing by making it harder for illegal product to enter the market.

3.4 Global Capacity Building Efforts

Bureau of Oceans, Environment and Science also supports efforts by the United Nations Environment Programme (UNEP) to build capacity in member states to enforce domestic environmental laws and international commitments. In particular, we have provided substantial expertise to UNEP's efforts to develop a global capacity building program for judges on environmental law. We have also provided significant support to UNEP's Green Customs Initiative, which seeks to integrate training for customs officials on enforcing national laws implementing the various multilateral environmental agreements that regulate transboundary trade in products or goods because of environmental concerns.¹⁷ In providing this support, the U.S. urges a focus on practical information that will help judges, customs officials, and others in the enforcement chain, to implement national laws, including those that incorporate international commitments.

The United States is also a strong supporter of the work of the United Nations Forum on Forests, the International Tropical Timber Organization and the Food and Agriculture Organization of the United Nations. All three organizations have adopted significant policies or programs to combat illegal logging and the trade in illegally harvested timber, as well as to strengthen forest-related law enforcement and governance. In 2007, the UN Forum on Forests and the UN General Assembly adopted a broad new Forest Instrument which provides a global framework for national action and international cooperation related to forests, including commitments to address deforestation and fight illicit trafficking in forest products. The "Non-Legally Binding Instrument on All Types of Forests" also enshrines good governance as a principal of domestic and global policies and programs, and as a critical component of sustainable forest management.

3.5 Lessons Learned

Some important lessons may be drawn from the efforts described above. While it is helpful to bring high level leaders together to build political will to improve environmental law enforcement, declarations, agreements, and even coalitions and partnerships are not sufficient without robust on-the-ground cooperation that addresses capacity needs in a comprehensive manner. Clearly, our greatest chance of success in engendering effective environmental law enforcement in partner nations in the developing world appears when diplomatic initiatives, such as negotiated agreements or resolutions, or partnership efforts, are backed up by sustained support and funding.

In the United States, this implies the need for recognition of the centrality of promoting effective environmental law enforcement that transcends the divisions of domestic politics, and enjoys the support of both executive and legislative branches of government. The bipartisan commitment of the U.S. Congress and Administration in supporting environmental capacity building in the Central America - Dominican Republic Free Trade Agreement region through 2009 provides us the greatest hope of building lasting capacity for effective environmental law enforcement in a neighboring region whose environmental performance may directly affect the United States, and in which the United States has a clear direct interest in promoting sustainable development, rule of law, and a level playing field for free trade. Yet, it is clear that the effort will need to be sustained beyond the commitment of the current U.S. Administration and Congress to ensure lasting success in the region.

Environmental authorities can no longer act alone in advocating for increased attention to environmental law enforcement capacity-building. Increasingly, effective responses to environmental crime require the engagement of more traditional law enforcement and customs authorities. The U.N. Crime Commission resolution on illegal logging is an important step in this direction. Our efforts should not stop with illegal logging, but should rather engage the broader law enforcement community on the broad range of environmental crimes that provide a growing attractive nuisance to organized criminal activity.

More broadly, in the United States as in other countries, our ability to marshal commitment and resources for promoting effective environmental law enforcement in the developing world depends on the ability to articulate why improved rule of law in the environmental and natural resources sector must be a central part of our foreign policy and development strategy. Building awareness that environmental laws and their effective enforcement are a key part of the governance structure of a country hoping to engender democracy and rule of law, economic growth, and individual opportunity needs to remain a central focus of those advocating for international support for sustainable development.

Our work in Free Trade Agreement partner countries other than Central America - Dominican Republic Free Trade Agreement provides an important corollary observation: while sustained funding has not been available to support our cooperation work with Chile or Jordan, for example, we have been able to produce important results with scant resources in partnership with countries that have strong economies, a strong internal drive for improved environmental performance, and the potential to lead by example in their respective regions. Under these conditions, while sustained funding commitment is badly needed, through creative leveraging we can produce a lot with a minimal amount of resources. Even more so, our work to restore forest sector governance in Liberia proves the power of leveraging somewhat more significant U.S. resources with those of other international donors.

The long-term success of political will-building initiatives, such as the Coalition Against Wildlife Trafficking or our illegal logging MOUs with China and Indonesia, will depend on our ability, and that of our partners, not only to attract support of high level officials, but also to build capacity and cooperation on the ground among environmental, law enforcement and customs officials, as well as local communities, NGOs, consumers, and others with a stake in improved environmental law enforcement.

3.5.1 The Enforcement Continuum

Enforcement requires a continuum of skills, disciplines and processes, and an environmental enforcement program is only as effective as the weakest stage in this continuum.¹⁸ Good laws are not likely to be followed, for example, if those charged with monitoring their compliance do not know what to look for. Strong detection capabilities are useless if prosecutors cannot preserve the evidence and bring the case to court, or if judges do not understand the law and the basic principles of fashioning remedies or meting out sentences to establish an effective deterrence. Sustained capacity-building efforts are needed at every step of the enforcement process: drafting of enforceable laws and regulations, promoting compliance, compliance monitoring and detection, legal prosecutions and other enforcement responses, and the adjudication of environmental enforcement cases. Special attention is needed to the unique challenge of measuring the results of these efforts and feeding experiences back into improving the enforceability of laws as well as the allocation of enforcement resources to an effective but fair deterrent impact.

Interagency and international cooperation are critical. All too often, environmental crime involves conduct in one country with impacts or evidence in another country. Often, bringing law enforcement and environmental experts from different involved agencies and countries together can produce a multiplier effect, enhancing investigations and prosecutions in all the involved jurisdictions, and leading to the discovery of evidence and broader criminal schemes that no one government entity acting alone is likely to detect. Moreover, even when violations of the law do not involve transboundary aspects, the sharing of experiences through networks and partnerships such as INECE and CAWT, and the regional sub-networks they are promoting, is invaluable. Countries and agencies can learn much from each other in their efforts to break down the barriers of specialization, and overcome the advantages that lawless actors enjoy in the face of weak deterrence and inadequate coordination among law enforcement and technical experts.

While breaking down stovepipes between environmental and law enforcement agencies and between countries, however, we must also strive to break down the stovepipes that separate green, brown and blue issues within the environmental enforcement and compliance community. Building capacity, will and resources to ensure effective enforcement of environmental laws, whether on land or sea and

whether to control pollution or conserve natural resources, presents common challenges that can best be met through common purpose and effort.

4 CONCLUSION

We have seen a growing interest world-wide in collaboration to improve enforcement of environmental and natural resource laws. But sustained efforts are needed. High-level political commitment and adequate resources are needed in all countries to ensure the effective enforcement of environmental and natural resource laws. On the one hand, greater awareness is needed of the relationships between environmental law, compliance and sustainable development; on the other hand, the same is needed of the relationship between environmental crime and other criminal behavior. In particular, those involved in implementing environmental enforcement efforts must work to build understanding among traditional law enforcement entities as well as diplomatic and foreign assistance decision-makers of the importance of effectively enforcing environmental laws.

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¹ The views expressed in this article are those of the author in his personal capacity, and do not necessarily reflect the policy or views of the United States Department of State or the United States Government.

² See Friedman, T, *The World is Flat: A Brief History of the Twenty-First Century*, 2005. See also Friedman, T., *The Lexus and the Olive Tree: Understanding Globalization*, 2000.

³ For a rich discussion of this problem, see Naim, M, *Illicit: How Smugglers, Traffickers and Copycats are Hijacking the Global Economy*, 2005. For example:

Since the early 1990's, global illicit trade has embarked on a great mutation. It is the same mutation as that of international terrorist organizations like al-Qaeda or Islamic Jihad – or for that matter, of activists for the global good like the environmental movement or the World Social Forum. All have moved away from fixed hierarchies and toward decentralized networks; away from controlling leaders and toward multiple, loosely linked, dispersed agents and cells; away from rigid lines of control and exchange and toward constantly shifting transactions as opportunities dictate. It is a mutation that governments in the 1990s barely recognized and could not, in any case, hope to emulate.

⁴ *Id.*, at p. 7.

⁵ International Crime Threat Assessment, pp. 28-31, 2000 (prepared by a U.S. Government interagency working group).

⁶ While there has been little systematic effort to compile and evaluate these anecdotes, the Royal Institute of International Affairs cited several linkage anecdotes in its important analysis of the actors and drivers behind environmental crime. Hayman, G. and Brack, D., *International Environmental Crime: the Nature and Control of Environmental Black Markets*; The Royal Institute of International Affairs, 2002.

A WWF-UK study noted that the evidence of organized crime involvement in wildlife trafficking is particularly strong where drug production and distribution

states coincide with major wildlife range states. Cook, D, Roberts, M and Lowther, J, *The International Wildlife Trade and Organized Crime*, June 2002, at 14, 23. The same study reported that 50% of those prosecuted for wildlife crime in northeast England over a one year period had previous convictions for drugs, burglary, assault, criminal damage and firearms offenses. *Id.*, at 24.

Similarly the chief enforcement officer of the Convention on Trade in International Species (CITES) analyzes indicators of organized crime involvement in: Sellars, John, *International Illicit Trafficking in Wildlife*, The Police Chief, June 2007.

⁷ Cook, D, Roberts, M and Lowther, J, *The International Wildlife Trade and Organized Crime*, June 2002, at 14, 17. The authors note: "The routes used by wildlife smugglers are often complex, making it difficult for the authorities to track and intercept shipments. Routes are also selected to take advantage of particular weaknesses and loopholes in the international trade control regime, either by using intermediate countries where controls are weakly enforced or not enacted at all, or by crossing borders where controls have been relaxed . . ." *Id.*, at 17.

⁸ For example, according to one source, \$100 to \$400 might be paid to a hunter for rhinoceros horns that will ultimately fetch up to \$38,000 at the final destination point. Havocscope Global Black Market Indexes, www.havocscope.com/trafficking/wildlife.htm. According to another study, a South American poacher may get \$7.50 for a caiman skin that is later sold for as much as \$200 on the black market. An African parrot wholesaled for \$18 may retrieve \$700 downstream in the black market. A golden lion tamarin which costs \$190 in the country of origin in South America may fetch upwards of \$20,000 on the European black market. Mastny, L., and French, H., *Crimes of a Global Nature*, World Watch Magazine, September/October 2002.

As one study notes, as a species becomes scarcer, its value on the black market often increases. Cook, D, Roberts, M and Lowther, J, *The International Wildlife Trade and Organized Crime*, June 2002, at 10.

⁹ Interpol Pollution Crime Working Group, *Assessing the Links Between Organized Crime and Pollution Crime*, June 2006.

¹⁰ *Businessmen Convicted in Scheme to Evade \$1.9 Million in Taxes on Sales of Ozone-Depleting Chemicals*, U.S. Department of Justice Press Release, August 4, 2005; *Ozone-Depleting Chemical Sold to U.S. Meth Labs*, INECE Newsletter Fall 2005 (<http://www.inece.org/newsletter/11/enforcement.html>)

¹¹ See Nations, J., *The Maya Forest, People, Parks and Ancient Cities*, 2006.

¹² See Soreide, T., *Forest Concessions and Corruption*, Anti-corruption Resource Centre, CHR Michelsen Institute, 2007: "Corruption is directly linked to illegal and unsustainable logging, a problem that causes significant environmental damage in terms of erosion and reduced water quality, loss of biodiversity and challenges for communities that are settled in natural forests."

¹³ *The Guardian*, *Poaching for Bin Laden*, May 5, 2007 (www.guardian.co.uk/alqaida/story/0,,2073168,00.html).

¹⁴ *Plan of Implementation of the World Summit on Sustainable Development*, 2002, especially the following paragraphs:

4. Good governance within each country and at the international level is essential for sustainable development. At the domestic level, sound environmental,

social and economic policies, democratic institutions responsive to the needs of the people, the rule of law, anti-corruption measures, gender equality and an enabling environment for investment are the basis for sustainable development....

162. Each country has the primary responsibility for its own sustainable development.... All countries should promote sustainable development at the national level by, inter alia, enacting and enforcing clear and effective laws that support sustainable development.

See also, par. 138.

¹⁵ In 2006, U.S. Secretary of State Condoleezza Rice articulated a new policy of "Transformational Diplomacy". By combining the tools of diplomacy and foreign assistance, the United States would play a transformational role in promoting the capacity of countries to develop democratic institutions, to prosper economically, to foster individual opportunity, and to act responsibly in the international system. Rice, C., U.S. Secretary of State, Transformational Diplomacy (Speech at Georgetown University), Washington, DC, January 18, 2006. Secretary Rice stated:

I would define the objective of transformational diplomacy this way: To work with our many partners around the world to build and sustain democratic, well-governed states that will respond to the needs of their people -- and conduct themselves responsibly in the international system...Transformational diplomacy is rooted in partnership, not paternalism -- in doing things with other people, not for them. We seek to use America's diplomatic power to help foreign citizens to better their own lives, and to build their own nations, and to transform their own futures....

¹⁶ Public Law 101-162 (Sec. 609).

¹⁷ The United States provided financial support for regional Green Customs workshops in East Africa in April, 2008, and in Southeast Asia in 2007. The author served as a resource person in UNEP and World Customs Organization sponsored Green Customs workshops in Shanghai in March, 2007, and in Bhutan in October, 2005. The United States Environmental Protection Agency has developed a green customs training module, which incorporates practical exercises, and which is posted on INECE's website.

¹⁸ See Akella, A. and Cannon, J., Strengthening the Weakest Links: Strategies for Improving the Enforcement of Environmental Laws Globally (Conservation International Center for Conservation and Government, 2004).

ENVIRONMENTAL COMPLIANCE ASSISTANCE CENTERS DELIVER TARGETED HELP TO THE REGULATED COMMUNITY

THOMAS, DEBORAH¹, LIMANON, WATCHAREE², SIMACHAYA, WIJARN³ and
NEPOMUCENO, DOLORA⁴

¹ Compliance Assistance Policy and Integration Branch Chief, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue N.W., Washington, D.C. 20460, U.S.A. thomas.deborah@epa.gov

² Environmental Attorney, Asian Environmental Compliance and Enforcement Network, 161/1 Soi Mahadlek Luang 3, Rajdamri Road, Patumwan, Bangkok 10330 Thailand wlimanon@eco-asia.org

³ Director, Environment Quality and Laboratory Division, Pollution Control Department, 92 Soi Phahon Yothin 7, Phahon Yothin Road, Sam Sen Nai, Phayathai District, Bangkok 10400, Thailand wijarn.s@pcd.go.th

⁴ Assistant General Manager, Laguna Lake Development Authority, Rizal Provincial Capitol Compound, Shaw Blvd., Pasig City, Philippines dnnepomuceno@llda.gov.ph

SUMMARY

The United States Environmental Protection Agency (EPA) has established unique partnerships with external, non-profit organizations to create Compliance Assistance Centers (Centers) over the past twelve years. These Centers provide user-friendly access to comprehensive, easy-to-understand environmental compliance information packaged to fit the specific needs of regulated businesses in several industry sectors, particularly those with a large number of small and medium-sized entities. The Centers have been very successful and demonstrate several “best practices,” including the: (1) effective use of partnerships to develop and disseminate assistance to a target audience; (2) integration of compliance, pollution prevention, and industry sector-specific content; (3) efficient use of Agency resources; and (4) measurement of results.

With assistance from the Asian Environmental Compliance and Enforcement Network, environmental agencies in the Philippines and Thailand are establishing Centers based on U.S. best practices. EPA has worked closely with its Asian counterparts to share U.S. experience and provide feedback on proposed strategies and models. As in the U.S., the Asian pilot Centers target small and medium-sized entities and employ a stakeholder-driven approach to identify target sectors, and define center needs, capabilities and tools. This article describes the model established for Centers in the U.S. and how that model has been adapted to meet the needs of environmental agencies and businesses in the Philippines and Thailand.

1 INTRODUCTION

There are several tools available to environmental agencies to address environmental problems, including compliance assistance, incentives, monitoring, and enforcement. EPA's experience has been that environmental results are optimized when all the tools are used strategically to change the behavior of regulated entities. EPA has also learned that environmental compliance requires that regulated entities know and understand all the environmental requirements that apply to their operations. Based on this principle, EPA has established effective models, and is sharing this experience in Asia.

2 THE U.S. MODEL FOR COMPLIANCE ASSISTANCE CENTERS

In the United States, getting compliance assistance information to those who need it is challenging. Many small and mid-sized businesses are not routinely inspected which creates a lack of information regarding what regulatory requirements may not be well understood. The organizational structure of EPA offices also creates problems in delivering compliance assistance.

Most assistance materials created by regulatory agencies are specific to a particular regulation or media program (*e.g.*, air, water, waste), instead of identifying how the requirements affect different industry sectors and placing any new requirements in context with other environmental requirements. Delivering assistance in this way does not meet the needs of most businesses. Businesses are only concerned with the environmental requirements that apply to their specific sector operations. Building trust and acceptance with the regulated community is also a difficult task for a regulating agency. Businesses, local governments, and federal agencies may be hesitant to draw attention to their operations by seeking assistance from agencies that regulate those same operations and are empowered to take enforcement actions. EPA recognized that regulated entities are often more accepting of compliance assistance delivered by their peers. The Centers were established to address these issues and to provide an efficient delivery mechanism for ongoing, up-to-date assistance. With a few exceptions, they are a peer-based network that can directly communicate compliance assistance information to regulated entities. It is EPA's Center partners - including industry associations, universities, environmental groups, and other non-profit organizations - that provide information in language that relate directly to the specific operations of each sector.

2.1 Center Audiences

Most of the Centers are targeted to specific sectors and are able to reach a large number of businesses (as well as local and tribal governments and federal facilities). One of the key considerations in identifying candidates for Center support is the number of small and medium-sized entities in the sector. Small and medium-sized entities are often significant contributors to the total pollution

load, but are less likely to be the focus of permitting, inspection or enforcement efforts. EPA understands that smaller entities are usually not as well equipped as large companies to comply with environmental laws; consequently, they have been a primary audience for much of EPA's compliance assistance. In addition to the regulated community, Centers have proven to be valuable resources for compliance assistance providers and regulators.

Use of the Centers by their target audiences has grown each year, demonstrating the effectiveness of this third-party assistance delivery best practice. Since 1998, the Centers have experienced over nine million user visits; nearly two million of those visits occurred in 2007.

2.2 Center Features

Over time, the Centers have evolved to better serve their audience. When the Center concept was first developed over twelve years ago, the decision was made to create web-based resources since the Internet was an emerging communication vehicle, even for small businesses. Initially, the Centers only had a few features, mainly providing links to applicable documents and resources and identifying regulatory and assistance contacts. Today, the Centers are using sophisticated web casting, on-line training, list serves, electronic newsletters, streaming videos and more to provide timely and comprehensive environmental compliance information. Additionally, virtual plant tours have been popular among Center users. With an easy point-and-click of the mouse, Center users can readily identify environmental regulations, pollution prevention opportunities and best management practices associated with specific facility activities. The Centers also offer information on enforcement actions in the specific sectors, emissions calculators, discussion groups, and on-line "Ask the Expert" services.

In Fiscal Year 2007, the Centers published over 224 newsletters reaching over 17,000 subscribers. Subscribers received the latest on new regulations, federal policy updates, information on upcoming conferences/events, funding opportunities and more. Difficult compliance questions were answered, problems resolved, publications ordered and comments/suggestions were submitted through the Centers listserv functions. This year alone, the Centers received and responded to over 3,000 inquiries.

2.3 Center Selection and Management

EPA has established criteria for selecting sectors candidates for Center support. In addition to the prevalence of small businesses already mentioned, the criteria include: impacts on health and the environment; prevalence of the problem nationally; patterns of noncompliance; impacts of new environmental regulations; subject to multiple environmental statutes/regulations; lack of comprehensive compliance assistance program; and determination that compliance assistance is an appropriate tool to address the problem. Once these threshold criteria have

been met, an additional criterion is applied: willingness of a sector or third-party organization to partner with EPA in developing the Center.

Once a sector has been selected, EPA solicits, through a competitive process, proposals to develop and operate that Center. EPA then selects the best qualified organization(s) amongst those submitting proposals and provides funding through a multi-year cooperative agreement. This third-party run Center model is the primary model used in the U.S. However, three Centers are exceptions to this model – the Centers for agriculture, federal facilities, and tribes. These Centers are EPA owned and operated. In the case of federal facilities and tribes, EPA is already a peer governmental organization and thus well-positioned to provide compliance assistance.

The sectors currently served by Centers include agriculture, auto repair, auto recycling, chemical, health care, education, printing, transportation, metal finishing, paints and coatings, printed wiring board, and construction industries, as well as federal facilities, tribes, local governments and compliance issues along the US, Mexican and Canadian borders.¹ A Center addressing the food processing sector is scheduled to be launched by next year.

3 BEST PRACTICES

3.1 Using Partnerships

Developing effective partnerships is critical to the success of the Centers. Industry support as well as input from other affected stakeholders must occur prior to Center development and be maintained once the Center is operational. EPA seeks stakeholder feedback in the Center candidate evaluation process through several mechanisms. To ensure broad stakeholder input, national *Federal Register* notices are published requesting suggestions on candidates for Center development.

Once a candidate sector has been identified, EPA has had particular success convening meetings with representatives from that sector, academia, governmental partners and other parties that routinely interact with the sector. The meetings usually focus on the sector's compliance needs, identification of existing and planned compliance assistance activities, obstacles to compliance and what information or materials are needed to address outstanding compliance needs. This process fosters improved communication and helps inform decisions about what needs to be included on the Center. Center partners also routinely share experiences with each other regarding the effectiveness and delivery of the services they provide.

3.2 Integration of Content

Bundling of compliance assistance information with related information is another best practice. By integrating pollution prevention, compliance assistance, technical,

incentive and other information, the Centers provide easy access to resources and programs that help regulated entities understand their regulatory requirements and improve their operations. In one place, a business can readily find the information they need to identify their environmental regulatory obligations, implement pollution prevention to save money, locate vendor information, stay current with industry-specific news and events, contact experts to have their questions answered, and much more. Beginning in 2008, information on recent enforcement actions in the sector and the nature of the violations will be added to one or more of the Centers.

3.3 Efficient Use of Resources

Over the years, the Center program has expanded to include 17 Centers even as funding has been reduced 29 percent from 1999 to 2007. In other words, in 2007, EPA supported six additional centers and provided start-up funds for two more with fewer funds than it had in 1997. Over this same time period, the average annual cost for maintaining each Center has been reduced by 60 percent per year. EPA has done this by routinely looking for and building efficiencies into the development and maintenance of its newer Centers. Continual strategic use of available resources ensures that the Centers can successfully meet the needs of the regulated community. Two Center funding strategies developed by EPA have: 1) created efficiencies in Center maintenance and content development; 2) encouraged Centers to explore alternative revenue sources and reduce reliance on Federal funding; and 3) based Centers funding on performance. The goal of having Centers become self-sufficient over time through revenue-generating projects has proven to be elusive. Currently, only one Center is completely self-sufficient.

3.4 Measuring Results

Although the direct beneficiaries of the Centers are those who seek answers to their own compliance questions, the assistance provided by the Centers has also benefited the public and the environment. In 2007, 83 percent of the regulated entity respondents to the annual survey reported that assistance from Centers increased their understanding of environmental requirements; 81 percent reported they improved their environmental management practices; and 53 percent reported they reduced pollution at their facilities.² While the number of annual survey respondents is small and not representative of the sectors as a whole, they do suggest that Center users improved their environmental performance, decreased the risk of costly violations, and ensured a cleaner, safer environment for themselves and their neighbors. It would be impossible to assess whether there is any value to the Center model without establishing a method of measuring results.

4 ADAPTING THE U.S. CENTERS MODEL IN ASIA

Asia is the most economically dynamic region in the world, yet it is home to two thirds of the world's poor. While Asia's economic progress has raised 270 million

people out of poverty, it has triggered a decline in natural capital – shrinking forests, declining biodiversity, disappearing water sources, and barren lands. Exploitation of natural resources, industrial production, and urbanization continue to pose serious environmental challenges.

In response, Asian countries have developed an array of environmental laws and judicial decisions that seek to implement international principles. Enforcement of the resulting legal requirements, however, remains weak and uneven, due in part to limitations in financial resources and in human and institutional capacity. To overcome these limitations, many Asian governments have introduced innovative mandatory and voluntary approaches that leverage market and community forces, and are less resource-intensive than traditional command-and-control regulatory approaches. These innovative approaches also promote voluntary compliance by educating and assisting the regulated community, and providing opportunities to publicize good corporate citizenship.

To share experience related to these efforts, Asian governments and donor partners established the Asian Environmental Compliance and Enforcement Network as a platform for promoting improved compliance with environmental legal requirements through the demonstration and regional exchange of innovative policies and practices (www.aecen.org). Asian Environmental Compliance and Enforcement Network Members include national or sub-national environmental agencies in Asia responsible for identifying, monitoring, and correcting non-compliance with environmental laws and other requirements. The United States Agency for International Development provides principal funding assistance to Asian Environmental Compliance and Enforcement Network, while EPA offers technical assistance to Asian Environmental Compliance and Enforcement Network Members.

4.1 Establishing Compliance Assistance Centers in Asia

Asian Environmental Compliance and Enforcement Network works with member agencies to develop pilot projects that demonstrate best practices for replication throughout Asia. Based on regional priorities, Asian Environmental Compliance and Enforcement Network is working with member agencies in the Philippines and Thailand to establish Centers based on U.S. best practices. The objectives of the pilot projects are to:

- Employ a stakeholder-driven approach to identify target sectors, and define Center needs, capabilities and tools
- Identify the most efficient and cost effective approach for managing and sustaining centers;
- Establish and pilot centers for target sectors;

- Develop a monitoring and evaluation system to measure the outcomes; and
- Promote national replication to other sectors, and regional replication to other countries.

Based on a series of consultation meetings, observational programs and targeted technical assistance, Asian Environmental Compliance and Enforcement Network members in the Philippines and Thailand have established Centers that provide a basis for national and regional replication.

4.2 Thailand: Centers for the Swine Industry

Due to limitations in enforcement authority, Thailand's Pollution Control Department has been exploring strategies for promoting environmental compliance through compliance assistance centers. As with EPA, Pollution Control Department is targeting sectors that are composed principally of small and medium-sized entities. Through national consultation meetings, Pollution Control Department decided to target the swine sector for its first Center, and has targeted Nakornpathom Province in the Tha Chin River basin and the Chachoengsao Province in the Bang Pakong River basin. Both rivers are among the most polluted in Thailand due to agricultural, domestic and industrial pollution.

Based on subsequent consultations with pig farmers and other local stakeholders, in 2008 Pollution Control Department will establish two centers that will provide compliance information, technology support and training. Pollution Control Department will take initial responsibility for operating the centers, but will transition to local non-profit organizations, such as universities or associations, to manage the centers. At present, Pollution Control Department has developed a web-based assistance program, informational and outreach materials, and a "train-the-trainer" program.

In establishing the centers, Pollution Control Department also shared experience with the Council of Agriculture of Taiwan, and the Swine Association of Taiwan to share lessons learned on compliance assistance programs and activities for the swine sector. By 2012 Pollution Control Department also plans to establish centers in Chapraya River basin, Songkhla Lake, Lamtakong River basin and the Ping River basin.

4.3 Philippines: Compliance Assistance Centers for the Swine Industry

Laguna de Bay is the second largest inland freshwater lake in Southeast Asia located on southern Luzon Island in the Philippines, and home to over 10 million Filipinos or 13 percent of the country's population. The Laguna Lake Development Authority is responsible for managing Laguna de Bay and its watershed in coordination with over 30 environmental, natural resources, and water-related agencies/offices, as well as 66 local governments.

Despite an effective wastewater discharge fee program managed by Laguna Lake Development Authority, the Laguna de Bay watershed faces serious water pollution challenges due in large part to industrial pollution from small and medium-sized entities. In 2006, for example, less than half of the 67 slaughterhouses complied with the permitting requirements and effluent standards. Similarly, in the commercial hog sector, only 26 percent of the piggeries (53 out of 201) complied with permitting requirements and effluent standards.

Through a partnership with Asian Environmental Compliance and Enforcement Network and EPA, Laguna Lake Development Authority convened stakeholder consultations and has developed a model for “virtually-based” compliance assistance centers that provide commercial hog farms and slaughterhouse industries with updated information on environmental requirements, best practices, technology options, and funding opportunities. Based on a survey of existing models of compliance assistance, Laguna Lake Development Authority and Asian Environmental Compliance and Enforcement Network formulated a pilot framework and action plan to establish both centers, including a manual of operations for the centers to guide day-to-day operations and to clarify coordination among concerned agencies and institutions. Through this process, Laguna Lake Development Authority entered into partnerships with the local federation of hog farmers for the swine sector, and the Department of Agriculture-National Meat Inspection Service for the slaughterhouses.

In 2007, Laguna Lake Development Authority and the NMIS piloted the slaughterhouse compliance assistance website (www.slaughterhousecac-phil.org), followed by an orientation workshop for regulators in March 2008 to assist hog farm and slaughterhouse owners and operators comply with the Laguna Lake Development Authority effluent standards. Initially, both centers will remain “virtual,” with support from Laguna Lake Development Authority. Based on the response of these initial web platforms, Laguna Lake Development Authority is working to establish physical compliance assistance centers, most likely located in Rizal province.

4 CONCLUSIONS

Compliance assistance centers have proven an effective means for promoting effective compliance and enforcement, especially in addressing pollution from small and medium-sized entities. Experience in the U.S. and Asia demonstrates that engaging stakeholders in defining target sectors, industry needs and center operational requirements leads to the successful development of effective centers that both meet user needs and optimize agency resources. Partnerships with third-party operators has also proven a successful strategy for delivering compliance assistance.

5 REFERENCES

¹ Access to each Center site, Compliance Assistance Center Homepage available at <http://www.assistancecenters.net>

² Back, T., FY 2007 *Centers' Survey and Webtrend Results*, 2007

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3. APPENDIX

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LIST OF PARTICIPANTS

Professor Rudi van Aarde

Director
Conservation Ecology Research Unit
Department of Zoology & Entomology
University of Pretoria
South Africa
Tel: +27-12-420-2753
Email: rjvaarde@zoology.up.ac.za

Ms. Christine Echookit Akello

Senior Legal Counsel
National Environment Management Authority
Uganda
Tel: +256-772-59-5252 or +256-414-25-1064/5/8
Email: cakello@nemaug.org

Ms. Farah Abrahams

Acting Deputy Director
Environmental Enforcement
Department of Environmental Affairs &
Development Planning
South Africa
Tel: +27-21-483-8779
Email: faabraha@pgwc.gov.za

Mr. Robin Adams

Operations Manager
Table Mountain National Park
SANParks
South Africa
Tel: +27-786-5656
Email: robina@sanparks.org

Mr. Abdirizak Dahir Ahmed

Kenya Wildlife Service
Kenya

Mr. Gustavo Alanis-Ortega

President
Mexican Environmental Law Center
Mexico
Tel: +52-555-286-3323
Email: galanis@cemda.org.mx

Ms. Nawzat Ali

Legal Adviser to the Minister of Environment in
Jordan
Ministry of Environment
Jordan
Tel: +962-777-939-506
Email: nawzat@hotmail.com

Mr. Jonathan A. Allotey

Executive Director
Environmental Protection Agency
Ghana
Tel: +233-21-662-693
Email: jallotey@epaghana.org

Dr. Henry Aryamanya-Mugisha

Executive Director
National Environment Management Authority
Uganda
Email: haryamanya@nemaug.org

Mr. Dragan Asanovic

Senior Adviser
Ministry of Tourism and Environmental
Protection
Serbia
Tel: +382-81-482-176
Email: asanovicd@mn.yu

Mr. Vilis Avotins

State Environmental Service
Latvia
Tel: +371-67-084-200
Email: vilis.avotins@vvd.gov.lv

Dr. Robert Bernard Baert

Inspector-General
Environmental Inspectorate Division
Flemish Government
Belgium
Tel: +32-2-5338183
Email: robert.baert@lne.vlaanderen.be

Mr. Pradeep Bakshi

Secretary General
Asia-Pacific Jurist Association
India
Tel: +91-11-2433-0496/+91-11-2433-07096
Email: pbakshi@apjalaw.com

Mr. Sonnyboy Bapela

Chief Director
Regulatory Services
Department of Environmental Affairs & Tourism
South Africa
Tel: +27-12-310-3098
Email: SBapela@deat.gov.za

Eng. Bonaventure Baya

Director General
National Environment Management Council
Tanzania
Tel: +255-22-213-4603
Email: nemctz@yahoo.com

Mr. Jason Bell

Country Director
Southern Africa Region
International Fund for Animal Welfare (IFAW)
South Africa
Tel: +27-21-424-2086
Email: jbell@ifaw.org

Mr. Izhak Ben David

Senior Deputy Director
Law Enforcement
Ministry of Environmental Protection
Israel
Tel: +972-2-655-3820/22
Email: izhak@sviva.gov.il

Mr. Mohamed Ben Hassine

Engineer
Contrôle des eaux
Ministry of Environment
Tunisia
Tel: +216-71-23-6480
Email: bhassinegr@yahoo.fr

Dr. (Mrs.) Ngeri Benebo

Director General
National Environmental Standards and
Regulations Enforcement Agency (NESREA)
Nigeria
Tel: +234-9-803-309-0864
Email: dg@nesrea.org

Dr. Gustaaf A. Biezeveld

Functioneel Parket
Netherlands
Tel: +31-70-302-3209
Email: g.a.biezeveld@om.nl

Hon. Susan Biro

Chief Judge
Office of Administrative Law Judges
U.S. Environmental Protection Agency
United States
Tel: +1-202-564-6267
Email: biro.susan@epa.gov

Mr. Werner Johannes Boing

Department of Tourism, Environmental, and
Economic Affairs
South Africa
Tel: +27-51-400-9535
Email: boing@dtea.fs.gov.za

Mrs. Manon Bombardier

Deputy Director
Environmental Enforcement Division
Environment Canada
Canada
Tel: +1-819-953-1741
Email: manon.bombardier@ec.gc.ca

Mrs. Marta Bonifert Szigeti

Executive Director
The Regional Environmental Center
Hungary
Tel: +36-26-504-023
Email: ahalasz@rec.org

Ms. Magdel Boshoff Pieterse

Biodiversity and Conservation
Department of Environmental Affairs & Tourism
South Africa
Tel: +27-12-310-3534
Email: mboshoff@deat.gov.za

Ms. Nikki Brajevich

Environment, Science and Technology Officer
Embassy of the United States of America
South Africa
Tel: +27-12-431-4345
Email: Nikymb@yahoo.com

Ms. Aarti Brijlall

Deputy Director: Administrative Enforcement
Directorate: Enforcement
Department of Environmental Affairs & Tourism
South Africa
Tel: +27-12-310-3420
Email: abrijlall@deat.gov.za

Ms. Machteld Brokerhof

VROM-Inspectorate
Netherlands
Tel: +31-70-339-0616
Email: machteld.brokerhof@minvrom.nl

Ms. Susan Bromm

Acting Director
Office of Federal Activities
U.S. Environmental Protection Agency
United States
Tel: +1-202-564-5400
Email: bromm.susan@epa.gov

Ms. Angela Bularga

France

Email: Angela.Bularga@oecd.org

Prof. Sedfrey Martinez Candelaria

Head

Research, Publications and Linkages Office

Philippine Judicial Academy

Philippines

Tel: +63-2-552-9523

Email: scandelaria@aps.ateneo.edu.ph

Mr. Alberto Santos Capra

Hazardous Waste

Ministry of Environment and Sustainable
Development

Argentina

Tel: +11-4348-8210

Email: acapra@ambiente.gov.ar

Mr. Richard Charette

National Director

Enforcement Branch

Environment Canada

Canada

Tel: +1-819-953-4811

Email: richard.charette@ec.gc.ca

Mrs. Minky Chauke

Deputy Director

Compliance and Enforcement Gauteng

Department of Agriculture, Conservation and
Environment

South Africa

Tel: +27-11-355-1267

Email: minky.chauke@gauteng.gov.za

Mr. Ould Jiddou Cheikh

Point Focal NECEMA en Mauritanie

Ministère Environnement

Mauritania

Tel: +222-630-1861/+222-230-1861

Email: c.jiddou@environnement.gov.mr

Mr. Bill Clark

Nature & Parks Authority

Israel

Tel: +972-2-566-5214

Email: clarkb@netvision.net.il

Mr. Troy CollingsAustralian Environmental Law Enforcement &
Regulators Network

Department of Natural Resources & Water

Australia

Tel: +617-3224-4842

Email: troy.collings@nrw.qld.gov.au

Ms. Maria Comino

Manager Legislation and Implementation

Department of Water and Energy

Australia

Tel: +61-2-9569-2824

Email: Maria.Comino@gmail.com

Dr. René Craemer

Netherlands

Tel: +31-70-3023209

Email: P.J.M.Roel@om.nl

Mrs. Frances Craigie

Director: Strategic Compliance and Enforcement

Gauteng Department of Agriculture,

Conservation and Environment

South Africa

Tel: +27-11-355-1616

Email: Frances.Craigie@gauteng.gov.za

Mr. John Cruden

Deputy Assistant Attorney General

Environment and Natural Resources Division

Department of Justice

United States

Tel: +1-202-514-2718

Email: john.cruden@usdoj.gov

Mr. Hans Demmers

Chief International Affairs

Flevoland Police

Netherlands

Tel: +31-320-277-711

Email: hans.demmers@flevoland.politie.nl

Mr. Mohamed Rida Derder

INECE Secretariat

United States

Email: ridaderder@msn.com

Mr. Zoran Dimovski

State Environmental Inspector

State Environmental Inspectorate

Ministry of Environment and Physical Planning

Macedonia

Tel: +389-23-066-930

Email: zdimovski61@mt.net.mk

Mr. Mihail Dimovski

Senior Project Manager

Environmental Policy

The Regional Environmental Center for Central

and Eastern Europe

Hungary

Tel: +36-26-504052

Email: mdimovski@rec.org

Mr. Jan ten Doeschate

Province North-Brabant
Netherlands
Tel: +31-73-6812415
Email: rheesen@brabant.nl

Mr. Wayne Evans

KZN Wildlife
South Africa
Tel: +27-82-3216843
Email: evansw@kznwildlife.com

Mr. Jia Feng

Deputy Director
Center for Environmental Education &
Communications
State Environmental Protection Administration
China
Tel: +86-10-84646351
Email: jiafeng@ceec.cn

Ms. Melissa Fourie

Director: Enforcement
Department of Environmental Affairs and
Tourism
South Africa
Tel: +27-72-306-8888
Email: mfourie@fastmail.fm

Mr. Mike Frizzell

INECE Secretariat
United States
Email: frontman57@sbcglobal.net

Mr. Ross Galbraith

A/ National Team Lead (Birds)
Environmental Enforcement
Environment Canada
Canada
tel: +1-506-364-7450
Email: Ross.Galbraith@ec.gc.ca

Mr. Obopeng Tokgamo Gaoraelwe

Deputy Director
Environmental Compliance and Enforcement
Department of Tourism, Environment and
Conservation
South Africa
Tel: +27-53-807-4800
Email: ogaoraelwe@half.ncape.gov.za

Mr. Jo Gerardu

INECE Secretariat
Netherlands
Tel: +1-202-338-1300
Email: gerardu@inece.org

Mr. Brendan Gillespie

Head of Division
Environment and Globalisation Division,
Environment Directorate
Organisation for Economic Development and
Co-operation
France
Tel: +33-145-249-302
Email: brendan.gillespie@oecd.org

Mr. José Pablo González Montero

Chief Environmental Prosecutor
Poder Judicial
Costa Rica
tel: +506-295-3401
Email: jpgonzalez@poder-judicial.go.cr

Ms. Elisea Gozun

Consultant
Asian Environmental Compliance and
Enforcement Network
Philippines
Tel: +632-941-7233
Email: bggozun@hotmail.com

Mr. Stephen Granger

Manager: Major Programmes and Projects
Environmental Resource Management
City of Cape Town
South Africa
Tel: +27-21-487-2236
Email: stephen.granger@capetown.gov.za

Ms. Phyllis Harris

Vice President, Environmental Compliance
Wal-Mart Stores, Inc.
United States
Tel: +1-479-204-8117

Ms. Kim Hibbeln

National Director
Enforcement
Environment Canada
Canada
Tel: +1-819-997-4712
Email: kim.hibbeln@ec.gc.ca

Mr. Robert G. Heiss

Director, International Compliance Assurance
Division
Office of Enforcement and Compliance Assurance
Environmental Protection Agency
United States
Tel: +1-202-564-4108
Email: heiss.robert@epa.gov

Mr. Jan van den Heuvel

DCMR Environmental Protection Agency
Netherlands
Tel: +31-102-468200
Email: jan.vandenheuvel@dcmr.nl

Mr. Markku Hietamäki

Environmental Counsellor
Environmental Protection Department
Ministry of Environment
Finland
Tel: +358-50-3616-392
Email: markku.hietamaki@ymparisto.fi

Mr. Tom Higdon

INECE Secretariat
United States
Tel: +1-202-338-1300
Email: higdon.thomas@gmail.com

Mrs. Jenny van Houten

International Enforcement Cooperation
Ministry of Housing, Spatial Planning and the
Environment
Netherlands
Tel: +31-6-5259-5006
Email: jenny.vanhouten@minvrom.nl

Ms. Nancy Isarin

Ambiendura
Portugal
Tel: +351-91-3241900
Email: nancy.isarin@ambiendura.com

Dr. Alejandro Iza

Director, Environmental Law Centre
Environmental Law Programme
IUCN
Germany
Tel: +49-228-269-2231
Email: jil.self@iucn.org

Mr. Mark Jardine

Deputy Director
Enforcement
Department of Environmental Affairs and
Tourism
South Africa
Tel: +27-012-310-3375
Email: mjardine@deat.gov.za

Mr. Arwyn Jones

National Enforcement Manager
National Enforcement Service
Environment Agency of England and Wales
United Kingdom
Tel: +44-1925-542162
Email: arwyn46@hotmail.com

Mr. Davis Jones

International Training Coordinator
Office of Enforcement and Compliance Assurance
International Compliance Assurance Division
Environmental Protection Agency
United States
Tel: +1-202-564-6035
Email: jones.davis@epa.gov

Mr. Samir Kaabi

Head Engineer
Pollution Control and Monitoring
Ministry of Environment
Tunisia
Tel: +216-717-50822
Email: dt.clt@anpe.nat.tn

Mr. Pim Kapitein

MPM
Agriculture, Nature and Food Quality General
Inspection Service
Netherlands
Tel: +31-40-2563800
Email: p.kapitein@minlnv.nl

Dr. Diego Martin Kaplan

Attorney and Coordinator of Program
Undersecretary's Office of Environmental Control
and Prevention of Contamination
Ministry of Environment and Sustainable
Development
Argentina
Tel: +54-11-4348-8223
Email: dkaplan@ambiente.gov.ar

Dr. Samuel Kasiki

Deputy Director
Biodiversity Research & Monitoring
Kenya Wildlife Service
Kenya
Tel: +254-020-600800
Email: skasiki@kws.go.ke

Mrs. Xu Kezhu

Deputy Director
Center for Legal Assistance to Pollution Victims
China
Tel: +86-10-62210149
Email: xkezhu@clapv.org

Dr. Julius Kipnge'tich

Director
Kenya Wildlife Service
Kenya
Tel: +254-02-600-800
Email: kipngetich@kws.go.ke

Mr. Stephen Kisamo

Director
Lusaka Agreement Task Force
Kenya
Tel: +254-20-609-770
Email: skisamo@lusakaagreement.org

Mrs. Sharon Kisire

Head
Human Capital
Kenya Wildlife Service
Kenya
Tel: +254-20-600-800
Email: skisire@kws.org

Mrs. Hester Klein Lankhorst

Intelligence and Investigation Service
VROM Inspectorate
Netherlands
tel: +31-30-636-0263
Email: hester.kleinlankhorst@minvrom.nl

Ms. Ana Maria Kleymeyer

Advisor to the Minister
Ministry of Environment and Sustainable
Development
Argentina
Email: akleymeyer@ambiente.gov.ar

Mr. Fred Kok

LOM Secretariat
Netherlands
Tel: +31-70-351-9701
Email: fkok@lomsecretariaat.nl

Mr. Dimitar Koparov

Consultant, INECE Secretariat
Earthpace LLC
Bulgaria
Email: dkoparov@earthpace.com

Dr. Louis Kotze

Associate Professor
Faculty of Law
North-West University
South Africa
Tel: +27-18-299-1956
Email: louis.kotze@nwu.ac.za

Mr. Rejean de Ladurantaye

Regional Director
Environment Canada
Canada
Tel: +1-514-283-0181
Email: rejean.deladurantaye@ec.gc.ca

Mr. Benjamin Malwa Langwen

Director
Compliance and Enforcement
National Environment Management Authority
(NEMA)
Kenya
Tel: +254-020-608118
Email: blangwen@nema.go.ke

Mr. Andrew E. Lauterback

Office of Criminal Enforcement, Forensics and Training
Environmental Protection Agency
United States
Tel: +1-617-918-1724
Email: lauterback.andrew@epa.gov

Mr. Luc Lebel

Manager
Environmental Enforcement Division
Environment Canada
Canada
Tel: +1-819-934-6061
Email: luc.lebel@ec.gc.ca

Mr. Howard Leberman

EU Emissions Trading Scheme Policy Advisor
Environment Agency of England and Wales
United Kingdom
Tel: +44-1709-31-2822
Email: howard.leberman@environment-agency.gov.uk

Dr. Paul Leinster

Director of Operations
Operations Directorate
Environment Agency of England and Wales
United Kingdom
Tel: +44-1454-624065
Email: paul.leinster@environment-agency.gov.uk

Mr. Tony Liebrechts

VROM Inspectorate
Netherlands
Tel: +31-6521-043765
Email: tony.liebrechts@minvrom.nl

Ms. Catherine Lorenzen

EU and International Relations
Environment Agency of England and Wales
United Kingdom
Tel: +44-7769-911-739
Email: catherine.lorenzen@environment-agency.gov.uk

Mr. Gene Lubieniecki

National Enforcement Investigations Center
Environmental Protection Agency
United States
Tel: +1-303-462-9012
Email: lubieniecki.gene@epa.gov

Mrs. Salome Machua

Compliance & Enforcement Officer
National Environment Management Authority
Kenya
Tel: +254-2-605522
Email: smachua@nema.go.ke

Dr. Ken Macken

Programme Manager
Climate Change Unit
Environmental Protection Agency
Ireland
Tel: +353-87-207-5783
Email: k.macken@epa.ie

Mr. Sizwe Madlala

Assistant Director
KwaZulu-Natal Department of Agriculture and
Environmental Affairs
Department of Agriculture & Environmental
Affairs
South Africa
Tel: +27-033-355-9670
Email: paulos.madlala@dae.kzntl.gov.za

Mr. Sabelo Malaza

Director
Compliance Monitoring
Department of Environmental Affairs and
Tourism
South Africa
Tel: +27-012-310-3397
Email: smalaza@deat.gov.za

Mr. Johannes H. Mans

VROM Inspectorate
Netherlands
Tel: +31-433652635
Email: janmans@home.nl

Mr. Himot Maran

Councilor
Environmental Inspectorate
Estonia
Tel: +372-5185612
Email: himot.maran@kki.ee

Mr. Kenneth Markowitz

Consultant, INECE Secretariat
Senior Counsel, Akin Gump Strauss Hauer &
Feld LLP
United States
Tel: +1-202-887-4513
Email: kmarkowitz@akingump.com

Mr. Eugene Mazur

Project Manager
Environment Directorate
Organisation for Economic Co-operation and
Development (OECD)
France
Tel: +33-1-4524-7692
Email: eugene.mazur@oecd.org

Dr. Maurizio Mazzi

Lawyer
International Court of the Environment
Foundation (ICEF)
Italy
Tel: +39-06-663-0546
Email: icef.mazzi@tiscali.it

Mrs. Catherine McCabe

Deputy Assistant Administrator
Office of Enforcement and Compliance Assurance
Environmental Protection Agency
United States
Tel: +1-202-564-2440
Email: mccabe.catherine@epa.gov

Mr. James McDonald

Director
Office of Administrative Law Judges
Environmental Protection Agency
United States
Tel: +1-202-564-6255
Email: mcdonald.james@epa.gov

Ms. Claudia McMurray

Assistant Secretary
Bureau of Oceans and International
Environmental and Scientific Affairs
Department of State
United States

Mr. Mark Measer

Associate Director
Criminal Investigation Division
Environmental Protection Agency
United States
Tel: +1-202-564-2403
Email: Measer.Mark@epa.gov

Ms. Olya Melen

Head of Legal Unit
Environment-People-Law
Ukraine
Tel: +380-322-751534
Email: molya@uoregon.edu

Dr. Ladislav Miko

Director
DG Environment, DIR B - Protecting the Natural
Environment
European Commission
Belgium
Tel: +32-2-29-68797
Email: ladislav.miko@ec.europa.eu

Ms. Stacey H. Mitchell

Chief
Environmental Crimes Section
Department of Justice
United States
Tel: +1-202-305-0363
Email: stacey.mitchell@usdoj.gov

Mr. Ephraim Monyemoratho

Department of Water Affairs and Forestry
South Africa
Tel: +27-12-336-7140
Email: 1ai@dwaf.gov.za

Mr. Matome Phillip Monyepao

Advocate
Economic Development, Environment & Tourism
South Africa
Tel: +27-15-295-3980
Email: monyepaomp@ledet.gov.za

Mrs. Elizabeth Maruma Mrema

Senior Legal Officer and Chief
Biodiversity and Land Law and Governance Unit
Division of Environmental Law and Conventions
(DELIC)
United Nations Environment Programme
Kenya
Tel: +254-20-762-4252
Email: Elizabeth.Mrema@unep.org

Ms. Marcia E. Mulkey

Director
Office of Enforcement and Compliance
Assurance
National Enforcement Training Institute
U.S. Environmental Protection Agency
United States
Tel: +1-202-564-2430
Email: mulkey.marcia@epa.gov

Mrs. Ketevan Mumladze

Chief Specialist
Planning Division Inspection for Environmental
Protection
Georgia
Tel: +995-55-100188
Email: kmumladze@yahoo.co.uk

Mr. Samuel Munene

Principal Environmental Impact Assessment
Officer
Compliance & Enforcement
National Environment Management Authority
Kenya
Tel: +254-20-605522
Email: smunene@nema.go.ke

Mr. Peter Murtha

Office of Enforcement & Compliance Assistance
U.S. Environmental Protection Agency
United States
Tel: +1-301-589-0877
Email: murtha.peter@epa.gov

Mr. Linda Ndlela

Assistant Director
Compliance Monitoring and Enforcement
Agriculture and Environmental Affairs
South Africa
Tel: +27-32-552-5302
Email: ndlelal@sedbn.kzntl.gov.za

Mrs. Dolora Nepomuceno

Assistant General Manager
Department of Environment and Natural
Resources
Laguna Lake Development Authority
Philippines
Tel: +63-2-637-9748
Email: dnnepomuceno@llda.gov.ph

Mr. Clement Ngcoboo

District Conservation Officer
Ezemvelo KwaZulu-Natal Wildlife
South Africa
Tel: +27-079-539-2083
Email: ngcoboc@kznwildlife.com

Mr. Vadim Ni

Executive Director
Law and Environment Eurasia Partnership
Kazakhstan
Tel: +7-727-2420715
Email: vadimnee@mail.ru

Mr. Alberto Ninio

Lead Environmental Counsel, Legal Vice
Presidency
The World Bank
United States
Email: Aninio@worldbank.org

Ms. Horline Njike

Legal Adviser
Last Great Ape
Cameroon
Tel: +237-99967695
Email: horline@laga-enforcement.org

Mr. Nelson Ntokozo Nkosi

Department of Agriculture and Environmental
Affairs
South Africa
Tel: +27-034-315-3936
Email: mphazima@yahoo.com

Mr. Carl Nortier

Section Officer
Corporate Investigation Services (Specialized
Anti-Poaching Marine)
SANParks
South Africa
Tel: +27-021-7947995
Email: carln@sanparks.org

Mr. Otieno Maurice Nyunja

Director of Environment
Coats Province
Compliance and Enforcement
National Environment Management Authority
Kenya
Tel: +254-733-740133
Email: nyunja@yahoo.com

Mr. Antonio Oposa

President
The Law of Nature Foundation
Philippines
Tel: +63-2-809-6122
Email: tonyoposajr@yahoo.com

Mr. Richard Paton

Environmental Governance Team Leader
Eco-Asia
Thailand
Email: rpaton@eco-asia.org

Dr. Waltraud Petek

Deputy Director General
General Environmental Policy, Pollution
Prevention and Control of Installations
Federal Ministry of Agriculture, Forestry,
Environment and Water Management
Austria
Tel: +43-1-51522-2123
Email: waltraud.petek@lebensministerium.at

Dr. Romina Picolotti

Minister
Ministry of Environment and Sustainable
Development
Argentina

Mr. Anbendren Pillay

Compliance Monitoring
Department of Environmental Affairs and
Tourism
South Africa
Tel: +27-123-103951
Email: apillay@deat.gov.za

Mr. Grant Pink

Acting Assistant Secretary
Compliance and Enforcement Branch
Department of the Environment, Water, Heritage
and the Arts
Australia
Tel: +61-2-6275-9474
Email: grant.pink@environment.gov.au

Ms. Anel Du Plessis

Faculty of Law
North-West University (Potchefstroom Campus)
South Africa
Tel: +27-018-299-1924
Email: anel.duplessis@nwu.ac.za

Dr. P.B. Rastogi

Director
Impact Assessment
Ministry of Environment and Forests
India
Tel: +11-243-67668
Email: pb.rastogi@nic.in

Dr. Rosalind Reeve

Associate Fellow
Chatham House
Kenya
Tel: +254-726-99-33-77
Email: roz.reeve@gmail.com

Ms. Meredith R. Reeves

Consultant, INECE Secretariat
Earthpace LLC
United States
Tel: +1-202-423-8817
Email: mreeves@earthpace.com

Dr. Jacobus de Ridder

Professor
Public Administration
University of Groningen
Netherlands
Tel: +31-50-363-5673
Email: j.de.ridder@rug.nl

Mr. Desire Rubadiri

Rubadiri & Company
Botswana
Tel: +267-72101232
Email: rubadiri@botsnet.bw

Dr. Henk Ruessink

VROM Inspectorate
Netherlands
Email: henk.ruessink@minvrom.nl

Dr. Iwona Rummel-Bulska

Legal Counsel
Division of Environmental Law and Conventions
United Nations Environment Programme
Kenya
Tel: +254-20-762-3478/87
Email: iwona.rummel-bulska@unep.org

Mr. Patrick Salifu

Programme Officer
Policy and Enforcement
United Nations Environment Programme
Kenya
Tel: +254-20-7623956
Email: patrick.salifu@unep.org

Mrs. Jelena Radoljub Samuilov

Senior Assistant
Municipal Prosecutor's Office of Pancevo
Serbia
Tel: +381-13-352-609/+381-13-354-497
Email: jsamuilov@yahoo.com

Mr. Ezequiel Santagada

Lawyer
Legal Department
Institute of Environmental Law and Economy
Paraguay
Tel: +595-21-614619
Email: ezequiel.santagada@idea.org.py

Mr. Vsevolod Sapronov

Expert
Foreign Relations
Rostekhnadzor
Russian Federation
Tel: +7-495-911-6072
Email: sapronov@gan.ru

Dr. Angelique van der Schraaf

VROM Inspectorate Academy
VROM-Inspectorate
Netherlands
Tel: +31-703-392339
Email: angelique.vanderschraaf@minvrom.nl

Dr. John Seager

Head of Science Strategy
Environment Agency of England and Wales
United Kingdom
Tel: +44-117-914-2982
Email: john.seager@environment-agency.gov.uk

Mr. Surya Kant Sharma

Judge
Punjab & Haryana High Court, Chandigarh
Asia Pacific Jurist Association
India
Tel: +91-172-272-5758
Email: suryakant.j@haryana.nic.in

Mr. Terence Shears

Head of EU and International Relations
External Relations
Environment Agency of England and Wales
United Kingdom
Tel: +44-1454-205743
Email: terence.shears@environment-agency.gov.uk

Mr. Kunihiko Shimada

Principal International Policy Coordinator/
Principal International Negotiator
Global Environment Bureau
Ministry of the Environment
Japan
Tel: +81-3-5521-8330
Email: kunihiko_shimada@env.go.jp

Dr. Wijarn Simachaya

Director
Environmental Quality and Laboratory Division
Pollution Control Department
Thailand
Email: wijarn.s@pcd.go.th

Ms. Walker B. Smith

Director
Office of Civil Enforcement
U.S. Environmental Protection Agency
United States
Tel: +1-202-564-4044
Email: Smith.Walker@epa.gov

Mr. Dimitry Smyslov
Department Head
Environmental Compliance
Federal Environmental Service
Russian Federation
Tel: +7-495-657-9176
Email: dsmyslov@mail.ru

Mr. Phil Snijman
Private Consultant
South Africa
Tel: +27-21-880-1531
Email: psnijman@mweb.co.za

Mr. Lawrence Sperling
Senior Adviser
Bureau of Oceans, Environment and Science
Department of State
United States
Tel: +1-202-647-2061
Email: sperlingli@state.gov

Mr. Michael Stahl
Director
Office of Compliance
U.S. Environmental Protection Agency
United States
Tel: +1-202-564-2280
Email: stahl.michael@epa.gov

Mrs. Ljiljana Stanojevic
Assistant Minister
State Inspection
Ministry for Environmental Protection
Serbia
Tel: +381648166-302
Email: ljilja.stanojevic@ekoserb.sr.gov.yu

Mrs. Cora Steffens
Province North-Brabant
Netherlands
Tel: +31-73-6812415
Email: rhesen@brabant.nl

Mr. Peter Storey
Director
PPL International
South Africa
Tel: +27-72-230-9302
Email: peter.storey@ppl-int.com

Mr. Greg Sullivan
Chair-elect, Australian Environmental Law
Enforcement and Regulators Network (AELERT)
Brisbane City Council
Australia
Tel: +11-61-7-340-36114
Email: greg.sullivan@brisbane.qld.gov.au

Dr. Alberto Szekely
Attorney
Szekely Associates
Mexico
Email: aszekely@compuserve.com.mx

Mr. Jorge Daniel Taillant
Executive Director
Center for Human Rights and Environment
Argentina
Email: jdtailant@cedha.org.ar

Mr. Mmaphaka Tau
Veld and Forest Fires Oversight
Department of Water Affairs and Forestry
South Africa
Tel: +27-12-336-7392
Email: TauM@dwaf.gov.za

Mr. Andrey Terentiev
Principal Administrator
Expert Division
Russian Regional Environmental Centre
Russian Federation
Tel: +7-495-737-64-48
Email: terentiev@rusrec.ru

Mr. Mfanufikile Theledi
Director: Pollution & Waste Management
Agriculture & Land Administration
Mpumalanga Provincial Government
South Africa
Tel: +27-137-666063
Email: mtheledi@mpg.gov.za

Mr. Jacques du Toit
Strategic Compliance and Enforcement
Gauteng Department of Agriculture Conservation
and Environment
South Africa
Tel: +27-83-308-1366
Email: jacques.dutoit@gauteng.gov.za

Dr. Raúl Vidable
Director
Undersecretary's Office of Environmental Control
and Prevention of Contamination
Ministry of Environment and Sustainable Development
Argentina
Tel: +54-11-4348-8428
Email: rvidable@ambiente.gov.ar

Ms. Alexandra Viets
Communications Officer
INECE Secretariat
United States
Tel: +1-213-321-0911
Email: aviets@inece.org

Mr. Alex Wang

Project Director
Natural Resources Defense Council
China
Email: awang@nrdc.org

Dr. Samuel K. Wasser

Research Professor
Department of Biology
University of Washington
United States
Tel: +1-206-543-1669
Email: wassers@u.washington.edu

Mr. Timothy Whitehouse

INECE Secretariat
United States
Tel: +1-202-338-1300
Email: twhitehouse@inece.org

Mr. Bert Wijbenga

Chief of Police
Flevoland Police
Netherlands
Tel: +31-320-277-711
Email: bert.wijbenga@flevoland.politie.nl

Mr. Gerard Wolters

Inspector-General
International Enforcement Cooperation
Ministry of Housing, Spatial Planning and the
Environment
Netherlands
Email: gerard.wolters@minvrom.nl

Mr. Joe Woodward

Deputy Director General
Environment Protection and Regulation
Department of Environment and Climate Change
New South Wales
Australia
Tel: +61-2-9995-5400
Email: joe.woodward@environment.nsw.gov.au

Ms. Catherine Wright

Head of Modern Regulation
Environmental Policy & Regulation
Environment Agency of England and Wales
United Kingdom
Tel: +44-117-915-2336
Catherine.wright@environment-agency.gov.uk

Dr. Zhai Yong

Deputy Director General
Legislation Department
National People's Congress
China
Tel: +8610-63091635
Email: zhaiyong20@yahoo.com

Ms. Laura Yoshii

Deputy Regional Administrator
Region 9
U.S. Environmental Protection Agency
United States
Tel: +1-415-947-8702
Email: yoshii.laura@epa.gov

Ms. Hu Yuan qiong (Joan)

Nature Resource Defense Council
China
Email: joan7511@gmail.com

Dr. Sun Zhenshi

Program Officer
Environmental Inspection and Enforcement
State Environmental Protection Administration
China
Tel: +86-10-6655-6448
Email: sun.zhenshi@sepa.gov.cn

Mr. Durwood Zaelke

Director
Office of the INECE Secretariat
United States
Tel: +1-202-338-1300
Email: zaelke@inece.org

Mr. Brahim Zyani

Director
Secretariat chargé de l'Eau et de l'Environnement
Chair, Network for Environmental Compliance &
Enforcement in the Maghreb (NECEMA)
Morocco
Tel: +212-37680496/98
Email: bzyani2002@yahoo.fr

LIST OF PARTICIPANTS BY REGION

AFRICA

| Country | Name | Title | Organization |
|----------|-----------------------------|----------------------------------|--|
| Botswana | Mr. Desire Rubadiri | | Rubadiri & Company |
| Cameroon | Ms. Horline Njike | Legal Advisor | Legal Unite, Last Great Ape |
| Ghana | Mr. Jonathan A. Allotey | Executive Director | Environmental Protection Agency |
| Kenya | Mr. Abdirizak Dahir Ahmed | | Kenya Wildlife Service |
| Kenya | Dr. Iwona Rummel-Bulska | Legal Counsel | DELIC United Nations Environment Programme |
| Kenya | Dr. Samuel Kasiki | Deputy Director | Biodiversity Research & Monitoring Kenya Wildlife Service |
| Kenya | Dr. Julius Kipnge'tich | Director | Kenya Wildlife Service |
| Kenya | Mr. Stephen Kisamo | Director | Lusaka Agreement Task Force |
| Kenya | Mrs. Sharon Kisire | Head | Human Capital Kenya Wildlife Service |
| Kenya | Mr. Benjamin Langwen | Director | Compliance and Enforcement National Environment Management Authority (NEMA) |
| Kenya | Mr. Salome Machua | Compliance & Enforcement Officer | Compliance & Enforcement National Environment Management Authority |
| Kenya | Mrs. Elizabeth Maruma Mrema | Senior Legal Officer & Chief | Biodiversity and Land Law and Governance Unit, Division of Environmental Law and Conventions (DELIC), United Nations Environment Programme |

| | | | |
|--------------|---------------------------|---|--|
| Kenya | Mr. Samuel Munene | Principal EIA Officer | Compliance & Enforcement National Environment Management Authority |
| Kenya | Mr. Otieno Maurice Nyunja | Provincial Director of Environment-Coats Province | Compliance and Enforcement National Environment Management Authority |
| Kenya | Dr. Rosalind Reeve | Associate Fellow | Chatham House |
| Kenya | Mr. Patrick Salifu | Programme Officer | Policy and Enforcement, United Nations Environment Programme |
| Mauritania | Mr. Ould Jiddou Cheikh | | Point Focal NECEMA en Mauritanie Ministère Environment |
| Nigeria | Dr. (Mrs.) Ngeri Benebo | Director General | National Environmental Standards and Regulations Enforcement Agency (NESREA) |
| South Africa | Professor Rudi van Aarde | Director | Conservation Ecology Research Unit, Department of Zoology & Entomology, University of Pretoria |
| South Africa | Ms. Farah Abrahams | Acting Deputy Director | Environmental Enforcement Department of Environmental Affairs & Development Planning |
| South Africa | Mr. Robin Adams | Operations Manager | Table Mountain National Park Sanparks |
| South Africa | Mr. Sonnyboy Bapela | Chief Director | Regulatory Services Department of Environmental Affairs & Tourism |
| South Africa | Mr. Jason Bell | Country Director | International Fund for Animal Welfare, Southern Africa Regional |
| South Africa | Mr. Werner Johannes Boing | | Department of Tourism, Environmental, and Economic Affairs |
| South Africa | Ms. Aarti Brijlall | Deputy Director: Administrative Enforcement | Directorate: Enforcement Department of Environmental Affairs & Tourism |

| | | | |
|--------------|-------------------------------|--|---|
| South Africa | Mrs. Minky Chauke | Deputy Director | Compliance and Enforcement Gauteng Department of Agriculture, Conservation and Environment |
| South Africa | Mrs. Frances Craigie | Director: Strategic Compliance and Enforcement | Compliance and Enforcement Gauteng Department of Agriculture, Conservation |
| South Africa | Ms. Wayne Evans | | KZN Wildlife |
| South Africa | Ms. Melissa Fourie | Director: Enforcement | Department of Environmental Affairs and Tourism |
| South Africa | Mr. Obopeng Tokgame Gaoraelwe | Deputy Director | Department of Tourism, Environment and Conservation, Environmental Compliance and Enforcement |
| South Africa | Mr. Stephen Granger | Manager: Major Programmes and Projects | Environmental Resource Management City of Cape Town |
| South Africa | Mr. Mark Jardine | Deputy Director | Enforcement Department of Environmental Affairs and Tourism |
| South Africa | Dr. Louise Kotze | Associate Professor | Law North-West University |
| South Africa | Mr. Sizwe Madlala | Assistant Director | KZN-DAEA Department of Agriculture & Environmental Affairs |
| South Africa | Mr. Sabelo Malaza | Director | Compliance Monitoring Department of Environmental Affairs and Tourism |
| South Africa | Mr. Ephraim Monyemoratho | | Department of Water Affairs and Forestry |
| South Africa | Mr. Matome Phillip Monyepao | Advocate | Economic Development, Environment & Tourism |
| South Africa | Mr. Linda Ndlela | Assistant Director | Compliance Monitoring and Enforcement Agriculture and Environmental Affairs |
| South Africa | Mr. Clement Ngcobo | District Conservation Officer | Ezemvelo KwaZulu-Natal Wildlife |

| | | | |
|--------------|-------------------------------|----------------------|--|
| South Africa | Mr. Nelson Ntokozo Nkosi | | Department of Agriculture & Environmental Affairs |
| South Africa | Mr. Carl Nortier | Section Officer | Corporate Investigation Services (Specialized Anti-Poaching Marine) SAN Parks |
| South Africa | Ms. Magdel Boshoff Pierterse | | Biodiversity and Conservation DEAT |
| South Africa | Mr. Anbendren Pillay | | Compliance Monitoring Department of Environmental Affairs and Tourism |
| South Africa | Ms. Anel Du Pleiss | | Law North-West University (Potchefstroom Campus) |
| South Africa | Mr. Phil Snijman | Private Consultant | |
| South Africa | Mr. Peter Storey | Director | PPL International |
| South Africa | Mr. Mmaphaka Tau | | Veld and Forest Fires Oversight Department of Water Affairs and Forestry |
| South Africa | Mr. Mfanufikile Theledi | Director | Pollution & Waste Management Agriculture & Land Administration, Mgumalanga Provincial Government |
| South Africa | Mr. Jacques du Toit | | Strategic Compliance and Enforcement, Gauteng Department of Agriculture Conservation and Environment |
| Tanzania | Eng. Bonaventure Baya | Director General | NEMC- Tanzania National Environment Management Council |
| Uganda | Ms. Christine Echookit Akello | Senior Legal Counsel | National Environment Management Authority |
| Uganda | Dr. Henry Aryamanya-Mugisha | Executive Director | National Environment Management Authority |

ASIA & THE PACIFIC

| | | | |
|-----------|--------------------|--|---|
| Australia | Mr. Troy Collins | | Australian Environmental Law Enforcement & Regulators Network Department of Natural Resources & Water |
| Australia | Ms. Maria Comino | Manager Legislation and Implementation | Department of Water and Energy |
| Australia | Mr. Grant Pink | Acting Assistant Secretary | Compliance and Enforcement Branch Department of the Environment, Water, Heritage and the Arts |
| Australia | Mr. Greg Sullivan | Chair-elect | Brisbane City Council AELERT |
| Australia | Mr. Joe Woodward | Deputy Director General | Environment Protection and Regulation Department of Environment and Climate Change |
| China | Ms. Jia Feng | Deputy Director | Center for Environmental Education & Communications State Environmental Protection Administration of China |
| China | Mrs. Xu Kezhu | Deputy Director | Center for Legal Assistance to Pollution Victims |
| China | Mr. Alex Wang | Project Director | Natural Resources Defense Council |
| China | Mr. Zhai Yong | Deputy Director General | Legislation Department National People's Congress |
| China | Ms. Hu Yuan Qiong | | Nature Resource Defense Council |
| China | Dr. Sun Zhenshi | Program Officer | Environmental Inspection and Enforcement State Environmental Protection Administration |
| India | Mr. Pradeep Bakshi | Secretary General | Asia-Pacific Jurist Association |
| India | Dr. P.B. Rastogi | Director | Impact Assessment Ministry of Environment and Forests |

| | | | |
|-----------------|-----------------------------------|--|---|
| India | Mr. Surya Kant Sharma | Judge | Punjab & Haryana High Court, Chandigarh Asia-Pacific Jurist Association |
| Japan | Dr. Kunihiko Shimada | Principal International Policy, Coordinator/ Principal International Negotiator | Global Environment Bureau Ministry of the Environment Japan |
| Kazakhstan | Mr. Vadim Ni | Executive Director | Law and Environment Eurasia Partnership |
| The Philippines | Prof. Sedfrey Martinez Candelaria | Head | Research, Publications and Linkages Office Philippine Judicial Academy |
| The Philippines | Ms. Elisea Gozun | Consultant | Asian Environmental Compliance and Enforcement Network |
| The Philippines | Mrs. Dolora Nepomuceno | Assistant General Manager | Department of Environment and Natural Resources Laguna Lake Development Authority |
| The Philippines | Mr. Antonio Oposa | President | The Law of Nature Foundation |
| Thailand | Mr. Richard Paton | Environmental Governance Team Leader | Eco-Asia |
| Thailand | Dr. Wijarn Simachaya | Director | Environmental Quality and Laboratory Division Pollution Control Department |

CENTRAL & EASTERN EUROPE

| | | | |
|----------|-----------------------|------------------------|--|
| Bulgaria | Mr. Dimitar Koparov | Consultant | INECE Secretariat |
| Estonia | Mr. Himot Maran | Councilor | Environmental Inspectorate |
| Georgia | Mrs. Ketevan Mumladze | Chief Specialist | Planning Division Inspection for Environmental Protection |
| Hungary | Mr. Mihail Dimovski | Senior Project Manager | Environmental Policy, The Regional Environmental Center for Central and Eastern Europe |

| | | | |
|-----------|-------------------------------|---|--|
| Hungary | Mrs. Marta Bonifert Szigeti | Executive Director | The Regional Environmental Center |
| Latvia | Mr. Vilis Avotins | | State Environmental Service |
| Macedonia | Mr. Zoran Dimovski | State Environmental Inspector | State Environmental Inspectorate Ministry of Environment and Physical Planning |
| Russia | Mr. Vsevolod Sapronov | Expert | Foreign Relations Rostekhnadzor |
| Russia | Mr. Dimitry Smyslov | Department Head | Environmental Compliance Federal Environmental Service |
| Russia | Mr. Andrey Terentyev | Principal Administrator | Expert Division Russian Regional Environmental Centre |
| Serbia | Mr. Dragan Asanovic | Senior Advisor | Ministry of Tourism and Environmental Protection |
| Serbia | Mrs. Jelena Radoljub Samuilov | Municipal Prosecutor's Senior Assistant | Municipal Prosecutor's Office of Pancevo |
| Serbia | Mrs. Ljiljana Stanojevic | Assistant Minister | State Inspection Ministry for Environmental Protection |
| Ukraine | Ms. Olya Melen | Head of Legal Unite | Environment-People-Law |

CENTRAL AMERICA

| | | | |
|------------|---------------------------------|--------------------------------|----------------|
| Costa Rica | Mr. José Pablo González Montero | Chief Environmental Prosecutor | Poder Judicial |
|------------|---------------------------------|--------------------------------|----------------|

SOUTH AMERICA

| | | | |
|-----------|--------------------------|--|--|
| Argentina | Mr. Alberto Santos Capra | | Hazardous Waste Ministry of Environment and Sustainable Development |
| Argentina | Dr. Diego Martin Kaplan | Attorney and Coordinator of Progam A.C.U.M.A.R | Undersecretary's Office of Environmental Control and Prevention of Contamination Ministry of Environment and Sustainable Development |

| | | | |
|-----------|---------------------------|-------------------------------------|--|
| Argentina | Ms. Ana Maria Kleymeyer | Advisor to the Minister | Ministry of Environment and Sustainable Development |
| Argentina | Dr. Romina Picolotti | Minister | Ministry of Environment and Sustainable Development |
| Argentina | Mr. Jorge Daniel Talliant | Executive Director | Center for Human Rights and Environment |
| Argentina | Dr. Raúl Vidable | Director of Undersecretary's Office | Undersecretary's Office of Environmental Control and Prevention of Contamination Ministry of Environment and Sustainable Development |
| Paraguay | Mr. Ezequiel Santagada | Lawyer | Legal Department Institute of Environmental Law and Economy (IDEA) |

MIDDLE EAST & NORTH AFRICA

| | | | |
|---------|-------------------------|-------------------------------|---|
| Israel | Mr. Izhak BenDavid | Senior Deputy Director | Law Enforcement Israel Ministry of Environmental Protection |
| Israel | Mr. Bill Clark | | Israel Nature & Parks Authority |
| Jordan | Ms. Nawzat Ali | Legal Adviser to the Minister | Ministry of Environment |
| Morocco | Mr. Brahim Zyani | Director | Secretariat chargé de l'Eau et de l'Environnement NECEMA |
| Tunisia | Mr. Mohamed Ben Hassine | Engineer | Contrôle des eaux Ministry of Environment |
| Tunisia | Mr. Samir Kaabi | Head Engineer | Pollution Control and Monitoring Ministry of Environment |

NORTH AMERICA

| | | | |
|--------|-----------------------|-------------------|---|
| Canada | Mrs. Manon Bombardier | Deputy Director | Environmental Enforcement Division Environment Canada |
| Canada | Mr. Richard Charette | National Director | Enforcement Branch Environment Canada |

| | | | |
|---------------|---------------------------|---|---|
| Canada | Mr. Ross Galbraith | A/ National Team Lead (Birds) | Environmental Enforcement Environment Canada |
| Canada | Ms. Kim Hibbeln | National Director | Enforcement Environment Canada |
| Canada | Mr. Rejean de Ladurantaye | Regional Director | Environment Canada |
| Canada | Mr. Luc Lebel | Manager | Environmental Enforcement Division Environment Canada |
| Mexico | Mr. Gustavo Alanis-Ortega | President | Mexican Environmental Law Center |
| Mexico | Dr. Alberto Szekely | Attorney | Szekely Associates |
| United States | Hon. Susan Biro | Chief Judge | Office of Administrative Law Judges U.S. Environmental Protection Agency |
| United States | Ms. Nikki Brajevich | Environment, Science and Technology Officer | Embassy of the United States of America |
| United States | Ms. Susan Bromm | Acting Director | U.S. EPA Office of Federal Activities |
| United States | Mr. John Cruden | Deputy Assistant Attorney General | Environment and Natural Resources Division U.S. Department of Justice |
| United States | Mr. Mohamed Rida Derder | Consultant | INECE Secretariat |
| United States | Mr. Mike Frizzell | Consultant | INECE Secretariat |
| United States | Ms. Phyllis Harris | Vice President | Environmental Compliance Wal-Mart Stores, Inc. |
| United States | Mr. Robert G. Heiss | Director | International Compliance Assurance Division, U.S. Environmental Protection Agency Office of Enforcement and Compliance Assurance |
| United States | Mr. Tom Higdon | Consultant | INECE Secretariat |
| United States | Mr. Davis Jones | International Training Coordinator | Office of Enforcement and Compliance Assurance International Compliance Assurance Division U.S. Environmental Protection Agency |

| | | | |
|---------------|--------------------------|---|---|
| United States | Mr. Andrew E. Lauterback | | Office of Criminal Enforcement, Forensics and Training U.S. Environmental Protection Agency |
| United States | Mr. Gene Lubieniecki | | U.S. Environmental Protection Agency |
| United States | Mr. Kenneth Markowitz | Senior Counsel and Consultant | Akin Gump Strauss Hauer & Feld LLP and INECE Secretariat |
| United States | Mrs. Catherine McCabe | Deputy Assistant Administrator | Office of Enforcement and Compliance Assurance International Compliance Assurance U.S. Environmental Protection Agency |
| United States | Mr. James McDonald | Director | Office of Administrative Law Judges U.S. Environmental Protection Agency |
| United States | Ms. Claudia McMurray | Assistant Secretary | Bureau of Oceans and International Environmental and Scientific Affairs US Department of State |
| United States | Mr. Mark Measer | Associate Director | Criminal Investigation Division US Environmental Protection Agency |
| United States | Ms. Stacey H. Mitchell | Chief | Environmental Crimes Section US Department of Justice |
| United States | Ms. Marcia E. Mulkey | Director | Office of Enforcement and Compliance Assurance U.S. Environmental Protection Agency National Enforcement Training Institute |
| United States | Mr. Peter Murtha | | Office of Enforcement and Compliance Assistance U.S. Environmental Protection Agency |
| United States | Mr. Alberto Ninio | Lead Environmental Counsel, Legal Vice Presidency | The World Bank |

| | | | |
|---------------|------------------------|-------------------------------|--|
| United States | Ms. Meredith Reeves | | INECE Secretariat |
| United States | Ms. Walker B. Smith | Director | Office of Civil Enforcement U.S. Environmental Protection Agency |
| United States | Mr. Lawrence Sperling | Senior Advisor | Bureau of Oceans, Environment and Science US Department of State |
| United States | Mr. Michael Stahl | Director | Office of Compliance U.S. Environmental Protection Agency |
| United States | Ms. Alexandra Viets | Communications Officer | INECE Secretariat |
| United States | Dr. Samuel K. Wasser | | Biology, University of Washington |
| United States | Mr. Timothy Whitehouse | | INECE Secretariat |
| United States | Ms. Laura Yoshii | Deputy Regional Administrator | Region 9 U.S. Environmental Protection Agency |
| United States | Mr. Durwood Zaelke | Director | INECE Secretariat |

WESTERN EUROPE

| | | | |
|---------|--------------------------|-------------------------|---|
| Austria | Dr. Waltraud Petek | Deputy Director General | General Environmental Policy, Pollution Prevention and Control of Installations Federal Ministry of Agriculture, Forestry, Environment and Water Management |
| Belgium | Dr. Robert Bernard Baert | Inspector-General | Environment Inspectorate Division Flemish Government |
| Belgium | Dr. Ladislav Miko | Director | DG Environment (DIRB-Protecting the Natural Environment) European Commission |
| Finland | Mr. Markku Hietamäki | Environmental Counselor | Environmental Protection Department, Ministry of Environment |
| France | Ms. Angela Bularga | | Organisation for Economic Co-operation and Development (OECD) |

| | | | |
|-----------------|-----------------------------|-----------------------------|--|
| France | Mr. Brendan Gillespie | Head of Division | Environment and Globalisation Division, Environment Directorate Organisation for Economic Development and Co-operation |
| France | Mr. Eugene Mazur | Project Manager | Environment Directorate Organisation for Economic Co-operation and Development (OECD) |
| Germany | Dr. Alejandro Iza | Director | Environmental Law Centre Environmental Law Programme IUCN |
| Ireland | Dr. Ken Macken | Programme Manager | Climate Change Unite Environmental Protection Agency |
| Italy | Dr. Maurizio Mazzi | Lawyer | International Court of the Environment Foundation (ICEF) |
| Netherlands | Dr. Gustaaf A. Biezeveld | | Functioneel Parket |
| The Netherlands | Ms. Machteld Brokerhof | | VROM- Inspectorate |
| The Netherlands | Dr. René Craemer | | Functioneel Parket |
| The Netherlands | Mr. Hans Demmers | Chief International Affairs | Flevoland Police |
| The Netherlands | Mr. Jan ten Doeschate | | Province North-Brabant |
| The Netherlands | Mr. Jo Gerardu | | INECE Secretariat |
| The Netherlands | Mrs. Jenny van Houten | | International Enforcement Cooperation Ministry of Housing, Spatial Planning and the Environment |
| The Netherlands | Mr. Pim Kapitein | MPM | Agriculture, Nature and Food Quality General Inspection Service (AID) |
| The Netherlands | Mrs. Hester Klein Lankhorst | | Intelligence and Investigation Service VROM Inspectorate |
| The Netherlands | Mr. Fred Kok | | LOM Secretariat |
| The Netherlands | Mr. Tony Liebrechts | | VROM Inspectorate |
| The Netherlands | Mr. Johannes H. Mans | | VROM Inspectorate |
| The Netherlands | Dr. Jacobus de Ridder | Professor | Public Administration University of Groningen |

| | | | |
|-----------------|-------------------------------|------------------------------|---|
| The Netherlands | Dr. Angelique van der Schraaf | | VROM Inspectorate Academy, VROM Inspectorate |
| The Netherlands | Mrs. Cora Steffens | | Province North-Brabant |
| The Netherlands | Mr. Bert Wijbenga | Chief of Police | Flevoland Police |
| The Netherlands | Mr. Gerard Wolters | | International Enforcement Cooperation Ministry of Housing, Spatial Planning and the Environment |
| Portugal | Ms. Nancy Isarin | | Ambiendura |
| United Kingdom | Mr. Arwyn Jones | National Enforcement Manager | National Enforcement Service Environment Agency of England & Wales |
| United Kingdom | Mr. Howard Leberman | EU ETS Policy Advisor | Environment Agency of England & Wales |
| United Kingdom | Dr. Paul Leinster | Director of Operations | Operations Directorate Environment Agency of England & Wales |
| United Kingdom | Ms. Catherine Lorenzen | | EU and International Relations Environment Agency of England & Wales |
| United Kingdom | Dr. John Seager | Head of Science Strategy | Environment Agency of England & Wales |
| United Kingdom | Mr. Terence Shears | Head | EU and International Relations External Relations Environment Agency of England & Wales |
| United Kingdom | Ms. Catherine Wright | Head of Modern Regulation | Modern Regulation, EP Policy & Regulation Environment Agency of England & Wales |

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The Editors

PROJECT MANAGEMENT AND CONFERENCE SUPPORT

Durwood Zaelke
Director
INECE Secretariat
2300 Wisconsin Avenue N.W., Suite 300B
Washington, DC 20007
phone: +1.202.338.1300
fax: +1.202.338.1810
email: zaelke@inece.org

Davis Jones
U.S. Environmental Protection
Agency
jones.davis@epa.gov

Henk Ruessink
Netherlands Ministry of Housing,
Spatial Planning and the Environment
henk.ruessink@minvrom.nl

Tim Whitehouse
INECE Secretariat
twhitehouse@inece.org

Alexandra Viets
INECE Secretariat
aviets@inece.org

Jo Gerardu
INECE Secretariat
gerardu@inece.org

Mohamed Rida Derder
INECE Secretariat
ridaderder@msn.com

Thomas Higdon
INECE Secretariat
higdon.thomas@gmail.com

CONSULTANTS

Ken Markowitz
Akin Gump Strauss Hauer & Feld
LLP
kmarkowitz@akingump.com

Marcy Markowitz
Chief Executive Officer
Earthpace, LLC
mjm@earthpace.com

Meredith Reeves
Senior Project Manager
Earthpace, LLC
mreeves@earthpace.com

Dimitar Koparov
Database Administrator
Earthpace, LLC
dkoparov@earthpace.com


Michael Frizzell
INECE Secretariat
inece@inece.org

Sheryl Ozinsky
Local Event Planning Consultant
sherylozinsky@iafrica.com



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