EPA United States Environmental Protection Agency

CARE
LOCAL PARTNERSHIPS. HEALTHY COMMUNITIES.

Promising Practices to Improve Community Performance and Sustainability PART II

Tips for Better CARE

Community Action for a Renewed Environment (CARE)
www.epa.gov/CARE

OVERVIEW

The U.S Environmental Protection Agency's (EPA's) Community Action for a Renewed Environment (CARE) Program offers communities an innovative way to reduce the risks from pollution in their environment. The CARE process helps communities build capacity to reduce toxics through local collaboration. CARE provides on-the-ground technical assistance and funding to communities to help them understand, prioritize, and address environmental health threats from all sources.

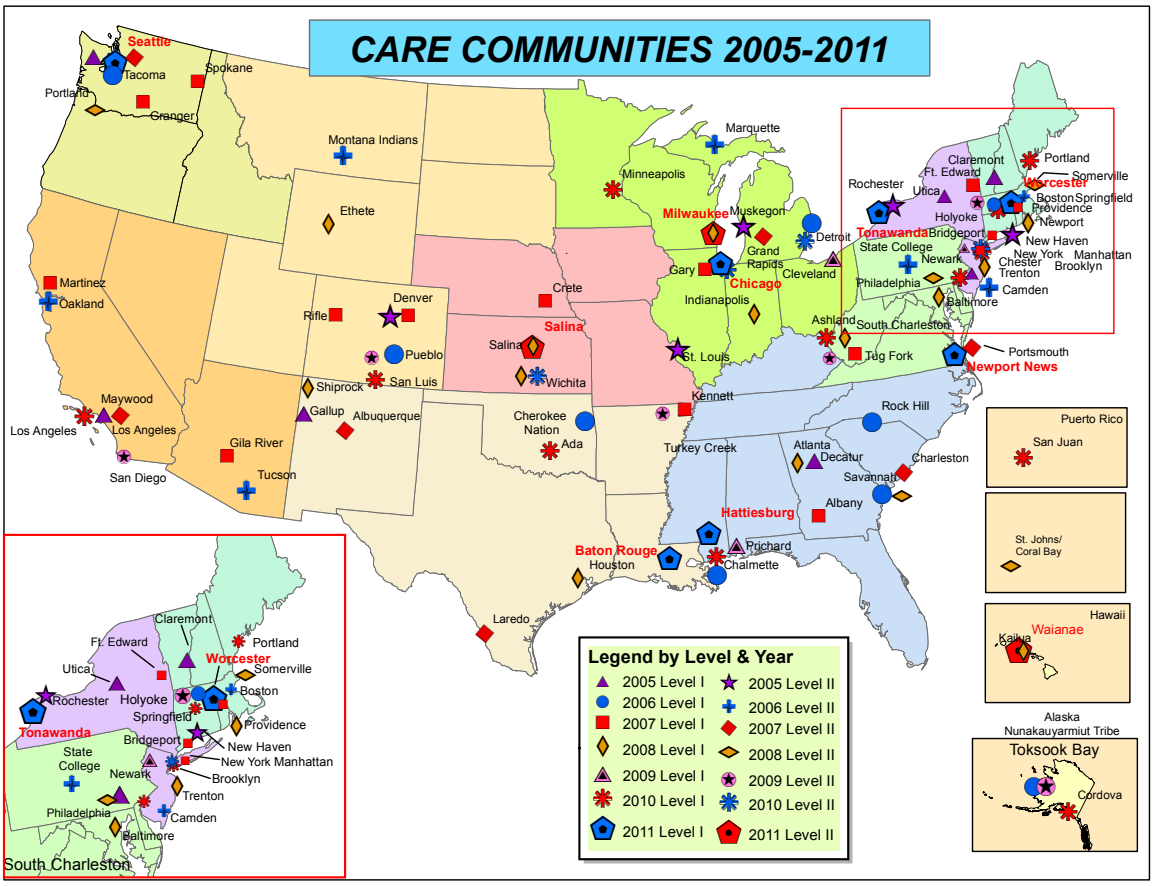
A recent evaluation by the National Association of Public Administration (NAPA) recognized CARE as a solid, tested framework for engaging communities and other stakeholders. Since 2005, 104 grants have reached 87 communities, allowing for the CARE process to occur in 40 states and territories.

DOCUMENT PURPOSE

The Part II of Promising Practices picks up where our earlier CARE publication, "Promising Practices to Improve Performance and Sustainability: Tips for Better Care," left off, offering more tips on how communities can solve environmental problems, including the results of this work. This document describes 13 more promising practices and tips drawn from communities that participated in the CARE program's collaborative process to find new ways to reduce risks and improve environmental quality while creating sustainable programs.

These lessons are applicable to all community work, not just in CARE communities. EPA has published these "tips" because the lessons learned and the anecdotes from one CARE community can inspire and fuel ideas and action in the other communities, promoting peer-to-peer learning.

All of the examples illustrate the power of collaboration, inclusion, and willingness to take risks and to do things differently.



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THE CARE PROCESS

CARE grantees follow a series of four steps to successfully complete their CARE projects:

1. Join Together

A broad-based partnership is formed. Partners could be non-profit groups, community organizations, businesses, schools and state, Tribal and local government agencies, EPA and other federal agencies.

2. Identify Problems and Solutions

Working together, this stakeholder group assesses toxics problems in their community and considers options for reducing risks. Many of the emission and exposure reductions will result from the application of EPA partnership programs.

3. Implement Solutions/Reduce Risks

The partnership identifies the combination of programs that best meet the community's needs. EPA funding helps to implement these projects. The community begins improving its environment.

4. Become Self Sustaining

The community develops new ways to attract funding and partners into their broad-based collaborative to build on its success. New problem assessments are completed and new solutions identified. The result: the partnership becomes self-sustaining and continues working to improve the environment where community members live, work and play.

CARE offers two different types of Cooperative Agreements: Level I and Level II. Level 1 Cooperative Agreements help communities with steps 1 and 2. Level 2 Cooperative Agreements help communities with steps 2 and 3.

Tip 15: Create Green Jobs Through Healthy Food and Green Energy Enterprises

NUESTRAS RAÍCES, INC.
HOLYOKE, MASSACHUSETTS
CARE LEVEL I AND II

Considered the nation's first planned industrial city, Holyoke boasted a strong economy in the 19th century employing waves of European immigrant workers. However, in the post-WWII period of deindustrialization, the textile and paper mills closed down. Holyoke's history of industrialization and later disinvestment has left it with a host of social, economic, and environmental challenges. A struggling economy with a poverty rate that currently stands at 35% and a legacy of environmental pollution, starting with the mill closings, has left a topography of abandoned factories including 17 EPA-designated brownfields. These brownfields contributed to the city's poor air quality and disproportionately high asthma rates, to levels of diesel particulate matter at 3-5 times above the EPA's health benchmark for cancer, and to the erosion of healthy, green spaces for children to play.

Nuestras Raíces, one of Holyoke's most respected and well known community-based organizations, grew from the visions and agri-cultural heritage of the city's predominantly Puerto Rican/ Latino residents, now comprising 41 percent of the city's population. The organization has helped the community build access to an

Key Actions

- Engaged in intergenerational organizing to raise community awareness about local environmental health risks
- Transformed blighted urban land into sustainable gardens and farm, increasing green space and access to healthy produce
- Leveraged federal funding to develop RootsUp green jobs training program
- Launched Energía, a for-profit, green energy services company

Nuestra Raices launched Energia, a green energy services company, which provides green jobs for youth.

urban, local foods infrastructure with its network of community gardens, a 30-acre urban farm known as La Finca, and several farmers' markets selling healthy, organic produce. Although the organization strove to create a healthier community through producing fresh, local foods, the residents were still suffering from disproportionately high asthma rates and the levels of pediatric asthma stood at twice the rate of the rest of Massachusetts.

A New Focus on Multiple Environmental Health Risks

CARE grantee Nuestras Raíces has built a community health coalition of diverse partners to address the multiple environmental health risks facing Holyoke's environmental justice communities and the city at large. The CARE project focused on risk factors to the community related to indoor and outdoor air quality, water quality and mercury contamination from eating fish from the Connecticut River, and land use issues pertaining to brownfield redevelopment and the hazards associated with vacant lots. Working with coalition partners and EPA technical assistance, Nuestras Raíces' youth environmental organizers -- Los Protectores de la Tierra -- monitored air quality and led "soot patrols" throughout the city raising awareness of the diesel particulate emissions to which residents are exposed on a daily basis.

The organization's women's group, Raíces Latina, designed Healthy Homes workshops for families providing information about risk factors in the home that may trigger asthma. Families were educated about affordable alternatives for reducing exposures.

Nuestras Raíces Farmers' Market Manager sells Ajices Dulces, Puerto Rican Sweet Peppers.

The CARE Roadmap process to identify and prioritize risks revealed that many community members enjoyed fishing in the Connecticut River yet were unaware of the risks of eating the fish. To address these concerns, Nuestras Raíces' members, including gardeners and farmers who are also fishermen, are currently working with city planners and water quality experts to develop bi-lingual safe fishing advisories to educate the community about the health risks of eating mercury and polychlorinated biphenyl (PCB)-contaminated fish from the river.

Nuestra Raices helped start local food businesses, creating jobs. Its network of farmers markets also provided increased access to produce by low-income groups by accepting SNAP/EBT cards.

Sustainable Development for the Future

Working with the city's economic development department, the Nuestras Raíces CARE project leveraged technical assistance funding for brownfield assessment of several sites. This partnership has strengthened the city's commitment to creating industrial redevelopment policies that will avoid the production of future brownfields and will instead generate sustainable development opportunities.

Healthy Food Microenterprises

As a CARE grantee, Nuestras Raíces was the driving partner in leveraging funding from the WK Kellogg Foundation and was selected as one of nine Food & Fitness Collaboratives nationwide. Joining the organization's mission of community economic development with the issues of food, environment, and health, and drawing on the entrepreneurial spirit of the local gardeners and farmers, Nuestras Raíces has helped to incubate several local foods microenterprises. These include a network of farmers' markets, a

Puerto Rican café, a farm store, a mobile, healthy food cart known as the Movable Feast, and a traditional Puerto Rican barbeque known as La Lechonera, helping to create sustainable jobs for the local economy.

Green Jobs Training

As the CARE project began raising awareness and building capacity of local organizers to reduce environmental health risks and in response to the high unemployment rate and lack of workforce development for youth in the region, Nuestras Raíces applied for federal Pathways Out of Poverty funding to start RootsUp, a green jobs training program. To date, RootsUp has completed three cohorts with 22 graduates placed in local energy and green building and manufacturing companies. And finally, Nuestras Raíces' aim to create a healthier community came full circle by bringing together its roots in community gardening and local agriculture with its environmental goals of helping to mitigate global climate change through energy conservation and sustainable economic development.

The organization's growing expertise through CARE and other community environmental and health programs allowed it to leverage federal Department of Health community economic development funding to launch and become the majority owner of Energía, a green energy services company providing a career path with green jobs for local youth. Energía is helping to increase energy conservation and renewable energy use in the community; it serves as an example for a "triple bottom line" business model, and, as it grows and thrives, it will provide a source of sustainable income generation to reduce Nuestras Raíces' reliance on grants.

Project Results

- **Launched Energía, LLC, 24% worker-owned weatherization company, 14 green jobs trainees hired with 4 vested as worker-owners.**
- **40 local, at-risk youth trained in weatherization, insulation, and solar hot water system installation; 22 of these hired in local energy conservation and green building and manufacturing companies.**
- **Local foods small businesses, including networks of farmers markets, farm stores, cafes, restaurants, food carts, started.**
- **300 families reached through bi-lingual, culturally-relevant asthma education, recycling, and healthy homes outreach programs.**
- **70 farmers trained through bi-lingual farmer workshops on Integrated Pest Management, watershed protection, soil fertility, and farm business management.**
- **8 local, farmers' markets accepting Women, Infants and Children (WIC) and Supplemental Nutrition Assistance Program (SNAP) double value coupons to promote access to produce among low-income groups.**
- **3 new community gardens established turning blighted urban land into sustainable gardens and farm, increasing green space and access to healthy produce.**

Tip 16: Leverage Community and Government Partnerships to Carry Out Innovative Solutions

CORAL BAY COMMUNITY COUNCIL
ST. JOHN, U.S. VIRGIN ISLANDS

CARE LEVEL II

This small, diverse CARE community in the US Virgin Islands marshaled resources from many partners to implement state-of-the-art stormwater controls in a successful effort to protect the pristine, turquoise-blue waters of Coral Bay and its fragile coral reefs. Fewer than 2,000 people live in the rural 3,000-acre watershed, which is located on the remote island of St. John in the US Virgin Islands; however, unmanaged land development has become a threat to the environment and residents' quality of life. In 2003, the Coral Bay Community Council (CBCC) formed with a goal to build consensus about common issues of concern among the small community – especially focused on securing quality government services and leveraging resources to address stormwater runoff and other threats to the community's resources.

Addressing Sediment-Laden Stormwater Plumes

From the beginning, the most widely-held concern was the need to address the sediment-laden stormwater plumes reaching the beautiful blue waters and important marine nursery habitat in Coral Bay. After first soliciting help from the territorial Department of Planning and Natural Resources (DPNR), CBCC approached the National Oceanic

Key Actions

- Mobilized support from community members, Home Owners Associations and Public Works and other Virgin Islands and federal government agencies
- Provided engineering expertise and water and air quality testing to assess priority problems and design best management practices
- Implemented priority actions to control stormwater runoff and minimize runoff polluting Coral Bay and its coral reef habitats
- Secured $1.7 million in additional grants and resources to carry out priority projects

Addressing sediment plumes into Coral Bay's coral reef habitats was a priority of the Coral Bay Community Council.

Innovative stormwater techniques were used to control runoff such as this photo shows.

and Atmospheric Administration (NOAA) and EPA for assistance. In 2007, NOAA funded a Watershed Management Plan (WMP) as a pilot watershed plan for Coral Bay. CBCC then applied for the CARE level II grant in 2008 to carry out the objectives in the WMP, resulting in the Coral Bay Watershed Management project (http://www.coralbaycommunitycouncil.org).

The CARE grant enabled the community to initiate innovative solutions and leverage monies from numerous partners and stakeholders to carry out the watershed plan. Using the CARE funding, CBCC hired a stormwater engineer who evaluated the runoff problems in Coral Bay and recommended state-of-the-art solutions. Poorly regulated road construction (unregulated cutting of dirt roads and old-style public roads built beginning in the 1960s) was the key culprit in the pollution problem.

Leveraging Government Support

To implement 18 project designs done under the CARE grant in six subwatersheds, in 2009, CBCC, with another local non-governmental organization, applied for and secured a $1.5 million NOAA-ARRA grant to restore natural drainage functions and pave roads in order to eliminate or reduce the sediment-laden stormwater runoff plumes entering the bay. Additional financial contributions by homeowners associations to fund these projects and the partnership with Public Works showed the overwhelming amount of support and local commitment. To date, CBCC has implemented aspects of 7 out of 11 WMP objectives using CARE grant funds and financial and volunteer/staff support from other partners. A new NOAA grant and community support will allow CBCC to sponsor an update of the WMP in 2013.

Employing Innovative Techniques

Very significantly, the CARE project demonstrated how new techniques could be used locally, including bioretention basins and waterbars, to direct waterflow and effectively reduce runoff into Coral Bay and fragile coral reef habitat. Water quality monitoring and turbidity tests are confirming the visible improvements to water quality in Coral Bay. In three subwatersheds, four sampling points show a downward trend in turbidity levels. Reduced water flows were also observed.

The CARE grant also enabled the community to take actions to improve the island's drinking water supply. In Coral Bay, rainwater is collected from roofs and stored in cisterns for use as potable water in homes and businesses. Using EPA Drinking Water standard testing, a study was done of cistern water to determine if readily available means of purifying the water could help control contaminants coming from the air and birds and other wildlife on roofs and in gutters. The study concluded that a $1,000 UV lamp purification and filtration system was an easy and cost-effective solution to purify the water. Since most people do not have these systems installed and

Coral Bay Watershed, St. John, United States Virgin Islands.

use the water as is, publicizing this research is expected to change people's practices and reduce health risks.

Reducing Pollution from Neighboring Islands

Most recently, the community experienced some periods of acrid smoke in the air from the neighboring British Virgin Islands (BVI), originating from open garbage burning at its government dumpsite less than 3 miles from Coral Bay. This became an "international incident," and CBCC worked to raise awareness with the BVI government, the State Department, EPA, and the media. In part, thanks to these efforts, a number of important actions are underway to address the air quality problem. BVI is now sorting their wastes and not burning toxics, and the government has installed a new incinerator and agreed to expedite installing scrubbers to reduce emissions and enact a solid waste management plan. The CARE partnership helped leverage additional EPA support, with the agency providing air quality testing at various points over the two years

Managing Household and Business Wastes

In Coral Bay, another environmental hazard comes from household and business wastes that are deposited in three huge open bins by the side of the public road located in the mangroves. The wastes are transported to a neighboring St. Thomas island landfill several times a week. However, while in the Coral Bay location, rainwater washes the litter and waste from the bins directly into the marine benthic habitat threatening the marine nursery, the turtle and bird populations. The community and CBCC are actively working to encourage the local government to pay to move this collection site, encourage recycling, and install an environmentally-appropriate collection site.

CBCC has successfully inspired community/ government partnerships to tackle the stormwater control problems and take on other environmental problems constructively. The core dollars from the CARE grant provided the impetus and expertise to carry out priority actions and to leverage funds and technical assistance from a wide variety of stakeholders at the local, state and federal level to improve the health of the community and environment of Coral Bay. Through these CARE partnerships, money, expertise and action were brought to these important community issues.

Recently CBCC has leveraged additional funds to do a "fifth year" update of the Watershed Management Plan and continue stormwater runoff mitigation activities.

Project Results

- **Significantly improved water clarity in Coral Bay and reduced turbidity by reducing runoff.**
- **Redirected stormwater to natural streambeds in over 10 locations. Captured sediment in a new bioretention pond and sediment detention basin.**
- **Reduced runoff at over 60 locations using vegetated swales, bioretention areas, paving, unique water bars and other innovative stormwater techniques.**
- **Held 10 workshops to educate residents and contractors on stormwater best management practices.**
- **Educated residents on bacterial levels and low-cost purification systems to protect drinking water supplies. Based on this information, some residents have installed these systems.**
- **Neighboring British Virgin Islands installed incinerator system to reduce air pollution.**
- **Leveraged additional $1.7 million from other project partners to implement over 70 BMPs in 6 drainage basins.**

Tip 17: Partnering Around a Beautification Campaign

CITY OF LAREDO, TEXAS
LAREDO, TEXAS
CARE LEVEL II

Keep *Laredo Beautiful!!* This was the slogan repeated throughout the CARE project to help engage and inspire residents to lift up their community to greater environmental protection and health. Like other settlements and colonias along the U.S./Mexican border, the Laredo inner city and Webb County Colonias, are poor and overpopulated, lacking paved roads, safe and sanitary housing, health care access, basic water and sewer systems and environmental education and controls, which combined with their cultural and linguistic differences, presents looming problems. Residents live with risks from improper use and disposal of household hazardous products, standing water, lead, mercury, asthma triggers, carbon monoxide, illegal dumping, and basic sanitation.

Residents desired a more beautiful community. Removing eyesores and improving the visual aspects of neighborhoods led to cleaning up properties and other actions which in turn raised interest in improving the community's health and environment. Through the concept of "beautification," the community united around a larger effort to improve the quality of life, and make the community cleaner, healthier, and safer.

The project grew into a collaborative effort among 28 partners to improve the environmental health of the community. Residents, city departments, local and national organizations alike

Key Actions

- Developed strong, broad partnership to reach diverse audiences and built trust
- Linked illnesses and diseases to environmental stressors to develop prevention strategies, including lifestyle changes
- Brought trainings to schools, municipal housing centers, religious organizations, daycare, homecare provider agencies, social service agencies
- Helped launch sustainable, innovative reuse and recycling programs that are now integrated into government programs

Over 900 citations for illegal dumping helped the city clean up.

Cleaning up trash and eyesores left this community cleaner, healthier and more economically sustainable.

shared resources and methods to maximize their outreach capabilities. Community members became environmental leaders empowered to make a difference in their own health and to improve their community. The project led to residents demanding more environmental programs and education and accepting greater responsibility for the care of their community's health and environment. The project created sustainable programs that have the support of Laredo citizens and have become integrated into city government programs.

Empowering Citizens to be Leaders

An initial challenge was that some residents did not perceive that conditions in their immediate neighborhood were harmful to themselves and their environment. The CARE partnership began to build trust, presenting information on environmental risks at health fairs, then through numerous other venues, and visits to certain areas on food distribution days. "The more information we provided, the more people wanted, so we catered to their need to know," said the grantee. Trainings were held at municipal housing centers, public schools, religious organizations, adult daycares, as well as homecare provider agencies, adult education learning centers, and social services agencies and addressed local risks and solutions.

To empower youth, K-5th grade children were trained on: the importance of preserving the local water source, the Rio Grande; mosquito life cycle and controls including the role of tires in mosquito breeding; household hazardous materials; recycling; litter prevention; storm water runoff; and pollutants health effects and how each person can make a difference. The children were recruited as "Green Rangers" and were challenged to teach their parents about recycling, disposing of hazards appropriately, eliminating breeding ground for mosquitoes and other pests.

"The biggest challenge was being accepted by the community, but by being there ready to answer their questions and assist them with their needs, we won their trust and they joined to do their part," the guarantee reported. Individuals were empowered to make a difference within their own homes. Tools such as a "Guide to a Healthy Home" and "Go Green, Healthy Home Recipes for a Green Clean Environment" were developed and distributed. This empowered individuals to make a difference within their own homes through environmental control. The project showed the people how they could save money on cleaning products and could protect themselves from potentially harmful materials they use every day.

Using Innovative Reuse and Recycling Programs

Innovative reuse and recycling programs addressed the problem of discarded household items, which were as unsightly as they were damaging to the environment. Education on these programs and how it benefits health, the environment and the community boosted city-wide participation.

Reuse, Recycling, and Disposal

Unused paint, brake fluids, antifreeze, cleaning products, and other household items can be dropped off daily at the Collection Center or collected at Collection Events. Items are assessed for reuse and are made available for residents to take for free. Some of the paints are used during beautification projects for painting over graffiti, giving a home a fresh coat of paint, or just painting small planters for gardening projects.

Mercury-containing light bulbs are taken by a contactor for recycling and reuse. White goods (appliances) and electronics (phones and computers, etc.) are collected for recycling. All materials are reused, recycled, or properly disposed. A radio and TV campaign encouraged residents to take Household Hazardous Materials (HHM) to the collection site at the landfill

(open daily) or to turn HHM during collection events held throughout the year.

- **Used Oil Recycling Collection Stations.** Residents can drop off their used oil at these locations. Used oil dropped off is picked up by an oil recycler and reused.

- **Scrap Tire Round-Ups and Cash for Tires.** Citizens can also bring four tires per day for free to the landfill. In addition, two "Cash for Tires" events are held each year, and additional events are added during weather conditions which promote mosquito breeding. Tires are shredded for use in the city landfill, used for a private land-reclamation project or are sent to a recycling plant.

- **Operation Clean-up.** All 8 city council districts identify areas that need attention. Then City Code Enforcement, Environmental Health, Environmental Services, Animal Control, Fire and Police carry out a targeted door-to-door information campaign in the specified area. Residents are provided a location to put all their unwanted items and yard trash for pick ups on specified dates.

All programs continue and Loredo Environmental Summit monthly meetings with partners continue under the support of State Senator Judith Zafferini. "CARE was instrumental in bringing our entire city's solitary efforts and services together, enhancing them, and working together as a team," says a City of Loredo representative.

Project Results

- **Collected and recycled or re-used over 6,600 tons of recyclables, over 200,000 pounds household hazardous waste, and almost 100,000 gallons of used oil. Over 84,000 scrap tires collected, recycled or disposed and 460 tons of trash collected.**
- **Over 96,000 residential properties cleaned up with partners including church groups and industry. 910 citations for violations and nuisances for illegal dumping. Over 10,000 students trained in recycling, pests, water conservation and quality and safe management of household hazardous products.**
- **Over 400 trained as promotoras or outreach workers.**
- **3,600 trained at 113 separate group trainings, 12,800 informed through outreach health fairs.**

Tip 18: Build a Community-Led River Restoration Project

THE ELIZABETH RIVER PROJECT
CHESAPEAKE, VIRGINIA
CARE LEVEL I

The Elizabeth River Project is a community-based non-profit founded by four volunteers around a kitchen table in 1991, which today is cleaning up toxic sediments from the bottom of the river while restoring wetlands, oysters, and forests. The mission of the Elizabeth River Project is to restore the environmental quality of the Elizabeth River, one of the most toxic tributaries to the Chesapeake Bay, through government, business and community partnerships. Located at the mouth of the Chesapeake Bay in southeastern Virginia, the Elizabeth serves as the military and commercial harbor for the cities of Norfolk, Portsmouth, Chesapeake, and Virginia Beach.

Sediment cleanup has always been Elizabeth River Project's main focus since it was known that the river could not recover unless the contamination on the bottom of the river was remediated. These sediments have resulted in 70 percent rate of cancerous and pre-cancerous lesions on the livers of a bottom-dwelling killifish known as mummichogs and 100 percent mortality in a larger fish, "spot" (Leiostomus xanthurus), after two hours of exposure to contaminated sediments.

Key Actions

- Coordinated diverse stakeholders to develop an agreed upon plan to restore Money Point, one of the most contaminated sites in the Elizabeth River and Chesapeake Bay
- Used living cap to reduce the impacts of toxins to the environment by isolating them from the river.
- Developed River Stars program to help industry achieve voluntary pollution prevention in air, water, and soil

A Design for Dredging Sediments

Through the CARE process, Elizabeth River engaged industry, regulators, and citizens to develop a detailed design for dredging contaminated sediments from the river and constructing the first known living cap of its kind

The river is already being restored with return of fish species and reduction in fish cancer rates.

The first phase of the project included dredging 750 cubic yards of Polycyclic Aromatic Hydrocarbon (PAH) contaminated sediments and using a wetland cap to isolate river contamination. Phase II began in the summer of 2011 when the Elizabeth River Project dredged over 15,500 cubic yards of highly contaminated sediment out of the river and replaced it with clean sand.

to reduce toxics to the Elizabeth River. The design of the living cap involved placing clean sand over 1.3 acres of contaminated river bottom and then planting a tidal marsh in the sand to prevent it from eroding. The other 3 acres of the living cap included placing clean sand over contaminated river bottom and then building an oyster reef over the sand..

The design developed through CARE directly addressed the highest identified community priority need for the Elizabeth River: To remediate contaminated sediments and restoring wetlands and oyster, resulting in improved water quality. The first phase of the project included dredging 750 cubic yards of Polycyclic Aromatic Hydrocarbon (PAH) -contaminated sediments and using a wetland cap to isolate river contamination. Phase II began in the summer of 2011 when the Elizabeth River Project dredged over 15,500 cubic yards of highly contaminated sediment out of the river and replaced it with clean sand. During the winter of 2012 the Elizabeth River Project completed the project by restoring a three-acre oyster reef at the site.

The Elizabeth River Project focused on restoration activities and community education to implement the locally based plan, Elizabeth River Restoration and Conservation, a Watershed Action Plan. Current major programs include: 1) Cleaning up contaminated sediments; 2) Restoration of wetlands, shellfish, and forests; 3) The "River Stars" program to enlist industrial partners making environmental responsibly the standard for all river industries; and 4) Empowering citizens.

CARE also provided support to the Elizabeth River Project's "River Star" program which assists industries to achieve voluntary pollution prevention in air, water and soil, as well as wildlife habitat enhancement in the watershed. The award-winning program, recognized as an international model, achieves results by: reducing pollution and treatment from toxic runoff, reducing hazardous waste and air emissions, and enhancing wildlife habitat such as wetlands, riparian buffers, and urban forests which also greatly reduce toxics reaching the river. Elizabeth River Project staff provided technical assistance and public recognition through the River Stars program.

During the two-year grant period, River Stars on the Southern Branch of the Elizabeth River documented the reduction of over 15,970,000 pounds of pollution and conservation or restoration of almost 79 acres of wildlife habitat enhancement. Elizabeth River is the first sediment remediation project carried out in Virginia and one of the only community-led sediment cleanup sites in the nation.

The CARE grant provided support to the Elizabeth River Project's "River Star" program which assists industries to achieve voluntary pollution prevention (P2) in air, water and soil, as well as wildlife habitat enhancement in the watershed.

Project Results

- **Removed over 15,000 cubic yards of contaminated sediment from the river.**
- **Restored over 13 acres of river habitat which is now thriving.**
- **Reduced over 15,970,000 pounds of pollution and conserved or restored 78.59 acres of wildlife habitat enhancement, as documented by 34 River Star companies.**
- **Reduced PAH levels from 8,000 parts per million to less than 45 ppm. Over 20 species of fishes have been documented using the restored area and cancer in the mummichog fish has dropped to only 8% by 2011.**
- **Empowered 34 industries to cleanup the river with over 15 different projects.**

Tip 19: Tackle Emerging Issues as They Arise

SOUTHWEST DETROIT ENVIRONMENTAL VISION (SDEV)
DETROIT, MICHIGAN
CARE LEVEL I

Key Actions

- Tackled immediate health and environment concerns
- Used CARE Community Action Plan to engage and leverage resources from business
- Developed the Healthy Business Strategy to reduce air pollution

This Southwest Detroit CARE project is working with two contiguous communities in Dearborn, Michigan that are plagued by air quality problems due to the proximity to major industries and transportation infrastructure such as freeways and rail yards. Southwest Detroit also hosts the nation's busiest international border with Canada with approximately 3.5 million trucks crossing per year and 10,000 trucks per day. The closing of many factories in the 1970s and 1980s left numerous contaminated sites in the community that are targets of illegal dumping. In spite of these challenges, the increasing number of Hispanic and Arab immigrants moving into Southwest Detroit has led to revitalization efforts and population growth. The CARE Level I project provided an opportunity to bring together representatives of ethnically and racially diverse populations to forge a common understanding of the toxic risks that are impacting them on a daily basis and to develop a Community Action Plan to reduce those risks.

Building Coalitions around Immediate Environmental Concerns

During the CARE Level I process, focus groups were formed around the key environmental issues including air quality, land use, solid waste and healthy homes. While environmental health information was being gathered and analyzed, there was a synergy of collaboration being developed which resulted in coalition building around immediate concerns. These CARE Coalitions engaged in activities to address immediate concerns while concurrently practicing collaborative learning about environmental health issues in the larger CARE community meetings. Results of taking actions to reduce risk and pollution in the CARE Level I process include: securing a recycling drop off facility in the community which now sponsors a monthly drop off site which has resulted in the removal of 35 tons of material from the waste stream; scrap tire collections which resulted in the removal of 5,000 tires from neighborhood streets; securing funding from the Michigan Department of Environmental Quality to purchase diesel emission reduction technology and replace old diesel engines for nine businesses in the Southwest Detroit area, which resulted in the removal of 140 tons of diesel emissions annually. Now the project has reduced more than 6,000 tons of diesel emissions.

Use of pollution control technologies and replacement of old engines has led to removal of 6,000 tons annually.

Using the CARE Community Action Plan to Leverage Resources

The final product of the CARE Level I process was a consensus based Community Action Plan which identified key issues, potential funding opportunities and measure of outcomes. The SDEV successfully utilized the Community Action Plan to engage local businesses to invest in strategies to reduce cumulative environmental impacts and to leverage resources according to community identified priorities. These plans serve as a 5-year investment plan for reducing environmental risks and are consensus based. They only include actions that grassroots organizations, business, state and local government, EPA, local non-profit organizations, and residents collectively agree to. To date, the CARE community has leveraged over $4 million in public and private funding to address its top priorities and has received a CARE Level II Cooperative Agreement from EPA to implement a "Healthy Homes and Healthy Businesses" Project in Southwest Detroit. This Level II CARE project is designed to reduce risks from four environmental issues that were selected as top community priorities in CARE Level I: mobile source air pollutants, stationary source air pollutants, incompatible land uses, and lead poisoning. In response to these community priorities identified in the community action plan, the grantee formed a Southwest Detroit Diesel Collaborative and partnered with local businesses on diesel retrofits, received funding from the ARRA for diesel reduction and the Midwest Clean Diesel Initiative and forged a partnership with the State of Michigan's Department of Environmental Quality and Department of Transportation. For its efforts, Southwest Detroit Environmental Vision was awarded the 2012 Leadership Award from the Midwest Clean Diesel Initiative.

Engaging Business Partners in the Healthy Business Program

The Healthy Business Program being implemented under the CARE Level II grant is recruiting additional business partners to join the partnership and reduce environmental health risks. Autobody shops, scrap and container yards, and trucking industries are being recruited to join the partnership and implement a range of voluntary actions such as fugitive dust suppression and incorporating sustainable operating practices to reduce air emissions. Results of air pollution reduction efforts under the Healthy Business Program include the reduction of 820 tons NOX, 220 tons PM, and almost 13,600 tons of CO_2.

Targeting High Risk Homes for Lead Poisoning

The Healthy Homes Project is providing risk reduction tools to households at highest risk for lead poisoning. Homes with recorded lead poisonings in Southwest Detroit and South Dearborn are being provided tools to address lead poisoning, asthma and breathing problems. Over one third of the population of these communities are children. To date, 60 healthy homes visits have been completed with high risk families in Southwest Detroit.

One company receiving the "Healthy Home Partner Award" for investing over $2 million in improvements to make its facility and equipment more energy effiencient and for reducing waste and pollution.

Project Results

- **Removed 35 tons of material from waste stream from recycling drop off facility that project secured in the community.**
- **Removed 5,000 tires from neighborhood streets from scrap tire collections.**
- **Reduced 820 tons NOX, 221 tons PM, and 13,598 tons CO_2 and held 30 Healthy Homes Visits.**
- **Removed 6,000 tons of diesel emissions annually.**
- **Leveraged over $4 million in government funding and private investments.**

Tip 20: Partner Through a Business Roundtable

HARAMBEE HOUSE
SAVANNAH, GEORGIA
CARE LEVEL I AND II

Adjacent to a heavy industrial area and home to approximately 2,000 people (97 percent of whom are people of color and over 30 percent of whom live below the poverty level), residents of two west side Savannah communities, Hudson Hill and Woodville, share similar health concerns related to air quality. Their concerns revolve around numerous industries and businesses which lie in close proximity to the communities. These businesses include large paper production manufacturers, several chemical companies and active railroads that service these industries. Compounding their air quality concerns is a planned expansion of a four-lane thoroughfare which would increase the number of diesel trucks traveling beside these communities, emitting more than 40 toxic chemicals into the air.

Chatham County, which encompasses both Savannah communities, ranks in the top 20 percent of U.S. counties for particulate matter, soot, smoke, dust, dirt and volatile organic compounds. These environmental exposures aggravate breathing which can lead to respiratory illnesses and impact cardiovascular disease. High numbers of children, women of childbearing age and elderly, make the communities of Woodville and Hudson Hill especially vulnerable. The volatile organic compound,

Key Actions

- Created a Business Roundtable to serve as a neutral zone for healthy dialogue between communities and industry
- 10 successful business/community roundtables have been held with attendance from both communities, local industries, local and state government, the Georgia Ports Authority, and others
- Developed city-wide task-force to address community concerns and CARE work plan activities

Plans are underway to convert multiple vacant lots to community green space, including parks and community gardens.

Dioxin, is a by-product of paper production. It is of major concern to the communities because of its impacts on human health and the environment. These communities faced many challenges over the years with surrounding industries and were interested in creative ways to become more habitable neighborhoods.

Launching a Business Round-Table

Under an EPA CARE Level I and Level II grant, the Harambee House Incorporated/Citizens for Environmental Justice took positive steps to address many environmental health concerns in collaboration with local industries. One of the key goals of the CARE project was to engage business/industry representatives to determine what reductions in emissions and environmental improvements can be made on a voluntary basis, with a focus on EPA's Voluntary Partnership Programs. As a result, a business/community roundtable was developed to encourage effective dialogue between the communities and industries.

Educating residents on their environment and encouraging industries to go beyond compliance, through voluntary risk reduction activities, is the primary focus area. For example, in an effort to reduce odors, dust, and other emissions, one chemical company installed a control device, known as a flare, to reduce volatile organic compounds from the ink process and storage tanks. It also installed equipment to recover waste heat from fuel-fired equipment, resulting in over nine percent reduction in natural gas usage.

The Business Roundtable setting serves as neutral zone for honest communication between the business community and residents. The setting was instrumental for a successful CARE process and in addressing residents' concerns.

Initial Challenges to Collaboration

The process of getting both groups to the table was no easy task. The Harambee House initially reached out to industries within both neighborhoods about becoming part of the newly formed CARE Business/Community Roundtable with little success in getting the industries to commit. EPA Region 4 reached out to industry to educate them on the roundtable's purpose and objective. An underlying real concern of industry was that the roundtable would serve as a conduit to blame them for most problems in the Hudson Hill and Woodville Communities. Attendance was initially low when the roundtable was launched. EPA provided a third-party facilitator who held private one-on-one interviews with key individuals from each of the surrounding industries. Questions and concerns were addressed, and industries were reassured that the roundtable would serve as a neutral zone for healthy dialogue between neighbors. Also, to ease any additional concerns, a set of ground rules were established and had to be honored by all attendees.

With representation from communities, business, city and county departments, academia, and other state and federal agencies, the roundtable's diverse membership of industry and small business was another critical component to its success.

The CARE community's Business Roundtable provided a neutral forum for honest communication on voluntary measures to improve community health with industry, residents, state and local government, and others.

Sustainable Partnership

Finally a sustainable collaborative partnership was created that consists of a diverse cross-section of individuals representing all interests. Discussion topics address what each entity is doing on a voluntary basis and how they are taking into account the community's needs. The roundtable serves as a powerful forum for raising issues with some issues "spinning off" to be addressed by other venues. As a result of a chemical spill, the group immediately called for

an emergency evacuation plan. Currently, three independently functioning workgroups address emergency preparedness and evacuation, improvements to the business-community partnership, and development of additional community gardens. These workgroups and their membership will consistently evolve to address specific future issues.

Three industries held tours for residents of Hudson Hill and Woodville, with 25-30 residents on each tour. This was the first time these industries have opened their doors specifically to these neighborhoods and the residents could see what was going on "behind closed doors."

As a direct result of the city's active participation on the roundtable, a citywide taskforce has been developed by the assistant city manager to address specific community concerns as well as work plan activities. The City of Savannah has also committed to working with the Harambee House to reduce transportation associated emissions. To date, the City's Traffic and Engineering Department has conducted a traffic study along the main thoroughfares in the Woodville Community known as Fair, Alfred, Bay and Hudson Streets.

Data supporting how traffic flow can be reduced is being analyzed. Already, 80 percent of truck traffic from Ashland Inc. has been redirected around the Woodville Community. The Mayor of Savannah is working with the Harambee House to support the resident's vision of converting a retention pond in Hudson Hill into a recreational green space. The Woodville neighborhood president has also met with the railroad company to discuss leasing options for property identified during the visioning process. The property will be used for a community park.

In addition, the roundtable's ability to build trust among community residents, industries and other local state and federal partners has been so successful that the concept is being expanded into a citywide roundtable for the future. Building on the foundation built by CARE and other federal support, the community has leveraged HUD funding to address lead abatement in the communities of Hudson Hill and Woodville as well as other funding. Each of these successes adds more credibility to the effectiveness of the roundtable and the CARE process as a whole.

Project Results

- **Voluntary risk reduction actions by industry, including installation of control devices and equipment to reduce volatile organic compounds and natural gas usage.**
- **80% percent of truck traffic from Ashland Inc. has been redirected around the Woodville Community.**
- **Plans underway to convert multiple vacant lots and retention pond to community green space and parks, and multiple community gardens.**
- **City of Savannah's 5-10 year Master Plan incorporates CARE project priorities.**
- **City of Savannah has developed and implemented the first citywide standards for community gardens.**
- **2 table top evacuation plans have been conducted with Chatham County.**

Tip 21: Engaging Community Residents Directly In the Land Use Planning

ENVIRONMENTAL HEALTH COALITION (EHC)
NATIONAL CITY, CALIFORNIA
CARE LEVEL II

Residents in National City in San Diego County have been drawn together for years over health concerns associated with being adjacent to a major commercial marine port, which since World War II had expanded local industries into adjacent residential areas. National City is an immigrant community made up of 88% people of color and 20% of the families living in poverty. Located along the industrial waterfront of the Port of San Diego, National City has been subjected to industrial development, freeways, and truck routes built in and through this residential community, diminishing the health, safety, and quality of life of the residents. Mixed zoning has allowed recyclers, chemical supply houses, wood working, metal platers, and autobody shops to be located adjacent to homes, schools, daycare centers, parks and other sensitive use areas.

Key Actions

- Built broad and active community partnerships
- Recruited and trained more than 50 residents in leadership
- Used EHC's Social Change for Justice Model and Community Planning Model
- Brought residents together to create a community-driven plan and vision for their city to reduce harmful exposures to air toxics

Carrying Out EHC's Unique Community Planning Model

Under a CARE Level II grant, the Environmental Health Coalition (EHC) successfully expanded on its preexisting partnerships with community residents and organizations, businesses, government officials, schools, and regulatory agencies and priority-setting process. Residents were trained in leadership using EHC's Social Change for Justice Model and Community Planning Model. There are five steps to this land use planning model:

- **Empower the Residents** through active participation, leadership development, and voter empowerment,
- **Identify the problems** within the community,
- **Conduct community-based research** on each problem to become well-informed advocates,
- **Develop core community principles** that ensure healthy neighborhoods, maintain and create affordable housing, preserve community character and culture and promote sustainable communities, and

2011 graduates of SALTA Leadership Training Program.

- **Create a community vision** that supports and sustains these community goals.

Building Leaders

EHC also provides leadership training through SALTA (Salud Ambiental Lideres Tomando Acción – Environmental Health Leaders Taking Action) where skills for political advocacy and strategy, group organizing, and communications strategies are taught. Members who become very involved can become members of one of EHC's Community Action Teams (CAT), which guide the development and implementation of community strategies.

A common site: Residences mixed in with industry and small businesses including auto-body repair shops.

A Land Use Ordinance to Improve Air Quality

With dedicated advocacy by EHC's Community Action Teams and their committed partners, the Westside (National City) Specific Land Use Plan was passed in 2010. This community-driven land use plan includes zoning changes to separate industrial from residential areas, relocating most polluting industries to a designated industrial zone, developing former business sites to serve the community, ensuring sustainable, new housing that is affordable to current residents and does not displace existing residents because of price or size, and creates "Transition Zones" which buffer residential neighborhoods from poor air quality and other negative impacts from industrial operations.

The community partnership developed an amortization process of non-conforming uses which will gradually relocate previous polluters to an industrial area away from the residential areas after considering factors such as past violations, neighborhood impacts from the pollutants, the degree of conformity of businesses within the community, and the community-determined needs. The partnership identified land for business relocation and developed permit and amortization processes in which polluting businesses over time will have to prove they are emitting less and less in order to keep their permit; if they do not, they are encouraged to move to the industrial park.

In addition to reducing emissions in neighborhoods, another goal of the partnerships was to work with the Port of San Diego to implement the requirements of the Diesel Drayage Rule passed by the California Air Resources Board that requires that diesel trucks entering the Port have installed diesel pollution control devices. This effort reduced the diesel emissions at the port by 20%.

Community-driven land-use planning ensures that the community will decide what is needed and will be included in their immediate environment. Continual and periodic leadership training ensures that the community's efforts will be sustained.

Project Results

- **Development and Passage of the Westside Land Use Ordinance, which when implemented, will significantly reduce air pollution in residential areas.**
- **Inventoried all resources in National City and developed a detailed map reflecting the vision and actual location of elements of a healthy, vital neighborhood.**
- **20% reduction of diesel emissions at the Port by ensuring successful implementation of the state's regulations (Diesel Drayage Rule) requiring that trucks entering the Port of San Diego have emission reduction equipment in place.**

Tip 22: Engage Community Residents in Transportation-Related Decisions

GROUNDWORK SOMERVILLE CARE LEVEL II

Key Actions

- Engaged over 900 people in land use planning, creating Core Principles to guide all future developments
- Empowered youth as leaders in open space, food security, access to transit, health equity, racial equity, and bike/pedestrian issues, who communicated directly to municipal, state, and federal leaders
- Engaged hundreds of volunteers and youth community members in natural resource clean-up and restoration projects

Many people have heard of Boston's Big Dig, a highway construction mega-project. Those residents who know of it most intimately live in the environmental justice communities of Somerville, Massachusetts. These are the residents who were never asked what they wanted when elected officials approved building a highway in the middle of the community, tearing down neighborhoods, allowing more cars than residents daily into the city, and allowing operation of six diesel commuter rail lines on which hundreds of diesel trains run each year but provide no local stops.

According to the Somerville Transportation Equity Partnership, local residents breathe in more commuter-generated emissions per capita than in any other Massachusetts city. From 1989 to 2003, Somerville had almost 300 more lung cancer and heart attack deaths than would be expected given statewide rates, according to the Massachusetts Department of Public Health.

After a series of court cases, the state became legally obligated to offset the resulting air quality problems placed upon the community by extending light rail (called the Green Line) through Somerville. While residents were excited for the opportunity to travel with ease to Boston, they are understandably concerned with future land-use developments.

The signature of the project was engaging the community in land-use planning. Over 900 residents and other partners were involved.

Forging a Community Process Around Land-Use Planning

Under a CARE Level II grant, Groundwork Somerville and their partners undertook a community process around land-use planning with a shared commitment to make the Green Line rail train and Community Path connecting communities, a reality. With community concerns firmly in hand, Groundwork Somerville, in collaboration with the Somerville Community Health Agenda, Somerville Transportation Equity Partnership, and the Somerville Community Corporation engaged residents, organizations, businesses and government to participate in land-use planning decisions to reduce environmental impacts and ensure equity in land-use planning decisions. The goals were to:

- Create a cohesive design for neighborhood connectivity between stations and the community;
- Ensure engagement of historically disengaged populations, such as immigrants, low-moderate income residents and youth;
- Make zoning changes in the Comprehensive Plan to meet community and health concerns;
- Ensure building of a Community Path to connect communities of Somerville.

Engaging the Community in Land-Use Planning

The project engaged over 900 people in land-use planning, such as interactive mapping, land-use data collection, station designs, policy actions, attendance at state and city meetings, community and house meetings, and neighborhood walks. The community also created Core Community Principles to guide all future development. These principles were chosen from a larger list generated by over 300 residents, which were then prioritized and ratified by 150 people in 2009. The expectation is that all decisions related to planning the Green Line and the land use in the half mile areas around the 7 proposed stations will reflect these principles.

As the community worked collaboratively, many goals came together under the project including: creating more local jobs, increasing commercial/economic development, maintaining biodiversity, keeping Somerville affordable, keeping and adding local businesses, improving the green environment, encouraging walking and biking, getting the community involved, creating community gathering spaces, and ensuring connections to buses and trains.

Empowering Youth as Leaders

Youth members of the Center for Teen Empowerment and the Groundwork Somerville Green Team participated extensively in land-use planning, including open space, food security, access to transit, health equity, and bike/pedestrian needs. Youth members made clear strides towards health equity by ensuring that youth voice is heard by municipal, state, and federal leaders. These youth members have been recognized as leaders in participatory planning and have shared their model with others at the (1) 2011 EPA Brownfields Conference, hosting a mock community meeting, sharing tools they needed to fund community engagement, run successful meetings, and engage the community in land-use planning and (2) Bioneers by the Bay Conference in New Bedford, CT, leading presentation on how engage the community in composting, work with a municipality, and run a small-scale business. City of Somerville Board of Aldermen (city council) proposed that each new park that is designed and built (including park renovations) must include a budget line item for the GWS Green Team to do outreach.

Project Results

- **Partner organizations influenced at least two large federal grant proposals, including one Sustainable Communities proposal and one near-highway fine particulates participatory research project.**
- **City of Somerville mandated that CARE model of community engagement be incorporated in every new park and park restoration project.**
- **Successfully worked with the City of Somerville to include local hiring agreements in new development projects. The City of Somerville will develop zoning to promote safe urban agriculture.**
- **Plans in place for Community Path to be built to connect communities within Somerville.**
- **Carried out natural resource clean-up and restoration projects with the help of hundreds of volunteers including youth.**

Tip 23: Green the City through Education and Safer Products

JOSIAH HILL III CLINIC
PORTLAND, OREGON
CARE LEVEL II

To address environmental health concerns in North/Northeast Portland neighborhoods, Josiah Hill III pioneered a health clinic that reduces the risks of lead poisoning, asthma and other threats to childrens' health. The Healthy Places, Healthy People Project, funded with a 2008 CARE grant, helped to continue the legacy of the Clinic's founder. These Portland neighborhoods have historically included some of the city's most under-served, under-represented and culturally diverse residents. The CARE project helped identify environmental risks and enabled the Josiah Hill III Clinic to expand its scope from blood lead testing to healthy home visits to deal with many threats to children's health.

The CARE Healthy Places, Healthy People Project focused primarily on three objectives: (1) To reduce toxins found in and around the environment where North/Northeast Portland residents live, work and play; (2) To educate landlords and property management companies within North/Northeast Portland about less toxic alternatives for maintenance and building management; and, (3) To reduce toxins within North/Northeast Portland by promoting green alternatives in goods and services.

Key Actions

- Trained Community Leaders with existing cultural and language skills to perform Healthy Homes Check-ups
- Created guide to green products and businesses in the Portland area to identify and promote businesses using green products
- Used social and traditional media to spread the word throughout the community on lead poisoning, mold, asthma, green cleaning
- Used EPA's Environmentally Preferable Purchasing and Design for the Environment (DfE) programs to help landlord and property managers switch to less toxic materials and products

Improving Health with Healthy Homes Checkups

Thanks to the unrelenting efforts of the Clinic's staff and nine Community Leaders for exceeding the project's goal of providing 80 Healthy Homes Checkups; by completing a total of 96 checkups that assessed many potential risks from lead, mold, and toxic chemicals that could trigger asthma, chronic colds, and high blood lead levels. Healthy home checkups in pre-1978 homes included a lead dust test that was conducted by Community Leaders, as well as a packet of Lead Check lead detection swabs.

Using the Promotoras or Environmental Ambassadors

A key to the success of the project was recruiting Community Leaders, often called promotoras or environmental ambassadors. Many people, including low income families and communities of color, find it invasive or intimidating to have a stranger or guest in their homes. This reluctance was initially an obstacle to achieving the Healthy Home Checkup goals of the CARE project. Hiring Community Leaders from the same culture, who spoke a common language with clients, proved very effective in overcoming this barrier. Community

Leaders assisted in translations of the Checkup materials, both orally and in writing, and were readily welcomed into peoples' homes as members of their own communities.

Clients were also given tailored educational resources to help implement new practices and change behavior, as well as a 10 dollar retail gift card, a sponge, bottles of vegetable-based soap, vinegar, hydrogen peroxide, a box of baking soda, a spray bottle, and a microfiber towel provided in-kind from community partners including Metro and the Portland Development Commission.

Educating Through Social Media and Community Partners Network

Media coverage and the use of social media played a major role in educating the community about environmental hazards and promoting green products. The program manager was interviewed on Community Hotline, a cable access show, on topics ranging from green cleaning, mold, asthma prevention to lead poisoning. The interview was broadcast repeatedly and archived on the program's website. Social media connections included at least 300 Facebook fans; almost 1,400 Twitter followers; 350 monthly eNewsletter recipients; and over 6,000 website hits. The Josiah Hill III Clinic was honored with an "Angels Among Us" feature in the widely circulated Metro Parent Magazine October 2010 edition, under the caption "Keeping kids – and their homes – safe!"

Throughout the course of the project, Josiah Hill III Clinic established a strong network of more than 100 partners to help identify and reach out to all areas of the community, including business, health and community services through multiple vehicles including numerous community events and fairs. In alignment with CARE strategies, local resources were leveraged, including the use of volunteers, interns, community and faith based organizations, municipal governments and residents to provide the opportunity to network, co-learn, and above all, empower and build long term community capacity to improve the local environment. Volunteers and interns logged approximately 4,500 hours.

Getting Commitments from Landlords and Property Managers on Green Products

Partner organization, Zero Waste Alliance, received a sub-award to meet the second project objective, to educate landlords and property management companies within North/Northeast Portland about less toxic alternatives for maintenance and building management. Zero Waste Alliance identified environmentally friendly and less toxic products that affordable housing property managers and owners may use to reduce their tenants' exposure to toxins and chemical hazards associated with cleaning supplies, carpet cleaning, pest and rodent control supplies, fertilizers and pesticides and paints. Subsequently, "Healthy Places, Healthy People" presentations to landlords and staff of property management companies focused on the adverse effects of toxics and associated health benefits of using green products. Most of the owners and managers were convinced by the cost benefit analysis (i.e. externalized costs, reduced human health and environmental impacts, etc.) and the availability of options for changing practices. Two property management organizations made commitments to product substitution strategies that will reduce toxins at 11 properties with 525 units.

Creating a Guide to Green Products and Green Businesses

Other partnerships were developed with the local business community in creating "The Guide to Green Products in North/Northeast Portland," (http://www.jhillclinic.org/wp-content/uploads/2009/06/nne-pdx-green-guide1.pdf) The project's Green Business Marketing Specialist asked business managers and owners for permission to collect data on green products and services that are available at their stores, such as information about green product types, prices, and sizes, product placement, promotions, and a narrative of the availability and placement

A Program Manager explains the dangers of cleaners that are purchased during one of the Healthy People, Healthy Places workshops.

of conventional products. Green product categories of interest were previously determined as: household cleaning products, pest & rodent control, lawn and garden, carpet cleaning, and painting supplies. This information was then used for outreach and education conducted with property owners, allowing for consistency in product analysis and toxic reduction focus.

The guide currently serves as a resource beyond the CARE project as staff at the Josiah Hill III Clinic plan to sustain the Healthy Places, Healthy People project, to serve North/Northeast Portland neighborhoods with continued support from their partners.

The project continues and has branched out into additional areas, leveraging additional funds from federal and local sources.

Project Results

- **Completed 96 Healthy Home Checkups on lead, mold, toxic chemicals, following up with lead testing for families at risk and other information.**
- **Provided 13 trainings and 87 presentations to over 100 organizations and at community events that raised awareness about Healthy Homes.**
- **11 properties with 525 units now using green products.**
- **Numerous training sessions with property managers and landlords on feasibility of using green products.**

Tip 24: Reducing Garbage, Pests, and Pesticides

WE ACT FOR ENVIRONMENTAL JUSTICE
HARLEM, N.Y.
CARE LEVEL I AND II

Residents of Northern Manhattan report the highest usage of pesticide foggers, sprays and bombs (greater than 50% of residents use them) in Manhattan; the highest percentage of households reporting mice or rat sitings in Manhattan (28% to over 38%); and the highest percentage of sitings of cockroaches in the household (above 45%). Densely populated and poorly maintained housing in addition to infinite sources of food and water create the perfect haven for pests to flourish. Addressing concerns related to "Garbage, Pests and Pesticide (GPP) issues" became the core focus of activities for the Northern Manhattan CARE Collaborative. With Level I and Level II CARE grants, WE ACT for Environmental Justice, a community-based organization located in Northern Manhattan, set out to tackle these issues in the neighborhoods of East Harlem, Central Harlem, West Harlem and Washington Heights/Inwood, predominantly communities of color with residents that identify as African-American and Latino (88% in total). These densely populated areas with over 630,000 people, including children and elderly, live in 7.4 square miles of space.

Key Actions

- Prioritized risks, surveying over 500 local residents on environmental health topics
- Used PhotoVoice to document garbage and pest problems
- Trained over 200 local residents in four community areas on Garbage, Pests and Pesticides and developed six educational workshops
- Launched projects to reduce garbage, pests and pesticides

Identifying Priorities of Garbage, Pests, and Pesticides through the CARE Level I Process

Connecting the dots between health (cockroaches and mice leave traces that trigger asthmatics and pesticides have a variety of harmful health effects) and our environment (infrastructure maintenance and indoor environments) was a key goal that emerged from WE ACT's CARE Level I process to identify and prioritize environmental health issues. Priorities were set through an independently-facilitated collaborative process that included the use of consensus decision-making and issue-specific working groups. The result was a list of environmental exposures that represented the views of as many community members as possible. With the assistance of seven local residents that implemented the Environmental Health Community Survey (EHCS), the Collaborative was able to gain insight on environmental health

Sources of food and water create perfect havens for pests to flourish.

concerns from over 500 community residents. This survey identified Garbage, Pests, and Pesticides issues as a concern of residents. The results were compiled and used for the issue prioritization and risk ranking processes.

The information from the issue profiles, business roundtable discussions, and the Survey were used to prioritize the issues and rank them. This led to the development of the first Northern Manhattan Environmental Health Report Card. This report card was developed from the Issue Profiles and is currently used by community residents to understand their localized environmental exposures. As a result of these efforts, indoor/outdoor air quality, solid waste and pests and pesticides were identified as the top issues to tackle.

Putting our Work into Action

Under a CARE Level II grant, WE ACT began to work on the priorities of Garbage, Pests, and Pesticides, identified through the CARE Level I process, in homes (apartment buildings), businesses (145th street and 181st street corridor) and a school. A number of important projects are underway.

Managing Solid Waste Holistically with Apartment Building Management, Maintenance and Staff

The goal of the green apartment building project is to engage building managers, residents, supers, porters and maintenance personnel in the management of solid waste in a holistic manner to reduce garbage and prevent pests and the need for pesticides. Building managers and staff were engaged in a PhotoVoice project: Photos were taken of unsuccessful and successful garbage management, discussions with the CARE Collaborative were organized around the photos, perceptions and issues were discussed, and solutions were developed. Examples of the problem are breeding grounds for pests included corrals or interior garbage rooms that collect garbage before taking it out to the curb, garbage bags or unclosed garbage cans left out for the day, residents throwing inappropriate things in the trash compactor which can back up the chute and throwing garbage away without bags. The project was a catalyst for working with supers, building management and residents on education and tracking of solid waste. Best practices and methods to engage managers, staff, and residents that were developed from an EPA Environmental Justice (EJ) grant were applied during the CARE Level II implementation phase to address the reduction of garbage and rat populations. The Collaborative is currently in the second phase of this project and is excited to report results in the near future.

Solid Waste Reduction Through Local Business Engagement

In this segment of the CARE project, the Collaborative built a fruitful partnership with local businesses and the Department of Sanitation to reduce garbage and pests. Businesses were engaged on garbage and pest issues through the Northern Manhattan Business Roundtable. Another PhotoVoice project was launched, this time providing business owners disposable cameras to document problems. Cameras were collected and a meeting held to discuss perceptions of the solid waste issues in the community and to collaboratively arrive at potential solutions. One complaint that was raised from, some businesses in Central Harlem was that they felt that they were being targeted for fines by the NYC Department of Sanitation.

A PhotoVoice Project was used. Photos were taken of unsuccessful and successful garbage management and discussions of the problems and solutions were organized around the photos.

In collaboration with the CARE grant, an EPA EJ Small Grant Program project tracked amounts of garbage present during morning, afternoon and early evening hours. Stakeholders were educated about best practices to reduce garbage and pest problems, including putting up posters that read: "If you think you are feeding the cats, you are feeding the rats" in businesses along the corridor.

Residents and 13 businesses' owners, managers, and staff on the 145th Street corridor became engaged in the project and successfully decreased waste and litter. The Department of Sanitation agreed to significantly increase the number of trash cans throughout in the business corridor. Approximately four businesses enrolled in the NYC Adopt-A-Garbage can program and have maintained their commitment to monitoring and reducing solid waste in front of their businesses. The project was then expanded to the 285th businesses on the 181st Street corridor and is engaging this additional corridor's Business Improvement District and other partners. The project is assessing how the methods from the 145th Street corridor can be both replicated and altered to meet the unique needs of this new area and culture to address solid waste and pest challenges.

Solid Waste Reduction by Composting in Schools

Although the quantifiable amount of organic waste diverted from the waste stream has not been determined with this part of the CARE project, there are a number of valuable lessons learned. Unfortunately indoor composting bins are very difficult to manage given the sensitivity of the bins to slight changes in PH, temperature or moisture. Worms for composting can be killed by any imbalance in the bin ecosystem or by mites from fruit or elsewhere. Currently research is being continued elsewhere with an alternative composting method that is not as sensitive as the indoor apartment composting bins.

Project Results

- **Reduced rat sightings and amount of garbage in and around apartments, using model developed to work with supers, maintenance staff and residents.**
- **300 businesses engaged to monitor, manage, and reduce waste and litter through education, Adopt-A-Garbage Can program or use of Rat-Proof Garbage cans. 68% increase in trash cans in the 44 commercial corridor blocks as a result of the collaboration with the Department of Sanitation partner.**
- **Model used on one city corridor being replicated and adapted to 2nd city corridor to reduce waste, pests, and pesticide use.**
- **Developed the first Northern Manhattan Environmental Health Report Card using results of Issue Profiles, Business Roundtable discussions, and survey of 500 residents, currently being used by residents to understand their environmental exposures.**

Tip 25: Create Culturally Responsive Decision-Making Processes

DINÉ COLLEGE
SHIPROCK, NEW MEXICO (NAVAJO NATION)
CARE LEVEL II

When EPA accepted a proposal from Diné College for a Level I project in Shiprock, New Mexico on Navajo Nation lands, it also agreed that in carrying out the project the College would make use of what it called the "Navajo Research Model." It was understood from the start that a successful project would require a strong mutual commitment to dialog, education and translation in the broadest sense.

Key Actions

- Crosswalked steps of the CARE Roadmap with those of the "Navajo Research Model"
- Adjusted CARE process to accommodate local traditions
- Used "nahat'a" process or "planning through talking things out" in a process driven by the fundamental principles and values of the Diné

The outcome was a strong plan to address solid waste (and other environmental issues) using culturally appropriate approaches, and a unique cross-walk between the Navajo and the European (or "Western") approaches to the process for analyzing risks related to toxics. In its simplest form this became a one-page chart with a side-by-side comparison of a four stage "Diné Process" with the CARE Roadmap.

From the point of view of the Navajo, EPA's methodologies generally reflect a "Western" or European perspective and value system, which contrasts in several ways with the traditional Navajo perspective. As a result, Agency personnel can often encounter a gap between the two cultures in the meaning of terms such as "health," "disease," "risk," "remediation" and "toxics." They would also find that a traditional Navajo community is less likely to see the project goal as "risk reduction" than one of "balance and harmony," one of restoration rather than remediation. Such differences show up in almost every stage of the project.

As an example, in carrying out the CARE project, the main process by which the project leaders and community proceeded is "nahat'a," sometimes described as "planning through talking things out," in a process "driven by the fundamental principles and values of the Diné." These include an underlying philosophy of balance and harmony, the "duality of knowledge" and the importance of "prayers, songs and ceremonies" in bringing about healing. For example, in considering the issue of solid waste, consideration was given to how it affected the "quality of our water, air and land" and lives, but this had to be talked about and thought through in both "the Navajo and non-Navajo versions" of the problem (the Navajo principle of "Alchi Sila").

At each step of the project, adjustments were made to the CARE process to accommodate local traditions: meetings were opened with prayers, information was shared in both English and Diné, and project leaders consulted regularly with spiritual leaders on the project. The views of elders were sought, and information was gathered beyond regular community meetings.

EPA met relatively often with the project leaders and community in order to assess how the project was progressing, along both the path of the CARE Roadmap and the Navajo Research Model.

A Note about Bringing CARE to Communities

As the CARE process is brought into any community, it is important that the culture, traditions, relationships, and belief system of that community are respected. Without this, the community is less likely to participate deeply and take ownership of the process, follow through on its results, or to meet one of the main goals of the CARE program: to become self-sustaining in continuing to reduce risk in the community.

While these "lessons learned" are discussed in the context of a Native American community, they can also be applied to other communities such as a predominantly African American community in West Oakland, a Gullah community in Georgia, or a rural community in Appalachia. CARE grantees can make use of the inherent flexibility built into the CARE program and adjust the CARE Roadmap as needed in order to create culturally responsive decision-making processes in any community.

A two-day retreat was held with Navajo project leaders and EPA staff to work through every step of the Roadmap and crosswalk the steps with those of the "Navajo Research Model." This required the involvement of interpreters and a spiritual leader. EPA provided technical risk data and information just as it would in any other CARE community, but EPA also devoted special effort to accommodating the Navajo concept of "impacts." An 18 page report, "The Navajo Process for the Shiprock Community EPA CARE Project" was developed.

Some Tips for tribal and other communities identifying and prioritizing risks:

- At the beginning of the project, as well as throughout, engage in a discussion of the CARE Roadmap or other process to be used for the project and determine if modifications are necessary to better fit the culture of that particular community.
- Discuss appropriate community involvement and the form of the collaborative partnership.
- Ensure communication flow and understanding are sufficient between key partners (including EPA) and adjust communication methods as needed.
- Discuss what "risk" means to their community and assist in adjusting the risk ranking and prioritization process to fully reflect the community's concept of "risk" and "impact."

Some challenges noted during the project:

- The "translations" required in a cross-cultural context such as this one are not simply matters of language (Navajo vs. English) but of conceptual frameworks and entire worldviews that differ significantly.
- The relationship between oral and written knowledge in a community such as this is quite different than that relationship in the "Western" context. In many parts of Navajo there exists a residual suspicion of all written languages as a "tool" of domination. For some Navajo, their first experience with written language was when they received notices in the 1930's and 1940's that their sheep were going to be confiscated.
- The Agency faced a challenge in fully understanding solid waste management in the context of the culture of the community. For example, problems such as dumping when understood in indigenous people's context, may have more complex causes and remedies than when considered in the more "mainstream" cultural context. A discussion may involve a history of dumping that encompasses a much longer time frame (generations), the fact that the land has been used as a dumping ground for our culture and reliance on nuclear power (there are hundreds of piles of

mining bioproduct spread around their lands), and dumping as an aspect of balance and the need for it to be addressed in the context of restoring balance.

- The Agency has for some time recognized the key role of local knowledge in the context of Environmental Justice, and the role of vulnerability in risk assessment. However, cross-cultural projects such as this show that the challenge of being truly respectful across cultural divides calls for a willingness to adapt the Agency's approach.

Oil and gas facilities located on northern Navajo Reservation lands.

Project Results

- **Developed "SCRAP" (Shiprock Community Recycling Awareness Project), a community-wide, culturally-appropriate solid waste program.**
- **Cleaned up three illegal open solid waste dumps covering almost 6 acres, removing almost 50 cubic yards of residential solid waste; identified additional waste sites in need of attention.**
- **Involved elders, spiritual advisers and others to develop a culturally-appropriate process for implementing the CARE project, creating a step-by-step cross-cultural cross walk between EPA's CARE model and the traditional Navajo "Research Model."**

Tip 26: Set Environmental Priorities in a Tribal Community

WIND RIVER ALLIANCE
WIND RIVER, WYOMING
CARE LEVEL I

The 4.9 million-acre Wind River watershed in west-central Wyoming serves as an important migratory route for many animals whose survival depends on the ability to transcend the multiple ecosystems within this vast area. In fact, the Wind River Range is a headwaters area for the Missouri, Colorado, and Columbia Rivers. The health of the watershed affects thousands of miles of rivers and millions of people, fish, animals, plants and trees that count on its resources for food, drinking water, recreation, and irrigation. Despite its outward majestic beauty, the Wind River is a watershed in peril: loss of habitat, outdated and damaging irrigation practices, climate change, antiquated diversion dams, and energy development are all contributing to its challenges.

The watershed is home to the Eastern Shoshone and Northern Arapaho Tribes, who live on the 2.2-million acre Wind River Indian Reservation (WRIR). The Eastern Shoshone and the Northern Arapaho, who were traditional enemies, have been co-existing on these reservation lands since the late 1800s.

The Wind River Alliance's (WRA's) CARE community is predominantly Northern Arapaho, located primarily in the southeastern part of the WRIR where radionuclide pollution from a now-closed uranium processing plant continues to contaminate the shallow aquifers and potentially impacts a public drinking water system in the CARE community. The former site of the uranium processing plant now houses a sulfuric acid manufacturing plant, that at one time operated behind locked gates. Air and water could potentially be impacted from

Key Actions

- Created a new graphic model responsive to tribal ways of decision making
- Engaged youth and elders in Tribal Community to visit areas of environmental concern on Wind River Indian Reservation tribal lands
- Modified collaborative process to deepen tribal community participation

CARE community members learn how to extinguish small fires during the Community Emergency Response Team training offered in partnership with the Wind River Health Systems and Wind River All Hazards Steering Committee.

current and future large-scale coal-bed methane production in the southern portions of the Wind River Reservation, and illegal dumping and solid waste issues are an ongoing problem.

Taking into Account Cultural Norms

Working at the grassroots level requires a level of understanding and respect for the way decisions are made by community members. Cultural norms determine how decisions are made, when they are made, and by whom. These decision processes may not necessarily be reflected in the elected leadership, but more reflected within individual family member relationships, and historical relationships among families and communities. Building community capacity around understanding environmental pollution and taking action to renew damaged environmental lands where tribal peoples must and/or choose to live is an extremely complex undertaking. This is especially true when economic livelihoods have become linked to possible pollution sources, coupled with an overall distrust of federal laws and agencies. Traditional people make decisions one way, and less traditional tribal people make decisions in different ways.

Adapting the CARE Model

Although flexibility is built into the CARE process, this process is fundamentally a linear process that starts at one point and ends at another, which is not how decisions were made in the Wind River community. The community decision-making process that emerged in this community was more like a spiral moving through time, with different levels and depths of decision making giving the graphic additional dimensions.

ChemTrade Logistics is a local producer of sulfuric acid and is located on the previous uranium mill processing site in the CARE community. ChemTrade opened their doors to the community and as part of the "hot spot" tours, WRA brought youth and elders to the ChemTrade facility.

Occasionally, the process appeared linear, but in reality decisions were being made in different and changing contexts, some political, some as response to historical trauma, some economic, some traditional, some familial and some due to environmental events, such as massive river flooding occurring during 2010 that highly impacted the CARE community. This adapted CARE model provided the community with the opportunity to revisit the CARE steps and has proven to be more inclusive and more culturally sensitive, whether decision makers are Indian or non-Indian community members. While it is flexible it also maintained accountability through identified and achieved outcomes.

Previous to the start of Wind River Alliance's CARE Level 1 grant, the Alliance completed an EPA Environmental Justice Report (2006) that identified numerous areas of concern on the reservation, focusing primarily on water and community health issues. This report helped the Alliance identify over 12 Hot Spot areas on the reservation where potential pollution pathways and contamination sources might affect community members. As part of initial CARE activities, the Alliance conducted a series of Hot Spot field trips with community youth and elders to provide the opportunity to learn about environmental issues in the area.

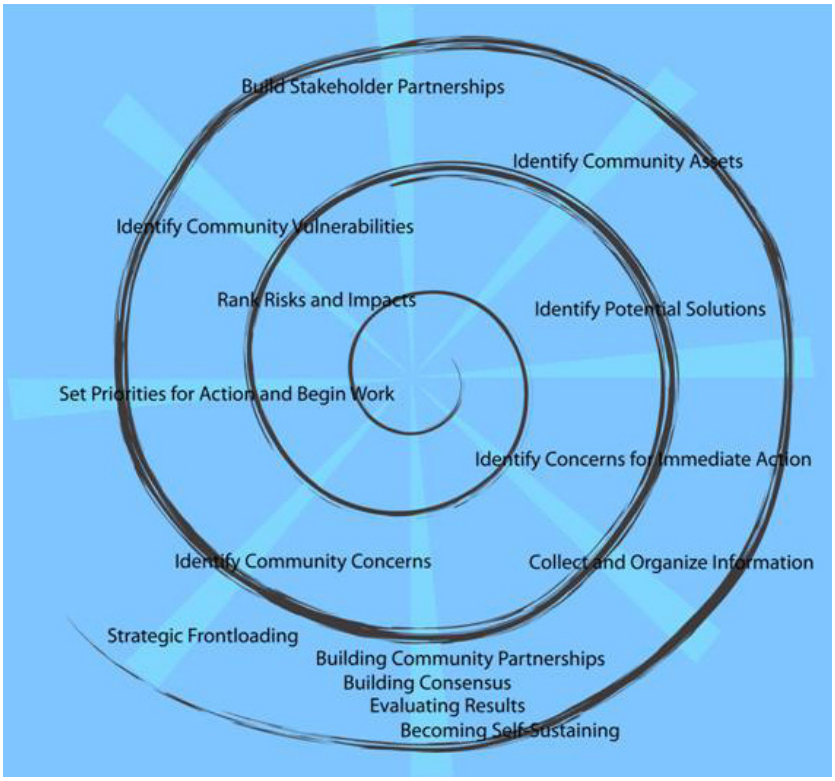
Responding to Immediate Concerns

As the community moved through CARE activities in the modified CARE spiral, WRA was able to quickly respond to issues that were voiced in our community

meetings. There were concerns about emergency response and the lack of community participation. Some issues brought about great emotion, including the human health impacts attributed to the uranium mill tailings legacy waste. Training was offered for Community Emergency Response Teams including dispute resolution and collaborative problem-solving.

Holding public meetings did not involve the community enough to authentically move into a risk ranking phase. A facilitator was hired to modify the facilitation process by having structured personal conversations with community members and their families, not only to keep the process informal and comfortable during the first phase of our project, but also to gather new information from community members of all ages. This proved to be an important modification, as it enhanced WRA's relationship within the community, revealed shared personal experiences, and brought new information to the risk ranking process from community members themselves.

Following the spiral model allowed the community the flexibility to revisit the different CARE steps and make sure that our process is inclusive. It also allowed framing of "risk" through the lens of community values and norms, with the value input from elders and young people, as opposed to the traditional definition of risk as practiced by a federal agency. The community feels strongly that the approach will lay the groundwork to make it possible to move forward to the next steps beyond our CARE Level 1 grant.



Wind River's roadmap shows the decision making process that emerged as more like a spiral moving through time, with different levels and depths of decision making giving the graphic additional dimensions.

Project Results

- **Identified 12 "Hot Spot" areas of environmental concern identified on the Wind River Indian Reservation.**
- **Over 50 tribal elders and youth visited and learned about environmental risks and challenges on the Wind River Indian Reservation "Hot Spots".**
- **20 tribal members trained and certified as Community Environmental Response Team members.**
- **Culturally responsive decision-making process created, enabling project to adapt to changing environmental, economic and social contexts.**
- **Deepened community participation by conducting more than 100 personal interviews in addition to public meetings.**

Tip 27: Leverage Community Expertise and Resources in Priority-Setting

UNIVERSITY OF KANSAS SCHOOL OF MEDICINE
WICHITA, KANSAS
CARE LEVEL I

Key Actions

- Established a diverse Design Team comprised of environmental health leaders, local government leaders and community organizers
- Engaged as many community members as possible, allowing residents to determine and prioritize their own environmental concerns, building local support, buy-in and interest in the initiative

The University of Kansas School of Medicine-Wichita (KUSM-W), a CARE Level I cooperative agreement recipient, developed a community-based participatory project known as the Wichita Initiative to Renew the Environment (WIRE).

The City of Wichita, Kansas, had faced a number of local environmental issues over the years, but before the WIRE project was launched, it had never examined them in a comprehensive way. The city simply had no clear conduit for gathering community input on environmental issues. The first step in creating WIRE was to establish a Design Team—a group of local experts from across the community. Design Team members represented community groups, local government, industry, and academic institutions.

The purpose of bringing these community leaders together was to give WIRE a sense of direction, develop community support, and establish a structure for examining and prioritizing local environmental issues.

Engaging 1,500 Citizens in Discussion Groups

Consisting of 10 community leaders, the Design Team proved essential to establishing WIRE as a community-based participatory project. The Design Team recommended the development of a broader, 25-member, multi-stakeholder partnership of community members, known as the Environmental Leadership Council (ELC). The Design Team also recommended that WIRE recruit nominations for ELC members while conducting its discussion groups.

The community discussions were part of the process that would eventually determine the community's top environmental concerns. As a result, 52 discussion groups occurred, involving more

Environmental Leadership Council members discuss condensing 92 pages of environmental concerns down to 19 environmental issues.

than 1,500 citizens from inner-city Wichita. Most discussion groups were conducted as part of regularly scheduled community gatherings, such as neighborhood association meetings.

WIRE used the Nominal Group Technique, a process that allows for group brainstorming and encourages contribution and participation from everyone. At public meetings, participants were prompted to list their top environmental concerns on note cards. The note cards were turned in, then redistributed so that participants would read the unidentified note cards. All concerns were also captured on chalkboards or easel boards, so that all participants could view them. Participants were then able to add any other top environmental concerns that were missing from the list. This process allowed for anonymity, discussion, overlap in themes, and an efficient use of meeting time. The product from these 52 discussion groups was a 92-page list of local environmental concerns generated by the community.

Providing Structure Through the Environmental Leadership Council

Meanwhile, a 25-member ELC was established. The ELC selected a chair, vice-chair, and secretary. ELC members also identified three sub-committees—Air, Water and Waste—that categorized the 92 pages of local environmental concerns into 19 issues.

ELC members joined their preferred subcommittees. Subcommittees then developed 19 educational fact sheets (in English and Spanish), with a corresponding one-hour video. These materials included local statistics and information on risks associated with the 19 issues, presented from environmental, health and economic perspectives. The fact sheets and videos also referenced possible solutions that individuals, groups, and policy-makers could consider implementing.

The ELC presented the fact sheets and videos to the community through an educational campaign. It engaged 774 community members from 43 community groups—primarily neighborhood associations— in the target area.

Following the campaign, the ELC asked participants to prioritize the 19 concerns, using a zero-to-five scale, in terms of risks to the environment, health and economy; urgency for action, and the perception of community interest in addressing each issue.

Establishing Priorities of Poor Waste Management, Pollution in the Arkansas River and Mobile Source Emissions

Working with the community's list of prioritized issues, the ELC then reviewed the top risks to identify those best suited for addressing with a CARE Level II grant proposal. The ELC chose three concerns: 1) poor waste management, 2) pollution in the Arkansas River, and 3) mobile source air emissions.

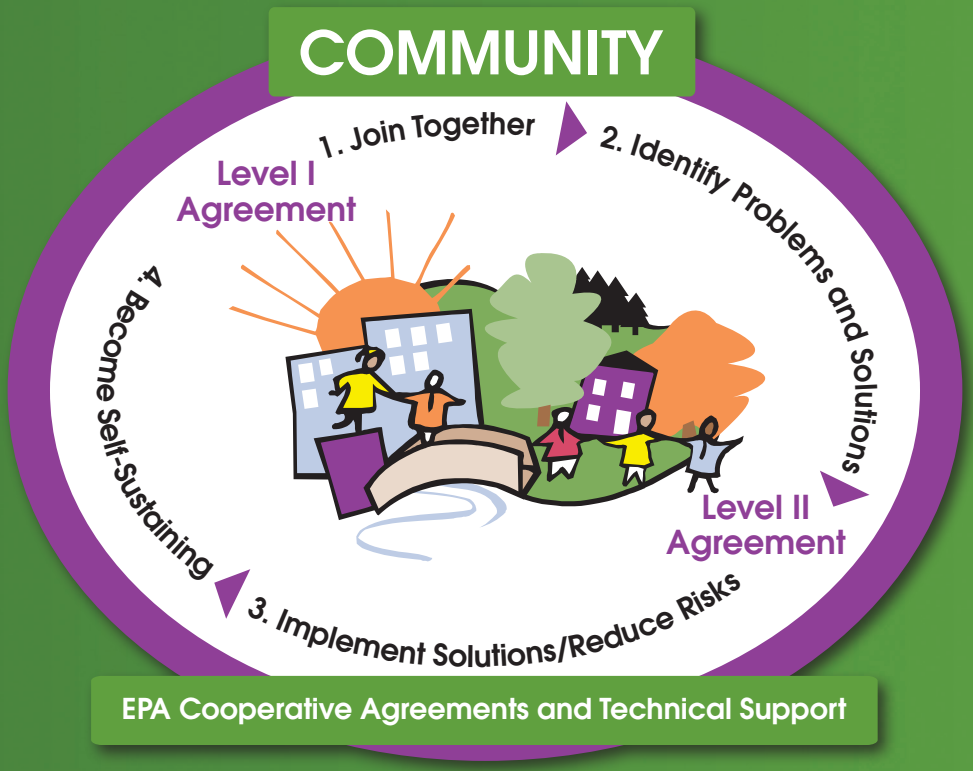
These three environmental issues became the focus of the ELC's awarded CARE Level II project. Implementing these locally identified solutions allowed WIRE to form stronger roots within the community and enhance long-term environmental benefits.

The ELC agreed that the Level II proposal would not be the sole work of the group, but would provide the momentum needed to continue and enhance the group's mission: "The ELC provides education and project leadership to make Wichita an environmentally healthy place to live, work, and play."

Project Results

- **Created Environmental Leadership Council (ELC), representative of the targeted community and infrastructure for a long-term functioning entity.**
- **Community prioritized a list of environmental concerns and developed a plan that is being used throughout the city for future planning efforts.**
- **Established continuous engagement of community members. The ELC returned to these neighborhood and community groups with progress reports and action steps to address many of the concerns the community identified.**
- **Created a structure and processes to ensure sustainability.**

The CARE Process



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