



ENVIRONMENTAL HEALTH PROJECT

PN-ABY-451

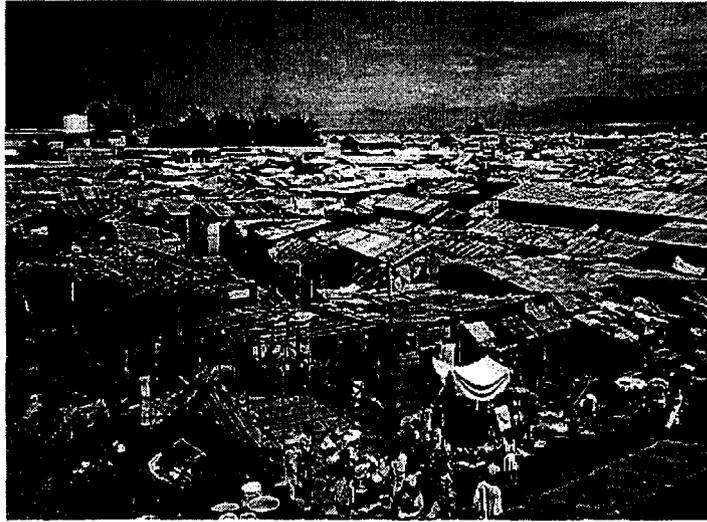
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Providing Environmental Health Services To the Urban Poor: EHP's Current Activities

April 1996

Strengthening institutions to provide environmental health services such as water supply, sanitation, and solid waste management for the urban poor is a key objective of the Environmental Health Project (EHP), a centrally funded USAID project to provide technical assistance in environmental health to USAID missions, bureaus, and partners. EHP's work in this area is described briefly in these pages.

Residents of poor urban areas in big cities throughout the world are at great risk for environmentally related diseases—principally diarrhea, malaria, and acute respiratory infections. Children living in these areas are particularly at risk. Yet, because poor urban areas are often not formally recognized as part of the greater municipality, they may receive few or no basic services. For a variety of reasons, including the fact that peri-urban dwellers normally lack legal title to their land, formal institutions, both municipal and national, do not see it as their responsibility to provide the needed services. Hence, lack of water, sanitation, and solid waste collection is the norm, not the exception, in these "informal" or peri-urban areas. The poor environmental conditions that result from lack of basic services



Most urbanization in the developing world resembles Cité Soleil, shown above, an informal urban community on the outskirts of Port-au-Prince, Haiti. Lack of basic water, sanitation, and waste disposal is everywhere evident. Photo: Eduardo Perez, EHP.

are responsible, in large part, for the ill health of residents.

Nongovernmental organizations have attempted to fill the void left by formal institutions. They work with communities to provide basic environmental health services and to change hygiene behavior. In the short term, strengthening these NGOs is the best hope for improving

health conditions in urban poor areas; it also contributes to USAID's Child Survival and Maternal Health goals.

EHP is sponsored by USAID's Office of Health and Nutrition in the Population, Health and Nutrition Center of the Bureau for Global Programs, Field Support and Research. The project was designed to help USAID missions and development partners reduce the burden of environment-related diseases and hazards. Its strategies integrate public health and environmental protection.

The activities and reports described in the following pages are EHP's contribution to date to urban environmental health. These activities are based on prevention and focused on tools and techniques that need to be developed for environmental health to come into its own. The reports are listed on page 7.

EHP's Current Activities in Urban Environmental Health

Tunisia: Municipal officials gain skills in working with poor urban communities

EHP is currently applying a community-based method for improving environmental health conditions at the neighborhood level in three secondary cities in Tunisia, with support from the Near East RHUDO and the Offices of Health and Nutrition and Women in Development. The heart of the method, which is called CIMEP (Community Involvement in the Management of Environmental Pollution), is to open up a dialogue among community members, NGOs, municipal officials, and elected representatives about environmental health problems and solutions.

The work includes a community environmental assessment, training workshops and capacity-building exercises, policy dialogue, and support for microprojects. CIMEP confronts the problems of lack of environmental-health-related services and poor health in poor urban areas by attacking their proximate causes: the tendency of municipal officials to treat such communities as a nuisance and to avoid interaction with them. Also, many municipal officials lack knowledge about poor urban communities and skills for reaching out to them. Other North African/Near East countries have expressed interest in using this methodology to construct a firm foundation for the provision of environmental-health-related services.

Haiti: NGO establishes a mechanism to reduce the health and environmental impacts of pollution in Cité Soleil

EHP is providing technical assistance to the Haitian NGO *Centre pour le Développement et la Santé* (CDS) to create and develop a water and environmental district in Cité Soleil, an informal settlement outside Port-au-Prince, and to design for the area a comprehensive infrastructure plan

for water, wastewater, and solid and human waste. This work, like the work in Peru described on page 5, is being done under the Environmental Initiative for the Americas.

CDS is establishing a community-based autonomous water and sanitation district in Cité Soleil to manage a piped water system now under construction by UNDP and scheduled for completion in June 1996. At present, most of the 200,000 residents of this two-square-kilometer area get along with no piped water and no sanitation. Under the new system, residents will spend about the same amount they do now for water (estimated at \$1.4 million per year) but instead of purchasing it from independent vendors, whose supplies are unregulated and often unsafe, they will purchase it from centrally located "fountains." The revenue generated by this system is projected to cover not only operations and maintenance of the water supply but also the collection and safe disposal of solid waste. In this way the water project is addressing the prime environment-related health problem of Cité Soleil: flooding of area homes caused by the backup of drainage canals clogged with solid waste. EHP will participate in monitoring this program over the next year.

Jamaica: Environmentally sound sanitation becomes a reality in the urban squatter areas of Norwood and Rosemont

EHP assisted the USAID RHUDO/Jamaica mission to complete the design and initiate a program supporting the installation and maintenance of appropriate excreta and greywater disposal systems in the squatter areas of Norwood and Rosemont in Montego Bay. The sanitation component, for which EHP is providing ongoing technical assistance, is part of a broader program of squatter upgrading sponsored by the government of Jamaica and supported by USAID through the Housing Guarantee loan program.

The upgrades include, in addition to the sanitation systems, legal title, electricity, road improvements, and water mains.

EHP emphasized participation in the design exercise in response to resistance of the target community and local institutions to earlier plans they felt they had not been involved in. Focus group meetings were held with representatives from the 2,400 households in the target areas to discuss what kinds of sanitation systems would meet their needs and fit their preferences. At the same time, a plot-by-plot inventory of the two areas was conducted to see what systems are currently in use and to survey geologic conditions that could impact on the type of technologies offered. In addition, representatives from all Jamaican institutions involved, from the Ministry of Health to the Ministry of Environment, were brought into the consultative process via a project start-up workshop. On the basis of these participatory activities, an Urban Environmental Program for On-Site Sanitation was developed. The goal of the program is to improve the health of the population without adversely impacting the environment.

This new program is being implemented by a Jamaican NGO, the Construction Resource and Development Center (CRDC). In brief, CRDC will assist community members to select an appropriate and environmentally sound excreta disposal system, obtain credit, and have a system constructed. The program involves the private sector and integrates hygiene education.

EHP is providing technical assistance to increase the capacity of CRDC to implement the sanitation program effectively. CRDC personnel have received training in on-site sanitation technologies and innovative sewage systems as well as hygiene behavioral change. Currently they are carrying out an 18-month work plan, including monitoring and evaluation, developed with the assistance of EHP.

A report summarizing the methodology used in Jamaica to design and implement an appropriate peri-urban sanitation program will be available in June 1996.

India: NGO adopts comparative risk assessment tool

The Asonsol/Durgapur region of West Bengal is a heavily industrialized region that has been declared one of 17 critically polluted areas by the Indian Central Pollution Control Board. The area includes large industrial facilities centered near Durgapur and extensive coal mines in the Asonsol area. The Centre for Environmental Planning and Technology (CEPT), with technical assistance from EHP, is carrying out a comparative health risk assessment of the Asonsol/Durgapur region. The assessment will identify the environmental conditions that pose significant health risks and prioritize them so that a workable plan can be devised for improving conditions.

CEPT had its first experience in risk assessment by working with USAID consultants in Ahmedabad. The collaboration introduced CEPT personnel to the risk assessment technology and gave them practice in data collection and analysis. In Durgapur, CEPT is taking the lead in the assessment and intends to use risk assessment to help local and state governments throughout northern India and to train other institutions in its use.

The environment-related problems of fast-growing cities around the world are so numerous and complex that some method is needed to enable planners and policymakers to adopt a rational approach to solving them. Risk assessment is one such tool. It can be used to disaggregate risks for those living in formal urban areas and those living in informal peri-urban areas.

In a related activity, EHP is preparing a data collection workbook for comparative environmental health risk assessments and a prototype decision-support system for use in a group setting to compare various types of environmental health risks and set priorities among them.

EHP's approach to risk assessment has several characteristic features: It evaluates risks from environmentally related infectious hazards and tropical diseases as well as from harmful chemicals in water, air, food, and soil; it integrates data

collection and analysis techniques from epidemiology and ethnography to insure that results are based on a combination of qualitative and quantitative data; and it transfers risk assessment skills to local institutions.

Zambia: Rapid assessment provides basis for a program to address urban malaria

Urbanization is proceeding at a rapid rate in most of Africa. In some countries, more than half of the people live in urban and peri-urban settlements where endemic tropical diseases appear to be gaining a foothold, partly because the environmental conditions that prevail in urban poor areas are conducive to their transmission. Well-documented, comprehensive studies describing these health problems are lacking, which has hindered the articulation of feasible prevention and control strategies.

In Zambia, the site of a new Child Survival program with a strong malaria component, EHP completed a rapid assessment of urban malaria in Kitwe, a town of about 500,000 people in the

Copper Belt Province. Malaria is a serious problem in Kitwe: an average of 120,000 cases occur annually; malaria accounted for 15% of all hospital admissions between 1993 and 1995; and the disease is a leading cause of morbidity, with a fatality rate in the range of 19 to 38 per 1,000 cases. The assessment team gathered information on environmental conditions and entomology, parasitology and clinical manifestations of the disease, and related socioeconomic conditions, and then recommended a three-pronged program of improved clinical case management, environmental controls (such as reduction of breeding places and removal of solid waste), and a mass campaign to promote insecticide-impregnated mosquito bednets.

The proposed program for Kitwe uses geographic information system (GIS) mapping as a monitoring and public education tool.

The overall purpose of the Kitwe effort is to formulate feasible community-based strategies for prevention and control of urban malaria and draw lessons that could be applicable to similar settings elsewhere in the region.

Peru: NGO promotes effective solid waste management in Lima through the use of microenterprise and appropriate technologies

Under the Environmental Initiative for the Americas of the Bureau for Latin America and the Caribbean, EHP is assisting the Peruvian NGO *Alternativa* to implement a low-cost solid waste management program in the Cono Norte section of Lima, to improve environmental conditions of peri-urban, or informal, communities and reduce the environmental health risks of their inhabitants. The project seeks to demonstrate a replicable approach to solid waste management appropriate for similar areas throughout Peru. *Alternativa* is introducing a private sector market approach that is responsive to the willingness of customers to pay. Ways are being sought to reuse, sell, or recycle the waste. All stakeholders are involved in the program, which has a significant health education and social marketing component. EHP is assisting USAID Peru to

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"Environment, Health & People" is an eight-page bulletin published by EHP three times a year to examine critical environmental health issues and to provide summary information on EHP activities.

The current issue carries articles on comparative health risk assessment, rapid community assessments of environmental conditions, and the spread of dengue in urban areas in addition to these regular features: Current Activities of Note, EHP Information Center Resources, and New EHP Publications.

Contact EHP to be put on the mailing list.

monitor and evaluate this project, including public health conditions and hygiene behaviors in the project sites.

The Cono Norte is 70% peri-urban, or informal. An estimated 590 tons of waste are generated there daily, 118 tons of which are not collected. About 70% of what is collected is disposed of in unsanitary garbage dumps. Inadequate solid waste collection and disposal have contributed to environmental contamination of the surface water and groundwater as well as the ambient air through burning. People living in the area experience a high rate of acute respiratory and diarrheal diseases. In 1993, 60% of all cholera cases reported in metropolitan Lima occurred in the Cono Norte. In peri-urban areas, women and young children are the highest risk group.

A similar project is on the drawing board of the USAID mission in Morocco, where the intent is to design and test a pilot program to improve neighborhood garbage collection. Community participation and private sector involvement are key features of this proposed activity.

Peru: NGO identifies ways to improve its environmental health program

EHP conducted a strategy review of the community-based environmental health activities of the *Instituto de Salud Popular* (INSAP), a Peruvian NGO run by physicians and engineers working in the peri-urban, or informal, areas of Lima. The Inter-American Foundation (IAF) had provided the NGO with program support over the previous five years to expand its services and to add an environmental sanitation component. The review, which assisted INSAP and the IAF in their future strategic planning, stressed that INSAP should develop professional expertise in participation, program development and monitoring, and community-based strategies if it intends to continue working in environmental health and that IAF should enhance its own capacity to play a supporting role. The review was carried out at the request of the IAF through USAID/Lima.

Software: Decision-support tool facilitates selection of appropriate sanitation systems for the peri-urban sector

A team of EHP consultants from Humboldt State University in California has created an interactive computer program to aid planners working with communities to select sanitation systems for peri-urban areas that improve health and protect the environment. The software program utilizes economic, environmental, sociological, cultural, and technological information to help select appropriate systems for particular settings.

Systems should be (1) compatible with hydrologic, soil, topographic, and other local physical features; (2) compatible with local social and cultural norms related to sanitation; (3) effective in meeting disposal and/or reuse standards; and (4) cost effective. The database includes construction drawings, flowcharts of the systems, and color photographs of the technologies.

The software for this decision support tool is available from EHP. Ask for "WAWTTAR 3.0."

Environment and health linked in new book

Down to Earth: Community Perspectives on Health, Development, and the Environment, a new book published under the auspices of the National Council for International Health (NCIH) with support from USAID, links protecting the environment and improving health in 14 case studies that focus on practical application on the community level. Many of the cases describe how urban problems were addressed—in Cali, Colombia; in Tegucigalpa, Honduras; in Los Angeles, California; in Quito, Ecuador. The book, which is published by Kumarian Press, is based on key presentations at the 1993 NCIH Conference on Health and the Environment. USAID support, provided through the Environmental Health Project, assisted the editors to conceptualize and write the introductory sections and to finalize the editing. The book is available from NCIH.

PVOs increase their awareness of links between environment and health

EHP held a one-day workshop for PVOs at the end of the 1995 National Council for International Health conference in Washington in June. The goal was to increase awareness of the links between health and the environment and the role PVOs can play in reducing environmental health problems. Because many environmental health interventions take place on the community level, they are especially suitable for PVO involvement. Topics covered were (1) an expanded definition of prevention, (2) community involvement in the management of environmental pollution, and (3) comparative health risk assessment.

EHP Applied Study examines the potential of microfinance for environmental health infrastructure

"Financial Services and Environmental Health: Household Credit for Water and Sanitation," an EHP Applied Study, evaluates the potential for using microfinance to support infrastructure development and hence environmental health. The report's main thesis is that significant demand exists among low-income communities for a wide range of on-site water supply and sanitation technologies. Such technologies could be financed through a household credit mechanism and could utilize private contractors, rather than relying on the public sector and grants/subsidies.

Drawing lessons from a number of countries where credit has been used for water supply and sanitation, as well as from microenterprise finance efforts, the report identifies the requirements for a sustainable financing system using credit. The bias against consumer credit for the poor is often based upon an incomplete understanding of the low-income household, where consumption includes borrowing for housing, education, and medical expenses. Also, financial institutions specializing in this area need mechanisms that minimize incentives to make poor credit evaluation decisions and that ensure minimum standards of prudential regulation.

Informal network links organizations working for the urban poor

EHP manages an informal network to connect people, agencies, and institutions working on environment and health-related issues of urban poor areas. The network aims to provide practical, field-oriented information and support to its 1,200 members. *Voices from the City*, the newsletter of the network, facilitates communication among environment and health practitioners working in urban poor areas. *Voices* is published jointly by the Office of Health and Nutrition of the PHN Center and the Office of Urban Programs of the ENV Center, with the active involvement of the Water and Sanitation Collaborative Council Peri-Urban Working Group. EHP coordinates the network and production of the newsletter. Membership in the network is free of charge. Contact EHP for the current issue of *Voices* or to join the network.

EHP "Capsule Report" examines the role of prevention in averting public health crises in urban poor areas

EHP coordinated a seminar in 1995 on "Urbanization and Environmental Health" co-sponsored by the Office of Environment and Urban Programs and the Office of Health and Nutrition. Margaret Catley-Carlson, chair of the Water Supply and Sanitation Collaborative Council, and Dr. Diana Silimperi, specialist in integrated child health services with the BASICS Project, stressed the urgent need to address the environmental health problems of the urban poor before the situation gets out of hand. Close to half the world's urban dwellers live in neighborhoods threatened by polluted water and air, lack of sanitation, and re-emergent vector-borne diseases. EHP has just published an eight-page "Capsule" Report based on the seminar entitled: *Health & the Environment in Urban Poor Areas: Avoiding a Crisis through Prevention*. Copies are available upon request.

Reports from the Environmental Health Project

Community Risk Assessment in Tunisia, by Ridha Boukraa and Nadia Bechraoui.
June 1995. Activity Report 8.

Financial Services and Environmental Health: Household Credit for Water and Sanitation, by Robert C.G. Varley.
January 1995. Applied Study 2.

PVO Workshop on Environmental Health, June 29, 1995, compiled by Bonnie Bradford. November 1995. Activity Report 16.

Review of an NGO-Based Peri-Urban Environmental Health Project in Lima, Peru, by Carolyn McCommon and Laura Altobelli. February 1995. Activity Report 6.

Survey of U.S. Private Voluntary Organizations Working in Environmental Health, by Ann Hirschey. July 1994. Activity Report 1.

Reprints of Reports on Urban Issues from the Water and Sanitation for Health (WASH) Project Available from EHP

Constraints in Providing Water and Sanitation Services to the Urban Poor. WASH Technical Report 85.

Environmental Health Assessment: A Case Study Conducted in the City of Quito, Ecuador. WASH Field Report 401.

Environmental Health Assessment: An Integrated Methodology for Rating Environmental Health Problems. WASH Field Report 436.

Constraints to Producing and Collecting Urban Environmental Health Data in Central America. WASH Field Report 429.

Planning for Urban Environmental Health Programs in Central America: The Development of Water and Sanitation-Related Environmental Health Indicators and the Survey of Existing Data in Three Cities. WASH Field Report 420.

Public Participation in Urban Environmental Management: A Model for Promoting Community-Based Environmental Management in Peri-Urban Areas. WASH Technical Report 90.

The Unique Challenges of Improving Peri-Urban Sanitation. WASH Technical Report 86.

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EHP is sponsored by the Environmental Health Division, Office of Health and Nutrition, Center for Population, Health and Nutrition, Bureau for Global Programs, Field Support and Research, U.S. Agency for International Development.

EHP is implemented by a consortium of firms and research institutions headed by Camp Dresser & McKee International Inc., Cambridge, Massachusetts