

**BEYOND PARTICIPATION:
LOCALLY BASED DEMAND FOR ENVIRONMENTAL HEALTH
IN PERI-URBAN AREAS**

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EXECUTIVE SUMMARY

This paper describes strategies to improve environmental health interventions in peri-urban areas. The strategies discussed in this report can lower government and donor costs, increase health impact, and contribute to improved governance in peri-urban communities. A concept called “locally based demand,” or LBD, is used to understand the behavior of communities and households in relation to environmental health conditions. The foundation of LBD is a process of understanding environmental health practices in peri-urban communities and acting on priorities residents themselves identify and are willing to pay for. LBD strategies go beyond many of the participative approaches currently used by donors and governments. They usually require redefining relationships among community organizations, nongovernmental organizations (NGOs), and municipal agencies. The techniques described in this paper include providing skills for local NGO leaders and staff of municipal service agencies to work together, thereby tapping the skills, knowledge, and interests of the communities themselves.

In environmental health as in other areas, experience has shown that many of the conventional approaches to delivering services to poor communities are ineffective. Building infrastructure has not necessarily changed behaviors that lead to illness, child deaths, and pollution. Subsidized services provided for poor people generate little sense of community responsibility and do not engage, let alone strengthen, community organizations. In response to this experience, donors are giving new attention to participative approaches that expand community input, focus on demand and behavior change, and explore innovative ways to cover costs. USAID has been at the forefront of these changes with its operations re-engineering and “participation initiative.”

Progress in adopting more participative approaches to working with poor communities, while substantial, has fallen short of its potential. LBD approaches enable sponsors to go beyond the goal of participation. They are a means of both assessing and influencing demand for, and increasing local involvement in, environmental health projects. A demand-based approach helps peri-urban residents understand better the consequences of their actions and prioritize their desires based on this knowledge and the resources available. LBD approaches can stimulate partnerships between a community’s institutions and those organizations which affect their environment and health. Such strengthening can enhance the ability of peri-urban communities to negotiate for services with municipal and national service providers by clarifying what they want, engaging their own resources, and strengthening organizations grounded in their culture and experience.

Just as importantly, an LBD approach can change the behavior of government staff themselves and help build closer relationships with the communities they serve. An LBD-guided intervention must use tools to seek and get a better understanding of the reasons behind peri-urban community behavior, perceptions of problems and wants, and priorities. Thus LBD prescribes a “learning process” approach which results in decisions about environmental health investments and services based on individual, neighborhood and community demand, rather than on notions of entitlement, standard “one-size-fits-all” designs, or outsiders’ judgments about what people need and ought to pay. By creating a forum to bring together elected officials, ministries, operational and technical staff, NGOs, and community representatives, projects emphasizing local demand contribute to improved governance.

Implementing programs that use an LBD approach may not be easy. Basic attitudes and practices on all sides may have to change. This requires patience, realism, flexibility, and an openness to learn from experience. There will always be “supply-side” factors that influence planning and resource allocation for environmental health investments and service improvements. However, LBD shifts the balance in this process toward well-informed choices by peri-urban residents.

I THE CONTEXT

This paper describes strategies to improve environmental health interventions in peri-urban areas in developing countries that can lower costs, increase effectiveness, and contribute to improved governance. These strategies use the concept of “locally based demand,” or LBD, to explain and influence the behavior of communities and households. At the foundation of this approach is a belief that the first step is to gain an understanding of environmental health practices in peri-urban communities and then to act on priorities community members themselves identify and are willing to pay for. LBD approaches try to go beyond many of the participative approaches currently used by donors and governments. LBD approaches may require redefinition of the roles of community organizations, nongovernmental organizations (NGOs), and municipal agencies. Using the principles on which LBD is based may also change the way partnerships are developed among those players.

Rapid and disorganized migration has led to vast settlements on the periphery of many developing-country cities, settlements with little or no water, sanitation, waste removal, or other basic infrastructure or services. These peri-urban neighborhoods, often the result of squatter settlements on inaccessible and fragile lands, pose public health and environmental risks for their inhabitants and the city as a whole. Municipal officials and politicians have only a limited understanding of these areas, their conditions, and their inhabitants. Municipal utilities, constrained by limited national and donor investment funds and frequently by policies that do not permit them to recover their costs for services they already provide, are overwhelmed by the task of extending infrastructure and services to these new areas.

In environmental health as in other areas, experience has proven many of the conventional approaches to “delivering” services to poor communities ineffective. Building infrastructure has not necessarily changed the behaviors which lead to illness, child deaths, and pollution. Subsidized services provided for poor people generate little sense of community responsibility and do not engage, let alone strengthen, community organizations. In short, environmental health investments have often led to disappointing public health impacts and are not broadly replicable or sustainable.

In response to this experience, USAID, NGOs, the multilateral development banks, and other donors are giving new attention to participative approaches that expand community input, focus on demand and behavior change, and explore new ways to cover costs. Planners recognize that only by forming partnerships—between government and the private sector, between community and municipal organizations, between donors and local counterparts—will most of the peri-urban population have access to water, sanitation, solid waste and other environmental health services. This change reflects an acceptance of current realities: complex issues such as peri-urban environmental health cannot be dealt with effectively by centralized, vertical service providers. Rather, they require cross-sectoral approaches that combine the perspectives, experience, and capability of many organizations and disciplines and that move responsibility closer to those who actually use the service.

USAID has been at the forefront of these changes during the past three years with its comprehensive management re-engineering and “participation initiative.” Since 1993, USAID has completely changed its way of doing business, based on five core values: (1) results-orientation, (2) customer focus, (3) participation and teamwork, (4) empowerment and accountability, and (5)

diversity. USAID activities are now designed to achieve specific strategic objectives. Individual projects, which in practice often led to a narrow focus on monitoring inputs and outputs, are no longer the principal program management unit. Monitoring and evaluation of progress in achieving results is now the basis for program reviews and resource allocation. USAID has taken steps to increase involvement by the people it hopes to benefit (its “customers”), as well as its development partners (e.g., NGOs, government agencies), in defining its objectives, identifying individual activities to achieve them, and monitoring program performance. The participation initiative and a dozen country experimental labs (CELs) carried out as part of the re-engineering process have pioneered or given visibility to participative approaches. The agency has begun training programs that provide skills for assessing community needs and institutions in a participative way and for working in teams. Implicit in the shift to strategic objectives (SOs) as the focus of program design and progress review is greater empowerment of field missions and “SO” teams to take the steps needed to accomplish these results with less guidance from headquarters. In explicitly placing high value on diversity, USAID recognizes the contributions and perspectives of its multinational, multicultural, multisectoral staff, partners, and customers.

As would be true with any major systemic change, progress by USAID and other donor agencies over the past few years in adopting more participative approaches, while substantial, has been uneven and short of its potential. Although there are exceptions, participation in practice has often been limited to getting reactions from international or local NGOs and other partners to the overall strategic direction, programs, or ideas already conceived by the donor. If communities are consulted, it may happen only once, and even that contact may be made by outside consultants. This inclusion is certainly a step in the right direction, but more can be done.

The locally based demand approach described in this paper seeks to move beyond this limited practice of participation. While aspects of the approach can be applied in all development programs, the specific focus in this paper is peri-urban environmental health.

The LBD approach to peri-urban environmental health seeks to help communities and service providers understand the reasons for and consequences of behaviors related to environmental health in the community. The approach helps individuals, families, neighborhoods, or entire communities articulate and prioritize desired environmental health improvements based both on individual willingness to pay for them and additional resources that can be mobilized, by communities themselves as well as government. To the extent possible, investments and services are individualized so people get what they actually want. Because willingness to pay is a key criterion in defining priorities, local resources are just as important as external finance. In addition to cash and labor, the assets created by the community’s “social capital” of local institutions, existing relationships, trust, and shared values are an important factor in meeting locally based demand.

The relationship between government and peri-urban communities may be changed by using LBD approaches. Service agency staff gain skills that help them understand and work with peri-urban residents. Vertical systems of service delivery uncoordinated with the activities of other organizations must be replaced by cross-sectoral teams of national, municipal, and local government agencies, NGOs, and the community’s own institutions. This team effort emphasizes cooperation and practical problem-solving and allows organizations to draw on their own particular strengths and experience. LBD approaches often lead to an increased sense of community responsibility, greater accountability by those charged with operations, and greater

health impact. In sum, the quality of governance is increased, and investments in infrastructure can thereby yield greater health impact at modest cost to health sector agencies.

Locally based demand approaches differ from demand-led strategies in general in that the former stress the differences across cultures and countries. Public health cannot be traded or transported, and the value which people attach to its maintenance may differ widely, even within a country. Locally based demand focuses on the relationships between households, communities, and local governments where they exist.

The rest of this paper describes locally based demand approaches. In Chapter 2, several terms and concepts which are useful for understanding LBD approaches to peri-urban environmental health are defined. Chapter 3 draws on particular examples to describe the approach in detail, while Chapter 4 identifies and discusses practical considerations for implementing these approaches. Some concluding remarks are given in Chapter 5.

2 DEFINITIONS AND CONCEPTS

Before describing locally based demand approaches in more detail, it is useful to explain the focus of this paper and explain some of the key terms used.

Environmental health. Environmental health is a subsector of public health. Activities in this area are primarily preventive, with emphasis on the conditions and behaviors which expose people to diseases and toxic chemicals, i.e., access to and use of water and sanitation facilities, solid waste disposal, and air quality. Environmental health is a multidisciplinary field, one which recognizes the cross-sectoral interactions that shape health outcomes. The focus of environmental health interventions has become increasingly urban. In the eyes of many development specialists, water supply and sanitation are the most significant determinants of health conditions in Third World cities.

Most public health programs have emphasized treatment and prevention measures for individuals, such as immunizations, vitamin supplements, child spacing, and oral rehydration therapy. Less attention has been given to the environmental conditions which affect child and adult health and the related behavior changes which can lead to healthier lives. Investments in water and sanitation are usually viewed as public works projects, the purview of engineers and municipal utilities and not specifically public health interventions. Such infrastructure investments are often very costly, and do not automatically improve public health conditions. Sprawling informal, peri-urban areas, which are not—and under present conditions and approaches largely cannot be—served by public sector utilities, may not even get the basic infrastructure which is a precondition for environmental health.

Despite their marginality—in geography as well as service—peri-urban areas need not miss out on the benefits of public health efforts. Changes in environmental conditions and associated behaviors, combined with appropriate technologies and finance, can have far-reaching health impacts. Costs to the health sector budget itself can be kept low if the resources of communities themselves are engaged. Partnerships among public sector agencies, NGOs, the private sector, and community organizations can reach large numbers of peri-urban residents effectively with tailored investments and services for which they are willing to pay.

Peri-urban areas. Perhaps the worst environmental health conditions, and resulting illness and deaths, are in the vast informal communities that have grown up rapidly on the edge of major cities in developing countries. These areas are characterized by uncertain land tenure, difficult and inaccessible terrain, unreliable water availability, little or no infrastructure, low levels of sanitation services, high population density, and lack of formal recognition by government. Peri-urban settlements generally are not homogeneous with respect to ethnic background, income level, language, and social norms. This heterogeneity often leads to misunderstandings and distrust among neighbors, making a broad-based sense of community difficult to achieve. Nevertheless, there are existing cultural and relational structures that influence how individuals, families, and neighborhoods act and that affect their priorities and the choices they make. Social customs may be more difficult to recognize, however, and are not necessarily uniform throughout the entire settlement. In addition, some community organizations do exist, frequently formed around issues of common interest to the settlement. In many respects, peri-urban areas are much more complex

than most rural and formal urban communities and present unique challenges for carrying out environmental health (and other) activities (Hogrewe, Joyc, and Perez 1993).

Locally based. For purposes of this paper, “locally based” can refer to activities or interests of individuals, families, blocks, neighborhoods, or entire peri-urban communities. Investments in infrastructure or services or changed behaviors can take place at any of these levels. What is important in the LBD approach is that the demand for changes come from the local level, not from outsiders regarding what they think local communities want or need.

Demand. Demand is a measure of the strength of preferences. It is “want” constrained by available individual and community resources. Demand is what individual and institutional economic units are willing to pay (or give up in the form of other opportunities) at a given price (or opportunity cost) for a more pleasant environment and improved health. Where a demand exists but markets are constrained from forming by externalities or non-excludability, there is often a plausible case for government intervention to improve resource allocation. In the LBD framework, the role assigned to price is as an indicator of scarcity to be used in guiding allocation at the local level. Demand can also be expressed in terms of the time that citizens are willing to spend on achieving community objectives.

Demand is very different from “need.” Need usually expresses what someone thinks should be, not what is. Need requires a value judgment before a number can be attached to it. The need may have no correlation with want or desire. A need may also be a want, but it is not considered demand unless that want is backed by willingness to pay. Needs are usually expressed as an entitlement level with every individual entitled to the same amount. In addition, needs are usually defined by someone other than those whose needs are to be satisfied.

Willingness to pay. In this paper, the term is used literally: what individuals, families, or other economic units are willing to pay in cash or in kind, or to give up in the form of other opportunities. Willingness to pay is not a good or a bad thing but a description of behaviour. The term “affordability,” however, requires a judgement. In the end, demand is derived from individual decisions, and it may be hard to determine an entire community’s willingness to pay for a new or improved service. To the extent that environmental health infrastructure is in the form of private goods it is important to offer choices to individuals as to the type, quantity, or quality of service rather than offering “one-size-fits-all” solutions.

Willingness to pay is quite different from “ability to pay” and “affordability.” The ability of poor people or communities to pay for something is often the judgment of outsiders about the maximum percentage of income that a family be required to pay for a particular good or service. In addition to generalizing across what in practice is a very diverse population in most peri-urban areas, estimates of ability to pay, or how much peri-urban families can afford, often do not take into account what they presently do pay for similar, usually inferior, services. For example, many drinking water schemes have been founded on the belief that low-income groups are unable to pay the entire cost of water from a full-service, modern system. This leads either to subsidized service or, more likely, to a decision that these areas just cannot be served. But when utilities are unable to charge an economic price, excess demand is created. The poor end up paying more by incurring nonprice costs such as queuing at standpipes or buying water from vendors. Even households connected to piped supplies often incur coping costs, such as payment for additional storage tanks to buffer intermittent supply. There is abundant evidence that the poor pay much

more for water than those connected to piped systems. Often, the major source of drinking water for the peri-urban poor is vended water; numerous studies of the true cost paid vary between 3 and 300 times the rate paid for municipal piped water. For a specific example of this, see Box 1. Interventions which take into account this willingness of poor households to pay would make them better off by actually lowering water prices, even if prices were above what planners thought the poor “ought” to pay.

1 Cité Soleil, Haiti: The High Cost of Informal Water and Sanitation Services

In Cité Soleil, a densely populated community of 180,000 in Port-au-Prince, a Haitian NGO is introducing rudimentary sanitation and water supply facilities to peri-urban dwellers through the establishment of a commercially viable local agency. In the process of investigating this possibility, it was found that the majority of residents obtain water from private vendors who, in turn, obtain their water from delivery trucks. If Cité Soleil residents use a minimal 1.5 gallons of water per person per day at the current price, a family of six pays about \$5.25/month for water. This minimal usage would result in 270,000 gallons or 54,000 buckets sold per day. At the current price, this would generate \$157,000 monthly, or \$1.9 million annually. This conservative estimate of actual water expenditure is quite remarkable from such an impoverished population. The NGO calculated that even if the new agency charged an amount that allowed it to fully recover its costs, not only for water supply but also for sanitation and solid waste disposal, Cité Soleil residents would pay one-half to two-thirds the amount currently charged by private water vendors.

Social capital. In addition to cash, time, and labor, peri-urban communities possess another important resource: their “social capital.” Social capital is made up of the relationships, trust, shared values, and institutions through which they are expressed. According to Francis Fukuyama (1995),

Social capital is a capability that arises from the prevalence of trust in a society or in certain parts of it...while contract and self interest are important sources of association, the most effective organizations are based on communities of shared ethical values. These communities do not require extensive contract and legal regulation of their relations because prior moral consensus gives members of the group a basis for mutual trust.

A community’s social capital can contribute substantially to its ability to articulate and prioritize its demand, especially for services that provide benefits to everyone. Conversely, the absence of social capital can be a major constraint to carrying out certain kinds of environmental health activities.

Locally based demand. Locally based demand for environmental health is a function of three factors: (1) goods or services that individuals, neighborhoods, or communities want; (2) the resources they have available—cash, time, labor, and social capital—and are willing to pay for environmental health improvements; and (3) the existence of institutions that can effectively translate desires and resources into action.

Cost-effectiveness. This is an overused and frequently misunderstood concept. When people describe a way of doing something as being more cost-effective than another, they usually mean it is cheaper. Sometimes they mean that the value to society of the benefits exceeds the cost. Cost-

effectiveness is not a normative concept; it simply describes the cost of obtaining a unit of effect. This unit of effect may be a proxy for benefit, but that is not necessarily so. In health planning, the cost-effectiveness of an intervention is the cost to the health sector budget divided by the marginal impact (Varley 1996). This effect or impact has to be expressed as an unambiguous unit which can be objectively measured (unlike “benefits”); the common units are deaths averted or cases prevented.

3 THE LOCALLY BASED DEMAND APPROACH

As an introduction to how locally based demand works, it may be helpful to contrast it to a traditional (and hopefully outdated) approach. The following section is admittedly a caricature of the conventional approach to carrying out environmental health infrastructure projects, but the authors feel that readers with even limited experience in the field will recognize at least some familiar features. The second and third sections in this chapter give illustrations of specific development activities using an LBD approach.

3.1 THE “CONVENTIONAL” APPROACH: SUPPLYING NEEDS

Funds often become available for investments in peri-urban environmental health infrastructure from a donor-financed water supply and wastewater project. Officials in the corresponding national government ministry, in consultation with municipal authorities and foreign consultants, identify target communities that need improved water supply services. Since these neighborhoods have grown rapidly in the past several years, decisions are based on unreliable and outdated epidemiological data. They are also based on national government entitlements for a minimum basic service level that all residents should have. Project designers estimate average income levels for the target communities (again based on unreliable or outdated information), and apply a standard rule of thumb about the percentage of income each household in the community should be able to pay for the proposed services. Government policy for the past 30 years has been to provide urban water and sanitation services at low cost, in fact below cost, and a vocal middle class does not miss an opportunity to reinforce this policy. So service providers are not able to charge enough to cover the costs of services in the target communities; they are constrained to set charges at a level they believe poor households can afford.

One of the consultants hired to design the project surveys a sample of the target communities for input. This may be the first and last time the communities are consulted. Because of language difficulties and the short time available, the consultant talks with the staff of a few NGOs active in the communities. The NGOs and municipal authorities also identify some community leaders for the consultant to interview, and the interviews are carried out through a translator provided by the municipal water service. Only a few women—in a small group together with other community leaders—and no children are interviewed. The questions ask for community reaction to ideas already developed by the project and focus mostly on implementation mechanisms, including the self-help labor that community members will be expected to provide.

Nearly two years later, the municipal water service completes its procurement process and signs a contract with a large construction firm to build the planned infrastructure in one of the peri-urban communities targeted under the program. The project provides for a standard connection and level of service for each household. Cost estimates and calculations of affordability are not revised to allow for the passage of time or the final construction contract price. Community members are expected to contribute labor to dig ditches, usually from the main pipelines to their homes. A small grant is provided directly by the donor to an NGO to form a new organization to coordinate the community’s contribution to the project; in practice, most of the NGO’s effort is spent tracking down community members to get them to work on the project

when the contractor needs them. Since the water company is the counterpart agency to the donor financing the project, it assumes full responsibility for what it sees as a construction project. Coordination with the health or education ministry, NGOs, or community organizations is not needed. Once construction is completed, responsibility for ongoing maintenance is assumed by the maintenance division, as distinct from the construction division, of the municipal water company. The municipal water service doesn't recover its costs for the services it provides; fees paid by households go into a general fund that is then reallocated to the water company in the annual budget process. Thus, the water company is dependent on the municipality and central government for its operating budget with little correlation to billing. It has recently had to reduce its staff because of budget and civil service cutbacks, and is stretched to keep up with the office paperwork and reporting requirements from government ministries and donor agencies.

Not surprisingly, the community feels little sense of ownership for its new water system. The maintenance section of the water company, in addition to its staffing problems, is not familiar with the system or the community. Although each family in the community pays a monthly service charge for water, neither the community nor the utility's maintenance workers perceive any relationship between the fees paid and the quality of services. In addition, many of the community's practices related to water use and waste disposal have not changed. As a result, the environment does not improve noticeably, and children are sick as often as ever and continue to die from diarrhea and other diseases. Senior officials of the utility company and national ministry become increasingly frustrated that the poor do not use the new services properly, a frustration that is mutual as the quality of water services declines, water vendors reappear, and health conditions deteriorate.

3.2 THE ALTERNATIVE: RESPONDING TO LOCALLY BASED DEMAND

Applying LBD principles turns the conventional approach on its head by starting from the perceptions and desires of the users or clients. As the foregoing section shows, in perhaps exaggerated form, development done for the poor doesn't create ownership; it limits the ability of government and other service providers to reach large numbers of people, lowers the desired impact of investments, and is not sustainable. For environmental health investments to have high impact on the health and living conditions of peri-urban communities, they must respond to what people actually want and are willing to contribute resources to.

The LBD approach is a means of articulating local desires and increasing local involvement in environmental health projects. Just as importantly, it can identify the needed changes in the behavior of government and other service agencies and their relationship with the communities they serve. Effective interventions can help people living in peri-urban communities understand better the consequences of their own actions and prioritize their desires based on this knowledge and the resources available. Effective strategies usually stimulate a partnership between the community's institutions and the many organizations working in areas which affect its environment and health. The LBD approach enhances peri-urban communities' (and their residents') ability to negotiate for services with local, municipal, and national service providers by clarifying what they want, engaging their own resources, and increasing their ability to work together through organizations grounded in their culture and experience. The approach also aims to change the policies, procedures, and behavior of national and municipal agencies and service

providers so they begin to see environmental health problems as multisectoral, the solutions to which will require the contributions of a variety of public and private organizations. Donor- and government-financed interventions should concentrate on giving local agencies the tools to seek and get a better understanding of the reasons behind peri-urban community behavior, community perceptions of problems and wants, and community priorities. Since accurate estimation of demand may be impossible, the LBD approach is a “learning process” (Korten 1988) which results in decisions about environmental health investments and service quality reflecting individual, neighborhood, and community demand rather than notions of entitlement, standard one-size-fits-all designs, or outsiders’ judgments about what people need and what they ought to pay for it.

Although LBD approaches emphasize demand considerations, the interests of municipal and other government agencies responsible for environmental health services in peri-urban areas should not be ignored. These agencies may require a fundamental change in the way they do business and define their accomplishments. The local actions needed to solve problems of illness and poverty cannot be sustained by communities alone. Therefore, from the perspective of a donor, the starting point is a good understanding of existing government organizations and NGOs active (or potentially so) in areas which impact on peri-urban environmental health. This understanding should include institutional strengths and weaknesses, methods of interacting with each other and with peri-urban communities and residents, current methods of prioritizing and making decisions about infrastructure investments or service quality, available resources, and the policy and political environment in which they operate.

For donor and government interventions to have any chance of success, there must be at least some initial openness on the part of the key leaders and institutions to participative approaches and new ways of working. If there is not, major programs in environmental health should be preceded by education, policy dialogue, and other efforts aimed at creating such an awareness and interest. Where this commitment does exist, an institutional analysis provides the basis for designing training courses and follow-up activities for key agency staff. These activities should focus on techniques for working with and understanding peri-urban community behavior and demand in a participative manner, and for promoting cross-sectoral teams that involve key community, local, and government institutions.

An LBD approach should foster learning for both the community and service agencies. It is crucial, therefore, that it be based on an accurate and full understanding of local perceptions of environmental health problems, behaviors and coping strategies, and the reasons for them. Local diversity must also be understood and taken into account. Outsiders must be sensitive to the influence that various family and traditional power structures may have in determining demand in peri-urban communities, and that these may be quite different from either rural traditions or ones in established urban areas, even in the same city. While epidemiological data, information on health risks, and technical knowledge by specialists are important in identifying communities on which to focus attention, these elements should be seen primarily as tools for facilitating a learning process within the community about the effects of current practices on health conditions.

There are a number of survey and rapid assessment techniques that can be used to help understand a peri-urban community’s situation and its interest in environmental health improvements. There is no strict formula for determining what studies need to be conducted. The choice of instrument or technique should be determined based on each situation. The relative

importance of formal demand studies will vary with the scale of intervention, the capacity to conduct the studies, the nature of the good or service appraised, and the potential advocacy leverage of the results. While full “willingness to pay” studies are usually very costly and time-consuming, there may be circumstances where these are indicated. Many data collection approaches can be carried out well by local people and researchers and do not require outside “expert” assistance. What is important is that they result in an accurate picture of what is actually happening in the community, that they engage both community residents and outside agency staff in a process of understanding the reasons for the current situation, and that they be credible to decision-makers inside and outside the community. An example of local data-gathering in Ecuador is shown in Box 2. Assessment of local demand and other participatory data collection should be viewed as a process, not a one-time event. Peri-urban areas in particular are very dynamic places; and health conditions, behaviors, and perceived problems change quickly.

The information collected by community assessments helps residents articulate and prioritize the changes and improvements they want. If their understanding of the link between behaviors, environmental conditions, and the incidence of disease is poor, it may be necessary first to focus on education or “social marketing” activities as a way of helping community members make well-informed choices.

A key feature of the LBD approach is its usefulness in translating the strength of preferences into individual and group demand. Demand is what people are willing to pay (or give up in the form of other opportunities) at a given price (or opportunity cost) for the changes and improvements they want. Demand is not universal or of uniform weight. Peri-urban communities contain a wide diversity of income levels and financial survival strategies. Different people will have different preferences and resources. Public health, however, is an atypical commodity. It is an example of a public good, and when considered from an individual household perspective, the costs of improved health behaviors may exceed the perceived benefits unless virtually everyone abides by appropriate rules of conduct and behavior.

2 Participative Data Collection for Cholera Prevention in Ecuador

A serious cholera pandemic hit Ecuador in 1991. Even after it declined in 1994, the disease persisted in specific areas of the country. The Ministry of Health was concerned that its aggressive program of social communication and hygiene education had had little impact in these specific regions. It concluded that a better understanding of local behaviors would yield information that could be used to develop targeted interventions for these areas. With assistance from USAID/Ecuador and the Environmental Health Project, a participatory process of data collection and activity design was carried out in 1995. A key element of this “Behavior-Based Cholera Activity” was training regional teams—made up of health, education, and sanitation professionals and NGO representatives—in adult education practices, social communication techniques, qualitative data analysis, participatory development, and monitoring of health interventions. The regional teams then trained teams of community members. The community teams conducted behavior-based research in their homes and communities, analyzed the data, presented their analyses to the community, and designed health interventions based on those data. The most striking immediate effect was the self-awareness the data-gathering and analysis caused. Community members said it helped them recognize high-risk behaviors and the beliefs that supported them. This approach to data collection increased awareness in the community of the relationship between beliefs and behaviors, and the lack of correlation between knowledge and actions. It was also highly credible to ministry, NGO, and other officials because of their involvement in the regional teams and overall guidance of the activity.

Given the diversity in peri-urban communities, there will be a range of technologies (and corresponding costs) reflecting these different preferences, incomes, and variations in asset ownership. This range in technologies can basically be broken down into two categories: those for which the benefits are mostly limited to individuals, and those with benefits that are realized by a neighborhood or community in general.

Many—maybe most—environmental health interventions primarily benefit specific individuals or families. On-site sanitation and water supply facilities, some of which (e.g., covers for water storage containers) can be quite simple and inexpensive, are best treated as household investments with a predominantly private-good content. Solid waste disposal charges may be related to the quantity of waste generated. Demand for these kinds of improvements is very individualized, and responses can be tailored specifically to the resources and preferences of each individual or family. They may best be provided by the private sector, perhaps through purchases from local suppliers or construction by local contractors, financed with small loans from existing microfinance institutions (Varley, Applied Study No. 2, 1995). Box 3 provides an example of a successful program in Honduras which used this approach.

3 Peri-Urban Housing and Water and Sanitation Improvement in Honduras

The Cooperative Housing Foundation worked with health-oriented NGOs in Tegucigalpa, Honduras, to help them make commercial loans to peri-urban households for housing improvements and on-site water supply and sanitation facilities. Assessment studies indicated a wide range of demand both for housing improvements and facilities such as a water storage tanks, wash basins and showers, pour-flush and VIP latrines. The wide range of quality-cost combinations reflected both preferences and debt capacity. Through close community relations, the lenders were able to avoid the need for formal collateral by using guarantors and social pressure to repay. Effective demand for loans was built by treating a small loan for WS&S improvements as the first of a series of loans of increasing size, culminating in loans to finance significant improvements to the actual structures. Recognizing that many single women who headed households could not afford to take time off from work and/or lacked construction experience, the loans could be used to pay local contractors. Construction artisans trained as loan officers performed a valuable intermediary function between customers and efficient but not always honest private contractors. This program increased the demand for household infrastructure by widening the options available for contractual arrangements. Where NGOs provide services such as contract enforcement and bonding, they increase the demand for infrastructure services.

On the other hand, the more public or unexcludable¹ the goods are, the more access and consumption of them tend to be equal. Furthermore, everyone has to participate for the health and amenity benefits to be enjoyed. This makes common standards more appropriate. Thus, condominium sewerage schemes (a low-cost technology using shared shallow pipes) are most efficiently provided by cooperation between blocks of households, as the benefits are shared equally. These kinds of investments have implications for the level and type of analysis that should be undertaken to determine demand. Especially where significant capital investments are being considered, more extensive demand or willingness to pay studies may be indicated. The ability of some members of a group to receive unexcludable benefits without paying for them may generate false demand, and it would be very helpful to have estimates of this type of distortion before decisions are made. In addition, the desire for public goods or services whose benefits are unexcludable may not be understood solely by surveying individual preferences. Rather, the demand may be expressible only through representative institutions at the community and local government level.

Communities and individuals must weigh the costs and benefits of their situation and make informed choices about their priorities. It is important to understand that these priorities may not always be what outsiders, considering only the environmental health situation, would recommend. The community views its situation as a whole and may be willing to accept the cost of environmental health problems at a particular time in exchange for other benefits. In addition, there will be a whole range of factors—including education, social marketing, advertising, desired lifestyle, culture, traditional family and social structures, what the neighbors or influential community members have—that affect demand. Outside agencies need to understand and respect

¹ If a benefit is unexcludable (equally available to rich and poor), it is impossible to prevent someone from enjoying it, although one might wish to do so as a means of enforcing payment. With many classes of environmental benefit, it is impossible to do this, and environmental goods may consequently not be charged to individuals on the basis of their use of these benefits or how much they value them. The result is an undervaluation of the environment.

this choice, as long as it is well-informed. Demand, of course, evolves over time as perceptions and understanding change, resources increase, or problems become more severe.

Gaining an understanding of the community and its demand for environmental health improvements must also include an examination of institutions. Institutions are needed to temper desires and demands with resources. As noted above, some goods and services, (e.g., latrines, water or solid waste containers, indoor plumbing) can be obtained and financed individually. For these, the availability and quality of finance institutions, suppliers, and private contractors will be important. Other services—for example, condominal sewerage or a new piped water system for the community—from which benefits are widely shared may require joint action and agreement among many households on standards, costs, and maintenance. Communitywide effort requires community-level organizations. If they do not exist or are not trusted, the community's ability to carry out such service improvements is limited, even if people want and are willing to pay for them. Where this is the case, the LBD approach may indicate that assistance is best directed at helping strengthen or form neighborhood institutions. Facilitation of group processes which enable communities to manage their own affairs increases the resources they have available to address their environmental health and other problems. Box 4 provides an example of one case where this was needed.

Efforts to form or strengthen community organizations should be based as much as possible on existing structures and relationships. Cross-cultural studies have found that participant groups are most effective as change agents when they are based on, or clearly related to, traditional

4 Developing Local Options in Karachi, Pakistan

The Orangi Pilot Project is often cited as an example of the power of community and political mobilization to influence environmental health conditions. Initially, OPP organizers spent several years trying to persuade municipal authorities to address the acute sanitary problems of this informal area in Karachi. These efforts were not successful, due in part to the absence of community institutions to serve as a channel for locally based demand. In response, OPP dedicated patient and sustained efforts over a 15-year period to create institutions that were able to negotiate with municipal authorities to supply main trunk sewers and treatment facilities. This process was guided by three principles:

(1) distinguishing clearly between internal (household and block) responsibilities, which could be handled by households themselves, and the lane and main trunk sewers, which were the responsibility of municipal authorities; (2) lowering costs by modifying technology (e.g., developing low-cost condominal small-bore sewers, a revolutionary new approach) and identifying alternatives to corrupt government contracting processes; and (3) providing technical support to help households make informed choices about sanitation improvements. The Orangi experience shows that sustainable, locally based development can often take long periods of time, particularly when it involves the creation of new institutions, social capital, and relationships with government authorities.

social organization (Kottak 1991). Understanding the role and influence of customs and traditional structures, including local priests, healers, tribal elders, extended families, and others who hold political and social power within the community, is especially important since they mediate the access of outside agencies to community members and thus their ability to effect change at the neighborhood level. A promising strategy of harnessing existing social units has been articulated by Professor Akin Mabogunje (1991):

Clearly, if the masses of the population in cities of developing countries are to be mobilized behind a new complex of ideas, concepts, values and standards which are critical for development, especially in the context of a free market economy, considerable economies of effort will be achieved if, instead of seeking to impose alien institutions on them, attempts are made to identify and understand relevant indigenous institutions or local adaptive strategies whose rules and enforcement characteristics can gradually be transformed so that with time appropriate productively entrepreneurial norms of behaviour would be evolved.

The effective working together of community, government, local NGOs and other organizations is fundamental to the success of the LBD approach. This cooperation builds relationships based on communication, mutual understanding, and practical problem-solving. The approach recognizes that a number of institutions have a valuable role to play and that no single agency can, by itself, adequately respond to the complex issues affecting peri-urban environmental health. Box 5 provides a specific illustration from Belize.

5 Practical Problem-Solving through Teamwork in Belize

As part of an effort to improve the implementation of a water and sanitation program in Belize, frequent one-day meetings were held between those responsible for the delivery of services and the policymakers to whom they reported. This dialogue focused attention on “real life” situations which inhibited implementation. The issues were simple, yet nonetheless they created major obstacles. District teams needed to share resources in order to function, e.g., health department educators needed transport in water department vehicles. Similarly, flexible working hours or additional budget for staff to work evenings were needed so residents (most of whom worked during the day) could be contacted and involved. The frequent meetings allowed the project to resolve seemingly trivial issues that so often plague implementation.

In a program guided by locally based demand, the donor’s role is as much one of facilitator and coach of the process as financial source and monitor of implementation. Donors play a key part in helping communities and service providers gain skills and form partnerships across traditional boundaries. Donors need to remain very much engaged in the process. They themselves need to understand how decisions are made and expressed in peri-urban communities and in the institutions which deal with them. They need to make sure that the input of women and other disadvantaged groups is obtained to the maximum extent possible. Donors can also have particular impact by promoting management changes within municipal, national, and other agencies that increase the influence of frontline staff and their interaction with policymakers. Information and feedback from the “foot soldiers” of governmental agencies can be very important in influencing broader policy decisions and can significantly increase opportunities for initial or pilot efforts to be replicated more broadly.

C. CIMEP/Tunisia : An LBD Approach to Community Management of Environmental Pollution²

A good example of the application of the LBD approach is the Community Involvement in the Management of Environmental Pollution (CIMEP) project in Tunisia. The CIMEP experience should be viewed as one example of an activity guided by the principle of locally based demand. Each development activity is unique, and application of the LBD principles will require adjustments and adaptation to the local situation. However, CIMEP in Tunisia does provide a good illustration of how an LBD orientation can be a guide to practice.

CIMEP was begun in January 1995 by USAID's Regional Housing and Urban Development Office (RHUDO) as an 18-month pilot project in two Tunisian cities, Sousse and Kasserine. It was designed to develop partnerships between national decision makers, municipalities, and communities so that, together, they could plan and carry out the extension of municipal services to peri-urban neighborhoods. The CIMEP approach evolved from lessons learned under USAID's worldwide Water and Sanitation for Health (WASH) project and its successor, the Environmental Health Project (EHP). It consists of skill-building workshops and follow-up in the field to make sure skills are being implemented, neighborhood-level interventions that address environmental health conditions, and roundtables of senior officials to identify needs for policy and institutional changes to support the partnership between communities and municipalities.

The political climate in Tunisia was supportive of decentralization and community participation. Municipalities favored these concepts and believed participation was occurring. The necessary vehicles for participative efforts were in place in the two cities: community associations, known as *Comités du Quartier*, with staff paid by the Ministry of Interior; NGOs, staffed by part-time volunteers with paid jobs in industry or the public sector; technical and administrative municipal staff; and elected officials. As the CIMEP project progressed, however, it became apparent that the definitions of participation held by the public sector and by communities were very different. To those working in municipalities or government ministries, participation meant people in communities providing labor and money to carry out infrastructure projects planned by public sector agencies. To peri-urban residents, participation meant municipal institutions providing them with infrastructure. These gaps—in understanding, in trust, in the distribution of roles and responsibilities—were what CIMEP was designed to bridge.

Two in-country specialists managed the project: an economist and a trainer with extensive experience in community participation. One of their first tasks was to facilitate the selection of municipal employees for what was called an *Equipe Municipale Elargie* (EME, or “expanded municipal team”) from each city. The actual selection was done by national and municipal authorities, giving them a stake in the outcome. The EMEs were made up of municipal technical and administrative staff, NGO representatives, and *Comités du Quartier*.

Training workshops provided EME members skills that would enable them to draw on the knowledge and resources of those living in peri-urban areas and to include them in efforts to address environmental health problems. In addition to building these skills, the workshops enabled the EMEs to become cross-sectoral teams. Participants began to approach their tasks as a

² This summary is drawn from Yacoob and Kelly 1996.

working unit rather than individual sector experts. An important training activity was the opportunity for participants to conduct rapid community assessments. This required significant behavior change on the part of municipal managers, who were used to leaving such information gathering to “experts” and believed that no action could be taken without involving a specialist. For these managers, engaging community members as partners and sitting down with them to obtain data was quite a departure from their usual role. It fundamentally changed the way they did business. In addition, these assessments allowed team members to identify many more specific interventions to respond to environmental health problems in the target communities.

The CIMEP technical assistance staff conducted regular follow-ups with EME teams to help them document progress, to encourage team members to note changes in how they functioned, and to model participatory consensus-building. The follow-up contacts also revealed specific skills that individual participants needed to develop.

A series of policymaker roundtables helped build support for the project and enlarge the circle of stakeholders. These day-long meetings included staff and administrators from the Ministries of Health, Environment, Housing, and Interior; the mayors and city managers of Sousse and Kasserine; and the EME team leaders. One of the most important functions of these roundtables was to inform the representatives of the various ministries about the community-level actions being taken by municipal participants on the EME teams. The meetings also provided an opportunity to address procedural and policy constraints to project progress.

The training workshops, follow-up activities, and policy roundtables were all part of the process of determining appropriate interventions to improve environmental health conditions in the target communities. These activities were implemented through microprojects of \$5,000 or less. NGOs chosen by community representatives and the municipality administered the funds for each microproject, which originated from the governates’ budgets. A contract was drawn up for each microproject to formalize the agreement among community representatives, technicians on the EME team, city managers, and the NGO. Projects undertaken included cleaning up a solid waste dump and turning it into a playground, thereby averting a high number of child injuries; building a bridge over a frequently flooded ravine so that children could get to school; paving streets; widening wastewater pipes; and providing color-coded waste bins for separating organic and nonorganic waste.

The microprojects were interventions that the municipalities had wanted to carry out but could not because of budgetary constraints. Municipal officials found that the CIMEP approach saved 20% to 40% compared to the costs of contracting this work out or doing it themselves. Costs were lowered because (1) less supervision was needed—the projects were carried out by community members; (2) long delays were eliminated; (3) cheaper, more appropriate technologies were selected by the community than what the municipality would have proposed; and (4) smaller-scale, less expensive community-based contractors were hired directly by the community.

Due to the CIMEP process, behavior changes related to environmental health conditions have occurred in both communities and institutions. The project produced positive, measurable improvements in target community housing conditions and practices related to drinking water, disposal of household garbage, and wastewater disposal. The effect of these changes on disease prevalence is still being monitored, but initial indications are that it is positive. In addition, CIMEP significantly changed the practice of participation by government agencies and staff. The roles and responsibilities of municipalities, NGOs, and communities were revised and their links to one

another strengthened. Municipal officials now have the tools to promote further change and monitor the gains made.

4 PRACTICAL CONSIDERATIONS IN IMPLEMENTING LBD STRATEGIES

Carrying out locally based demand approaches to environmental health improvements in peri-urban communities is not an easy or straightforward process. It requires changes in basic attitudes and practices on all sides. This chapter highlights issues in four areas that donors and governments should take into consideration when implementing LBD activities.

4.1 UNCERTAINTY AND FLEXIBILITY

First and foremost, programs using the LBD approach require patience, flexibility, and a tolerance for uncertainty. LBD entails a fundamental change in the way government organizations and service agencies do business. It seeks to alter in significant ways the interactions between communities and municipal authorities, among government agencies, between public and private sector organizations, and among peri-urban residents themselves. It may require education and social marketing, institutional strengthening, or policy dialogue before any significant funding of actual environmental improvements takes place. Like re-engineering processes in business and government agencies anywhere, these kinds of changes do not occur quickly or smoothly, and they need a lot of nurturing and reinforcement. While it is important to set and strive for challenging goals, one must be practical about what degree of progress is feasible in a given period of time.

Locally based demand itself evolves as peri-urban residents' perceptions and understanding of environmental health problems change. Likewise, increased income, more effective organizations, political developments, weakening or strengthening influence of traditional practices, demographic shifts within the peri-urban community, changes in environmental health conditions—even the greater confidence and empowerment that can result from successful articulation of their priorities and implementation of improvements—can all affect what people want and are willing to pay for. It is essential for donors and all organizations outside the community to stay attuned to what is happening there, to keep abreast of these factors that affect demand.

As an approach to improving environmental health in peri-urban areas, LBD stresses results rather than any prescribed solutions. It is aimed at achieving certain public health outcomes (i.e., less disease, fewer child deaths) not the provision of any particular inputs. The specific strategies and steps for reaching these results will change not only as service agencies adopt a new approach and as communities evolve and gain confidence in themselves, but also as more is learned by all actors involved in the process about what works and what doesn't. A key characteristic of any learning process is flexibility to respond to new information, changed circumstances, and the lessons of experience.

4.2 DATA COLLECTION: HOW SOPHISTICATED?

As discussed in Chapter 3, an LBD approach does not prescribe what particular studies need to be conducted to understand conditions and behaviors in peri-urban neighborhoods. Nor does it

dictate that a formal demand survey for environmental health improvements must be conducted. The choice of data-collection instrument should be made based on what is required in the specific circumstances to get the information needed.

Many data collection approaches can be carried out quite well by local people and researchers, with little outside assistance. In fact, directly involving community members and staff from organizations active in peri-urban areas may be one of the best ways for them to learn from the process. However, to some government (and maybe donor) agency officials accustomed to more conventional approaches and to relying on the credentials and reports of outside experts, using local residents for data-gathering can require a leap of faith that may be difficult to make. Even more challenging is basing decisions on what peri-urban residents believe will alleviate their environmental health problems, rather than relying on technical analyses and “expert” judgments.

Following the LBD approach does not mean technical information and expert advice are unimportant. But the role of expert, technical inputs becomes one of identifying areas for attention, facilitating learning, and empowering local people and frontline service providers. Data collection, often very costly and seldom used once reports are written or projects designed, is a tool to understand practices and behaviors, to increase communication, and to allow peri-urban residents to express their preferences. The choice of the instrument to use should be guided by these purposes.

4.3 LBD IS PRAGMATIC

An LBD approach can operate within existing structures and ultimately make them work better. It is not necessary (or wise) to build community institutions or NGOs that form a parallel service structure to bypass public utilities and national or municipal government agencies. In the short term, working within existing structures can sometimes be the more frustrating and difficult course, but it is more likely to be sustainable over the long run.

In practice, a mix of factors influence investment decisions, the quality of services, and government relationships with peri-urban communities. Government policies affecting environmental health are the product of political philosophies and longstanding practice which may not be conducive to widespread expansion of services to peri-urban areas. In fact, peri-urban residents are often marginal to the political processes of the country or city, and government policies are generally based on the interests of more influential groups. Societal attitudes toward the poor are frequently not well informed; they change slowly and not always for the better. Consciously or not, political leaders may be tempted to exploit participatory approaches for motives unrelated to community empowerment. Government agencies, stretched for resources, may condition receipt of certain government benefits on “voluntary” labor to public sector schemes. Donors and governments may have preferences that restrict the location and character of interventions. LBD approaches must be aware of these forces and guard against their use.

Funding cycles of national governments and donors affect the timing and availability of resources for new infrastructure or improved services. A demand-led approach does not do away with the need for government planning on the “supply” side. The important thing is to alter the sequence and basis upon which planning and budget allocation decisions are made, to shift the balance more strongly in favor of locally based demand.

4.4 THE ROLE OF NGOS

In the development community, NGOs have gained prominence as social-change agents. It is widely assumed that channeling funds to NGOs, rather than government, is more likely to maximize benefits to community residents. NGOs are generally viewed as more responsive to local demand and more effective in encouraging participation than are some governments. While this may be true in some cases, as mentioned above, one must be sensitive to the possibility of creating parallel structures that ignore the legitimate role of the public sector.

NGOs can be very effective if they pursue pragmatic objectives and do not resist working with government. In many countries, increased collaboration between NGOs and government can facilitate identification of local demand and help communities undertake locally initiated development activities. Despite trends toward democratization and growing support for participative approaches, however, the wishes and goals of some politicians remain strikingly different from those of the individuals and groups who are involved in encouraging popular association. NGOs continue to play an important role in pressuring governments to supply what they (the NGOs) perceive as local needs and in nurturing participatory development. Sometimes, though, NGOs create obstacles to their own effective participation in development activities. They need to avoid contributing, intentionally or not, to a confrontational atmosphere that discourages rather than enhances their participation in decisions and programs.

The approach to environmental health interventions in peri-urban areas is context-specific and does not necessarily require involving NGOs as partners. NGOs are not always the most effective change agents or in every case the organizations that can best help local people articulate their development goals. In each setting, NGOs should be included in the institutional analysis carried out at the beginning of the LBD identification process. The analysis should include the strengths and weaknesses of the various organizations active in the area, their leadership, motives and agenda, values, and attitude toward collaboration with each other and government agencies. The spectrum of NGOs could easily include some that are largely platforms for elites and out-of-office politicians, some that reject working with government agencies, or others that are not committed to the principles of financial sustainability. It may be that these NGOs would not necessarily make effective partners, or that efforts should first be directed to working with them to change their orientation.

5 CONCLUSIONS

This paper has described approaches to identifying and implementing environmental health improvements in peri-urban areas based on locally based demand for public health. The strategies described build on the increased interest of donors, governments, and NGOs in expanding participation in development programs. But LBD approaches go beyond what is often the current practice of participation, and hopefully provide some techniques to facilitate a fundamental change in the roles and behavior of peri-urban residents, municipal agencies, and other service providers. LBD approaches are “learning process” steps that provide skills to communities, their institutions, and the outside organizations that interact with them. These skills help improve understanding of environmental health problems and practices and foster cross-sectoral communication and problem-solving. There will always be “supply-side” factors that influence planning and resource allocation for environmental health investments and service improvements. Nonetheless, prioritization on the basis of LBD shifts the balance in this process toward well-informed choices by peri-urban residents about the improvements they would like and for which they are willing to pay.

LBD approaches reflect the core values that guide USAID’s re-engineering efforts. They focus on desired environmental health results, not preconceived standards or recipes, and seek ways to achieve them based on individual and community demand. They give service providers the skills to identify and satisfy the needs of their customers, and to build teams with the diverse organizations that work in peri-urban areas. These skills can empower frontline staff within their organizations, as well as make the organizations themselves more accountable to their customers. By helping people understand the consequences of their behaviors, by strengthening and reinforcing community institutions and cohesion, and by allowing tailored responses to individual demand, LBD approaches can empower peri-urban communities and their residents.

Basing environmental health investments and service improvements on local demand leads to more cost-effective use of scarce government and donor resources for public health. Environmental factors and related practices often account for a substantial portion of illness and deaths in peri-urban communities. Addressing these problems frequently requires changes in behavior or relatively small household investments which either do not need major infrastructure investments or which make maximum advantage of existing water supply and waste removal services. Basing local improvements on residents’ willingness to pay increases individual and community responsibility for them. The investment of local resources allows municipal, national, or donor resources to be leveraged for much greater impact. In addition, the focus of LBD on customized improvements means that many of them can be achieved through a network of private suppliers and financial institutions, allowing government services to focus on those other areas which private markets cannot efficiently supply.

Finally, by creating a forum to bring together elected officials, various ministries, operational and technical staff, NGOs, and community representatives, projects emphasizing local demand contribute to improved governance. Often, government and municipal officials have a very limited and stereotyped understanding of peri-urban communities. LBD approaches provide one of the first opportunities for them to come into direct contact with these neighborhoods and their residents. Commitment to the LBD approach requires building peri-urban areas’ social capital of

local institutions, relationships, trust and shared values. Interventions must catalyze cross-sectoral partnerships among government and nongovernmental organizations that interact with communities and their institutions on environmental health issues. These partnerships strengthen the fabric of civil society at the community level, as well as peri-urban neighborhoods' and residents' ability to articulate their needs and desires to government officials. In addition, an LBD approach must ensure the provision of the facilitation skills that local government staff need to relate to the communities they serve in a more understanding and responsive manner. Frontline service agency officials can thus become more accountable to their customers and have greater influence on the policies and procedures of their organizations.

Pursuing an LBD approach is not quick or easy. It requires patience, realism, flexibility, and a willingness to learn from experience. But the rewards can be great—for peri-urban neighborhoods and public sector agencies alike—in terms of public health impact and improved governance.

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