Water, Sanitation and Hygiene

# Community-driven development for water and sanitation in urban areas

## Its contribution to meeting the Millennium Development Goal targets

**David Satterthwaite with Gordon McGranahan and Diana Mitlin**

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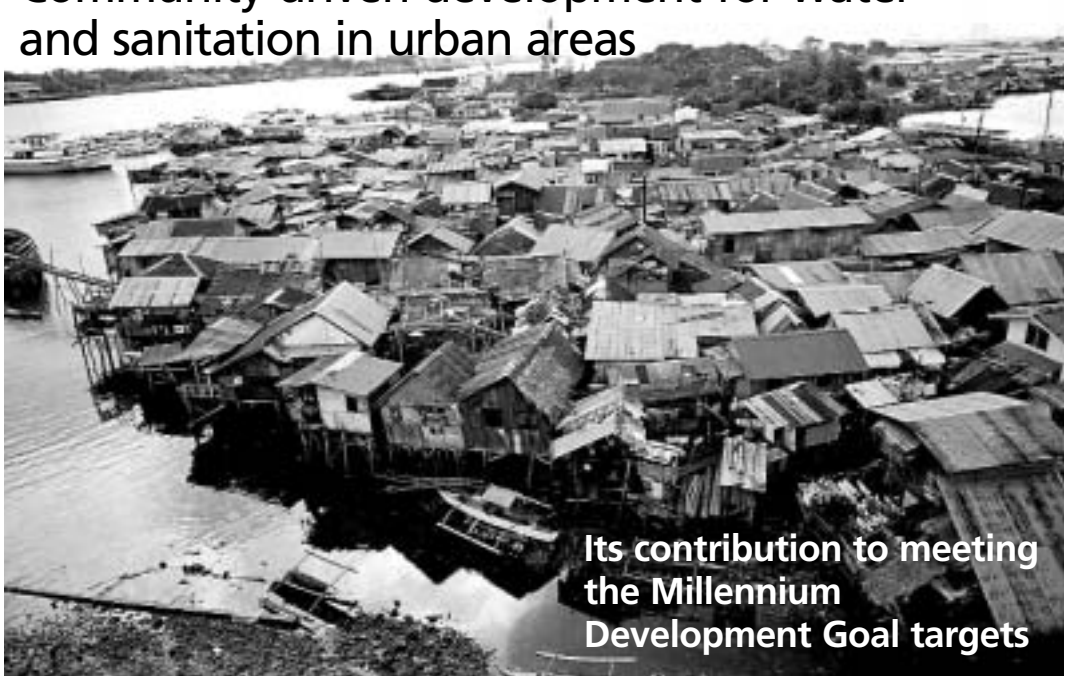

**Its contribution to meeting the Millennium Development Goal targets**

## Foreword

The Vision 21 exercise, launched by WSSCC in 1997, and the recommendations endorsed in the Hague World Water Forum in 2000 made it clear that in order to achieve sustainable, improved access to water and sanitation services, approaches need to be first and foremost people-centred. In addition to the need to increase governments' commitment, leadership, coordination, regulation and endeavour to water, sanitation and hygiene as a necessary step towards achieving all Millennium Development Goals, it is equally essential to change from a technical expert and delivery oriented approach to a community-driven demand oriented approach. By discussing and analysing a range of community-driven initiatives, this booklet confirms the ingrained success and sustainability of such approaches, and the need and opportunities to scale them up. This document touches upon many of WSSCC's main advocacy themes. Be it the need to provide communities with the tools and opportunities to monitor progress as well as to implement initiatives; the need to look beyond our own sector and facilitate multi-sectoral approaches; the strength of loan finance and self-help, and the need to build equal partnerships between all stakeholders, especially between community groups and (local) government. Urban poor communities are no longer mere beneficiaries but equal partners in the process towards sustainable development and achievement of the MDGs.

In November 2004, WSSCC held its first Global WASH Forum in Dakar, Senegal, with the theme '*Solutions and actions; local and national*,' bringing together grassroots workers, sector professionals, academics, government representatives, politicians, private sector representatives, and many others on a common platform. In its concluding document, the Dakar Statement, the Forum drew particular attention to the need to learn from successful actions that are already being carried out at the household, local and national level, and must be scaled up to attain the global target. This booklet offers some excellent examples of such actions. It is most appropriate that we publish this booklet for the 13th session of the Commission on Sustainable Development. It is also the first WSSCC publication based solely on experiences related to poor urban and peri- urban areas. We are happy to have had the opportunity to collaborate with IIED and especially with Dr. David Satterthwaite for that.

**Gourisankar Ghosh, Executive Director, WSSCC**

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# Community-driven development for water and sanitation in urban areas: its contribution to meeting the Millennium Development Goal targets

David Satterthwaite with Gordon McGranahan and Diana Mitlin

**The authors of this booklet work at the Human Settlements Group at the International Institute for Environment and Development (IIED).** **The text of this booklet also draws heavily on the work of Arif Hasan, Sheela Patel, Somsook Boonyabancha and Alfredo Stein, although all errors in the text are entirely the responsibility of the authors. The authors are also grateful to Sheridan Bartlett, Gouri Ghosh and Nina Behrman for their suggestions on improving the text and to Eileen Higgins for designing this booklet.**

**This is a joint IIED-WSSCC publication; the views expressed in this booklet are not necessarily those of the WSSCC.**

**The cover photos were taken by Mark Edwards, during a trip to the Philippines as a guest of the Philippines Homeless People's Federation.**

SUMMARY: *Community organizations working with local NGOs have been responsible for many of the most cost-effective initiatives to improve and extend provision for water and sanitation to low-income urban households. Some have achieved considerable scale, especially where water and sanitation utilities and local governments work with them. Many of the initiatives that improved and extended provision for water and sanitation were not 'water and sanitation' projects but initiatives through which urban poor households developed better quality and more secure housing – for instance through squatter upgrading and tenure regularization or serviced site schemes. These were often supported by loan finance that helped households or community organizations to fund improved provision for water and sanitation or to fund the development of new homes with improved provision. Some of these initiatives led to more effective and much less costly ways to develop the trunk infrastructure into which most community-driven water and sanitation initiatives need to integrate in urban areas.*

*These initiatives have considerable relevance for meeting the water and sanitation target within the Millennium Development Goals (MDGs). First, they show how it is possible to reach even the poorest households in urban areas with much improved provision. This has particular importance since, within an urbanizing world, a large and increasing proportion of those with low incomes who lack provision live in urban areas. Secondly, they generally have much lower unit-costs per person reached than conventional government or private utility managed initiatives, and greater possibilities of cost recovery. Thus, external support for these on a larger scale does not require levels of external funding that are unrealistic. But they do imply major changes in how local governments and international agencies work with urban poor groups. At the core of most initiatives described in this booklet is the possibility for urban poor groups and their organizations to influence what is done and to be involved in doing it. And to be involved in monitoring progress, which implies a very different kind of monitoring from that envisaged for the MDGs. If the MDGs are to be met, more equal relationships are needed between urban poor groups and local governments and water and sanitation providers. This means a shift from conventional patronage-based relationships to relationships that are more transparent, accountable to urban poor groups and within the law. This is the change that has to permeate all levels – from the lowest political unit (the ward, commune, neighbourhood, parish) through city, provincial and national governments. International agencies will have to increase their support to community-driven initiatives but in ways that are accountable to urban poor groups and that catalyse and support these groups' own resources and capacities. And, as importantly, support these groups' efforts to develop effective partnerships with local governments.*

## I. INTRODUCTION

WHAT ARE THE key obstacles to improving provision for water and sanitation in deprived urban areas?

- Inadequate levels of support and commitment from international agencies and national governments?

OR

- A lack of power and influence within local governments and water and sanitation utilities on the part of the unserved and the ill-served?

Considerable evidence can be marshalled to support both positions. In the end, both are true although their relative importance varies greatly, depending on location. In support of the first – there are tens of thousands of small urban centres where local governments have almost no capacity to improve provision for water and sanitation by drawing only on their own resources. They have little or no investment capacity or capacity to raise funding for water and sanitation. If there is any infrastructure for piped water supplies and sewers or drains, this is generally the result of one-off investments made because external funding was available and this serves only a small proportion of the population. But there are also thousands of urban centres where local governments do have the capacity to improve provision, but fail to do so. And in all urban centres, there is potential for improvement, if partnerships are formed between local government, water and sanitation providers and the ill-served and unserved households and neighbourhoods.

MDG Target 10 seeks to halve the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015. Most discussions of how to do so concentrate on increasing support from international agencies and national governments. For urban centres, the solutions are seen in large increases in international funding to provide the 'big' infrastructure that city-wide systems need to allow for piped provision: water treatment plants, water mains and, where possible, trunk sewers and drains that then allow provision to be expanded and extended to the ill-served and unserved. In recent years, there has also been a commitment by many international agencies to help ensure these investments are undertaken within an integrated water resource management framework.

However, many examples of improved provision for water and sanitation for urban poor groups come from local community-driven initiatives, many of them funded primarily with local resources. Many have achieved a considerable scale, especially where they developed working relationships with water and sanitation utilities and government agencies. Many were not 'water and sanitation' initiatives, but broader initiatives through which low-income households and their community organizations improved their existing homes, or obtained land to build new ones. These initiatives are important not only for the tens of millions of urban households with much improved provision for water and sanitation, but for the way they complement investments in 'big' water and sanitation infrastructure – and, indeed, can reduce the cost for this infrastructure.

This booklet will focus on the role of these local, community-driven schemes in directly addressing the needs of the unserved or ill-served in urban areas. It will:

- describe initiatives that improved and extended provision for water and sanitation as a result of changes in approach by local governments and civil society organizations;
- show how local initiatives not normally considered part of 'water and sanitation' can have great relevance for improving and extending provision – especially squatter upgrading schemes, initiatives to provide land for new housing and measures to increase the availability of loans to support household and community investments in better housing;

- discuss a key underpinning of these successes – the partnerships offered to local government by organizations of the urban poor – and the tools and methods used;
- discuss the 'local' constraints to improving and extending provision for water and sanitation and how these can be addressed.

It will also emphasize that a key reason for success has been the development of models of provision with much lower unit costs – allowing many more households to be reached with limited resources. The booklet also outlines some of the implications for donor agencies, if they wish to support community-driven improvements.

## II. THE SCALE OF NEED IN URBAN AREAS

A LARGE AND increasing proportion of the people without adequate provision for water and sanitation live in urban areas. Most of the increase in population in low- and middle-income nations between 2000 and 2015 is occurring in urban areas. Unless urgent measures are taken to improve and extend provision in these areas, for new as well as existing households, the MDG targets will not be met.

By 2000, more than two-fifths of the urban population in low- and middle-income nations lived in 'slums'.[1] In most slums, provision for water and sanitation is inadequate; in many, it is non-existent – inhabitants defecate in the open and collect water from unprotected sources outside their neighbourhood. In most urban areas in low- and middle-income countries, between a quarter and a half of the population lacks the quality of provision for water and sanitation that significantly reduces the risk of faecal-oral contamination.[2] In most smaller urban centres, the proportion without good provision for sanitation is even higher. Most urban centres in low- and middle-income nations have no sewers at all and little or no other public support for good-quality sanitation.[3] Close to half the population in low- and middle-income nations suffers from one or more of the main diseases associated with inadequate water and sanitation.[4] As Figures 1 and 2 show, because of the rapid shift of population from rural to urban areas, a very large part of the population that has to be reached with improved provision for water and sanitation is, or will be, in urban areas.

## III. FOCUSING ACTION WHERE NEEDS ARE GREATEST

INITIATIVES TO IMPROVE provision for water and sanitation in urban areas generally focus on investments in large-scale infrastructure – for instance, water abstraction and treatment, water mains and trunk sewers and drains. These often fail to give much attention to the unserved or ill-served – many of whom live in the areas least likely to be reached by the piped networks or in illegal settlements where official water and sanitation authorities find it difficult to work, or are not permitted to work. In response to these difficulties, alternative models have concentrated on developing water and sanitation systems in areas where conditions are worst – and as these expand, finding ways to integrate them within larger systems. In many of these alternative models, improved provision for water and sanitation is one component of a larger programme that often includes obtaining secure tenure and support for housing improvements.

There is also now more official recognition of the validity of focusing on places where needs are greatest and working with those who live there. The

1. UN-Habitat (2003), *The Challenge of Slums: Global Report on Human Settlements 2003*, Earthscan Publications, London, 310 pages. We would have preferred not to use the term 'slum' because it is an imprecise term for the many different kinds of sub-standard housing used by low-income groups and it is often used by powerful vested interests to justify the eviction of 'slum' dwellers from land these same interests wish to develop. But the term slum came back into common use during the 1990s as international agencies wanted to specify some goals related to improving conditions for low-income urban dwellers. The term slum also obtained more legitimacy as, in some nations, organizations formed by those living in poor quality and often insecure accommodation referred to themselves as 'slum' dweller organizations and federations.
2. UN-Habitat (2003), *Water and Sanitation in the World's Cities; Local Action for Global Goals*, Earthscan Publications, London, 274 pages.
3. Hardoy, Jorge E., Diana Mitlin and David Satterthwaite (2001), *Environmental Problems in an Urbanizing World: Finding Solutions for Cities in Africa, Asia and Latin America*, Earthscan Publications, London, 448 pages;
4. UN Millennium Project (2005), *Health, Dignity and Development; What Will it Take? The Report of the Millennium Project Taskforce on Water and Sanitation*, Earthscan Publications, London and Sterling Va;

**Figure 1: Number of people that must gain access to 'improved' water supply by 2015 if MDG Target 10 is to be met**

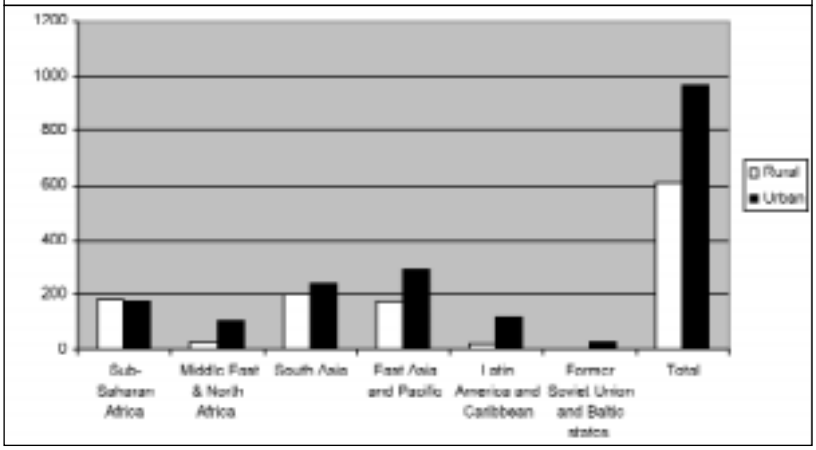
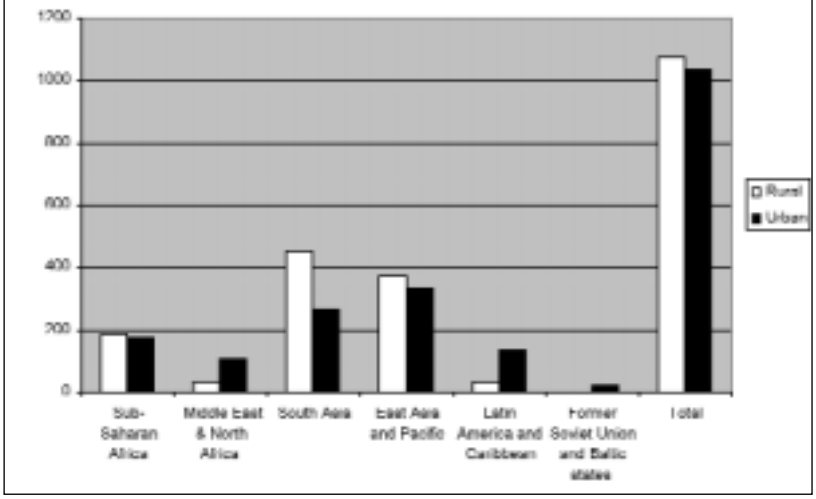



Figure 2: Number of people that must gain access to 'improved' sanitation by 2015 if MDG Target 10 is to be met




SOURCE AND NOTES: These are drawn from Table 4.3 in UN Millennium Project (2005), *Health, Dignity and Development; What Will it Take? The Report of the Millennium Project Taskforce on Water and Sanitation*, Earthscan Publications, London and Sterling Va. This is based on data from the WHO/UNICEF Joint Monitoring Programme (2004), *Meeting the MDG Drinking Water and Sanitation Target: a Mid-Term Assessment of Progress,* Geneva and New York. The term "improved" is in quotation marks because it refers to definitions made by the Joint Monitoring Programme in regard to what is considered improved water and improved sanitation.

Millennium Project's Task Force on Water and Sanitation noted that if the water and sanitation targets are to be met, there need to be:

- "…deliberate activities to create support and ownership for water supply and sanitation initiatives among both women and men in poor communities.
- "… a deliberate recognition that basic sanitation in particular requires an approach that centers on community mobilization and actions that support and encourage that mobilization."[5]

WHO (1999), "Creating healthy cities in the 21st Century", Chapter 6 in David Satterthwaite (editor), *The Earthscan Reader on Sustainable Cities*, Earthscan Publications, London, pages 137-172.

5. UN Millennium Project 2005, op. cit, pages 1-2.

The 2003 World Development Report also recognized that a prerequisite for success is that deprived residents drive efforts to improve water and sanitation.[6]

In many areas, markets can be an effective means of ensuring that local demands drive improvement efforts. Where urban water and sanitation provision is most deficient, however, there also tends to be a lack of purchasing power and uncertainty over property rights – including many settlements on land that is illegally occupied. Many of the benefits of better water and sanitation involve public health and welfare, which are not effectively driven by market demands. Utilities can be made more responsive to the economic demands of low-income residents. Small-scale private water and sanitation providers can have an important role. More organized communities are, however, in a better position to drive the needed improvements, whether these are provided by public utilities, private enterprises, the residents' own efforts or, most often, some combination of these.

A number of community-driven improvements in provision are described in the next section. This is followed by sections on:

- upgrading and secure tenure – with examples of large community-driven upgrading and new-house development programmes that had important water and sanitation components;
- programmes to support urban poor households in getting land on which they can build new homes with water and sanitation infrastructure;
- loan and grant finance for households and communities that supported improved provision for water and sanitation;
- support for the small and independent water and sanitation providers that respond to the demands of (and are usually run by) low-income urban residents;
- reform of conventional (public and private) water and sanitation utilities through partnerships with community organizations;
- going to scale with city-wide strategies and changing the relationship between urban poor groups and city authorities; and
- tools and methods that support community-driven initiatives.

This booklet does not review all of the measures important to the achievement of the water and sanitation targets. For instance, measures that successfully reduce income-poverty, or help to avert future water resource crises, are also needed in many places. So too are local government reforms that increase the capacity and competence of local government agencies and also their accountability to citizens. But even with such changes, the kinds of community-driven processes described in this booklet will remain critical for ensuring better provision of water and sanitation to deprived urban communities.

## IV. COMMUNITY-DRIVEN IMPROVEMENTS IN PROVISION

GROWING NUMBERS OF community-driven improvements in provision for water and sanitation have been developed by urban poor organizations and local NGOs. Some have achieved considerable scale – reaching tens or hundreds of thousands of households. Perhaps more importantly, some have developed partnerships with local authorities and local water and sanitation providers which greatly increase the potential to 'go to scale'. In this section, four initiatives are described:

- the community-designed, implemented and managed toilet blocks in India;

6. World Bank (2003), *Making Services Work for Poor People; World Development Report 2004*, World Bank and Oxford University Press, Washington DC, 271 pages.

- the work of Orangi Pilot Project – not only in Orangi but also in other parts of Karachi and in many other locations in Pakistan;
- the WaterAid supported programme in Chittagong and Dhaka;
- the work of Development Workshop Angola.

### a. The community-designed, implemented and managed toilet blocks in India

During the late 1980s and early 1990s, slum- and pavement- dweller organizations and federations in India designed, built and managed some public toilet blocks, either because there was no provision in their district or because provision was very poor.[7] These were usually preceded by a community-managed slum survey to document the inadequacies in provision. At first, local authorities ignored or discouraged these efforts. But in 1999, the municipal commissioner in Pune (a city with over 2 million inhabitants) invited NGOs and community organizations to bid for contracts for public-toilet construction and maintenance. This led to a very large-scale community toilet block construction programme – which then encouraged government support for a comparable large-scale programme in Mumbai, when local government staff saw how much better the community-designed, built and managed toilets worked than the contractor-built public toilets they had previously built. The National Slum Dwellers Federation and its member federations, *Mahila Milan* (savings cooperatives formed by women slum and pavement dwellers) and the support NGO SPARC have been responsible for around 500 community-designed and managed toilet blocks that serve hundreds of thousands of households in Pune and Mumbai. Comparable toilet programmes developed in other cities such as Viyaywada (14 toilet blocks), Hyderabad (3 blocks) and Bangalore (various demonstration blocks) and these may serve as precedents for much larger programmes. In this instance, the innovation was in the use of community design, implementation and management to produce a better quality public toilet block that cost no more than the ineffective, poorly designed public toilet blocks previously built by contractors. The design included many innovations that gave women more privacy, made queues work better, ensured a constant supply of water for washing and made better provision for children. Community-management ensured that they could be maintained through user charges.

Community organizations formed by the urban poor are trying out similar community-managed toilet blocks in Kenya, Uganda, Namibia, Zimbabwe, South Africa and Sri Lanka. These community toilet blocks are also interesting in that they promote a 'solution' that has generally been ignored by international agencies, whose focus has been either only on water or, if support is provided for sanitation, for facilities for each household. Community toilets are not an ideal solution. Virtually all households would prefer good provision for sanitation within their homes. But they represent a pragmatic, locally driven approach that greatly improves provision for large numbers of the poorest households, drawing on existing resources. Many of these toilet blocks are also in slums that are so overcrowded that there is little or no space to install private toilets within each housing unit.

### b. The Orangi Pilot Project

The two main innovations promoted by the Pakistan NGO Orangi Pilot Project (OPP) have been the provision of good quality sewers to individual households at costs that even low-income households can afford, and the reorientation of larger water and sanitation infrastructure systems to support these.[8] The community-managed sanitation programme supported by the

7. This case study is drawn from Burra, Sundar, Sheela Patel and Tom Kerr (2003), "Community-designed, built and managed toilet blocks in Indian cities", *Environment and Urbanization*, Vol. 15, No. 2, pages 11-32.

8. This draws from Hasan, Arif (1997), *Working with Government: The Story of the Orangi Pilot Project's Collaboration with State Agencies for Replicating its Low Cost Sanitation Programme*, City Press, Karachi, 269 pages; and Hasan, Arif (2005), *The Orangi Pilot Project-Research and Training Institute's Mapping Process and its Repercussions*, Paper prepared for UN Habitat.

Orangi Pilot Project Research and Training Institute (OPP-RTI) is one of the best known and largest examples of community provision. Its methodology consists of the following steps:

- holding meetings to mobilize people living in one lane to form an organization to build their underground lane sewer;
- once the lane organization is formed, it elects, selects or nominates a lane manager who applies to OPP-RTI for technical assistance and managerial guidance;
- an OPP-RTI survey team surveys the lane and establishes benchmarks;
- a map is prepared with a detailed design and the identification of the disposal point;
- the lane manager and committee collect money from the lane inhabitants and organize the work.

OPP began its support for community-managed sanitation in Orangi, an agglomeration of informal settlements (*katchi abadis*) in Karachi. Today, Orangi has a total population of 1.2 million. OPP-RTI's low-cost sanitation programme supports what it terms 'component-sharing' with community-managed provision for internal aspects (sanitary latrines in the house, underground sewer in the lane, neighbourhood collector sewers), and with official water and sanitation agencies providing external aspects (trunk sewers and treatment plants). This component-sharing model has also been shown to work for other services, including piped water supplies, schools and health care. OPP-RTI provides communities with maps and plans, estimates of labour and materials, tools, training for carrying out the work and its supervision. Communities have to finance this – and manage the finances; OPP-RTI does not touch people's money. In Orangi, 95,496 houses have built their neighbourhood sanitation systems, investing the equivalent of US$ 1.5 million. If local government had done this, it would have cost seven times as much. Outside Orangi, 41,906 houses in 11 other Pakistan urban centres have build their own internal sanitation using existing external sanitation systems – most of this supported by OPP-RTI or by partner NGOs or community organizations and, increasingly, by government agencies which have adopted the OPP-RTI methodology.

OPP-supported sanitation schemes have achieved what is often said to be impossible by private or public water and sanitation utilities working in low-income informal settlements: provision of good quality sewers with connections to each household, with cost recovery. Official water and sanitation agencies usually refuse to consider extending sewers to low-income settlements because it is too expensive or because they do not believe that residents will pay the costs. Unit-costs for the construction of OPP-supported sewers are also much lower than those using conventional construction and management methods. If it were possible to develop sewers, and the larger sewer system into which these integrate, in comparable ways in other cities in Asia and Africa, the total cost of reaching hundreds of millions of low-income groups with good-quality sanitation would not be high. The OPP model emphasizes that the achievement of ambitious targets for improved water and sanitation need not be about securing external finance, but can be achieved through the development of competent, capable, accountable local agencies or utilities that can work with community organizations. But the long struggle of OPP for legitimacy (its model was initially criticized by a UN expert as being completely inappropriate[9]) is a reminder of how difficult such changes can be. OPP also needed the long-term support of local foundations to allow it the influence it now has at city and national level, and internationally.

9. Orangi Pilot Project (1995), "NGO Profile: Orangi Pilot Project", *Environment and Urbanization*, Vol.7, No.2, October, pages 227-236.

### c. WaterAid in Dhaka and Chittagong

The UK charity WaterAid has supported many examples of 'community-managed' water and sanitation provision. Like OPP and the community-managed toilet blocks in India, these not only meet needs but also demonstrate to local water and sanitation agencies more effective ways to improve and extend provision. An example of one of their larger-scale urban programmes is in Bangladesh where they began working in the slums of Dhaka and Chittagong in 1996. By 2002 they were working in 150 slums with local support managed by seven local NGOs.[10] This initiative provided for water points supplied through legal connections to the metropolitan water authority lines, the installation of tube wells where such connections were not possible, the construction of sanitation blocks with water points, bathing stalls and hygienic latrines, community/cluster toilets with septic tanks, household water-seal pit latrines, the construction of footpaths, drainage improvements, solid waste management and hygiene education. Most facilities are provided on a full cost-recovery basis and resident users agreed to repay construction costs in instalments; the money recovered in this way funds additional slum projects.

### d. Development Workshop Angola

A final example comes from Luanda in Angola where a local NGO (Development Workshop Angola) has supported the construction and management of 200 standpipes (each serving around 100 families), and the development of local elected water committees to manage these standpipes, working in collaboration with the water utility and the local authority. Half the funds collected from users are retained by the water committee for running and maintaining the standpipes, with 30 per cent going to the water company and 20 per cent going to the local authority. There have been some difficulties getting regular supplies from the water company to some standpipes (which also meant that community support for the standpipe waned), and getting support from local authorities. But this is another example of community organizations and local NGOs doing the 'retail' part of water provision. Where local (public or private) water agencies are too weak to extend provision to unserved, low-income communities, this kind of partnership between an NGO and community organizations can have particular importance.[11]

## V. ALTERNATIVE MEANS TO SUPPORT IMPROVEMENTS IN PROVISION FOR WATER AND SANITATION

### a. Upgrading and secure tenure

FROM THE 1970S onwards, one of the most important means by which provision for water and sanitation has been improved for low-income urban households is through slum and squatter upgrading projects that include water and sanitation components. The record with such initiatives is mixed, both in the quality and extent of provision for better water and sanitation (including many upgrading programmes that had no sanitation component) and in the level of maintenance for the new infrastructure (or whether there was any provision to support a local capacity for operation and maintenance). But these limitations are now better understood and usually addressed.

#### *The secure housing programme in Thailand*

Among the most ambitious upgrading initiatives underway is the *Baan Mankong* ("secure housing") programme in Thailand.[12] Managed by the Thai Government's Community Organizations Development Institute, this initiative channels government funds in the form of infrastructure subsidies and

10. Hanchett, Suzanne, Shireen Akhter and Mohidul Hoque Khan summarized by Stephen Mezulianik and Vicky Blagbrough (2003), "Water, sanitation and hygiene in Bangladesh slums; a summary of WaterAid's Bangladesh Urban Programme Evaluation", *Environment and Urbanization*, Vol. 15, No. 2, pages 43-56.

11. Cain, Allan, Mary Daly and Paul Robson (2002), *Basic Service Provision for the Urban Poor; The Experience of Development Workshop in Angola*, IIED Working Paper 8 on Poverty Reduction in Urban Areas, 40 pages.

12. Boonyabancha, Somsook (2005), "Baan Mankong; going to scale with 'slum' and squatter upgrading in Thailand", *Environment and Urbanization*, Vol. 17, No. 1, pages 21-46.

housing loans direct to poor communities who plan and carry out improvements to their housing and to basic services. This national programme supports locally driven solutions in which urban poor communities have a central role. It has set a target of improving housing, living and tenure security for 300,000 households in 2,000 poor communities in 200 Thai cities between 2003 and 2007 – the kind of scale needed if the MDGs are to be met in urban areas. By December 2004, initiatives were underway in 175 communities, involving more than 14,600 households.

This initiative also demonstrates how to regularize the insecure or illegal land tenure that is evident in so many urban poor communities and that both discourages their inhabitants' investments in improving provision and prevents or inhibits any investment there by official water and sanitation utilities. Within this national programme, there are a variety of means by which those in illegal settlements can obtain legal land tenure. Inhabitants, for instance, can purchase the land from the landowner (supported by a government loan) or negotiate a community lease; they can agree to move to part of the site they occupy in return for tenure (land-sharing) or to move to another location provided by the government agency on whose land they were squatting. The Community Organizations Development Institute also provides loans to community organizations to on-lend to their members to help build or improve their homes. It supports city governments to take the initiative in collaborating with urban poor organizations – for instance providing a land site to which those in different 'mini' squatter settlements in their jurisdiction can relocate with a 30 year lease. These are the kinds of solutions that can develop when there is a city-wide process in which urban poor communities are involved – as will be discussed in more detail below. This is a good example of an institution that is not a water and sanitation agency, but that has a direct role in increasing the proportion of poor urban dwellers in Thailand with improved provision.

*The Local Development Programme in Nicaragua*

PRODEL (the Local Development Programme) in Nicaragua provides funds for co-financing small infrastructure and community projects in many urban centres – including improved provision for water, sanitation and drainage – and loans and technical assistance to households for housing improvement and micro-enterprises. PRODEL was set up with support from the Swedish International Development Cooperation Agency (Sida). It is not an implementing agency but provides funds to local governments, NGOs, community organizations and households. Over a ten-year period, 484 projects have been implemented, benefiting some 60,000 households. Just over half the funding was provided by Sida with the rest mobilized locally, by the families and the municipal authorities. Over the same period, loans supported 12,500 low-income families to enlarge and improve their homes, and more than 20,000 loans were provided to micro-enterprises. Cost recovery and low default rates have been sustained over time despite the persistent economic difficulties faced by the country.[13]

PRODEL's long-term goal is to develop and institutionalize a participatory model for the provision of infrastructure and services and for support for housing improvement and micro-enterprise development that can be sustained by local organizations in all urban areas of Nicaragua. Similar kinds of funding organizations that support community-based and local-government-based improvements have been set up in other Central American nations, with support from Sida.[14] Perhaps of greatest significance for the MDGs is their demonstration that it is possible for official donor agencies to

13. Stein, Alfredo (2001), "Participation and sustainability in social projects: the experience of the Local Development Programme (PRODEL) in Nicaragua", *Environment and Urbanization*, Vol. 13 No. 1, pages 11-35; UN Millennium Project (2005), *A Home in the City*, The report of the Millennium Project Taskforce on Improving the Lives of Slum Dwellers, Earthscan Publications, London and Sterling Va, 175 pages.

14. Alfredo Stein and Luis Castillo, "Innovative financing for low income housing improvement: lessons learned from Central America" *Building Issues* 13 No.1, HDM Lund University, Lund.

reach agreements with national governments on setting up donor-funded organizations within the recipient nation that can support a multiplicity and diversity of local initiatives through local organizations and local processes with community participation.

There are three reasons why programmes to 'regularize' land tenure in informal or illegal settlements have particular importance for extending provision for water and sanitation. The first is that the official water and sanitation utilities are often not allowed to provide services to those in illegal settlements. This is especially the case where illegally occupied land is privately owned. However, there are also many instances of informal settlements on land owned by government agencies where it is the government agency that will not permit official water and sanitation providers to work there. The second reason is that households living in settlements with insecure tenure are discouraged from investing in improved provision themselves. The third is that, even if an official water and sanitation utility wants to provide services in informal settlements, it is difficult to do so – there are generally no maps of these settlements, and extending good-quality piped supplies or sewers depends on detailed maps with accurate boundaries for each house or plot. In addition, there is no official record of who lives in each house, and households lack the official documents that water and sanitation utilities need to establish a connection and a service.

Other significant constraints on upgrading unauthorized settlements are the time that government bureaucracies take to provide legal tenure, the complexities of the procedures and the costs, which are often passed on to the households seeking tenure. But there are ways around these problems – for instance governments can make formal commitments to support upgrading and tenure transfer for specific settlements, or can provide community land leases which give the inhabitants security before the formal procedures to provide legal tenure are completed.

### b. Getting land with water and sanitation infrastructure for new housing

United Nations estimates suggest that the urban population in low- and middle-income nations will expand by 930 million people between 2000 and 2015, while the rural population will expand by 160 million people.[15] Even if this projection for the growth in urban populations proves to be overstated, most of the increase in population in low- and middle-income nations in the next decade or two is certain to be in urban areas. Meeting the water and sanitation MDGs and targets depends to a large extent on ensuring provision to this expanding urban population.

Whether or not this expanding urban population will be housed in slums and squatter settlements with inadequate provision for water and sanitation will be determined largely by the land-use policies of city and municipal governments. There are many direct and indirect ways by which local governments can increase the supply and reduce the cost of land for new housing with provision for water and sanitation. But in most cities in low- and middle-income nations, government policy does not do this – which explains why large and often increasing proportions of the population live in very poor-quality and overcrowded accommodation, much of it in illegally occupied or subdivided land and most of it lacking basic infrastructure.

Although city politicians and civil servants often claim that there is no available land for urban poor groups, detailed surveys generally show that there is sufficient unused or under-utilized well located land.[16] In many cities, much of this land is in public ownership – although it may be owned by national or state/provincial government agencies rather than local govern-

15. United Nations (2004), *World Urbanization Prospects: The 2003 Revision*, United Nations Population Division, Department of Economic and Social Affairs, ST/ESA/SER.A/237, New York, 323 pages.

16. See for instance ACHR/Asian Coalition for Housing Rights (2004), "Negotiating the right to stay in the city", *Environment and Urbanization*, Vol. 16, No. 1, pages 9-26 and Burra, Sundar (2005), "Towards a pro-poor slum upgrading framework in Mumbai, India", *Environment and Urbanization*, Vol. 17, No. 1, pages 67-88.

ment. In Mumbai, for instance, many informal settlements are on land owned by the Railway, Port and Airport Authorities and the military.

In many cities, Churches or other religious institutions are also major landowners. The Methodist Church in South Africa is allocating vacant land that it owns to homeless families for housing and to support their livelihoods. Working with the South African Homeless People's Federation, this initiative is reviewing Church records, checking them against other official records, and producing a list of land sites that can be developed. The initiative is important not only for the new land it could provide for housing for low-income households but also for encouraging more action from the government on land redistribution and tenure reform and for setting an example that other Churches in South Africa may follow.[17]

All cities need what might be termed a 'twin-track' approach to land that improves tenure security and supports upgrading in existing settlements, while at the same time revising regulatory frameworks to increase the supply and reduce the cost of land for new housing.[18] An audit of planning standards and regulations and administrative procedures for land development in Phnom Penh highlights the kinds of regulatory reforms needed to increase the supply and reduce the cost of land for housing. These include changing regulations that demand unnecessarily large minimum plot sizes, building setbacks and land for roads, inappropriate floor-to-area ratios and maximum densities, and slow, unnecessarily complex administrative procedures, many of which require informal payments to get done.[19]

*Changing standards in Namibia*

Changes in the approach of the city government of Windhoek illustrate how to make land for housing with provision for water and sanitation more accessible to low-income households.[20] The city authorities recognized that to reach low-income households, they had to cut unit costs in their government-funded serviced-site programme, because they had to recover costs from the land they developed for housing. The new policy, developed with the Shack Dwellers Federation of Namibia, shows a willingness to overturn conventional approaches to standards and regulations, for instance in plot sizes and in infrastructure standards, in order to reduce prices. Two new options were developed: (i) a rental plot of 180 square metres serviced with communal water points and gravel roads, with just enough rent charged to cover the financing costs for the land investment, water services and refuse collection; and (ii) group purchase or lease of land with communal services and with minimum plot sizes allowed that are below the official national minimum plot standard of 300 square metres; families living in areas with communal services have to establish neighbourhood committees to manage toilet blocks. These new options acknowledge the importance of representative organizations of the urban poor, and seek to offer improvements to the lowest income groups while still achieving cost recovery. Savings groups from the Shack Dwellers Federation (and other communities) are now able to purchase public land as a group, increasing densities and slowly upgrading their plots with water and sanitation services. As with many of the examples already given, the change in the city government's policies was influenced by strong community organization, community-driven initiatives that demonstrated what was possible and the Namibian federation's willingness to form a partnership with the city government. The change in policy also built on the fact that the city authorities had a long-established commitment to supporting self-help and community projects – but these needed to change if they were to reach the poorest groups and to increase in scale.

17. Bolnick, Joel and Greg Van Rensburg (2005), "The Methodist Church's initiative to use its vacant land to support homeless people's housing and livelihoods in South Africa", *Environment and Urbanization*, Vol. 17, No. 1, pages 115-122.

18. Payne, Geoff (2005), "Getting ahead of the game: A twin track approach to improving existing slums and reducing the need for future slums", *Environment and Urbanization*, Vol. 17. No. 1, pages 135-146.

19. Payne 2005, op. cit.

20. Mitlin, Diana and Anna Muller (2004), "Windhoek, Namibia: towards progressive urban land policies in Southern Africa", *International Development Planning Review*, Vol. 26, No. 2, pages 167-186.

*Community-managed resettlement in Mumbai*

One of the difficulties facing all local governments in successful cities is the need to improve city infrastructure (roads, railways, water mains, trunk sewers and drains), which implies displacing large numbers of people. But new models have been developed to manage this. These minimize the number of people that have to be moved and serve the needs of those who have to move, including involving them in choosing the relocation site and developing it. This can allow city infrastructure to develop while also improving conditions for those who move. In Mumbai, there has been a large programme to move households squatting in very poor-quality housing just beside the railway tracks to new, better-quality housing with secure tenure and better provision for water and sanitation.[21] What makes this programme unusual is that it was planned, organized and managed with the households who were to be moved. By 1999, nearly 32,000 households lived in shacks next to the railway tracks in Mumbai, many less than a metre from passing trains, because they could afford no better option and needed the central location for work. They faced not only the constant risk of injury or death from the trains, but also high noise levels, insecurity, overcrowding, poor quality shelters and no provision for water and sanitation. Indian Railways, which owned the land on which they squatted, would not allow the municipal corporation to provide basic services for fear that this would legitimate the land occupation and encourage the inhabitants to consolidate their dwellings. So the people had to spend long hours fetching and carrying water – a task that generally fell to women – and most people had to defecate in the open. Discussions within the Railway Slum Dwellers Federation (to which the majority of households along the railway tracks belonged) made it clear that most would happily move if they could get a home with secure tenure in an appropriate location.

A relocation programme was developed as part of the larger scheme to improve the quality, speed and frequency of the trains. The programme was unusual on three counts:

- the actual move involving some 60,000 people was voluntary and needed neither police nor municipal employees to enforce it;
- it did not impoverish those who moved (as is generally the case when poor groups are moved to make way for infrastructure development); and
- the resettled people were involved in designing, planning and implementing the resettlement programme and in managing the settlements to which they moved.

The process was not entirely problem-free – for instance Indian Railways started demolishing huts along one railway line, and 2,000 huts were destroyed before the urban poor federations managed to get the state government to decree that the demolitions must stop.

Perhaps the most important feature of this programme was the extent to which those who were to be resettled were organized and involved before the move. First, all huts along the railway tracks, and their inhabitants, were counted by teams of community leaders, community residents and NGO staff – and in such a way that the inhabitants' questions about the move could be answered. Then maps were prepared with residents, with each hut identified by a number. Draft registers of all inhabitants were prepared and the results returned to communities for checking. Households were then grouped into units of 50, who rechecked that all details about their members were correct. This was also the basis for allowing households to move to the new site together. Identity cards were prepared for all those to be moved, and visits were made to the resettlement sites. The move took place with some house-

21. Patel, Sheela, Celine d'Cruz and Sundar Burra (2002), "Beyond evictions in a global city; people-managed resettlement in Mumbai", *Environment and Urbanization*, Vol. 14, No. 1, pages 159-172.

holds moving to apartments and others to transit camps while better-quality accommodation was being prepared.

Interviews with the relocatees in 2002 highlighted the support that the inhabitants gave to the resettlement and their pleasure in having secure, safe housing with basic amenities. No process involving the relocation of so many people could be problem-free – for instance the schools in the area to which they moved could not expand enough to cope with the number of children, many households had difficulties getting ration cards (to allow them access to cheap food staples and kerosene) and the electricity company overcharged them. The resettlement would have gone more smoothly if there had been more lead-time, with sites identified by those to be relocated and prepared prior to the resettlement. But this programme worked far better than other large resettlement programmes have, and it has set a precedent in terms of the involvement of those to be relocated. It is hoped that other public agencies in India will follow this approach.

## VI. FINANCING WATER AND SANITATION IMPROVEMENTS THROUGH LOANS AND SUBSIDIES

GIVEN THE IMPORTANCE of household and community action and investment in improving provision for water and sanitation, one key part of supporting community-driven improvements is setting up appropriate finance schemes. Their impact on improving provision for water and sanitation may be direct – as they fund these improvements – or indirect as, for instance, they finance urban poor communities acquiring official tenure of their land, which then allows official water and sanitation utilities to serve them. This section looks at loan finance for water and sanitation improvements, new housing and upgrading, and also at the use of subsidies.

In one sense, loan finance might seem inappropriate for low-income households, especially the poorest, since they have the least capacity to repay loans. But experience has shown that if loan packages are designed and managed in ways that match the needs and repayment capacities of low-income households, limited funding can go much further. In addition, when a small loan is combined with community-driven initiatives that strive to keep down unit costs, its potential impact becomes much greater. Collective loans can have particular importance – for instance by allowing savings groups formed by urban poor households to purchase land together and on which new housing can be developed.

### a. Lending for water and sanitation improvement within incremental development

The policy change in Namibia that allowed low-income households to get land with access to basic services was noted above. Many households wanted to upgrade facilities in their homes and neighbourhoods. Groups that save with the Namibian Shack Dwellers Federation can get loans from the Twanhangana Fund.[22]

The experience of the Namibian Shack Dwellers Federation is that successful community self-help initiatives require four elements, one of which is access to a loan fund.

- First, the community needs to organize itself and strengthen its own social capital; for the Federation, this happens through savings groups. The savings process builds trust between members, improves communication skills and helps to develop systems of accountability between members and leaders.

22. Mitlin, D and A Muller (2002), *Affordable Housing: An Opportunity For Good Governance And Poverty Reduction with A Particular Focus On The Issues Of A Standards And The Regulatory Environment; Service Standards, Tariffs And Affordability; and Vulnerable Groups And Individuals, A Contribution To The National Consultative Workshop For The Review Of National Housing Policy* – 18-19 September 2002.

- Second, self-help urban development communities require skills and knowledge – and these are acquired through a regular programme of community exchange, as savings groups that want to improve their own conditions visit other savings groups that have done this. These exchanges offer multiple opportunities for learning.
- Third, organized communities may need technical assistance to augment community learning and investment. The Namibian Housing Action Group, a support NGO to the Federation, is able to assist, either directly or through consultants. Walvis Bay municipality and the City of Windhoek[23] also offer technical services for self-help groups.
- Finally, self-help groups composed of low-income people require a source of loan finance in order to provide the necessary capital for improvements. In the case of the Federation, this is provided by the Twanhangana Fund.

23. City of Windhoek: For groups not affiliated to Shack Dwellers Federation of Namibia

There are similar examples of community funds that support urban poor groups to form savings schemes and undertake investments to build or improve housing and basic services in many other nations, including Kenya, South Africa, Zimbabwe, Thailand, Cambodia and India.[24] These are also managed by urban poor federations, and supported by NGOs and in some cases state agencies. Community funds are set up to offer loans to groups in order to support land and service acquisition. Such loans differ from the use of micro-finance for enterprise development in that they need to trigger a development process – not simply to increase the access of the poor to financial markets. Because water investments must be undertaken collectively, only group-borrowing options are practical.

24. See Celine D'Cruz and David Satterthwaite (2005), *Meeting the Millennium Development Goals in Urban Areas: The Current and Potential Role of Community-Driven Initiatives to Significantly Improve The Lives of 'Slum' Dwellers at Local, City-Wide and National Levels*, IIED Working Paper, London; also www.sdinet.org.

Many urban NGOs have long experience supporting loan finance for water, sanitation and other improvements. For example, the Fundación Vivienda y Comunidad in Argentina raised US$ 600,000 from a Northern NGO in 1987 for a fund that offered money under three distinct 'windows': full subsidy, part loan and part subsidy, and full subsidy. These loan funds supported income generation, improvements in such services as education, and neighbourhood improvements such as water supplies.[25] The use of loan finance appears to have grown in popularity with the NGO realisation that, in an era of cost recovery, soft loan funds offer the best possibility for securing development assistance to expand access to services. During the 1990s, NGOs such as WaterAid began to undertake increasing numbers of programmes to improve access to water services that combined community management with soft loans to repay water infrastructure investments and ongoing supply and maintenance costs.[26] Box 1 gives an example from Faisalabad in Pakistan. WaterAid has also supported initiatives elsewhere. For instance, for the community-driven water and sanitation provision in Dhaka and Chittagong described above, WaterAid channelled funding through seven local NGOs, using a full cost-recovery strategy. Local communities are provided with a range of facilities including water points and sanitation blocks. Management committees collect fees that repay construction and installation costs and which cover maintenance. The capital costs are repaid to the NGOs that use these funds to finance further investment.[27]

25. Arrossi, Silvina, Felix Bombarolo, Jorge E. Hardoy, Diana Mitlin, Luis Perez Cosco and David Satterthwaite (1994), *Funding Community Initiatives*, Earthscan Publications, London, 190 pages.

26. Hanchett et al., 2003 op. cit.

27. Hanchett et al., 2003 op. cit.

How affordable are loans for such investments? In some instances, low-income households easily manage the repayments, because they replace high expenditures – for instance to water vendors. In many cases, there appear to be significant savings from health improvements – for instance less time off work for income-earners and less expenditure on health care and medicines. Families in a low-income settlement in Dakar (Senegal), for instance, who borrowed to install a water supply system and drainage channels found that the invest-

Box 1: Finance for water and sanitation in Faisalabad

In 1999, WaterAid began working with Anjuman Samaji Behbood (ASB), an NGO active in Faisalabad. They worked in Dhuddiwala, a settlement of 8,080 people – one among many informal settlements in the city. In Faisalabad, two-thirds of the population lives in areas with little or no official provision for services, and most new housing and land development takes place without official approval. Less than half the city's population has piped water and less than one-third is connected to the sewer system.

In 1994, ASB developed a successful micro-credit programme for local businesses, and agreed to help the community secure water improvements. Staff adapted the lane-based model developed by the Orangi Pilot Project, described above. This requires each lane within a settlement that wants improvements to organize and work out how to pay for the costs of the water supply and sewer infrastructure and the connection charge. The Water Supply Committee felt that before this process could happen, it needed funds to lay the main pipeline to the water mains. Then individual lanes could lay their own distribution lines, and households would connect to them and pay their share so that project costs would be recovered. A loan for a revolving fund from WaterAid covered the costs of laying the main pipeline. The community invested Rs 1,028,367 (US$ 18,700) to complete this work, only a third of the cost of water authority estimates for the project. A self-financing piped water supply and underground sewer system were developed between 1995 and 1999, with 253 houses benefiting from in-house water connections and 1,300 houses with sewers. By 1999, Rs 73,500 had been recovered from the WaterAid loan, Rs 300 per household. Within the first three years, more than 30 per cent of households had been connected to the system. The Water Supply Committee was responsible for collecting payments for water connections, keeping accounts, purchasing construction materials and supervising the construction of the main line and the distribution lines in the lanes.

Many other communities have since asked ASB for technical assistance in laying sewage lines, and a second phase of the programme is underway, developing a new collector sewer to serve 1,000 households.

SOURCE: Alimuddin, Salim, Arif Hasan and Asiya Sadiq (2000), *Community Driven Water and Sanitation: The Work of the Anjuman Samaji Behbood and the Larger Faisalabad Context*, IIED Working Paper 7 on Poverty Reduction in Urban Areas, IIED, London, 84 pages.

ment paid for itself within a year due to savings in medical bills.[28] However, the poorest families may find it difficult to manage loan finance repayments.

Loan finance for water and sanitation improvements often becomes a way for urban poor groups to establish new relationships with local authorities. Even where the local authority is not directly offering financial support, it may be interested in working with a community or federation-managed loan fund, once it realizes the potential of the fund to help improve local services. As illustrated by the discussions of initiatives in Namibia and Pakistan, the local authority or other government agency has an important role in defining acceptable standards and in enabling the community to link to the piped network.

## b. Loan finance for upgrading

Loan finance is often an important component of upgrading programmes – as illustrated in the description of PRODEL above. PRODEL is one of five institutions in different Central American nations with funding from Sida that have provided loans to low-income families to improve or expand their homes or build new ones. With $50 million external funding, some 400,000 people have been reached. The external funding was complemented by each family's own resources and in some instances government housing subsidies direct to low-income households. The intermediary institutions set up by Sida also provided technical, social and legal assistance to help families get land tenure, infrastructure and build or improve their homes. Loan finance is used for housing improvements and enterprise development rather than for infrastructure improvements, although communities may be expected to participate.

Loan finance is also an important part of the national 'secure housing' programme in Thailand described above. Here, loans are available to households through the community organizations or networks of which they are part, to finance housing construction or improvement. The community organizations plan and manage this and can also draw on infrastructure subsidies

28. See Gaye, Malick and Fodé Diallo (1997), "Community participation in the management of the urban environment in Rufisque (Senegal)", *Environment and Urbanization*, Vol.9, No.1, pages 9-29 for a discussion of this scheme; the cost data is from a field discussion with the authors.

to support upgrading, re-blocking (i.e. the re-arrangement of plots on a site) or developing a new site.

It is increasingly common for finance to support low-income households to be a blend of loan and subsidy. For the secure housing programme in Thailand, subsidies help fund infrastructure improvements, while loans fund land acquisition and house improvement. For PRODEL in Nicaragua, grants fund municipal-community improvements in infrastructure while loans fund households' own construction or improvement programmes.

In regard to what has been learned from loan schemes:

- low-income groups can benefit from loan finance and repay loans, if loan conditions are tailored to their needs and capacities to pay;
- good levels of cost recovery are achievable and important, as the funding recovered goes to support more low-income households;
- although one key goal is very high loan repayment rates, financial support to upgrading and new-house development needs different ways to determine costs and interest rates than conventional micro-finance measures;
- loans can be blended with subsidies;
- alternative forms of collateral for loans are required for low-income households. Conventional housing finance agencies usually require official land tenure documents and often proof that the house structure is legal – which obviously disqualifies much of the urban population from getting loans. Many loan programmes get around this by requiring more appropriate guarantees – PRODEL, for instance, accepted valuable objects and municipal certificates that showed secure tenure as collateral.

Thus, loan finance can contribute to upgrading – helping to speed up the incremental process by which housing and neighbourhoods are upgraded, supporting better-quality housing and solving problems around lack of tenure and inadequate infrastructure and services.

### c. Loan and grant finance for new housing with provision for water and sanitation

Low-income groups can rarely afford to purchase a complete housing unit in urban areas, even with supportive finance systems. In most instances, the best they can afford is a land site with infrastructure and then incremental construction. Often even the cheapest legal land site with infrastructure is too expensive, so they either occupy land illegally, usually with no provision for water and sanitation, or they purchase an illegal subdivision, where there may be some provision for water and sanitation but rarely to a good standard. In both cases, there are problems getting connected to the formal water and sanitation networks – and these have to be negotiated. The incremental construction or improvement of housing generally means it is many years before a good-quality house is built; many years can also be involved negotiating tenure of the land and provision for infrastructure and services. In many instances, the inhabitants do not get tenure or infrastructure.

Some nations have set up subsidy schemes to help low-income households afford new housing with good provision for water and sanitation. One example is the housing subsidy programme in South Africa. When the African National Congress was elected as South Africa's first democratic government in 1994, it recognized that housing was a priority for those living in the townships and informal settlements and promised to build 1 million units within five years within its reconstruction and development programme. The government introduced a capital subsidy programme for low-income households of up to 15,000 rand (around US$ 2,140) for the purchase of land, infra-

structure development and housing.[29] However, this was seen as a mechanism for making commercial contractor-built housing affordable to low-income households – and it was the housing developer that was funded by the subsidy. Many of these housing schemes proved to be poorly designed and built, often very small, and in locations far from income-earning opportunities.[30] However, some housing subsidies have gone direct to low-income households, and several thousand members of the South African Homeless People's Federation have built houses with connections to conventional piped water and sewer systems, funded by this programme, demonstrating that good-quality four-room houses can be built for the same cost that contractors charge for tiny core houses. This example is significant because it illustrates that reaching the urban poor with significant improvements is not only a matter of 'political will' (which is certainly present in South Africa) and resources (the government has provided very substantial funding for the housing subsidy programme), but of how politicians and bureaucrats and the political and administrative structures in which they are located perceive 'poor people' and their roles and rights within developing solutions.

29. By 2004, the maximum subsidy was 28,279 Rand.

30. This drew comments from the urban poor about the contractor-built houses such as "when you sleep your feet come out of the house" and "Mandela promised me a house but he built me a closet for my clothes."

### d. Water and sanitation subsidies

Some nations, such as Chile and South Africa, have introduced household-level water subsidies. However, even with subsidies, most households may still have to pay water bills. In Chile, all households have to contribute at least 15 per cent, which excludes some of the poorest households; it is estimated that about half of those entitled to benefit are not included in the programme, which is managed through the general provision for social security.[31] In South Africa, water subsidies benefit the primary house occupier and so may not benefit tenants or the back-yard shack dwellers common in many urban areas.

Subsidies can be offered to help cover the cost of connection to the piped water and/or sewer network. In both South Africa and Chile, households may be entitled to capital subsidies to help cover this initial investment. Some argue that it is better to subsidize access rather than use, in part because it is difficult for the lower-income households to accumulate the resources for connection fees. In Argentina, water privatization in Buenos Aires was associated with the introduction of connection charges with an additional six-monthly water services charge that proved too expensive for many residents.[32] Further difficulties in payment by the poor resulted in the introduction of a universal service charge for all customers in place of service connection charges.

In the absence of subsidies, loan finance can help low-income households invest in better provision for water and sanitation in their existing homes or help pay for connection charges. Loan finance is generally unable to help low-income households get new homes with good provision for water and sanitation except in countries which have introduced significant capital subsidies and where the loan finance is only a small proportion of the cost of the new property.

31. Gomez-Lobo, Andres and Dante Contreras (2000) *Subsidy Policies for the Utility Industries: a comparison of the Chilean and Colombian Water Subsidy Schemes*, Department of Economics, University of Chile, Santiago.

32. Hardoy, Ana and Ricardo Schusterman (2000), "New models for the privatization of water and sanitation for the urban poor", *Environment and Urbanization*, Vol. 12 No. 2, pages 63-75; Loftus, Alexander J and David A McDonald (2001), "Of liquid dreams: A political ecology of water privatization in Buenos Aires", *Environment and Urbanization*, Vol. 13 No. 2, pages 179-199.

## VII. ENGAGING WITH SMALL-SCALE PRIVATE WATER AND SANITATION PROVIDERS

THE EXISTENCE OF small private vendors selling water of untested quality at high prices is often taken to be a symptom of failure on the part of the water utility. The indicator used to monitor progress towards the international water target treats all households who rely on water vendors as lacking 'improved' water supplies. Often, these water vendors are illegal – it is typically illegal to sell groundwater or resell utility water, at least without a licence. However,

small private water vendors serve many more low-income urban dwellers than do the multinational water companies that have been promoted internationally in recent years. Forcing water vendors to operate illicitly often drives up water prices, and makes it even harder for residents to control their water quality and for residents' associations to negotiate for better prices. While the services provided by itinerant water vendors and small water networks are rarely as desirable or as efficient as those provided by integrated urban water networks, they are more desirable than no services at all. Local efforts to improve the operations of small private vendors, and to favour those that provide better services, can make more of a difference to deprived households than extending a still very limited water network to a few more households. As with most of the examples in previous sections, measures that put more control into the hands of urban poor groups and their organizations are more likely to be successful.

Much the same applies to the small private sanitation providers, who often provide or service substandard facilities in locations where safe sanitation is unavailable or unaffordable. Simply promoting higher standards, particularly when this goes against the desires or means of local residents, will often be counterproductive, contributing to illegality and corruption rather than better sanitation. Small private enterprises have been critical to the dissemination of sanitation improvements, ranging from the moulded sanitation platforms to Vacutug latrine emptiers.(33) The common features of most successful examples are that the private providers have been encouraged to respond to the demands of low-income residents, and that regulations have been designed for attainable rather than ideal outcomes. The *aguateros* in Paraguay (Box 2) are somewhat exceptional. Most independent water networks are far smaller and more informal, and independent sewerage systems are far less common than independent water networks. For both water and sanitation, however, there is an enormous range of diverse enterprises, which combine to play a critical role in many low-income settlements.(34)

Given the diversity, and the importance, of local conditions, it is impossible to generalize about how to work with small private water and sanitation providers. Some broad principles have been identified, however:(35)

- *Recognizing the role small water and sanitation enterprises play*. For the local government or public utility, this implies seeing both their positive and

33. UN-Habitat (2003), *Water and Sanitation in the World's Cities; Local Action for Global Goals*, Earthscan Publications, London, 274 pages.

34. Reviews can be found in: Collignon, B. and Vézina, M. (2000) *Independent Water and Sanitation Providers in African Cities. Full Report of a Ten-Country Study*, UNDP-World Bank Water and Sanitation Program, Washington D.C. (www.wsp.org/pdfs/af_providers.pdf); McIntosh, A. (2003) *Asian Water Supplies. Reaching the Poor*, Asian Development Bank and International Water Association; Solo, T. M. (2003) *Independent Water Entrepreneurs in Latin America: The Other Private Sector in Water Services*, World Bank, Washington, D.C., 31 pages.

35. For a more detailed account, see Marianne Kjellén and Gordon McGranahan (2004), *Informal Water Vendors and Getting Better Services for the*

**Box 2: The aguateros in Paraguay**

In Paraguay, small water networks owned and run by private aguateros provide water connections to almost 10 per cent of the country's inhabitants, or about half a million people, and are especially active in peri-urban areas where the national utility has difficulty operating. The national utility, by way of comparison, serves about 30 per cent of Paraguay's inhabitants, while water users assisted by the government serve an additional 18 per cent of primarily rural inhabitants. For over 20 years, the aguateros have built piped water supply systems without public sector financing, and they are largely unregulated, and often unregistered. The average aguateros network has 300 connections, with some supplying as many as 3,000 connections. The typical aguateros is a family business. According to a 2002 survey of 1,000 households served by aguateros, about 90 per cent of respondents were satisfied with the services provided, and 75 per cent were not willing to pay more for better service. About four in five respondents had monthly bills of less than US$ 6.00, and a quarter had bills of less than US$ 3.00. Nearly all households were being billed on a flat rate basis. The survey also asked questions about the in situ sanitation facilities used by these households, and concluded that in peri-urban areas where sewers are not necessary, aguateros represent a viable alternative for service expansion into peri-urban areas, and that existing in situ systems are a viable alternative to sewers. Yet it is only recently that government and international agencies have begun to see that local private water enterprises, like the aguateros, can have an important role in improving water and sanitation provision.

SOURCE: F. Drees, J. Schwartz, and A. Bakalian (2004) *Output-based Aid in Paraguay's Water Supply Sector: Early lessons from the first pilot project, Viewpoint*, World Bank, Washington D.C., 12 pages.

*Urban Poor*, Thematic Paper for the Urban Forum in Barcelona, UN-Habitat, Nairobi.

negative contributions to water and sanitation provision, and not focusing exclusively on the piped networks.

- *Addressing counterproductive constraints on informal water and sanitation markets*. This could include adjusting the laws against water selling and changing sanitary standards, removing unnecessary constraints on the water supplies available to vendors, and in some cases reducing water tariffs for vendors.
- *Making private enterprises more responsive to local residents, including especially low-income residents*. This could include challenging monopolies and collusion among vendors, or assisting residents and community organizations to do so. In some cases, it could also include encouraging the formation of associations of water and sanitation enterprises, and negotiating with these associations.

## VIII. REFORM WITHIN EXISTING PUBLIC AND PRIVATE UTILITIES: EXAMPLES FROM BANGALORE AND BUENOS AIRES

IMPROVING AND EXTENDING provision for water and sanitation generally depend on changes in attitude and approach by local government agencies. Two examples are given here of local processes that seek to change the way official water and sanitation providers work with low-income households and their community organizations. The first is in Bangalore, with a public utility; the second is in a municipality within Greater Buenos Aires, with a private utility.

In Bangalore, the public water utility (Bangalore Water Supply and Sewerage Board) has been changing its policy towards slums.[36] Around a fifth of the city's population lives in slums and most are not well served by the utility's piped network. In part, this is because another agency has formal responsibility for slums, in part because the utility was reluctant to extend provision to slums, assuming that slum dwellers would not pay. In addition, extending provision meant reaching agreement with the land-owners, which was often difficult, and the utility usually required proof of property ownership before providing a household connection. But various local pressures were encouraging new approaches – including bottom-up pressures from civil society and the large volumes of water lost to illegal connections (often installed with the connivance of local politicians and water utility employees). In 2002, the city authority also announced that it would no longer pay the water utility for the water delivered to the public taps and fountains which were used by around a third of households within the city boundaries, and which represented around 20 per cent of all water going into the utility's distribution system. In effect, the water utility needed better cost recovery from water delivered, was under pressure to extend provision, and had funding available to support this. The utility made a concerted effort to improve services to current consumers and also initiated a new policy towards slums. A detailed water and sanitation master plan had been prepared, with funding from the Australian Government's aid programme, AusAid. This had included three pilot projects in slum areas in which street infrastructure was paid for by external funds, with residents having to pay for individual connections and monthly water charges. These projects showed that slum residents were prepared to pay, and that proof of land title or property ownership was not necessary to establish formal relationships with slums households – ration cards, identity cards, election cards or electricity bills could be accepted as proof of occupation. These pilots led to the formation of a social development unit which works with slum residents to develop a plan for

36. This case study comes from Connors, Genevieve (2005), "When utilities muddle through: pro-poor governance in Bangalore's public water sector", *Environment and Urbanization*, Vol. 17, No. 1, pages 201-218.

water and sanitation; slum dwellers are offered shared metered connections, individual metered connections, disconnection of illegal supply or no improvements. Given this choice, most residents prefer some form of legal, metered connection. Fifteen slums have actually received water through this process and many others are slowly working their way towards trial runs of water or conversion of illegal connections. This example has importance in the wake of the targets set in the Millennium Development Goals, showing both the importance of how public agencies learn and the factors driving genuine changes in organizational behaviour and urban governance.

An initiative to develop a partnership between community organizations, municipal government and the private sector in Moreno in Argentina, also shows locally driven initiatives striving to overcome severe local constraints.[37] Moreno is one of the outer municipalities within Buenos Aires Metropolitan Area; it is also one of the poorest municipalities. Only a fifth of households are connected to the official piped water network and a tenth to the sewer system. The quality of service for those connected is often poor. Around 7 per cent of the municipality's population is served by autonomous water and sanitation systems; most of the rest rely on shallow wells with poor-quality water, and cess pits. The private company responsible for water and sanitation provision has not extended provision to any low-income settlement; the concession under which it operates has no specifically pro-poor clauses and it is exempted from working in areas without legal tenure. A local NGO has been working with the municipal government, community organizations and the private utility to try to address these problems. Given that extending conventional water and sewerage services to the many unserved settlements is unrealistic in the short term, improving and extending provision is only likely to happen if all the actors involved – the public sector, private company, regulator, NGOs and communities – are committed to working together towards a solution.

This kind of partnership may be especially important in cities or city districts where private sector companies are responsible for provision. However, it will require changes that are likely to be difficult for these private utilities in the way they work with low-income groups and their community organization.[38]

There have also been interesting initiatives to make water and sanitation providers more responsive and accountable to community organizations – for instance in Lucknow, where community-indicators were developed to support a dialogue between representatives from communities lacking basic services and service providers, and to benchmark existing environmental conditions and urban services, and set priorities for improvements. [39]

## IX. GOING TO SCALE

ONE OF THE most common criticisms of community-driven programmes – whether for improving provision for water and sanitation or for upgrading or new-house development – is that they cannot deliver at scale. Constructive thinking is required regarding city-wide processes that seek to address the needs of all inadequately served or unserved settlements. Many of the community-driven processes described above were intended not as independent initiatives but as demonstrations to city authorities and formal water and sanitation utilities of new ways to address needs. Because these required much less external funding, and often had components that fully recovered costs, they had more potential to go to scale. The toilet blocks developed by community organizations and federations in different Indian cities were

37. This case study comes from Hardoy, Ana, Jorgelina Hardoy, Gustavo Pandiella and Gastón Urquiza (2005), "Governance for water and sanitation services in low-income settlements: experiences with partnership-based management in Moreno, Buenos Aires", *Environment and Urbanization*, Vol. 17, No. 1, pages 183-200.

38. See for instance the different models proposed by Hardoy and Schusterman 2000, op. cit.

39. Revi, Aromar and Manish Dube (1999), "Indicators for urban environmental services in Lucknow – process and methods", *Environment and Urbanization*, Vol. 11, No. 2, pages 227-246.

intended to demonstrate new ways to use existing resources better – and when city authorities supported them, they were able go to scale. Orangi Pilot Project's innovations in community-driven sanitation were always seen as ways through which limited government funding and capacity could go further – as communities took responsibility for funding and building 'internal' components and official water and sanitation utilities provided the 'external' components of water mains with treated water and sewer trunks and treatment plants into which community provision can fit. Clearly, city-wide impacts are not possible without support from city governments, and it is city governments that allow community-driven programmes to 'go to scale'. Here, two examples of 'going to scale' are described – the *Baan Mankong* programme's support for city-wide strategies in Thailand and OPP-RTI's support for city-wide 'external' components into which community-provision can integrate.

### a. City-wide strategies in Thailand

The national government agency, the Community Organizations Development Institute, recognized that the key to 'going to scale' with community-driven processes was locating these not only in particular unserved districts but also within city-wide processes.[40] The *Baan Mankong* programme described above supports city-wide processes which involve all urban poor communities because of both the scale this can achieve and the pro-poor political changes it can bring about.

40. Boonyabancha 2005, op. cit.

To develop a city-wide programme, the first step is building a city-wide information base about conditions in all the areas with poor-quality housing in ways that fully involve the inhabitants. This provides an understanding of the scale and range of problems within the city but it also:

- helps develop linkages between all the urban poor communities;
- helps make apparent the differences between the different slums or informal settlements and what causes these differences. This allows solutions to be tailored to each group's and settlement's needs and circumstances – as opposed to the usual 'standard' upgrading package that governments try to apply to all settlements;
- allows the urban poor communities to be involved in choosing which settlements will be upgraded first. These first upgrading initiatives are important as they provide opportunities to learn and test innovations for all involved;[41] if urban poor groups are not involved in these choices, those that are not selected will feel excluded and often resentful.

41. See Boonyabancha 2005, op. cit.; also ACHR 2004, op. cit.

The second step is pilot projects. These are often criticized for being isolated examples that never move beyond the pilot phase. When they are designed and implemented by external agencies, this is often the case. But pilot projects planned within city-wide consultations involving urban poor organizations can become centres of experimentation and learning for all urban poor groups that serve as precedents and catalysts for action elsewhere. Observing the first few pilot projects can encourage other urban poor groups to take action – to start a savings group, develop their own survey, undertake a project themselves – because it is 'people like them' who have designed and implemented the precedents, not professionals.

Involving community organizations in this way can stimulate the political changes that allow an upgrading programme to evolve into a city-wide process in which all urban poor communities are involved. The measures noted above strengthen the horizontal linkages between urban poor communities, engaging them collectively with city governments in discussing city-

wide programmes, not just projects specific to one settlement. This is no longer the hierarchical or vertical system that has long isolated and disempowered urban poor groups. Rather than restricting interaction to negotiations between particular urban poor groups and the politicians or civil servants responsible for their district, it permits the kinds of negotiations at city level that can address problems of land tenure, infrastructure, housing and services at the city scale. This kind of city-wide process allows the necessary jump in scale from isolated upgrading or new-house projects to the city-wide strategies and partnerships that can support a continuous process. The main constraints are often local. Professionals may find it difficult to change their approaches. City governments find it difficult to see urban poor organizations as key partners. City politicians find it difficult no longer to be the 'patron' dispensing 'projects' to their constituency. And most international agencies find it difficult to support this kind of locally driven process.

### b. City-wide strategies and component sharing in Pakistan

The Orangi Pilot Project is best known for its support for community-driven sanitation in Orangi in Karachi. What is less well known is the extent to which this model has been used in other areas of Karachi and in other urban centres in Pakistan, and its widespread adoption by national and local government agencies. For instance, in November 2002, the government of the Punjab (Pakistan's most populous province) adopted the OPP sanitation model for its provision to low-income/informal settlements (*katchi abadis*). Two foreign funded projects – one by UNDP for three cities, one by the Asian Development Bank for 21 towns – have been influenced by the OPP model. In 19 villages comprising 1,039 houses, a sanitation component-sharing model has been implemented by a partner NGO in Lodhran and is now being adopted in many other villages in a World Bank project.[42]

In addition, the Orangi Pilot Project-Research and Training Institute has also helped promote a new approach to the development of the large-scale trunk infrastructure into which community-provision can integrate. For instance, it has long promoted the upgrading of *nalas* (large open drains) into which most community-built sewers and drains feed so these become trunk sewers. This greatly reduces unit costs and complements rather than replaces the investments made by households and communities. This approach initially met with considerable opposition from the official water and sanitation agencies but is now used in many locations. This approach can also cut costs so much that provincial and city government agencies can afford it without external funding. In one major sewer project using this approach, costs were cut so much that the city authorities no longer needed a planned loan from the Asian Development Bank.[43]

### c. Changing the relationships between urban poor groups and city authorities

Community-driven provision for water and sanitation, either direct or as part of upgrading and new-house schemes, seeks to change the relationship of urban poor groups with city authorities and other city actors. This means a shift from conventional patronage-based relationships to relationships that are more transparent, accountable and within the law. This changed relationship is at the centre of the *Baan Mankong* programme outlined above. It is also at the centre of many local government innovations in Latin America – for instance in the ambitious housing programme in the city of São Paulo between 2000 and 2004 which included secure tenure for tens of thousands of households,[44] and in the participatory budgeting programmes in Porto Alegre[45]

42. Rahman, Perween (2004), *Update on OPP-RTI's Work,* Orangi Pilot Project - Research and Training Institute, Karachi; Hasan 2005, op. cit.

43. Hasan 2005, op. cit.

44. Budds, Jessica with Paulo Teixeira and SEHAB (2005), "Ensuring the right to the city: pro-poor housing, urban development and land tenure legalization in São Paulo, Brazil", *Environment and Urbanization*, Vol. 17, No. 1, pages 89-114.

45. Cabannes, Yves (2004), "Participatory budgeting: a significant contribution to participatory democracy", *Environment and Urbanization*, Vol. 16, No. 1, pages 27-46.

and Villa El Salvador in Peru.[46] It is also at the core of the initiatives in Moreno and Bangalore described above; the Bangalore initiative involves a special unit within the water utility that works with slum dwellers to develop plans to provide water and sanitation, and that transforms the way the utility views slum dwellers and works with them.[47]

Meeting the water and sanitation MDGs depends not only on changes by governments but also by urban poor groups.[48] These groups need to become organized and to develop their own representative structures – and community-managed savings groups have been the foundation for this in many nations. Urban poor groups also have to change their relationships with each other – rather than seeing other poor settlements and their inhabitants as competitors for resources, they become allies and co-learners.[49] This is essential if they are to have effective and sustained influence within city and sub-city governments. It is no coincidence that many of largest and most cost-effective innovations for meeting the MDGs in urban areas come from nations or cities where federations of urban poor groups have developed and have sought partnerships with local governments.[50] Finally, urban poor groups must take initiatives themselves because, as described in many examples, this demonstrates to governments their capacity and their willingness to form partnerships.

## X. THE TOOLS AND METHODS THAT SUPPORT COMMUNITY-DRIVEN IMPROVEMENTS FOR WATER AND SANITATION

DESPITE THE CONSIDERABLE differences between cities and their societies, there are a range of basic tools and methods that have been used successfully by urban poor organizations and their support NGOs in different contexts to support community-driven development and dialogue or partnership with local governments. These include new ways to map conditions, community-savings groups that develop the capacity to manage projects and external finance, house modelling and community exchanges.

### a. Mapping

One reason for the lack of government support for improving conditions in slums and squatter settlements is the lack of data – who lives in these settlements, who claims ownership of the site and what infrastructure exists. Developing maps was one of the first steps in many of the examples described here – in the community-managed resettlement programme in Mumbai, the city-wide strategies in Thailand, the community-managed sanitation programmes in Pakistan and the initiatives in Moreno (Buenos Aires).

To initiate action and dialogue with government agencies, organizations of the poor carry out detailed slum enumerations and surveys that draw information from each household (at the same time, informing them why this is being done). They also develop very detailed maps. The information collected is returned to community organizations to check, and it provides the basis for detailed plans for improvements. These enumerations cost far less than professionally managed enumerations, yet are more detailed, more relevant to local action, and less prone to error and misrepresentation.

Many of the most successful community-driven programmes to provide or improve provision for water and sanitation have been underpinned by programmes to map informal settlements. These maps provide:

- details of each housing unit and its boundaries and the paths and streets through which pipes and drains have to be laid;

46. Hordijk, Michaela (2005), "Participatory governance in Peru: exercising citizenship", *Environment and Urbanization*, Vol. 17, No. 1, pages 219-236.
47. Connors 2005, op. cit.
48. See Boonyabancha 2005, op. cit.
49. See Boonyabancha 2005 and Hordijk 2005, op. cit.
50. See *Environment and Urbanization* Vol. 13, No. 2 and Vol. 16, No. 1; see also d'Cruz and Satterthwaite 2005, op. cit.

- details of existing infrastructure (often extensive and usually undocumented);
- other details important for designing and implementing connections – for instance slopes and existing drains.

In Nairobi, where around half the population lives in informal settlements, the Kenyan urban poor federation and a local NGO, Pamoja Trust, have been preparing maps and community-driven enumerations of various informal settlements, along with a city-wide survey of all such settlements. This process in an informal settlement helps to build consensus among all inhabitants on upgrading plans and to develop community capacity to manage this. It also helps build a consensus between the conflicting priorities of landlords and tenants. In Huruma, where a community-managed upgrading programme is underway now, an enumeration and mapping programme provided the information base and the means of brokering agreements for all inhabitants on how to upgrade. This mapping programme also identified the inadequacies in provision for water and sanitation that the upgrading programme has to address – including the number of inhabitants whose only means of sanitation is 'flying toilets' (excreta wrapped in plastic bags or waste paper and thrown away).[51] Box 3 gives an example of how mapping was used to negotiate support for infrastructure and for tenure in an informal settlement in Karachi.

Such maps are staff-intensive and costly if done by professionals. Professional staff are also often reluctant to work in informal settlements; it is also difficult for outsiders to deal with disputes over boundaries and tensions between 'owners' and tenants. However, as in the case of Nairobi noted above, this kind of mapping has been successfully undertaken by urban poor federations or other community organizations working with local NGOs in many countries. It tends to be more accurate, as community organizations can check the data; it is much cheaper; and the information generated is 'owned' locally, which helps the residents negotiate with governments and other external agencies. The process allows carefully costed estimates to be developed for necessary investments, and enables community organizations to assess the

51. See for instance Weru, Jane (2004), "Community federations and city upgrading: the work of Pamoja Trust and Muungano in Kenya", *Environment and Urbanization*, Vol. 16, No. 1, pages 47-62.

**Box 3: Mapping and Manzoor colony's development**

Manzoor colony is an informal settlement in Karachi with around 100,000 inhabitants. In 1990, the colony's community organizations requested help from the Orangi Pilot Project-Research and Training Institute (OPP-RTI) to develop a sanitation programme. Maps were developed for the settlement along with plans and estimates for sewers that would feed into a natural drain. The survey was carried out by two teams: OPP-RTI staff took levels and trained a local person, and representatives of community organizations measured street lengths and counted houses. Activists and technicians from Manzoor also visited Orangi and OPP-RTI to learn how the sanitation system there had been designed and costed.

The community organizations used the maps when they contacted their local councillor to request funding for collector sewers; this was the first community-councillor dialogue in which the community presented a proposal it had designed and costed. When the negotiations failed, the communities funded the collector sewers themselves. A request to the Karachi Municipal Corporation to take over the maintenance of the sewer system was initially refused but, after negotiations, the Karachi Water and Sewerage Board was instructed to take over this maintenance. In all these negotiations, the maps were used as evidence to substantiate the case of the community organizations, and all negotiations were handled by a community activist and members of the colony's water and sanitation committee, not by lawyers. The maps were later utilized for successful negotiations over the lease and regularization of land tenure with the Municipal Corporation. The residents also negotiated a reduction in the lease and development charges made to individual households for ownership papers that was equivalent to what they had spent on sanitation.

The mapping also allowed community organizations to oppose a plan to develop the natural drain into which their new sewer system fed that would have displaced 850 households. OPP-RTI prepared an alternative plan that actually cost a quarter of the official plan and required no house demolitions. The community organizations accepted this alternative plan – and, after negotiations, so too did the government.

SOURCE: Hasan, Arif (2005), *The Orangi Pilot Project-Research and Training Institute's Mapping Process and its Repercussions*, Paper prepared for UN Habitat.

validity of government and international agency proposals and, where needed, to propose alternatives. The careful documentation of existing investments by households and communities in sanitation (including sewers and drains) and existing drainage networks has particular importance because such investments are often quite extensive; external solutions that recognize and seek to enhance and work with these are often far cheaper. But in most schemes developed by governments and international agencies to improve provision in informal settlements, no survey of existing infrastructure is done. This can lead not only to unnecessarily expensive designs but also to designs that are inappropriate.

In some instances, community-driven mapping has reached a city-wide scale. For example, OPP-RTI has prepared maps for all informal settlements in Karachi[52] and these now provide a city-wide picture that allows planning for city-wide systems, as well as providing the basis for community-managed investments in each lane and settlement. OPP-RTI has also developed handbooks for local councillors to show them what is needed to improve provision in their constituencies. Most of this was done by young people who were trained by OPP-RTI and who worked with community activists.[53] Again, these handbooks cost far less to develop than would have been the case if they had been done by the companies that governments usually employ for such work.

### b. Other tools and methods to support community-driven approaches

Large-scale community-driven improvements for water and sanitation will depend on well-organized urban poor groups able both to manage household- or community-level work and to negotiate collectively with local governments and other external groups.[54] Many of the examples in this booklet were developed by federations or networks of urban poor organizations – for instance those from Mumbai, Thailand, Namibia and South Africa. At the base of these federations are community-managed savings groups; as the South African federation has stressed, their savings groups collect people as much as money. These savings groups can provide emergency credit to members when they need it, and can accumulate savings that can help fund housing construction or improvement. Through operating these savings groups, communities also learn to manage finance collectively, which in turn means learning the skills needed to manage other initiatives collectively. They are the foundation of the urban poor community organizations. Apart from community-managed savings and mapping, two other tools have particular importance: house modelling and community exchanges.

House modelling is the process by which urban poor groups and their organizations develop designs for the houses that they want to build. It usually begins with individuals drawing or making models of their ideal house, then discussing this in a group and agreeing on the designs that serve them best. Then a life-size model is developed, usually in a public site with the involvement of large numbers of people. This serves as the basis for discussing improvements and modifications among federation members and government staff – and for producing accurate estimates of how much it would cost and what modifications can be made to reduce costs.

In all the federations, there are many visits between community organizations so they can learn direct from each other. Most are between groups within a city – but groups also travel to other cities to see what has been accomplished and discuss how it was done. Many international exchanges have also taken place, as those with long experience in supporting savings groups, undertaking enumerations and house modelling help develop this capacity in other nations.

52. Orangi Pilot Project - Research and Training Institute (2002), *Katchi Abadis of Karachi: Documentation of Sewerage, Water Supply Lines, Clinics, Schools and Thallas - Volume One: The First Hundred Katchi Abadis Surveyed*, Orangi Pilot Project, Karachi, 507 pages; Rahman, Perween (2004), *Katchi Abadis of Karachi; a Survey of 334 Katchi Abadis*, Orangi Pilot Project - Research and Training Institute, Karachi, 24 pages.

53. Hasan 2005, op. cit.

54. This section draws heavily on Patel, Sheela (2004), "Tools and methods for empowerment developed by slum dwellers federations in India", *Participatory Learning and Action 50*, IIED, London.

## XI. CHANGING THE DONOR-COMMUNITY INTERFACE

MOST OFFICIAL DEVELOPMENT assistance agencies find it difficult to support community-driven processes. If a savings group formed by 150 women in a squatter settlement wanted a loan for US$ 20,000 to help finance the acquisition of a land site and provision on it for water and sanitation, most official development assistance agencies could not support this. They were set up to provide capital assistance to recipient national governments and technical cooperation, not to support community organizations, or even local organizations that provide services valued by low-income groups. To keep down their staff costs, they prefer relatively large projects – not projects that require only $20,000. Large (non-concessional) loans also make it easier for the World Bank and regional development banks to cover their own costs. Official development assistance agencies may have some special programmes or channels for supporting low-income groups directly and supporting uncostly initiatives but these are the exception and represent a very small part of their funding flows. The same is true for the official bilateral aid agencies, although they can channel more funding through international NGOs and occasionally local NGOs.

But to increase the contribution of community-driven processes to improving and extending water and sanitation, new channels for international assistance are needed. Although most official development assistance agencies cannot support thousands of small, often cheap, initiatives, they can channel official funding through intermediary institutions within recipient countries. But if these are to support community-driven processes, they must be institutions that can work directly with low-income groups and their organizations, with decisions made in real partnership, and with real accountability and transparency to the urban poor. These are the institutions that must be able to work with the savings-group formed by 150 women noted above. This is not simply a case of channelling more funding through local NGOs, because many local NGOs do not work in ways that are accountable to the urban poor and that support the urban poor's own priorities and capacities.

All the examples given in this booklet involved some intermediary institution – usually a combination of organizations and federations formed by the urban poor and local NGOs. As noted above, many of the urban poor federations have developed their own funds. These serve as a facility for managing their members' savings – and governments and external donors can also channel their support through these funds (as many have done). These funds provide their members with a range of loans for housing improvement or construction, infrastructure provision or micro-enterprise support. They also maintain high levels of accountability both to their members and to external supporters. The ways in which PRODEL and other institutions set up by Sida in Central America support community-driven processes and community-local government partnerships are also examples of how international funding agencies can channel support to community-driven processes.

An interesting precedent for a mechanism by which official donor agencies can support community-driven processes is the Community-Led Infrastructure Finance Facility (CLIFF) in India. Supported by the UK government's Department for International Development (DFID) and the Swedish International Development Cooperation Agency (Sida), this funding facility is available to support the work of two networks of community organizations – the National Slum Dwellers Federation and *Mahila Milan* (savings groups formed by women slum and pavement dwellers) – together with a local NGO (SPARC) in carrying out and scaling up a variety of upgrading, new-house developments and improved provision for water and sanitation

in many different locations, in conjunction with local governments and the private sector (including banks and landowners). Around US$ 10 million is available for bridging loans to kick-start large infrastructure, upgrading and resettlement projects, allowing projects to be started for which funding can later be recovered from the Government of India. CLIFF also provides bridge-finance when funding promised by government agencies does not arrive on time. It can also fund pilot and demonstration projects, and help local organizations to manage cash-flows (which is often difficult when there is a large portfolio of projects.[55]

55. Burra 2005, op. cit.

## XII. CONCLUSIONS

*Putting those with inadequate provision for water and sanitation at the centre*. At the core of most initiatives described in this booklet is the possibility for urban poor groups and their organizations to influence what is done and to be involved in doing it. If the MDGs are to be met, this is the change that has to permeate all levels – from the lowest political unit (the ward, commune, neighbourhood, parish) through city, provincial and national governments to international agencies. There is no shortage of development projects designed and implemented by professionals (including many foreign experts) which permit urban poor groups no influence and which rarely produce the hoped-for improvements in water and sanitation. But as this booklet describes, there are many examples of other ways of doing 'urban development' which allowed the urban poor and their organizations more influence, including being able to design and implement initiatives themselves. These include many community-driven initiatives that improved provision for water and sanitation that were not 'water and sanitation' initiatives – for instance upgrading and tenure regularization for illegal settlements, serviced site schemes and loan finance that help households or community organizations to fund improved provision for water and sanitation or fund the development of new homes with improved provision.

*Community-driven initiatives demonstrate new ways to go to scale*. The community-driven examples given in this booklet usually have much lower unit costs than professionally driven approaches and require much less external finance. They are usually far more successful at ensuring benefits reach the poorest groups. They include many examples of large-scale initiatives too, including city-wide programmes that seek to reach all urban poor households. One would expect these other ways of doing urban development to be at the centre of the discussions on how to meet the MDGs in urban areas – but they are not. They hardly figure in most discussions of how to meet the Millennium Development Goals.[56] Many professionals object to these kinds of solutions because their own role and importance is diminished – and because their professional training did not equip them to know how to work with urban poor groups and to support their initiatives. Almost all the official development assistance agencies find it difficult to support community-driven development because their structures and procedures were never designed to do so. As such, most are unable to provide direct support to community-driven development. Ironically, a critical block to this other way of doing urban development comes not from powerful anti-poor vested interests within and outside government but from the attitudes of many of the professionals and agencies that consider themselves to be pro-poor.

56. See for instance the little attention given to these in UN Millennium Project (2005), *Investing in Development; A Practical Plan to Achieve the Millennium Development Goals*, Earthscan, London and Sterling Va. This issue does get some attention in Millennium Project (2005), *A Home in the City*, Taskforce on Improving the Lives of Slum Dwellers, Earthscan, London and Sterling Va.

*The water and sanitation target will not be met by community-driven schemes or by governments and development agencies alone*. The successful community-driven processes described in this booklet were never intended to be inde-

pendent of government but to show local governments and water and sanitation utilities what community organizations can contribute. Also to show the potential to 'go to scale' and to meet the MDG targets if governments and international agencies work in partnerships with them.

*The importance of the local*. Most of the discussion on how to meet the MDGs is about national and international changes. But it is largely local governments that will determine whether most of the MDGs and their associated targets are met in urban areas – including those relating to water and sanitation. It is usually local government agencies, or local offices of higher levels of government, that determine whether the rights of citizens are protected and their entitlements met. Local government rules and procedures determine whether urban poor households can be served by official water and sanitation providers. They set the standards for plot sizes, development densities and infrastructure standards that influence whether lower-income households can afford land for housing with good provision for water and sanitation, or whether they have to build on illegally occupied land that lacks such provision and places them at risk of eviction. It is usually local regulations and processes that determine whether people can vote and have access to politicians and civil servants to make demands; whether they can get loan finance; whether they benefit from a just rule of law; whether they can influence development projects; whether their children's schools have provision for water and sanitation (or even whether their children can go to school). [57]

*The importance of local monitoring to establish the quality and extent to which targets are met.* Much emphasis is placed within the MDGs on the need for better monitoring of progress towards the targets. But the emphasis is on national and global monitoring by governments and international agencies, not on local monitoring in which urban poor groups are involved. For water and sanitation provision, the emphasis is on more accurate and detailed national sample surveys, not on the kinds of locally driven mapping of who does or does not have adequate provision that is needed to improve and extend provision. National sample surveys may serve global and national monitoring but they do not identify where inadequacies in provision actually are and who suffers from them. Meeting the water and sanitation MDG target calls for detailed mapping of all households lacking adequate provision – as in the mapping processes described in this booklet. National sample surveys do not generate this data; indeed they generate little data that is useful locally. Monitoring has to happen within each locality, as part of support for community-driven processes.

*Market mechanisms used for social goals*. In many of the examples in this booklet, non-profit organizations have sought to work within market models of provision – for instance, with payment required for water or for the use of sanitation facilities, and with community management focusing on cost recovery. The advantages of this are the larger scale that can be achieved, the easier maintenance and the lower reliance on external funding. Another advantage over private provision is that profit maximization is not a key goal (although full cost recovery may be). This allows a commitment to reaching the unserved (often lacking in public and private utilities)[58] and means that there is a local organization that has to be accountable to local users. Perhaps more attention should be given to the role of local 'non-profit' organizations supplying water and sanitation services that work within market frameworks either within systems managed by private water utilities or as 'private water utilities' themselves.

57. For more discussion of this, see Satterthwaite, David (2005), "Meeting the MDGs in urban areas; the forgotten role of local organizations", *Journal of International Affairs,* Vol. 58, No. 2, Spring.

58. Budds, Jessica and Gordon McGranahan (2003), "Are the debates on water privatization missing the point? Experiences from Africa, Asia and Latin America", *Environment and Urbanization*, Vol. 15, No. 2, pages 87-114.

# ANNEX I: WSSCC AND ITS PUBLICATIONS

The Water Supply and Sanitation Collaborative Council (WSSCC) was mandated by a 1990 UN resolution to accelerate progress towards safe water, sanitation and hygiene for all. With the support of regional and national representatives in over 30 countries in Africa, Latin America, Asia and Eastern Europe, WSSCC continues to put WASH issues - water, sanitation and hygiene - on the global agenda and seeks to mobilise political commitment for this cause.

WSSCC's comparative strengths and the special value it adds to sector work are a neutral platform, advocacy and mobilisation for people-centred water and sanitation development that will ultimately contribute to poverty alleviation and full human dignity. In upcoming years, WSSCC will combine action at local and national levels with targeted advocacy at global, regional and national levels under the fundamental premise of accelerated action towards achieving the MDGs for water and sanitation. All concerned organisations and individuals are invited to join in this global partnership and help make water, sanitation and hygiene a reality for all and a foundation for sustainable development.

## WSSCC publications

### IT'S THE BIG ISSUE: WASH campaign brochure

WSSCC launched the WASH campaign at the International Conference on Freshwater in Bonn in December 2001. The campaign aims to mobilise political awareness, support and action towards achieving the water and sanitation Millennium Development Goals (MDGs). The cornerstone of the WASH campaign is effective collaboration between like-minded individuals, organizations and institutions. This publication introduces the campaign and explains why 'WASH' is the big issue.

### LISTENING

Billions of dollars have been spent in an unsuccessful search for weapons of mass destruction in Iraq; yet the most deadly biological weapon of mass destruction ever known is human excrement – shit – which, along with a lack of safe water, is the world's number one health problem. The problem has been around, and known, for decades. So why has so little progress been made? Why does a lack of safe water and sanitation cause half the world's poor to be sick at any given moment? These and other questions are addressed in 'Listening', which the WSSCC launched on World Water Day, 2004.

### ADVOCACY SOURCEBOOK

This joint publication from WSSCC and WaterAid offers practical guidance on advocacy work on water and sanitation and is a useful resource for those undertaking advocacy initiatives. It explains a range of different tools and provides practical examples of advocacy work and information on key policy actors and processes. Furthermore the book offers guidance on influencing target audiences at local, national and international levels.

### SANITATION AND HYGIENE PROMOTION – PROGRAMMING GUIDANCE

This document is about setting in place a process whereby people (women, children and men) effect and sustain a hygienic and healthy environment for themselves. It talks about developing a programme for more effective investment in sanitation and hygiene promotion. It is not about developing projects and it does not give blue-print solutions for project-level interventions. Rather it lays out a process for long-term change which may encompass institutional transformation of the policy and organizational arrangements for provision of goods and services. This publication was produced jointly by WSSCC, WHO, LSHTM, PAHO, UNICEF, USAID, WEDC and WSP.

**These publications are available on request from Ms Cora Cipriano at ciprianoc@who.int. Please visit www.wsscc.org for up-to-date information on our new publications.**

# ANNEX II: IIED PUBLICATIONS ON WATER AND SANITATION

IIED has published many books and working papers on water and sanitation. Most can be accessed on-line and downloaded at no charge; for more information see www.iied.org/human/pubs.html

## Environment and Urbanization

A journal published twice a year since 1989, with over 60 papers published on water and sanitation. Vol. 15, No. 2 (2003) was on water and sanitation while Vol. 17, No. 1 (2005) was on meeting the MDGs in urban areas and has many papers on water and sanitation. To review all papers published on water and sanitation, see the searchable online database at http://eandu.poptel.org.uk/. Papers from 1995 to 2002 can be read and downloaded free from http://www.ingentaselect.com/titles/09562478.htm.

## Working Papers

There are five working paper series and all working papers can be downloaded free from www.iied.org/urban/index.html:

- Poverty Reduction in Urban Areas
- Rural-Urban Interactions and Livelihood Strategies
- Urban Environmental Action Plans and Local Agenda 21
- Water and Sanitation
- Rural-Urban Briefing Papers

## Books whose contents include discussions of water and sanitation

Mitlin, Diana and David Satterthwaite (editors) (2004), *Empowering Squatter Citizen: Local Government, Civil Society and Urban Poverty Reduction*, Earthscan Publications, London, 313 pages.

McGranahan, Gordon, Pedro Jacobi, Jacob Songsore, Charles Surjadi and Marianne Kjellén (2001), *The Citizens at Risk: From Urban Sanitation to Sustainable Cities*, Earthscan Publications, London, 200 pages.

Hardoy, Jorge E, Diana Mitlin and David Satterthwaite (2001), *Environmental Problems in an Urbanizing World: Finding Solutions for Cities in Africa, Asia and Latin America*, Earthscan Publications, London, 470 pages.

Bartlett, Sheridan, Roger Hart, David Satterthwaite, Ximena de la Barra and Alfredo Missair (1999), *Cities for Children: Children's Rights, Poverty and Urban Management*, Earthscan, London, 305 pages.

Satterthwaite, David (editor) (1999), *The Earthscan Reader in Sustainable Cities*, Earthscan Publications, London, 472 pages.

Satterthwaite, David, Roger Hart, Caren Levy, Diana Mitlin, David Ross, Jac Smit and Carolyn Stephens (1996), *The Environment for Children*, Earthscan Publications and UNICEF, London and New York, 284 pages.

IIED also worked with UN-Habitat to prepare UN-Habitat (2003), *Water and Sanitation in the World's Cities; Local Action for Global Goals*, Earthscan Publications, London, 274 pages.

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