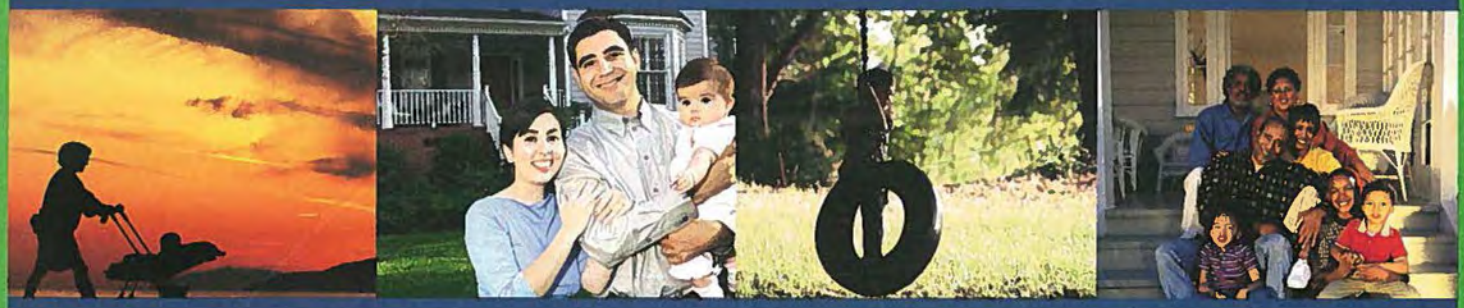
Case Studies

From the Environmental Justice Collaborative Problem-Solving Program



Models for Success

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INTRODUCTION

Federal agencies have made much progress in helping to address environmental and public health issues in communities throughout the country since Executive Order 12898 ("Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations") was issued on February 11, 1994. But despite this progress, some communities still lack the means to address the complex, interrelated factors involved with environmental justice, such as environmental, public health, economic, and social concerns.

To continue working toward environmental justice for all, the U.S. Environmental Protection Agency's (EPA's) Office of Environmental Justice (OEJ) began promoting the use of "collaborative problem-solving." Collaborative problem-solving simply means that various partners, or stakeholders, agree to work together to address a particular issue or concern. These stakeholders often must come to a "meeting of the minds" in order to address the numerous environmental, public health, economic, and social problems in local communities. Many of these problems are deeply rooted and difficult to resolve without concerted effort and active participation by all stakeholders. When stakeholders work together, however, they can create a collective vision that benefits everyone. Working together in this manner can also foster the conditions necessary to mobilize resources and realize strong, lasting solutions.

Environmental Justice Collaborative Problem-Solving Cooperative Agreement Program

In 2004, OEJ developed the Environmental Justice Collaborative Problem-Solving (EJ CPS) Cooperative Agreement Program to provide direct financial and technical assistance to selected community-based organizations. OEJ established the program around the framework of the EJ CPS Model, which stresses seven elements:

1) Issue Identification, Community Vision, and Strategic Goal Setting
2) Community Capacity-Building and Leadership Development
3) Consensus Building and Dispute Resolution
4) Multi-Stakeholder Partnerships and Leveraging of Resources
5) Constructive Engagement by Relevant Stakeholders
6) Sound Management and Implementation
7) Evaluation, Lessons Learned, and Replication of Best Practices

In the first year of the program, EPA awarded 30 cooperative agreements (grants) to eligible organizations across the country. Each grantee received $100,000 to address one or more local environmental and/or public health issues using the EJ CPS Model (see Table 1). Grantees submitted work plans to OEJ explaining how they would use the grant, and then proceeded with their projects.

Table 1: Questions for Grantees to Consider Before Starting a Project

Issue Identification, Community Vision, and Strategic Goal Setting

- Have I clearly identified the environmental and/or public health issue that the community wants to address?
- Is the issue something that the community views as important? Is the issue something that the community should view as important?
- Is the issue too broad or complex for my organization to handle?
- What do I ultimately hope to gain from working on this particular issue?
- Is the goal that I set consistent with the issue that I identified?
- Is my goal realistic?
- What are the steps I need to take in order to reach the goal? Do those steps make sense? Are the steps in the right order?
- Do I have an alternate strategy if something unexpected happens? Can I modify my strategy?

Community Capacity-Building and Leadership Development

- What resources does the community have that I can tap into to reach the goal?
- What resources are lacking within the community, and what will this project do to address the deficiency?
- Are community residents aware of the issue and the potential impacts on the environment and their health? How will I make them aware?
- What role does the community play in the project? What role should they play in the project?
- What leadership qualities (e.g., technical knowledge, interpersonal skills, administrative capability) are essential to making this project a success?
- How will I develop those leadership qualities? Who needs leadership development (e.g., staff, residents, partners)?

Development of Multi-Stakeholder Partnerships and Leveraging of Resources

- What partners are essential to making this project a success?
- What do these partners have to offer (e.g., technical expertise, social capital, funding)?
- How am I going to bring the partnership together? What are the challenges I need to be aware of?
- Am I working with the right person in the partner organization? Do I need to engage a senior person or someone with more technical knowledge?
- What are my partners' motivations for working on this project? What do they hope to gain?
- Are there any group/personal dynamics that could impact the success of the project?
- Do my partners have connections with other potential partners?
- Is the partnership too large or too small?
- What are the partners expecting from my organization?

Consensus Building and Dispute Resolution

- What are the potential conflicts (e.g., between residents and my organization, between the community and industry, between the community and government entities)?
- Is the community outreach worker the right person to work with the community? Does the community trust him/her?
- Is the community composed of various groups with their own unique interests? Will this be a source of conflict?
- Is this a fractured community?
- Is the community distrustful or suspicious (e.g., of the government, industry, my organization, or one of my partners)?
- Do I have a strategy to handle potential conflicts?
- Do I need to hire an expert (e.g., a facilitator or a mediator) to help us resolve conflicts?

Constructive Engagement by Relevant Stakeholders

- Are there other entities, that might not necessarily be appropriate as partners, that can assist in this project?

Sound Management and Implementation

- Does my organization have the capacity to manage the type of project I am proposing?
- Does my organization have the capacity to lead the partnership?
- Have I allocated the work to the right staff and to the right partners?
- Does my project manager have the skills and technical expertise to manage the project? Does he/she have the trust of the community?
- If the project manager is lacking the skills or technical expertise, how will I address this problem (e.g., hire an assistant, provide training, get help from a partner)?
- Are my staff's skills being fully realized?
- Are the partners' roles clearly defined? What is expected of them? What is expected of my organization?
- Are the partners' knowledge, skills, and experience being utilized to the fullest?

Evaluation, Lessons Learned, and Replication of Best Practices

- How am I going to track my project's progress? How will I know if I have achieved my goal?
- Will I evaluate my project periodically to see if I need to make adjustments to my project strategy, activities, or goal?
- At the end of my project, how will I explain what I did?

Lessons Learned

In 2006, two years after grantees began implementing their projects, OEJ personnel traveled to the project sites to assess the grantees' progress and to glean insights into the effectiveness of the collaborative problem-solving approaches that the grantees have been employing.

Effective Collaborative Problem-Solving Strategies

The grantees that made the greatest strides in attaining their desired environmental and public health results were the ones that laid out a clear problem-solving strategy (see Table 2). OEJ found that projects with clear problem-solving strategies had:

- Defined the environmental and/or public health concern: Before beginning the project, organizations had already clearly identified the issue they wanted to address with specificity.
- Articulated the environmental and/or public health results desired: Organizations that had clearly articulated what they hoped to accomplish through the project were able to develop appropriate, realistic, and logical activities for their projects. In addition, these organizations established clear goals, milestones, and benchmarks to track success.
- Understood the causes of the environmental and/or public health concern: Organizations must fully understand the causes of their environmental and/or public health concern before they developed steps to achieve their goal. This understanding helps organizations develop an effective strategy.
- Identified the key changes, or "attributable events," that must occur to produce the desired results: "Attributable events" are those key events, such as a change in policy, institution of a program, or change in behavior, that enable the desired environmental and/or public health result to occur. The successful organizations were able to formulate their strategy for achieving their desired goals based on identified attributable events. Projects that had multiple attributable events had multi-faceted strategies.
- Executed activities that enabled the attributable events to occur: Activities must be clearly tied to the attributable events and have a specific purpose. Successful organizations based activities on the appropriate collaborative problem-solving approach to maximize the results of their project.

Table 2: Example of Effective Strategy Development

Define the environmental and/or public health concern
Residents in the affected community are disproportionately impacted by high rates of asthma triggered by indoor air pollution.
Articulate the environmental and/or public health results desired
Reduce residents' exposure to indoor air asthma triggers in the community.
Understand the causes of the environmental and/or public health concern
Landlords refuse to repair or maintain rental units, which contributes to the poor indoor air quality.
Identify the attributable events that must occur to produce the desired results
Landlords must make repairs and maintain rental units to reduce or eliminate potential asthma triggers.
Execute activities that enable the attributable events to occur
Educate residents about landlord-tenant laws so they understand their rights in regard to timely rental unit repair and maintenance.

Common Problems in Developing Collaborative Problem-Solving Strategies

Based on the site visits, OEJ found that, while many grantees focused on the "collaborative" portion of collaborative problem-solving, not all of them paid as much attention on "problem-solving."

While the five case studies in this report highlight successful strategies using collaborative problem-solving approaches, these and other communities also faced several common barriers in addressing each local environmental and/or public health concern:

- The community defined the environmental and/or public health concern too vaguely or broadly: Before an organization can begin to formulate a strategy to combat a problem, it must fully understand the problem and then clearly define the environmental and/or public health concern. The more specific an organization is in defining the concern, the better equipped it will be in developing a well thought-out strategy for addressing the concern.

Example of a vague environmental/public health concern: Poor air quality.

Example of a specific environmental/public health concern: Residents are exposed to diesel exhaust from idling trucks.

- **Organizations did not articulate the environmental and/or public health results that the community desired:** By not articulating the desired environmental and/or public health results, organizations fail to establish a reasonable goal for themselves. Organizations should avoid goals that are too general and instead strive to be as specific and clear as possible in defining their desired outcome. The clearer an organization is about what it is it hopes to accomplish, the easier it will be to formulate a strategy for achieving that goal.

  Example of a goal that is too broad: Improvement in environmental quality.

  Example of a specific goal: Reduction in resident exposure to lead in older housing stock.

- **Organizations did not correctly identify the causes of the environmental and/or public health concern:** Organizations can run into problems when they start to implement project activities if they do not understand the true causes of the environmental and/or public health concern.

  For example, if the biggest contributor to asthma in the community is poor outdoor air quality caused by vehicle emissions, training residents about indoor air quality may have minimal impact on addressing the asthma issue. Once organizations identify the true causes of the environmental and/or public health issue, it will be easier to develop activities likely to result in improvements.

- **Organizations did not identify the key changes (attributable events) that will lead to the desired environmental and/or public health result:** To develop an effective strategy, organizations must identify the attributable events that need to take place, which will lead to the desired environmental and/or public health result. Identifying the causes of the environmental problem will help in identifying the key changes.

  For example, if the cause of the problem is a lack of awareness on the issue among residents, the attributable event would be residents becoming aware of the issue. Implementing a backward planning process helps in identifying the causes and the attributable events; organizations can start at the point where they want to end up and work their way backwards to identify attributable events and develop activities around those events.

- **Organizations stuck to "tried and true" activities, but those activities were not tied to the attributable event:** Many organizations conduct activities that they feel comfortable performing because of their past successes working on those activities. These activities may not be effective, however, if they are not closely linked to attributable events or if they do not logically lead to the desired environmental and/or public health results.

  For example, if the project is designed to affect policy changes, training residents might not necessarily be the most appropriate activity. Organizations must ask themselves how training is going to lead to the policy changes. If it does not, they will need to consider other activities that will help them attain the desired outcomes.

CASE STUDIES: FIVE MODELS FOR SUCCESS

The following case studies highlight five organizations that developed effective strategies using collaborative problem-solving approaches:

- Indochinese Cultural and Service Center (ICSC): Tacoma, Washington
- Pacoima Beautiful: Pacoima, California
- West End Revitalization Association, Inc. (WERA): Mebane, North Carolina
- Anahola Homesteaders Council (AHC): Anahola, Hawaii
- Make the Road by Walking (MRBW): Brooklyn, New York

Indochinese Cultural and Service Center (ICSC)

Introduction

ICSC has provided continuous, ever-expanding services to Southeast Asian refugees and immigrants in Pierce County, Washington, since it was established more than 20 years ago. ICSC's founders were refugees with a vision of providing assistance to their peers to help them adjust to life in the United States and cope with the numerous challenges they face in their new environment, including cultural and language barriers and financial difficulties.

According to ICSC, 58,000 Asian/Pacific Islander (API) (people of Cambodian, Vietnamese, Laotian, Korean, Filipino, and Samoan descent) residents of Pierce County are potentially exposed to chemically and biologically contaminated shellfish from unclean waters. The contaminated shellfish can cause a variety of illnesses and even death. These populations are especially vulnerable since they frequently fail to understand and comply with local beach closure warnings due to language barriers and illiteracy.

In 1999, ICSC, the Korean Women's Association, key leaders in the API community in Pierce County, and staff from the Washington Department of Fish and Wildlife formed a group known as Marine Resources for Future Generations (MRFFG). Since its formation, MRFFG has held regular meetings to discuss the subsistence shellfishing issue and to improve the enforcement of harvesting laws. In addition, the group has expanded to include other members, such as the Washington Department of Health, the Tacoma Pierce County Health Department, and the Puget Sound Water Quality Action Team.

PROJECT SNAPSHOT

Environmental and/or Public Health Concern: Resident exposure to chemically and biologically contaminated shellfish from subsistence shellfish harvesting.

Environmental and/or Public Health Result Desired: Reduction in resident exposure to contaminated shellfish.

Causes of the Environmental and/or Public Health Concern: 1) The Asian/Pacific Islander community lacks awareness of the health risks of subsistence shellfish harvesting; and 2) government entities do not coordinate to inform residents about beach closures.

Attributable Events: 1) Residents avoid exposure from contaminated shellfish because they are aware of the health risks associated with subsistence shellfish harvesting; and 2) government entities develop a beach closure plan to better inform residents of beach closure days.

Project Strategy

ICSC decided to work towards two attributable events: 1) residents avoid exposure from contaminated shellfish because they are aware of the health risks associated with subsistence shellfish harvesting; and 2) government entities develop a management plan to better inform residents of beach closure days. But ICSC found providing information about the potential health risks of consuming contaminated shellfish difficult for two primary reasons: 1) the API community in Tacoma speaks many different languages and consists of a variety of ethnic groups; and 2) the API community distrusts the government.

To address the language barrier, ICSC asked select community members to translate technical information supplied by the county health department and the state fish and wildlife service on safe and sustainable shellfish harvesting practices and on how to access and understand beach closure notices. These residents translated brochures and other educational information into Korean, Cambodian, Vietnamese, and Samoan languages so ICSC could distribute them to the community.

To address cultural sensitivities, ICSC and its partners trained community liaisons to provide information to the API community, which reduced the community's fear of government officials and gained the community's trust regarding the usefulness of the government information about shellfish. These individuals also provided a reality check to the ICSC project team by educating them about the API community's general acceptance of the risk of temporary illnesses from eating contaminated shellfish. This information was particularly useful in determining how best to communicate the more serious risks.

To maximize the effectiveness in reaching the affected community, ICSC also educated and involved community youth. Per the advice of the community elders, ICSC used an inter-generational and culturally appropriate approach to reach all members of the API community. In many API cultures, for example, it is inappropriate for children to "teach" their parents about any subject. The elders (e.g., grandparents), however, are more receptive to listening to the youth (usually their grandchildren), in part because they want to encourage their educational development. Elders are less likely to listen to their adult children, but the adult children must listen to their elder parents.

With an understanding of these cultural traditions, project partners approached API elders and asked them to give the youth permission to teach them about safe and sustainable shellfish harvesting. The elders in turn would educate their own children (the youth's parents) about the issue. This communication strategy helped to reach many parents whose jobs would limit their access to the liaisons and events intended to change harvesting behaviors. These events included beach walks, education sessions by government employees, laboratory tours, and ethnic events featuring information booths.

Through the project, ICSC also established a resource center where community residents can find out what beaches are open or closed, where to buy a fishing license, and how to get more information about rules and regulations. This center is staffed by individuals who have received intensive training from the local health department, the state fish and wildlife agency, and the state department of health.

ICSC also used the MRFFG partnership to develop a beach closure management plan. The plan utilizes information ICSC gained from the API community on how information flows to the different groups and how to present the information in a manner that is culturally and linguistically appropriate. The plan identifies each responsible party and the actions they will take to ensure that the API community will be kept up to date on the status of all beaches (i.e., closed or open to shellfish harvesting) in Pierce County. For example, information about beach closure information flows from the state health department to local health departments to community-based organizations. These organizations then inform the trained staff (e.g., resource center staff) and youth, who in turn teach the elders and leaders in the community, who then share the information with the larger community. The plan also includes the steps necessary to harvest shellfish safely and legally.

ICSC developed a number of educational materials as well. Key elements of the plan were presented in a large poster format with a safe and legal harvesting checklist and a newly developed recommended beaches map. Other educational tools include a sports fishing rules pamphlet, a *Guide to Safe Shellfish Harvesting*, an information hotline, Web site information, and an important news bulletin.

Involving the community in the development of the plan led to an effective shift in the balance of power at MRFFG meetings—away from the government representatives and other stakeholders and towards the community, as API coordinators began to facilitate the meetings using a bilingual format. In addition, API coordinators started to assume complete responsibility for the meetings by providing the meeting facilities, developing the agenda (with input from all stakeholders before each meeting), recording the meeting minutes, and disseminating meeting minutes. This emphasis on community leadership has been instrumental in communicating the information to the API community.

ACCOMPLISHMENTS

- Distributed program brochures and other educational materials in Korean, Cambodian, Vietnamese, and Samoan about the dangers of shellfish harvesting.
- Trained community liaisons to provide information to the API community, which reduced the community's fear of government officials and gained the community's trust regarding the usefulness of the government information about shellfish.

- Used an intergenerational training approach to effectively provide information on how to access information about beach closings to the API community.
- Conducted numerous activities such as beach walks, education sessions by government employees, laboratory tours, and staffing booths at a number of ethnic events to raise awareness among the API community.
- Established a community resource center.
- Created a beach closure plan that ensures that the API community will be kept up to date on the status of all beaches (i.e., closed or open to shellfish harvesting) in Pierce County.
- Empowered the API community to address the environmental and/or public health concern.

PACOIMA BEAUTIFUL (PB)

Introduction

PB is dedicated to the creation of a healthy, environmentally safe, prosperous, and sustainable community in Pacoima, California. Founded in 1995 as a volunteer beautification committee composed of five individuals, the organization became a 501(c)3 nonprofit environmental justice and environmental health, community-based, organization in February 2000. It operates through the support of a policy board consisting of residents and professional advisors. During fiscal years 2005 and 2006, PB employed a 12-person staff and operated with a budget of $690,000. PB runs three programs for this Los Angeles community of approximately 98,000 occupants, in a total area of approximately 3 square miles:

- **Community Inspectors Program:** This program helps residents identify the sources of environmental health risks and find simple solutions to reduce risks.
- **Youth Environmentalists Program:** This program assists youth so that they can participate in activities that will improve the environment in Pacoima.
- **Safer Homes for a Healthy Community Program:** This program helps residents create healthy homes for their families as a means to prevent environmentally related health problems such as lead poisoning, asthma, and respiratory stress from mold contamination.

Many of the 22,035 homes in this high-density, low-income, mostly Latino community are more than 30 years old and still contain lead-based paint, leading to a significant concern about lead poisoning. Children (ages 0 to 6) are especially vulnerable to adverse health effects

PROJECT SNAPSHOT

Environmental and/or Public Health Concern: High rates of lead poisoning by children ages 0 to 6 because of old housing stock.

Environmental and/or Public Health Result Desired: Reduction in resident exposure to lead, primarily in children ages 0 to 6.

Causes of the Environmental and/or Public Health Concern: 1) Parents and other residents lack awareness of the danger lead poses to children; 2) residents are unable to afford improvements to their residences to decrease exposure to lead; and 3) existing housing code laws do not adequately address lead exposure issues.

Attributable Events: 1) Residents, particularly parents, become aware of the dangers of lead and make simple changes to reduce lead exposure; 2) residents take advantage of services that provide home improvements and repair free of charge or through low-interest loans; and 3) existing laws that help reduce resident exposure to lead are enforced, and future laws are enacted to address lead exposures.

from lead because they are most likely to ingest the paint chips and dust that can contain high concentrations of lead, and their bodies are still developing. PB believes that the residents of this community are disproportionately impacted by lead-based paint because the majority of the residents are not aware of the danger—many do not speak English, have low literacy rates in their own native language, and/or are mistrustful of the organizations that offer assistance in protecting their children, often due to the fear of deportation if the residents are undocumented.

Project Strategy

PB decided to work toward three attributable events: 1) residents, particularly parents, become aware of the dangers of lead and make simple changes to reduce lead exposure; 2) residents take advantage of services that provide home improvements and repair free of charge or through low-interest loans; and 3) existing laws that help reduce resident exposure to lead are enforced, and future laws are enacted to address lead exposures.

PB began to investigate lead-based paint issues in 1999, when it organized a survey with California State University at Northridge (CSUN) to assess the community's knowledge about environmental hazards and health. The survey results confirmed PB's belief that the community was not knowledgeable about lead and other environmental hazards in homes and in the community. For example, the survey results indicted that residents of only about 20 percent of the households eligible for blood lead testing were in fact being tested.

From 2000 to 2002, PB coordinated with CSUN, the University of California at Irvine, the University of California at Los Angeles, the Los Angeles County Department of Health Services (LAC DHS), and Valley Care Community Consortium (VCCC) to conduct a pilot project to identify the health hazards in one of the high-risk neighborhoods in Pacoima. This research project was the springboard for a major PB program, Safer Homes for a Healthy Community. The program received initial funding through a planning grant from the Community Environmental Health Resource Center, an organization that provides resources to grassroots groups working for social justice in low-income communities around the country. The pilot project and the initial program concluded that:

- Only about 25 percent of the children that are eligible for free lead testing are being tested.
- Parents are not actively seeking out blood lead testing, partly because their physicians are not recommending that they do so.
- Healthcare providers are not informing parents about elevated blood lead levels in their children unless the levels exceed national thresholds.
- Housing in Pacoima is severely overcrowded and degraded, with multiple families living in single-family residences and ancillary structures, including garages and attics of garages.
- Most housing enforcement centers on tenants' rights in apartments, not on tenants in single-family housing.
- Most owners of rental property live in Pacoima and are related to their tenants.

To raise awareness of the lead issue, PB established an essential communication link with the community through the training of trusted community members called promotoras, community health advisors who are paid by PB to visit residents and discuss a wide range of health and social issues, such as prenatal care, drug and alcohol abuse, crime, and affordable housing. The promotoras received specific training and flyers on many lead-related topics, including the importance of testing 0- to 6-year-olds for blood lead levels and making changes in housekeeping activities to minimize lead exposures. A number of PB partners conducted the promotora training, including the LAC DHS, Neighborhood Legal Services (NLS), and VCCC. In addition, CSUN analyzed existing data and prepared maps that helped PB and the promotoras target the households that were most likely to have the highest lead hazards and young children. The promotoras also revisited the households that had agreed to have their young children tested to make sure the residents of these households had all the information and support they needed to follow through with their intentions.

PB identified and trained a number of healthcare workers to become champions for the goal of increasing the percentage of young children who receive a blood lead screening test. These champions were asked to train their colleagues at Pacoima healthcare clinics. VCCC assisted in this effort by providing a communication link to the various healthcare clinics and their personnel.

In addition, the promotoras obtained permission from residents to conduct tests on the blood lead levels of children in the community. They then discussed the results of the tests with each resident and, for those households with high lead concentrations, assisted the residents in identifying their eligibility and obtaining access to free services or low-interest loans to repair sources of lead contamination. PB developed a form for healthcare providers to use to disclose and interpret screening results and provide for referrals to community resources to reduce household lead exposures. PB prepared, and the promotoras distributed, information on the laws governing lead testing and lead abatement and how to qualify for grants and/or loans for lead abatement. In the process, the promotoras informed the residents that applying for grants or loans would not result in deportation of any family members.

As a result of these efforts, the PB program tested 675 children for blood lead levels, provided information to 2,500 residents on safe cleaning practices and other simple measures to reduce lead levels, and tested 300 homes for lead contamination. Of those homes, 31.4 percent exceeded the lead dust criteria for floors and windows. Of those that exceeded the criteria, 27 percent have been renovated, or PB referred the residents to free services or low-interest loans to remove the lead hazards. PB is currently developing a registry of homes that have been abated for lead.

Finally, PB and its partners, including NLS and local officials, met to strengthen the enforcement of lead-free repair laws, which prohibit certain construction techniques, such as dry sanding, in homes that contain lead-based paint. PB revised the majority of its existing outreach activities, including three major programs and various related community events, to include information about exposures of the community's young children to lead in their homes.

ACCOMPLISHMENTS

- Trained *promotoras* to work with residents to raise awareness of the risks of lead-based paint, the importance of lead testing in children, and the need for home testing and abatement.
- Tested 675 children (ages 0 to 6) for blood lead concentrations.
- Provided information to 2,500 residents on safe cleaning practices and other simple measures that can reduce lead hazards.
- Tested 300 homes for lead contamination; renovated 27 percent of the homes exceeding the lead dust criteria for floors or windows or referred residents to free services or low-interest loans to remove the lead hazards.
- Developing a registry of homes that have been abated for lead.

WEST END REVITALIZATION ASSOCIATION, INC. (WERA)

Introduction

Founded in 1994, WERA is Alamance County, North Carolina's first and only community development corporation. WERA provides services to residents, homeowners, and landowners of three communities in Alamance and Orange counties. These communities were settled by former slaves shortly after the Civil War, just beyond Mebane, North Carolina's city limits, and are 85 to 95 percent African-American.

Many residents of these communities face health risks due to contamination from failing septic tanks, to which they are exposed by: 1) drinking contaminated well water, 2) coming in contact with the effluent that is draining from their own septic tank, or 3) coming in contact with local surface waters that have received runoff from contaminated effluent from nearby properties' septic tanks. This issue potentially impacts the residents of 500 homes.

WERA believes that these exposures disproportionately impact the residents of these communities because the local authorities have not provided them with access to the city sewer and water system, even though one of the communities borders the sewage treatment plant and the other two communities border newer, high-income subdivisions and businesses that have access to city water and sewer services. The affected communities are situated just beyond the city limits and within the city's "extraterritorial jurisdiction," or ETJ. In North Carolina, cities are not required to provide city water and sewage lines in ETJ zones, and the residents of those zones are not required to pay city taxes.

PROJECT SNAPSHOT

Environmental and/or Public Health Concern: Resident exposure to contaminated well water and resident contact with untreated effluent on properties or in local surface waters due to failing septic tanks.

The Environmental and/or Public Health Result Desired: Reduction in resident exposure to contaminated well water and untreated effluent.

Causes of the Environmental and/or Public Health Concern: 1) The city lacks an incentive to connect the affected communities to sewer and water services because residents are outside of the city limits; 2) the city lacks the financial resources to connect the affected community to sewer and water services.

Attributable Events: 1) The city becomes interested in connecting the affected community to sewer and water services; and 2) funding to connect affected residents to sewer and water services becomes available.

Project Strategy

WERA decided to work toward two attributable events: 1) the city becomes interested in connecting the affected community to sewer and water services; and 2) funding to connect affected residents to sewer and water services becomes available.

In 2001, WERA received a $15,000 small grant from OEJ to collect information to support the need to replace the failed septic systems. The School of Public Health at the University of North Carolina at Chapel Hill (UNC-CH) provided significant technical support to WERA. The project resulted in a final report that described the ages and conditions of the failing septic systems and presented analytical evidence of bacterial contamination in surface water and well water in the three communities. It also indicated that the high rate of septic system failure in these communities resulted from soil conditions rather than poor maintenance by the residents. WERA shared the information in this report with residents and local authorities and then voiced the communities' concerns to the local authorities and emphasized their right to be connected to the city sewer system.

In the years following the report, WERA did not believe that the local authorities were taking significant steps toward connecting residents to the city sewer service despite the public health threat. WERA again engaged UNC-CH as a major partner and applied for the EJ CPS grant in order to:

- Provide more definitive data on the causes and extent of bacterial contamination in the surface and ground water within the three affected communities.
- Apply collaborative problem-solving techniques in an effort to engage local authorities in addressing the residents' concerns.

Anticipating that the local authorities would continue regarding the septic system issue as a low priority, WERA wanted to form a partnership that would require numerous public meetings with participation from a larger number of stakeholders and keep the issue in the public spotlight. WERA and its main partners (UNC-CH and the Haw River Assembly) identified the other stakeholders that needed to be informed of the issues and motivated to attend the public meetings, such as the general public; the local news media; community residents; and various federal, state, and local officials.

WERA conducted two main activities to formulate and distribute data and information throughout the life of the project: 1) prepared and delivered training for residents in preparation for their participation at the public meetings, and 2) prepared and presented data and information on the issues to all stakeholders in workshops (facilitated by WERA's board, staff, and partners) and at public meetings. Because of WERA efforts, the continued problems associated with failing septic systems could no longer be ignored.

WERA not only recognized the need to gather data on the environmental and public health concerns associated with the exposures, but also gathered information on possible funding sources to defray all or a portion of the costs of installing sewer and water lines. Together, the partnership developed an extensive list of possible funding sources, and due to these efforts, local authorities formed a city/county task force in an effort to locate block grant funds.

Ultimately, as a result of all of these efforts, city authorities installed sewer lines for 40 houses in one section of one of the affected communities, funded by a $400,000 block grant with a $120,000 match from the city. The city has also received approval for an additional $750,000 block grant with a $140,000 city match for a new water/sewer installation project for another 47 houses, and located additional funding and conducted the necessary investigations to install sewer lines in the remainder of this community.

The WERA board members and residents of the community serve as advisory board members for the city to make street selections for each phase of the water/sewer installation project.

ACCOMPLISHMENTS

- Presented the findings of a report, developed in conjunction with UNC-CH, to local authorities documenting the condition of the septic tanks, the nature of the contamination, and the fact that the onsite septic system failures were not the fault of the residents.
- Identified and invited stakeholders to form a partnership to address the septic tank issue.
- Provided training to residents and stakeholders and presented data to inform public meetings and workshops.
- Worked with local authorities to form a city/county task force in an effort to locate block grant funds to extend municipal water and sewer lines to the affected communities.
- Succeeded in getting city authorities to install sewer lines for 40 houses in one section of one of affected communities, which was funded by a $400,000 block grant with a $120,000 match from the city.
- Succeeded in getting the city to commit to installing sewer lines for another 47 houses, which will be funded by an additional $750,000 block grant with a $140,000 city match from the city.
- Succeeded in getting the city to locate additional funding and conduct the necessary investigations to install sewer lines in the remainder of the community.
- Organized the WERA board and residents of the community to serve as advisory board members for the city to make street selections for each phase of the water/sewer installation project.

ANAHOLA HOMESTEADERS COUNCIL (AHC)

Introduction

In 1994, a group of Native Hawaiians formed AHC as a nonprofit corporation to serve a mostly rural community that is approximately 70 percent Native Hawaiian. The AHC mission is to provide a better quality of life for Native Hawaiians living on homestead land in Anahola, Kaua'i. AHC believes that Native empowerment will bring about self-sustainability, so the organization has been actively pursuing an economic plan through collaborative partnerships and working with a volunteer board of advisors and consultants.

Part of the AHC plan is "Project Faith," a multi-purpose community center that will house facilities such as an elderly care home, a charter school, a health and social service center, a cultural center, and a number of Native Hawaiian businesses. This center will be vital for community life, as common amenities, services, and employment opportunities are not currently within proximity. AHC obtained a license from the Department of Hawaiian Home Lands (DHHL) to use a 20-acre property in Anahola for this center. Soon after, the county recognized the property as a Brownfields site, and AHC's plan for the community center received a green building design award.

AHC was unable to make immediate use of the property, however, because it was littered with a variety of illegally dumped solid wastes, such as abandoned cars, appliances, and car batteries. Moreover, some of the soil on the property had been contaminated with arsenic and mercuric compounds from the pesticides and herbicides that were applied by the sugar cane companies that previously had occupied the property and much of the other land on Kauai.

PROJECT SNAPSHOT

Environmental and/or Public Health Concern: Resident exposure to soil contaminants and solid waste on a 20-acre lot designated for use as the community's economic, cultural, and social center.

Environmental and/or Public Health Result Desired: Productive use of the 20-acre lot as an economic, cultural, and social center in an environmentally sustainable way.

Causes of the Environmental and/or Public Health Concern:
1) The community illegally disposes of solid waste on the land; 2) the community lacks support to maintain the land; and 3) the community lacks resources to remove contaminants from the 20-acre lot, which has been designated as a Brownfields site.

Attributable Events: 1) Residents stop disposing of their solid waste on the property; 2) residents take pride in their community and are motivated to see the Project Faith vision fulfilled; and 3) resources become available to remove contaminants from the 20-acre lot.

Project Strategy

AHC decided to work toward three attributable events: 1) residents stop disposing of their solid waste on the property; 2) residents take pride in their community and are motivated to see the Project Faith vision fulfilled; and 3) resources become available to remove contaminants from the 20-acre lot.

The first and most immediate need was to remove debris from the property, but to achieve this goal, AHC first had to document the extent of the solid waste problem. This task was complicated by the fact that the site was covered by tall grass. To help locate the debris, one of AHC's partners took aerial photos of the site. AHC then leveraged resources by having the city provide in-kind support to haul away debris at no cost to AHC. Specifically, the city hauled away 47 propane tanks, 92 car batteries, 149 junked cars, and numerous washing machines.

These actions removed all of the solid waste but only served as a temporary remedy because solid waste could easily accumulate again if residents continued to discard their waste on the property. Therefore, AHC developed a strategy to deter residents from illegal disposal of their waste. First, AHC obtained a commitment from one of its partners to mow the property so it would no longer be an ideal place for concealing abandoned cars and other waste. In addition, AHC fenced off the 20-acre parcel and erected signs and flags to keep trespassers off the property. AHC also held community forums to discuss the solid waste issue and how to prevent illegal dumping within the community. Finally, although AHC could not begin the redevelopment process until the land was clear of arsenic and other contaminants, the organization started the "Native People's Marketplace," a type of flea market, on the property to generate income for Project Faith.

This initial work solve the solid waste issue showed AHC that a larger, systemic problem pervaded the community: a general sense of apathy among some of the residents concerning the environmental health of the community and the redevelopment of the site. Community support was vital to seeing the Project Faith project through to completion because the kupuna (respected elder leaders of the community) are instrumental in establishing the community's agenda. Also, because Project Faith is such a large endeavor, AHC needed the support of all of the community residents.

To motivate the community to action, AHC decided to work on an issue that concerned everyone: water quality. Residents had expressed concern about the water quality in the area; of particular concern was an outbreak of leptospirosis, a bacterial disease transmitted to humans by livestock and wild animals through direct contact with contaminated water (e.g., swimming). The disease left an Anahola man without the use of his legs. To address this issue, AHC began a water testing project and collaborated with government and nongovernment experts to develop a curriculum for community youth on water quality education and testing.

By educating the children, the project in turn educated the parents and kupuna about possible exposure and risk. After collecting and analyzing water samples, the children presented their findings to the kupuna at an end-of-the-year celebration. AHC compiled the results into AHC's 2005 Water Quality Report and disseminated the findings to the public through a local radio program, the local newspaper, public forums, and the AHC Web site. AHC also used the findings as

supplemental information for the Environmental Impact Statement for the redevelopment plan, required under the license agreement between AHC and DHHL.

But more importantly, the water quality testing exercise allowed the community to come together to discuss other pressing environmental concerns, such as the status of redevelopment plan and solid waste issues. The activities involved youth, parents, and grandparents so that the entire community became involved in the effort. AHC regularly held meetings before and after water sampling excursions to discuss the state of the environment and the community. AHC also developed the Anahola.net Web site to keep the community informed about the state of the environment and the progress towards achieving the Project Faith goal.

All the support from community residents still could not assist in financing Project Faith. Recognizing that the EJ CPS assistance only provides $100,000 in funding, AHC used activities such as the solid waste removal and water quality testing to attract attention to the issues and to obtain other funding sources. For example, working with the government partners on the water quality testing activities allowed AHC to make connections with various stakeholders and leverage funding and other resources. The EJ CPS cooperative agreement was the first federal grant the organization obtained, but AHC also obtained funding from EPA Region 9's Brownfields grant and the U.S. Health and Human Service's Administration for Native Americans grant.

ACCOMPLISHMENTS

- Removed 47 propane tanks, 92 car batteries, 149 junked cars, and numerous washing machines from the 20-acre site.
- Prevented additional contamination of the Project Faith site by ensuring that the property would be mowed regularly, fencing off the property and posting signs, holding community forums, and starting the "Native People's Marketplace."

- Began a water testing project with community youth, collaborating with government and nongovernment experts to develop a curriculum on water quality education and testing.
- Developed the AHC *2005 Water Quality Report*, which will assist the Project Faith team in preparing an Environmental Impact Statement, a conditional requirement to obtain the license to use the 20-acre property slated for Project Faith.
- Developed the Anahola.net Web site to keep the community informed about the state of the environment and the progress towards achieving the Project Faith goal.
- Used the EJ CPS cooperative agreement as a springboard for obtaining other monetary and nonmonetary support to fulfill the Project Faith vision.

MAKE THE ROAD BY WALKING (MRBW)

Introduction

Since 1997, MRBW has provided support for self-organizing activities by the unemployed, undocumented, and working poor in the neighborhood of Bushwick in Brooklyn, New York. It is a membership-led organization with more than 50 donor organizations and more than 100 individual donors. MRBW provides community residents with information, advocacy, representation, and referrals about emergency food, shelter, and assistance. In addition, residents can attend legal rights training sessions on welfare, disability benefits, immigration, housing, domestic violence, and the criminal justice system.

The organization develops advocacy skills, promotes collective action, and holds local institutions accountable by organizing campaigns that address issues ranging from lack of translation services in neighborhood welfare centers to abuses of undocumented immigrant workers. Residents also organize for a healthier community, targeting high asthma and lead poisoning rates in children, as well as the need for parks and other open spaces.

In 2001, MRBW received an environmental justice small grant of $15,000. The grant enabled the organization to identify asthma as a major health issue in the community and to initiate a capacity-building program to begin educating the Bushwick community and surrounding areas on some of the causes, preventative measures, and local treatment services associated with asthma. In 2004, MRBW partnered with the Wyckoff Heights Medical Center (WHMC) and the North Brooklyn branch of New York Department of Health and Mental Hygiene to form the Bushwick Environmental Health Collaborative (BEHC) to address

PROJECT SNAPSHOT

Environmental and/or Public Health Concern: Resident exposure to indoor asthma triggers within the home.

Environmental and/or Public Health Result Desired: Reduction in resident exposure to asthma triggers.

Causes of the Environmental and/or Public Health Concern: 1) The community lacks access to information on how to avoid a number of asthma triggers; 2) healthcare is inadequate to address resident needs in terms of treatment for asthma; 3) landlords refuse to reduce asthma triggers through maintenance and repair of rental units; and 4) the city lacks a comprehensive, citywide policy to address asthma.

Attributable Events: 1) Community residents avoid a number of asthma triggers by taking self-protective measures; 2) healthcare providers extend services and hours to address resident asthma needs; 3) landlords maintain and repair rental units, thereby reducing resident exposure to asthma triggers; and 4) the city establishes a comprehensive, citywide policy to address asthma.

environmental health disparities in Bushwick. Through a series of focus groups with community members, BEHC decided to target the high levels of asthma in the community.

Project Strategy

MRBW opted to work toward four attributable events: 1) community residents avoid a number of asthma triggers by taking self-protective measures; 2) healthcare providers extend services and hours to address resident asthma needs; 3) landlords maintain and repair rental units, thereby reducing resident exposure to asthma triggers; and 4) the city establishes a comprehensive, city-wide policy to address asthma.

First, MRBW led an extensive community training program on asthma and other indoor environmental hazards. MRBW's approach included both traditional training workshops and other strategies to educate the residents about asthma. For example, MRBW conducted 1,239 one-on-one community dialogues with asthmatics. They also hired and trained three asthmatic community members to complete more than 600 of these dialogues. In the dialogues, participants discussed each asthmatic's case history and how the person could better control their asthma.

Along with BEHC, MRBW also conducted a number of asthma workshops that focused on the specific needs of the Bushwick community. The three-part workshop curriculum provided information on asthma in general, indoor asthma triggers and tenants' rights, and integrated pest management and its asthma implications.

Finally, MRBW launched an extensive media campaign about asthma in Bushwick, which referenced a BEHC-published report on the main indoor asthma triggers and barriers to proper asthma treatment in Bushwick. The report, published in both English and Spanish, was based on 300 community dialogues that MRBW conducted. MRBW distributed a summary of the report to 1,800 members and asthmatics who had participated in the workshops, and organized a press conference to announce the report. Five citywide television stations and four newspapers covered the story.

In addition, MRBW partnered with WHMC, one of two hospitals located in Bushwick, which led to the jointly published report (with the Department of Health and WHMC), Fighting to Breathe: Asthma in Bushwick, documenting the status of asthma in the community. The hospital also extended the hours that its satellite clinics will see asthmatics. The partnership has also helped WHMC institute its chronic care model to better treat chronic asthmatics. This model identifies the key elements necessary for quality care for chronic illness: community, health system, self-management support, delivery system design, decision support, and clinical information systems.

Another element of the EJ CPS project involved empowering community residents to take care of themselves. Many residents were fearful of approaching landlords to ask for repairs on rental units because they are undocumented residents, have been physically threatened by landlords, and have no other housing alternative. MRBW worked with residents to teach them about their rights as tenants because many were unaware of local landlord tenant laws. MRBW has an environmental justice group, BASTA, that presents information to community members about asthma, tenant rights, and other environmental justice issues. Nearly 140 new participants and 64 new members have participated in BASTA.

To provide additional support to residents in dealing with their landlords, the EJ CPS project helped fund performance-theatre activities using a training method known as "theater of the oppressed," developed in Brazil. Through this method, actors develop and perform skits, and the audience actively participates. This type of role-playing activity helped to empower residents by preparing them for real-life interactions with landlords. MRBW also documented whether residents approached their landlords and if they did, whether the landlords' responses were mostly positive or negative.

Oftentimes, environmental and/or public health issues like asthma are addressed by various groups in a disjointed way, without any coordination among various stakeholders. Realizing that the roots of Bushwick's high asthma rates are not only locally based but also based in citywide problems, MRBW expanded its collaborative to include other community groups, service providers, and city institutions throughout New York City. For example, in March 2006, MRBW and the New York City's Department of Health and Mental Hygiene convened a meeting of eight different service providers and community groups in northern Brooklyn to better coordinate asthma services in all of northern Brooklyn. In addition, MRBW has convened a collaborative of 10 community groups from around the city to discuss recommending policy changes to city agencies regarding indoor asthma triggers and housing code enforcement. In June 2006, this new coalition, called the Coalition for Asthma Free Homes (CAFH), organized a press event in front of an asthmatic MRBW member's home. CAFH has met with the Bureau of Environmental Disease Prevention to discuss collaboration on potential citywide policy changes.

ACCOMPLISHMENTS

- Educated 1,239 community members on how they can obtain better treatment for their asthma and reduce their exposures to asthma triggers.
- Conducted workshops on asthma, indoor triggers and tenant rights, and integrated pest management.
- Launched a media campaign about asthma in Bushwick; five television stations and four newspapers covered the story.
- Published a joint report with the community's medical center on the main indoor asthma triggers and barriers to proper asthma treatment.
- Empowered residents to approach landlords to maintain and repair rental units by educating them on their rights as tenants by:
  - Teaching them about landlord tenant laws.
  - Forming a street theater group to model the way to approach landlords about controlling asthma triggers.
  - Documenting whether residents began approaching their landlords, and if they did, whether the landlords' responses are mostly positive or negative.
- Established collaborations with 10 community groups to discuss recommending policy changes to city agencies regarding indoor asthma triggers and housing codes.

CONCLUSION

Collaborative problem-solving is an effective tool to address complex and interrelated environmental, public health, economic, and social problems in local communities. It involves a diverse number of stakeholders, which can include nonprofit organizations, state and local governments, faith-based organizations, and private industry, working together to address a specific issue or concern. While the issue that needs to be addressed might be complex and deeply rooted, these case studies demonstrate that when diverse groups work together, it is possible to achieve permanent solutions to long-standing problems in the community. The collaborative problem-solving approach offers a positive, non-adversarial model to engage the various stakeholders in order to create a collective vision of health and sustainability for the entire community.

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