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Appropriate Sanitation Technologies for Addressing Deficiencies in Provision in Low- and Middle-Income Nations

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Introduction

Rather than discuss how ‘sanitation’ can be provided or improved for those who are currently unserved or inadequately served, this paper will review three initiatives that did provide or improve provision for low-income groups on a large scale: the Orangi Pilot Project-supported initiatives in many locations in Pakistan; the community-designed and managed toilet blocks undertaken by slum and pavement dweller organizations and federations in India, with the Indian NGO SPARC; and the *Baan Mankong* (secure tenure) programme in Thailand. Brief descriptions will also be included of three other sanitation initiatives: the community and public toilet-blocks in Dhaka and Chittagong supported by local NGOs and WaterAid; the condominium sewer programme in Brazil; and the serviced site schemes in Windhoek, Namibia. After this, the paper will reflect on the questions specified in the terms of reference:

- How was the technology developed and delivered? Can we talk about a value-chain in sanitation service supply?
- Who were the main promoters and suppliers – government, donor, NGO or small-scale private sector?
- What was the role of community participation?
- What was the effect on household demand for sanitation because of the availability of new appropriate technology? Are more income-equal countries more likely to make appropriate sanitation technology choices because of how income inequality skews household demand for sanitation?
- What is the potential of different technologies for providing labour-intensive employment in the sanitation sector as part of a wider livelihoods strategy, and the role of public works and microfinance in stimulating this?

It will also reflect on whether a focus on community action for sanitation absolves the state of what should be its responsibilities.

The examples given in this paper are good pragmatic local responses to local opportunities, working within local constraints. All faced difficulties and opposition. But it is worth noting the importance in all these initiatives of six aspects:

¹ David Satterthwaite wrote this, but drawing heavily on the work of the other listed authors and on their comments on the first draft.

- involving those with unmet needs for sanitation in developing and implementing the solutions; in three of the cases, it was organizations of the poor that were the innovators;
- build on what exists, in terms of existing provision and in terms of local skills and governance systems;
- recognizing that no solution is possible at any scale unless good relations and partnerships are developed between those with unmet needs, local governments and where relevant, other water and sanitation service providers;
- the importance of having a local capacity to reduce unit costs for installation, maintenance and management, to make it more affordable for low-income groups and more financially viable for any (public or private) water and sanitation service provider. These examples show how far external funding can go, if used well; in some instances, local innovation even allowed large-scale success without the need for external funding;
- Linked to the point above, work with what can be afforded locally. For instance, make communal provision work, if household provision is too expensive or difficult. Make it easier for official water and sanitation providers to work with low-income households (eg making it easier for them to connect, serve and bill households). Recover costs where possible (as this allows larger scale programmes and reduces or removes dependence on uncertain international funding);
- Local innovation can set precedents from which others can learn locally and can be a powerful driver of change with ripples of influence extending to other places – and, as will be seen in some of the cases described in this paper, spreading to have influence at a national scale. This is also a reminder of how much pro-poor social change in all nations has been influenced by local innovation and precedent. Most of the innovations in these six cases were in the institutional and financial aspects of sanitation, not the technology used.

These are points that are now more widely recognized – for instance as the World Bank notes that better services to low-income groups can only be achieved by “putting poor people at the center of service provision; by enabling them to monitor and discipline service providers; by amplifying their voice in policy making, and by strengthening the incentives for providers to serve the poor.”² However, in the conclusions, attention will be drawn to the difficulties that official development assistance agencies have in supporting the kinds of locally-driven innovation, precedent-setting and community-local government partnerships that are so important for improving and extending provision for sanitation to low-income groups.

Most of the examples in this paper are drawn from urban areas – although certainly from a wide range of such centres from the largest cities to small urban centres. Some are also working in rural areas – for instance OPP’s work in Pakistan. This focus might be criticized for not giving enough attention to rural areas on the basis that there are more rural dwellers than urban dwellers in need of better provision for sanitation. The paper’s focus on these examples is justified on two counts. First, the scale of need in urban areas has been greatly under-estimated; United Nations estimates for the year 2000 suggested that at least 850 million urban dwellers in low- and middle-income nations lacked adequate provision for sanitation.³ Second, the methods used in the examples in this paper have considerable relevance for a large part of the rural population in need of better sanitation provision – those who live in large villages with concentrations of populations whose sanitation needs may be better met by initiatives such as those described in this paper than by conventional rural ‘latrine’ programme. Hundreds of millions of people in Africa and Asia live in ‘villages’ with several thousand inhabitants that would be classified as ‘small urban centres’, if they were in Europe or North America.⁴

² World Bank (2003), *Making Services Work for Poor People; World Development Report 2004*, World Bank and Oxford University Press, Washington DC, page 1.

³ UN-Habitat (2003), *Water and Sanitation in the World's Cities*, Earthscan, London.

⁴ Satterthwaite, David (forthcoming), *Outside the Large Cities; the demographic importance of small urban centres and large villages in Africa, Asia and Latin America*, IIED Working paper.

Orangi Pilot Project (OPP)

The Orangi Pilot Project is a Pakistan NGO, formed in 1980, to support new models of providing infrastructure and services in Orangi, a large cluster of low-income, informal settlements in Karachi.⁵ Since then, it has supported one of the world's largest programmes to improve provision for sanitation in low-income areas – in Orangi, in many other districts in Karachi and in many other cities and small urban centres – as well as supporting improvements in other forms of infrastructure and services.

OPP's aim is to change the way that local governments plan and manage investment in infrastructure, so this reaches low-income households with infrastructure that is good quality, affordable (both to users and to those who install and manage it) and sustainable. At its core is the concept of 'component-sharing' where the inhabitants of each street or lane takes responsibility for planning, installing, financing and managing the 'internal' pipes – for sanitation, the lane sewer to which each household's toilet connects – which then connects (ideally) to a government provided 'external' sewer or to a natural drain.

The methodology for this, developed by the Orangi Pilot Project Research and Training Institute (OPP-RTI), has the following steps:

- Hold meetings to mobilize people living in one street or lane to form an organization to develop their own 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 into which the sewer can feed (preferably a trunk sewer);
- the lane manager and committee collect money from the lane inhabitants and organize the work (OPP-RTI does not manage the funding).

Perhaps the most important innovation in this is the separation of responsibility for the 'internals' (the toilets in each house connected to the lane sewer) and the 'externals' which should be provided by official water and sanitation agencies (trunk sewers and treatment plants). This 'component-sharing' has also been shown to work for other services, including piped water supplies, schools and health care. As the inhabitants of each lane work together to install and then manage the 'internals', advised by OPP-RTI (or another local organization trained by OPP-RTI), they cut the unit costs dramatically – typically the cost per household is a fifth of what they would have been charged by the official water and sanitation agency. This brings unit costs down to the point where low-income households can afford to pay and so allows full cost recovery. Each lane organization also offers the local sanitation service provider a partner who can actually undertake the most time-consuming aspect of improved sanitation – the work at each household and lane – which the local government (or any official water and sanitation agency) can support by providing the main sewers (the 'externals') into which each lane can connect. The intention of all these locally supported initiatives to install and manage sewers in lanes is to form partnerships with local governments.

⁵ This draws on a case study of the Orangi Pilot Project-Research & Training Institute prepared for a Research Project of the Max Lock Centre, Westminster University, London, UK by Arif Hasan, April 2003; *Governance, Decentralisation and Poverty Eradication – The View from Orangi, Karachi* by Arif Hasan, Salim Alimuddin, December 2000; *The Work of the Anjuman Samaji Behood and the Larger Faisalabad Context, Pakistan*, IIED Working Paper 7, by Salim Alimuddin, Arif Hasan and Asiya Sadiq, December 2001; Orangi Pilot Project (1995), NGO Profile: Orangi Pilot Project, *Environment and Urbanization*, Vol.7, No.2, October, pp. 227-236; Hasan, Arif (1993), *Scaling-up of the Orangi Pilot Project's Low Cost Sanitation Programme*, Orangi Pilot Project-Research and Training Institute, Karachi, 103 pages; 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; Rahman, Perween (2004), *Katchi Abadis of Karachi: A Survey of 334 Katchi Abadis*; OPP-RTI; Hasan, Arif (2005), *The Orangi Pilot Project-Research and Training Institute's Mapping Process and its Repercussions*, Paper prepared for UN Habitat.

Unit costs for OPP-designed sanitation are low because of simpler designs, more rational standards, community contributions to the work and community control of finances (which makes sure that funds are used carefully). In regard to design, the OPP introduced standards and modes of construction which lowered costs – for example the manholes are cast in-situ in steel shuttering (which does not require any skilled labour) and a one chamber septic tank is placed between the house and the sewer so gradients can be reduced considerably (so pipe depths are less) and maintenance costs can be substantially reduced. In regard to community contributions, much of construction work is done by the community or through a labour contract where the community purchases and provides materials itself. Often neighbourhood artisans are used by the community and they work for lower wages since they do not have to pay for transport to and from work. OPP also provides the tools for construction and the designs and estimates.

The much higher unit-costs of conventional government funded sewer infrastructure are also in part because this kind of OPP-supported decentralized provision also avoids many of the costs associated with large contracts. In Pakistan, as elsewhere, large contractors are the only ones who can bid for government projects and they have high overheads that have to be met, including having to provide financial guarantees to show they can do the work and qualified staff on their pay rolls. Due to the large sums involved in the contracts, they have to seek the patronage of politicians which often has a price to it. In public works there is also an element of kickbacks to government officials. Official government funded programmes for sewers in Pakistan also do not have high unit costs when compared to the programmes of most other governments.

OPP's initial focus was on Orangi (which now has around 1.2 million people) where 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 more. From the mid 1990s, OPP began supported initiatives and local organizations to support these in locations outside Orangi – and to date, these have been implemented in 257 locations, 216 of them outside of Karachi, including one major city (Faisalabad), three intermediate size urban centres and eight small urban centres. A total of 43,618 households have benefited from the programme outside Karachi, supported by OPP-RTI or by partner NGOs or community organizations and, increasingly, by government agencies which have adopted the OPP-RTI methodology. OPP-RTI has supported local NGOs and CBOs outside Karachi, drawing on financial assistance from WaterAid, a UK based international NGO. This consisted of financial support to NGOs and CBOs so that they could develop and operate the OPP's low cost sanitation programme, as well as technical and managerial support and funding for training sessions in Karachi and advisory visits to project sites by OPP-RTI staff. There have been 13 NGO/CBO attempts at replicating the sanitation programme outside of Karachi. Four of these have been failures; three have been remarkable successes; and six show promise.

Initial attempts to replicate the OPP sanitation model outside of Orangi showed that this could not be done without a local organisation taking over the responsibility for social mobilisation and technical support (supporting each neighbourhood or lane to plan, cost, implement and manage their own internal system). In all but one of the cases of replication outside Karachi, the NGO/CBO set up a small unit whose administrative and overhead costs were paid for by OPP or WaterAid. In all these projects, disposal points for sewage were not available through natural drains (as they had been in Orangi) so new long collector drains were needed to connect the lane or neighbourhood sewer system to existing government sewers.

Various lessons can also be drawn from the projects that never happened and from the four attempts at replication that did not work. One is the problem posed by some international agencies who are always there, wooing CBOs and NGOs with large amounts of money once they have established the OPP sanitation programme. It is difficult to discourage young people from becoming part of these high profile networks which also pay higher salaries. One of the failed attempts at replication was because the project team moved to become consultants to conventional externally funded programmes. Another of the failed attempts at replication was because a functioning initiative obtained large scale external funding (against OPP advice) and set targets it could never meet; it also changed to being a service delivery agency rather

than support for community action. Of the two other initiatives that failed, in one, the organization could not develop a technical team, in the other the leadership was financially dishonest.

Key lessons: Supporting ‘component sharing’ needs a local organization with local young people. Outsiders do not want to stay in remote locations for long periods and on comparatively low salaries, and the higher salaries that external professionals demand cannot be sustained for more than a year. So there is a need to support the development of local organizations that enhances the reputation of their local staff and supports them with training.

In smaller urban centres and large villages, the district and local administration is more willing to accept the programme because sophisticated engineer-dominated agencies are not the decision makers regarding sanitation issues. Also, community projects do not compete for work with powerful consultants and contractors as they do in bigger cities. Nor they do they have to challenge the internationally funded mega-projects that are so common in large cities. The scale of work needed in small urban centres and large villages is also more manageable and one does not have to distinguish between rich and poor areas since they are all equally ill-served in regard to sanitation, water and solid waste management. So the whole settlement becomes the project area rather than certain neighbourhoods.

It also takes a long time for NGO and CBO staff to overcome the “charity” mentality. Deviations from OPP principles such as provision of loans to communities, lobbying on their behalf and managing their finances turns people into dependants rather than owners of the programme. It also gives people the possibility of accusing the NGO and CBO staff for all failures that may occur. Again, these observations hold true more for NGOs than for neighbourhood CBOs.

The OPP has also learnt that there should never be an overlapping of the credit and sanitation projects as the concept and nature of the two is completely different. Credit means loaning money to the community whereas in sanitation, the community needs to collect and invest. If these two distinct tasks are done by the same team, it confuses the community. In addition, the NGO or CBO in their impatience to get work done in the lanes often increase the credit they provide which later causes major problems as the money is never recovered. Also related to finances is the problem of accounting and reporting which are not taken seriously by most NGOs and CBOs. Therefore, it is important to fund NGOs and CBOs in the initial stages through small instalments and on the basis of regular feedback through quarterly reports.

The OPP has also learnt that it is not its role to be pro-active. It is local NGOs and CBOs who must take the initiatives themselves, contact the OPP and keep up links. This will only be done by those who are genuinely interested in the programme. The OPP also realises that project areas which do not have sewage disposal points require “external” development which the state has to provide and this invariably leads to delays. Therefore preference is given to those projects where “external” development already exists or the problem related to it is minimal.

The OPP has also become increasingly influential beyond the ‘lane’ level of work. At the centre of this work has been careful and detailed mapping of what sanitation (and other) infrastructure already exists in all districts of a city or town – so that investment plans can work with and complement existing infrastructure, rather than seek to replace it.⁶ This has particular importance, given that much of the low-income population in most cities in Asia and Africa live in informal settlements for which there are no maps. For instance, the mapping of informal settlements in Karachi have shown that 62 per cent of the lanes have sewage disposal facilities and 50 per cent have water lines, both laid on a self-help basis. The equivalent of US\$5.6 million has been invested by the people in this work. The mapping and documentation of Lodhran (an urban centre with around 100,000 inhabitants) showed that in 70% of the settled areas, there was already a mixture of sewers and drains; the problem was that the main sewers were silted or the disposal pumps were not working. Drawing from this mapping, OPP has shown how dramatic cost-reductions are possible if district and city-wide sanitation programmes work with, complement and support existing investments rather than ignore or seek to replace them. This is also

⁶ Rahman 2004, op. cit.

more affordable for official water and sanitation agencies or other official agencies and presents better possibilities for cost-recovery.

Perhaps as significant as OPP-RTI's work in the lanes is the fact that its advice is now sought by government agencies at national, provincial and city level. In effect, it has changed official attitudes and perceptions of how to plan, finance and manage sanitation. But it was only by demonstrating what could be done on the ground that this was possible.

Community-designed and managed toilet blocks in India

During the late 1980s and early 1990s, an alliance of two community organizations and a local NGO in India designed, built and managed some public toilet blocks, either because there was no provision in their neighbourhood, or because provision was very poor.⁷ This alliance was the National Slum Dwellers Federation (NSDF), *Mahila Milan* (a network of savings groups formed by women 'slum' and pavement dwellers) and the Mumbai based NGO SPARC. The building of these toilet blocks was usually preceded by a community-managed 'slum' survey to document the inadequacies in provision. These toilet blocks could also address the deficiencies in the siting, design and management of existing public toilets – and they produced better quality public toilet blocks that cost no more. The design included many innovations that gave women more privacy, made queues work better (for instance separate queues for men and women since with one queue, men push in), ensured a constant supply of water for washing and made better provision for children (many had separate children's toilets which meant that children did not have to queue and they had 'children' sized toilets which were easier for them to use). Community-management ensured that they could be maintained through user charges but with daily costs to each household being much lower than conventional 'public toilets'.

At first, local authorities ignored or discouraged these efforts. This NSDF-SPARC-Mahila Milan alliance which had also been working in other community-managed programmes for 'slum' upgrading or new house development saw the strategic value of community toilets. These met an obvious need – both for sanitation and for washing facilities. Designing, building and managing them strengthened local community organizations. But negotiating for space and support for these were also less threatening to local governments and higher-income groups than slum dwellers negotiating for land for housing or for tenure of land on which they already lived. There were also precedents on which to build as local governments already built public toilets and had budgets allocated to doing so – although usually these were poor quality and poorly maintained so they quickly deteriorated. Unit costs were also low per person – for instance, the cost 'per toilet seat' was the equivalent of around US\$600 – which meant a cost per person of US\$12, assuming that there are 50 persons to each toilet. These toilet blocks generally charge households around 30 rupees a month for use (equivalent to around \$0.70) which pays for the salary of the caretaker and other maintenance costs.

In 1999, the municipal commissioner in Pune (a city with over 2 million inhabitants) recognized the poor quality of public toilets and the inadequate numbers built and invited NGOs and community organizations to bid for contracts for public-toilet construction and maintenance. This led to a very large-scale toilet block construction programme in which this NSDF-MM-SPARC alliance was very active. This 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. This NSDF-SPARC-Mahila Milan Alliance have been responsible for around 500 community-designed and managed toilet blocks

⁷ 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; Patel, Sheela and Diana Mitlin (2004), "The work of SPARC, the National Slum Dwellers Federation and Mahila Milan", in Diana Mitlin and David Satterthwaite (editors), *Empowering Squatter Citizen: The Roles of Local Governments and Civil Society in Reducing Urban Poverty*, Earthscan Publications, London; Patel, Sheela (2004), "Tools and methods for empowerment developed by slum dwellers federations in India", *Participatory Learning and Action* 50, IIED, London; Burra, Sundar (2005), "Towards a pro-poor slum upgrading framework in Mumbai, India", *Environment and Urbanization*, Vol. 17, No. 1, pages 67-88.

that serve hundreds of thousands of households in Pune and Mumbai. Comparable toilet programmes are developing in other cities such as Vijaywada (16 toilet blocks), Vizag (3 new blocks and some old ones rehabilitated) and Tirupur (2 blocks) and demonstration toilets have been constructed in Hyderabad, Ahmedabad, Puri and Bangalore which may serve as precedents for much larger programmes.

However, it is worth noting the delays and difficulties in getting these processes going and some of the problems encountered. There are often many bureaucratic procedures that have to be met which can discourage community-involvement. Funding promised from governments often comes late – which can delay implementation and present serious cash-flow problems for local NGOs and CBOs. Thus, building public or community toilets in ‘slums’ is not simply a mechanical or technical construction exercise, but rather a process that needs strong communities who are organized and supportive and trained in maintenance and supervision. This means that implementing such toilets requires a capacity to work with and support such community processes.

The NSDF-SPARC-*Mahila Milan* alliance has also had difficulties in ensuring good maintenance and repair in all the public toilets. Some toilets were also poorly constructed. In part, this is related to the speed with which they had to act to take advantage of the political opportunities offered to them and the over-ambitious deadlines set by external agencies. In part, it is also related to local opposition to the alliance – for instance from contractors who lost business to them and from politicians who saw their patron-client relationships with low-income communities threatened. Some politicians and other local activists have been urging communities not to pay for using the toilets – although this obviously compromises the funds needed to ensure good repair and maintenance.

Community-managed toilets are not an ideal solution since 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. Perhaps as important as what has been constructed, the Alliance’s community-toilets programme has stimulated discussions all over India on community-local government partnerships to improve provision for sanitation and has led to a national government fund set up to support such partnerships. 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 – drawing on the experience in India.

Supporting improved sanitation through community-driven upgrading in Thailand

One of the most common ways by which provision for sanitation (and water) is improved is through ‘slum’ and ‘squatter’ upgrading programmes – although these are not usually classified as water and sanitation programmes. One of the most ambitious upgrading initiatives currently underway is the *Baan Mankong* (“secure housing”) programme in Thailand.⁸ Managed by the Thai Government’s Community Organizations Development Institute, this channels government funds in the form of infrastructure subsidies and housing loans direct to community organizations formed by low-income inhabitants in informal settlements who plan and carry out improvements to their housing and to basic services or develop new housing. It has set a target of improving housing, living and tenure security for 300,000 households in 2,000 poor communities in 200 Thai urban centres between 2003 and 2007; by December 2004, initiatives were underway in 175 communities, involving more than 14,600 households

This initiative has particular significance in three aspects: the scale (which also includes the number of urban centres in which it seeks to work); the extent of community-involvement; and the extent to which it seeks to institutionalize community-driven solutions within local governments so this addresses needs in all informal settlements in each urban centre in which it is implemented. It is also significant in that it draws almost entirely from domestic resources – a combination of national government, local government and community-contributions. It also demonstrates how to regularize the insecure or illegal

⁸ Boonyabanha, Somsook (2005), "Baan Mankong; going to scale with 'slum' and squatter upgrading in Thailand", *Environment and Urbanization*, Vol. 17, No. 1, pages 21-46.

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.

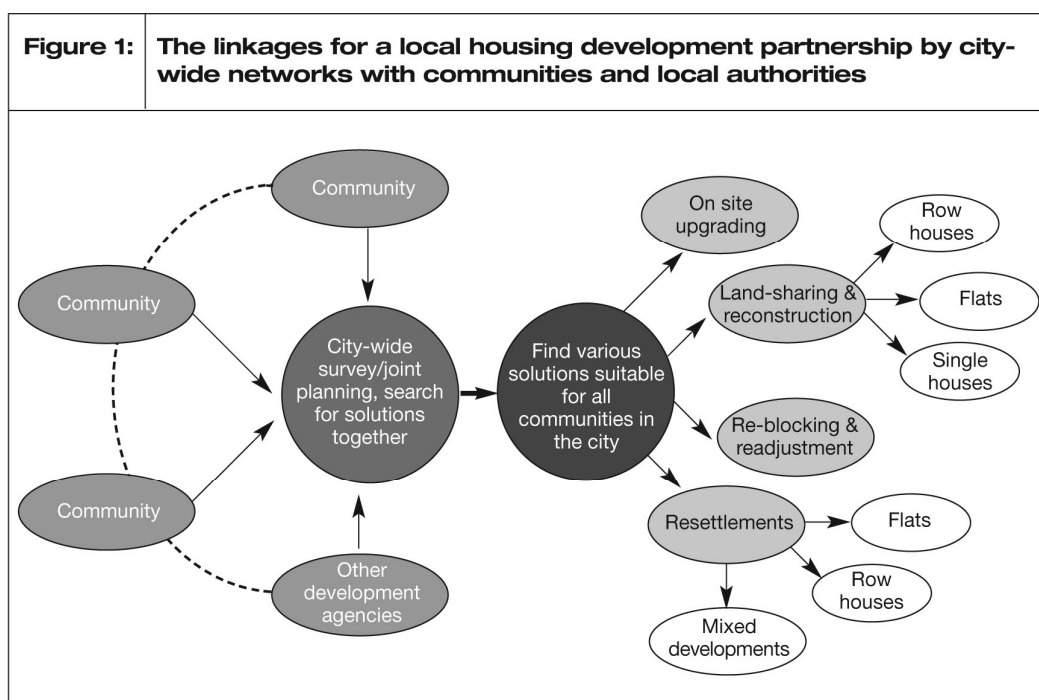


Figure 1 illustrates the process through which this upgrading/ housing development programme is developed for a city, bringing all actors together. Its design involves certain key steps:

- identifying the stakeholders and explaining the programme;
- organizing network meetings, which may include visits from people in other urban centres;
- organizing meetings in each urban poor community, involving municipal staff if possible;
- establishing a joint committee to oversee implementation. This includes urban poor community and network leaders and the municipality, and also local academics and NGOs. This committee helps to build new relationships of cooperation to integrate urban poor housing into each urban centre's overall development and to create a mechanism for resolving future housing problems;
- conducting a meeting where the joint committee meets with representatives from all urban poor communities to inform them about the upgrading programme and the preparation process;
- organizing a survey covering all communities to collect information on all households, housing security, land ownership, infrastructure problems, community organizations, savings activities and existing development initiatives. Doing the survey also provides opportunities for people to meet, learn about each others' problems and establish links;
- from the survey, developing a community upgrading plan which includes all urban poor communities;
- (while the above is going on), supporting community collective savings, as these not only mobilize local resources but also strengthen local groups and build collective management skills;
- selecting pilot projects on the basis of need, communities' willingness to try them out and the learning possibilities they provide for those undertaking them, and for the rest of the urban centre,

- preparing development plans for pilots, starting construction and using implementation sites as learning centres for other communities and actors;
- extending improvement processes to all other communities, including those living outside communities, e.g. the homeless and itinerant workers;
 - integrating these upgrading initiatives into urban-centre wide development. This includes coordinating with public and private landowners to provide secure tenure or alternative land for resettlement, integrating community-constructed infrastructure into larger utility grids, and incorporating upgrading with other urban development processes;
 - building community networks around common land ownership, shared construction, cooperative enterprises, community welfare and collective maintenance of canals;
 - creating economic space for the poor (for instance, new markets), or economic opportunities wherever possible within the upgrading process; and
 - supporting constant exchange visits between projects, other urban centres and regions for all those involved, including community representatives and local government staff.

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.⁹ A good city-wide survey in which everyone in the city has been involved helps produce an understanding that the urban poor's settlements are no longer something that is feared but seen as part of the city's system – not something outside that system. It then becomes something that the city's system can help to deal with. City authorities, politicians and other groups within the city start to engage in discussions with urban poor groups about how their housing problems can be addressed, so that it becomes part of the city's regular development, without getting rid of them. This also means addressing the issue of dealing with the land. 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.

The second step is pilot projects. Pilot projects 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 in each city 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

⁹ Boonyabanha 2005, op. cit.

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.

Simplified sewerage in Brazil¹⁰

Simplified sewerage in Brazil has dramatically lowered the cost of providing households with connection to a sewer, which then removes human wastes and household waste water. It achieves this through two means: lower unit costs (smaller pipes, less piping, less trench excavation as these are not buried as deep as conventional sewers); and a division of responsibilities between the agency providing the sewers and the households who manage the installation and management of the 'neighbourhood' sewers and connections to each house (as in the examples given above of OPP in Pakistan). For instance, in Parauapebas in Brazil, where simplified sewage systems are widely used and have been in operation for more than 20 years, the cost per household connection was the equivalent of US\$56 in 1997.¹¹ Conventional programmes for contractor-constructed sewers cost at least five times this – and often far more than this. Simplified sewerage is now regarded as an acceptable sanitation technology throughout Brazil where it has been successfully used for over 25 years¹² and institutionalized – for instance, as a national design manual was prepared,¹³ as the national sewerage design code was modified to allow the smaller sewer pipe diameter used in simplified sewers,¹⁴ and as the experiences with simplified sewerage have become widely known and discussed among water and sanitation professionals within Brazil.¹⁵

Changing standards, lowering unit costs in Windhoek

During the 1970s, the concept of 'serviced sites' became popular in the housing programmes of many national and local governments. By providing only the house plot and roads and 'services' (typically a water tap and a latrine or connection to a sewer), the hope was that unit costs would come down to what low-income households could afford – or at least the unit subsidy was much lower than public housing. The experience with serviced sites has been mixed. Many serviced sites were developed in locations too far from the places where low-income groups earned their incomes so were not popular (or sometimes not even occupied). Better located ones were often captured by better off households. But they can work well, where standards are appropriate, community-consultation ensures these are in good locations and all measures are taken to keep down unit costs (so they are affordable with little or no subsidy). Reducing their costs often means making them smaller than official sub-division regulations permit and allowing incremental development of the infrastructure.

The city authorities in Windhoek 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

¹⁰ This draws on Mara, Duncan (2005), *Water Supply and Sanitation Options for Small Towns and Large Villages in Developing Countries*, Background Paper for the 2nd UN Habitat Global Report on Water and Sanitation, 35 pages.

¹¹ Melo, J. C. (2005), *The Experience of Condominial Water and Sewerage Systems in Brazil: Case Studies from Brasilia, Salvador and Parauapebas*, Water and Sanitation Program Latin America, Lima.

¹² Sarmiento, V. (2001), *Low-cost Sanitation Improvements in Poor Communities: Conditions for Physical Sustainability* (PhD thesis), University of Leeds, Leeds.

¹³ Guimarães, A. S. P. (1986), *Redes de Esgotos Simplificadas*, Ministério do Desenvolvimento Urbano e do Meio Ambiente, Brasília.

¹⁴ ABNT (1986), *Projeto de Redes Coletoras de Esgoto Sanitário*, Associação Brasileira de Normas Técnicas, Rio de Janeiro.

¹⁵ Mara 2005 op cit

land they developed for housing.¹⁶ A 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, to make their serviced sites more affordable to low-income households. Two new options were developed: a plot of 180 square metres serviced with communal water points and gravel roads which could be rented with the rental charge covering the financing costs for the land investment, water services and refuse collection; and group purchase or lease of land with communal services and with minimum plot sizes allowed below the official national minimum plot standard of 300 square metres. Families living in areas with communal services have to establish their own neighbourhood committee to manage their toilet block. Savings groups from the Shack Dwellers Federation (and other communities) are now able to purchase public land as a group and over time upgrade their plots with better water and sanitation services, as and when they can afford to do so. As with many of the examples given earlier, 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. Other city authorities have used comparable programmes of serviced plot provision which include plots with minimal provision (to cut costs to what low-income households can afford) and with incremental improvements in provision, as and when these can be afforded – for instance the city of Ilo in Peru.¹⁷

Community-managed water and sanitation provision in Dhaka and Chittagong

The UK charity WaterAid has supported many examples of 'community-managed' water and sanitation provision, including the work of OPP. 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.¹⁸

Programmes include

- water points providing water through legal connections to metro authority water lines or from tubewells where such connections were not possible;
- sanitation blocks combining water points, bathing stalls and hygienic latrines;
- community/cluster latrines with septic tanks;
- household water seal pit latrines;
- footpaths and drainage improvements; and
- solid waste management and hygiene education

It is worth highlighting the different sanitation options available – which also seek to ensure that everyone can access sanitation. More solvent households in the 'slums' tend to use private household latrines with poorer households making more use of community/cluster latrines. As in India, the incomes of the poorest groups are so low that providing them with good sanitation and achieving cost-recovery is difficult. Cluster latrines with five stalls, each used by around 150 households, can cover their maintenance costs and a quarter of their construction costs over two years with monthly charges to households of the equivalent of \$0.60 but the poorest households have difficulties even affording this – as they earn the equivalent of only US\$6-10 a month. Overall, although there was a greater focus on

¹⁶ This case study is drawn from 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.

¹⁷ López Follegatti, Jose Luis (1999), "Ilo: a city in transformation", *Environment and Urbanization*, Vol.11, No.2, October, pages 181-202.

¹⁸ 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.

water than on sanitation, the programme provided sanitation improvements in 72 different ‘slums’ – 641 household latrines used by 2-10 households, 13 cluster/community latrines and six sanitation blocks.

Comparing the different experiences

Programme	Source of innovation	Reducing unit costs	Funding	Going to scale strategy	Role of international agencies
The secure tenure programme in Thailand	National government agency supporting CBOs and their networks in upgrading	Community-engagement in design, building and management	Mixture of infrastructure grants and housing loans	Support channelled through community organizations and networks of community organizations; support for city government-community organization partnerships	None
SPARC-NSDF-MM community toilets	Local NGO and local ‘urban poor organizations designing, building and managing toilets	Communal provision, community-managed construction and operation	Local government for capital cost, user fees for management and maintenance	Develop partnership with local government; encourage national funding to support this	Minor; some funding from an international NGO and indirectly from World Bank. ¹⁹
OPP supported community-managed sewers and drains in Pakistan	Pakistan NGO and local NGOs and CBOs it helps and trains supporting community managed provision	Community organizations plan, finance and implement	Capital and running costs fully paid by users	Develop partnerships with local government and state agencies; document and map existing sanitation infrastructure and design interventions to support and work with these	Minimal (some funding from international NGO for support NGOs)
Simplified sewerage in Brazil	Local government agency	Cheaper technology, community involvement	Capital and running costs from users	Make it standard solution for local governments	Partial funding initially from World Bank
Community water and sanitation in Dhaka and Chittagong	Local NGOs supported by WaterAid	Unit costs much lower through community provision	Running costs covered by user fees; plans to develop some capital cost recovery from user fees	Encourage local governments and state water and sanitation agencies to see these as means of reaching poor at scale	Funding from WaterAid

Certain themes emerge from the examples:

a. In many locations, the importance of making communal sanitation facilities work better – as in the experience in India, Bangladesh and Namibia. This is generally accompanied by making communal standpipes work better too. Most international agencies have never seen communal toilets as a way to improve provision for sanitation. Yet it is common for large sections of the low-income population of urban centres to rely on them.²⁰ In most cities, there are also high-density low-income areas where it is

¹⁹ Some of the Mumbai community-toilets draw on World Bank funding which had originally been intended to improve sewage outfalls.

²⁰ UN Habitat 2003, op. cit.

difficult and expensive to install good quality household toilets and the supporting infrastructure these need – for instance because of few roads and paths, no maps of the area and uncertain (and often disputed) plot and house boundaries. Many such settlements are also on land that is illegally occupied or subdivided, with government or private agencies unable or unwilling to invest in infrastructure there; to do so would give some legitimacy to the inhabitants' claim to that land. Many such settlements also have high proportions of the population renting rooms – and with landlords not interested in improving provision for sanitation. It is also common for there to be so little space per household that it is difficult to fit in a toilet. However, detailed community consultations, surveys and maps are needed to see if communal provision is needed and if it is needed, to help determine how best it should be provided.

b. Closing the cost gap between what poor households can afford and good household facilities

Perhaps the most important aspect of cost-reduction is what OPP call 'component sharing' with low-income households and their community organizations responsible for designing and installing the 'internal' pipes and connections and water and sanitation providers responsible for the external systems to which these connect. This is central to OPP's work and also central to examples of where condominial sewers have been brought down in price. In the examples from Thailand, external (government) support goes much further, because of what households and their community organizations contribute. But perhaps as importantly, in each instance, all measures are sought to cut costs and it is the combination of keeping costs down wherever possible and household/community contributions that allows good quality household provision for sanitation to be afforded.

c. Making relationship with the official water and sanitation agency work better for low-income communities

None of the examples discussed in this paper sought to provide or improve sanitation independent of local governments or other official service providers. All recognized that it is not possible to improve sanitation on any scale unless more effective relationships were developed between those lacking provision and official providers. All also made it easier for official service providers to become involved – for instance, by doing the community-level work themselves and addressing other aspects that these service providers found difficult to do – for instance allowing group billing. In India, Pakistan and Thailand, the innovations also included local civil society groups developing the detailed maps of 'slums' and informal settlements and the household data that official service providers needed to be able to work there.

How was the technology developed and delivered? None of these examples were using 'new technology' and the innovations were much more on making conventional approaches using conventional technologies cheaper and better managed. The examples in Brazil and Pakistan were innovative in regard to the technology as they changed standards for water-borne sewers to make them cheaper. It is difficult to characterize these examples in terms of a 'value-chain' – although in each instance, what was developed was a model of provision that worked within local financial and institutional constraints and by doing so, generated interest and innovation in other locations. But to spread to new locations, it also needed competent local organizations in these locations with the capacity to adapt the model.

The main promoters and suppliers. In India and Namibia, the key promoters and implementers were partnerships between federations of the urban poor (which are made up of community managed savings groups) and a local NGO who then developed partnerships with local governments. In Pakistan, the key promoter was a Pakistan NGO that supported community organizations – with the approach spreading through their support, their help to other local NGOs and the acceptance of their model by local and state governments. In Bangladesh, the key promoter was local NGOs with support from the UK charity, WaterAid. In Brazil, the main promoters were local governments and the sanitation engineers that developed the 'simplified sewers.' In Thailand, the main promoter was a national government agency (CODI) working with community-organizations and networks of community-organizations. International NGOs had importance in contributing funding in the cases of India, Pakistan and Bangladesh – although in India and Pakistan, not in funding what was done but in supporting the innovation and precedent setting that then allowed major programmes that drew on local resources (India) or households' capacity to pay (Pakistan).

Role of community participation: The central involvement of those with unmet needs was evident in all these examples, although it took different forms. In India and Namibia, it was organizations and federations of ‘slum’, ‘shack’ and ‘pavement’ dwellers supported by local NGOs that had the central role in design and implementation. In Pakistan, community-participation was centred on the households in each ‘street’ or ‘lane’ who had to manage the finance and construction of the lane sewers and the connection of their toilets to these – with technical support from local NGOs – and OPP is also part of a wider network of civil society groups which are supporting greater community-involvement at district and city level. In Thailand, community-organizations formed by the households in a ‘slum’ or informal settlement and their networks had the central role, drawing on support from a national agency and negotiating support from their local government.

Effect on household demand for sanitation because of the availability of new appropriate technology. It was not so much ‘new appropriate technology’ as the new means to lower unit costs, the redefining of community-service provider relationships and responsibilities and ensuring better local management of systems that were the key innovations.

Are more income-equal countries more likely to make appropriate sanitation technology choices because of how income inequality skews household demand for sanitation? It would seem self-evident that the response to this question is yes – yet some of the nations where these innovations took place are noted for their high levels of inequality. In addition, it may be that strong local democracies with accountable mayors and municipal politicians are more important for appropriate choices. Perhaps more to the point is the possibility of organizations formed by the poor and/or local NGOs being able to innovate and set precedents that local governments and local service providers can and will support. However, where there are large concentrations of people with very little capacity to pay, unconventional ‘solutions’ were needed – as in making communal toilets and washing facilities work better and to be sufficiently cheap and convenient to minimize the number of low-income groups that do not use them.²¹

Potential economies of scale and proximity for urban sanitation? Many urban contexts provide opportunities for better quality sanitation than rural areas – as unit costs are lower and capacities to pay are higher. Both the number of people living in a settlement and the density of the settlement influences the choice of sanitation system. Higher densities bring down the costs per household for all piped infrastructure, including piped water, sewers and closed drains. Larger population concentrations bring down unit costs for water and waste water treatment. Many urban contexts also do not favour some of the simplest forms of provision – for instance high levels of overcrowding make on-site sanitation systems difficult, especially where latrine-emptying services are difficult (or impossible) and where there are multi-storey buildings. But what is the most locally appropriate sanitation intervention depends so much on local circumstances, including technical competence and the strength and representativeness of grassroots organizations. Many urban contexts allow good quality provision for simplified sewers to each household, if local organizational capacities exist to support this. Many high-density urban districts with high concentrations of very low-income groups (and many groups renting rooms) may require communal provision – although this needs local organizational capacities to ensure these are well served with water and electricity, well maintained and safe to use – for instance for women at night. Some urban contexts make on-site sanitation possible – where densities are not too high, where the pits do not contaminate ground water and where pit emptying services can work. But care is needed in any assumption about which technology is most appropriate – there is a considerable range of technologies and of models of provision from which to choose and many external agencies’ promotion of on-site sanitation is not appropriate for many urban contexts.²²

Treating wastes. It is usually assumed that on-site sanitation is superior to any form of sewer system because of the problem generated by the ‘sewage’. But on-site sanitation can be just as problematic – for

²¹ One critical need is to reduce to a minimum open defecation – but to do so requires sanitation facilities that are safe, convenient and affordable to all.

²² UN Habitat (2006), *Water and Sanitation Provision in Small Urban Centres*, Earthscan, London.

instance as it pollutes groundwater or as pit latrines overflow during storms and flooding, contaminating the whole settlement with faecal matter. In most urban contexts, if on-site systems are used, latrines need to be emptied regularly, which can be costly and may push their annual running costs above that of sewers. Sewer systems need not generate problems of ‘sewage’ since with inexpensive treatment, their waste water can be used in agriculture. Again, one returns to the point that there are a range of sanitation technologies and waste water treatment technologies from which to draw and it is local contexts and organizational capacities that strongly influence which are the most appropriate.

Potential of different technologies for providing labour-intensive employment in the sanitation sector as part of a wider livelihoods strategy, and the role of public works and micro-finance in stimulating this?

For the examples given here, this is the wrong question. ‘Public works’ programmes to create employment are probably not very good at actually delivering the most appropriate, cost-effective solution for sanitation. What they do and how they do it is directed by the public works/employment creation agency or the local organizations they subcontract which may not be good at ensuring high quality infrastructure with very strong local accountability to those whose sanitation needs are meant to be being addressed. The kinds of simplified sewer systems described earlier in Pakistan and Brazil need to be designed and constructed to a high quality to work well. Community toilets also require high quality construction, given how intensively they are used.

However, supporting improved sanitation in ways like those described in these examples within a broader commitment to ensure other improvements in low-income areas (for instance more secure tenure, paved roads, good quality water supply, electricity...) is likely to have many positive income-earning, employment generating effects, as these increase possibilities and reduce constraints for small enterprises. The OPP supported model increases work for a considerable range of local groups – in the mapping, design, planning and building. Getting widespread official support for community-directed sanitation will also stimulate employment – as in, for instance, the youth employment programme developed by OPP to do the mapping. The NSDF-Mahila Milan-SPARC community toilets generated work for many local people, and many women community leaders managed the construction of the toilet blocks. **It may be that supporting strong local processes such as these ends up generating more employment per dollar than public works programmes.**

In regard to ‘micro-finance’, again it is difficult to generalize. One important point recognized by the Thai government agency that provides loans to community organizations was that its role was to help community-organizations find solutions that did not require loans, recognizing that any loan repayment represents a financial burden to low-income households. OPP’s strategy was to bring down costs for households for good quality sanitation so much that they did not need loans. In India, the federations that developed the communal toilet blocks have at their base savings groups which also provide their members with credit – but the very low incomes of most federation members made communal provision more appropriate.²³

The constraints that these initiatives faced

All the initiatives described in this paper have faced hostility – locally, nationally and internationally. For instance, OPP’s methodology and the technology they proposed was strongly criticized by an international ‘expert’ prior to its success and widespread adoption.²⁴ These kinds of initiatives also generate local opposition. Many ‘slums’ have powerful vested interests that oppose representative community organizations. These interests may also seek to take over management of any community facilities (toilets or standpipes) because of the profits these can make. Many politicians dislike the organizations and federations of the poor because they will not align with their election campaigns; many contractors dislike the federations because they threaten their profitable (and often corrupt) relationships with local governments. Many community-driven initiatives also generate hostility from NGOs,

²³ The federations in India also have many other initiatives that are to provide low-income households with new housing units which have good provision for sanitation.

²⁴ OPP 1995, op. cit.

including those that have ‘housing rights for the poor’ as their core agenda.²⁵ In addition, no large-scale programmes can succeed everywhere – as described earlier for OPP’s work and for the community-toilet block programme in India.

What role for international agencies?

In one sense, the solution to the inadequacies in provision for sanitation in any settlement which concentrates people (and their wastes) is obvious: more competent, effective local sanitation providing or supporting organizations in each settlement in which the unserved and ill-served have influence. With such organizations promoting and supporting and perhaps helping finance, design and implement the interventions that are possible, building on the infrastructure and local organizations that already exist. This intervention may at one extreme be providing advice to individual households to solve their own problems – for instance latrine designs and key components (for instance the squat plate) and information that households find useful and relevant about hygiene behaviour – or at the other extreme providing all households with connection to sewers and managing these and the wastes that go into them. There are many options for what can be done and for how it should be done – for instance in regard to the roles taken by households, grassroots organizations, local NGOs, government agencies, private enterprises (large and small) and international agencies. In all the examples discussed in this paper, civil society organizations had particular importance, including local NGOs and grassroots organizations formed by ‘slum’, shack and pavement dwellers.

But this point is not easily acted on by international agencies. To do so means knowing how to support the development of more pro-poor, more accountable local sanitation (and water) providing or supporting agencies in tens of thousands of localities. In many urban contexts, these localities are ‘illegal’ so local governments do not want to work there (or may be prevented from doing so). This needs to be combined with a recognition that local contexts and local possibilities for success vary greatly so the actual form that these local organizations take will also vary a lot. What is needed in each of these tens of thousands of locations is the best possible mix between good quality convenient provision, what can be afforded and what can be managed locally. For working at scale, it obviously needs the support and engagement of local governments.

While this is obvious, the means by which international agencies can support this is not. The official development assistance agencies were not set up to support a multiplicity of local initiatives in each nation but to channel funding to national recipient governments. To be effective in supporting local initiatives, they need to find and support effective local partners since few of the official development assistance agencies actually implement initiatives on the ground. To work at scale in such local engagement, they also need the approval of national governments who are often reluctant to allow this – and who may be hostile to it. In most localities, there is generally a lack of technical capacity for the systems that have the potential to work best. In addition, external support – whether from national governments or international agencies - has not proved very good at supporting the most locally appropriate and locally-driven pro-poor development – for sanitation and for other local needs.

The ‘solutions’ to the inadequacies in provision for sanitation proposed by international agencies usually centre on much increased international funding and often the promotion of particular sanitation technologies – for instance for more water-efficient and ‘ecological’ technologies (or a refusal to support any form of sewer system) – which are often not the most appropriate local solution. There may also be a pressure to produce sanitation facilities that recover their costs from users – which can be unrealistic in many locations, if good quality provision is to reach the lowest-income groups.

²⁵ The reasons for this are not clear. These may stem in part from the challenge the federations provide for these NGOs’ legitimacy to speak ‘on behalf of the poor’. In part, they stem from different opinions regarding strategies to change government approaches – see Mitlin, Diana and David Satterthwaite (2004), “The role of local and extra-local organizations”, Chapter 11 in Diana Mitlin and David Satterthwaite (editors), *Empowering Squatter Citizen: Local Government, Civil Society and Urban Poverty Reduction*, Earthscan Publications, London, pages 278-306.

For most international agencies, there is a declining commitment to support projects on the ground and an increasing emphasis on providing recipient governments with budgetary support.²⁶ Increased support for improving sanitation thus depends on recipient governments making this a priority – and also acting to support the development of more pro-poor, effective sanitation providers in each locality. There are good reasons for supporting this shift in development assistance – to get more buy-in from recipient governments, to improve coordination between donors. But what is not clear is the extent to which this will make ‘development’ work better for low-income groups. There is such a large physical and institutional distance between low-income groups and the decision-making processes of international agencies and national governments – including the national Poverty Reduction Strategies which are meant to make more explicit the link between what is funded and meeting poorer groups’ needs. The formulation of these PRSPs may strive to have some ‘civil society’ input but it is rare for poor households to have their own representative organizations – and even if they do, these are rarely included in PRSP discussions. It is also difficult for low-income groups to express their needs in terms of national policy change. Their main needs and priorities will generally be for immediate local changes – and changes in their relationships with local governments and other service providers and often with powerful local groups. These kinds of very context and location specific needs and priorities are not easily included in general discussions of national priorities. It may be that increasing donor assistance to budget support and to national PRSPs ends up “contributing to the reproduction and reinforcement of the prevailing patterns of patronage that they are trying to eliminate through their good governance agendas.”²⁷ There is still too little recognition among the donor community that pro-poor development has to involve political change that produces tangible results in each locality that benefit low-income groups; bilateral and multilateral donors still primarily view low-income households as recipients of public services rather than as active participants in local development and international aid.²⁸ The donor community has committed itself to increase aid effectiveness in the Paris Declaration, yet this Declaration has no indicator of progress concerning the participation of the very people whose unmet needs are the justification for development assistance.

The role of local innovation in catalysing and supporting social change and good governance

This paper suggests that another focus is needed – more emphasis on supporting local initiatives in which the unserved and ill-served groups have a central role – and which, wherever locally possible, centre on partnerships between these groups and local water and sanitation agencies and local governments. Less emphasis on ‘big’ donor funding and far more emphasis on a great range of means for cutting unit costs and generating cost recovery; also working with official (private or public) agencies in ways that recognize their limited capacities and keep down their costs. Combining government, community and household contributions.²⁹ In effect, supporting innovation and experimentation in many locations with inadequately served or unserved groups – where much of this is around innovation in regard to the partnerships between the different groups. From this can come a multiplicity of locally-driven innovations which learn from and support each other in each nation; not surprisingly, in the three largest initiatives described in this paper, in India, Pakistan and Thailand, there has been a large and constant flow of community organizers and local government and NGO staff visiting each other, learning from each other. This is what produces the ‘scale’ and the pro-poor ‘policy change’ that all donor agencies seek. Much of the ‘pro-poor’ policy change achieved in high-income nations over the last century or

²⁶ Crespin, Julie (forthcoming), “Aiding local action; the constraints faced by donor agencies in supporting effective, pro-poor initiatives on the ground”, *Environment and Urbanization*, Vol. 18, No. 2, October 2006.

²⁷ Eyben, Rosalyn and Clare Ferguson (2004) “How Can Donors Become More Accountable to Poor People?”, in Leslie Groves and Rachel Hinton (eds) *Inclusive Aid: changing power and relationships in international development*, Earthscan, London, p 171

²⁸ Degnbol-Martinussen, John and Poul Engberg-Pedersen (2003) *Aid, Understanding International Development Cooperation*, Mellefolkkeligt Samvirke (Danish Association for International Cooperation), Zed Books, London.

²⁹ There are also other examples of sanitation innovations that follow this approach – see for instance 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 and 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.

more was catalysed by local bottom-up innovations – which showed what was possible and set precedents from which others could learn and from which national policy could be developed – but this is often forgotten within contemporary debates about development.

It is also worth highlighting how in three of the initiatives described in this paper, in India, Namibia and Thailand, federations or networks of ‘slum’, ‘shack’ and homeless groups had central roles. Comparable federations are active in many other nations and also engaged in initiatives that provide or improve sanitation directly (for instance through developing toilet blocks similar to those developed in India) or indirectly (through upgrading programmes or programmes that develop new homes).³⁰ These federations also follow similar methods to those described in this paper for India and Namibia – support their member grassroots organizations to develop initiatives and when these work well, use these as precedents from which other groups learn and through which to develop partnerships with local governments. These federations also learn from and support each other – for instance the women from *Mahila Milan* in India who developed the community toilets have advised many other national federations on how this was done. These federations also have their own umbrella organization, Shack Dwellers International, which helps link the different federations and supports the development of federations in new nations.³¹ All these federations are examples of the means by which those who lack good provision for sanitation (and much else too, including good provision for water, secure tenure) are developing local responses to this and offering local governments and other official sanitation providers partnerships to do this on a much larger scale. OPP has a slightly different methodology, as it trains and supports community organizers and local NGOs to work with groups of low-income households to provide good quality sanitation. In all these instances, improved sanitation is important but it is one among many goals – and is sought within a broader goal of changing the relationships between low-income groups and local governments.

One worry with this approach might be that it is institutionalising a model that absolves government of its responsibility and places a large burden on grassroots organizations that is also difficult to fulfil. Few community organizations would want to manage their sewers or community toilets if they could get good value competent management from external agencies. Might supporting community-managed provision divert attention from a need to address systemic problems? It may mean that successful action is limited to those places with strong, representative community organizations – so it does not work well in many places. But the examples of community action for sanitation in this paper should not be seen as ‘poor people solving the problem themselves’ but a combination of two things: pragmatic responses to addressing their needs which they could influence (so what was done works better for them); and developing relationships (and where possible partnerships) with local government and other official agencies. The community-action was needed to demonstrate new models of provision that worked better for low-income groups – and also to set precedents that showed the need to change many official approaches and regulations including sanitation codes, building regulations, minimum plot sizes, contracting procedures..... And the development of relationships with official agencies. It is difficult to see sanitation working for low-income urban households without this active engagement – and this is a point that the quote from the World Bank made earlier in this paper misses. This is not neglecting ‘good governance’ but driving ‘better governance’ from the bottom up. The important issue is not so much ‘community-provision’ but urban poor groups who lack provision for sanitation influencing what is provided and getting accountability from the providers.

This community-driven approach is sometimes considered to be in opposition to the ‘rights based approach’ – but it is better conceived as the ‘rights-plus’ approach.³² Grassroots organizations do not get very far, demanding the fulfilment of their ‘rights’ from weak, ineffective government agencies that are unable to meet their demands. But if these same grassroots organizations (usually supported by local

³⁰ D’Cruz, Celine and David Satterthwaite (2005), *Building Homes, Changing Official Approaches: The work of Urban Poor Federations and their contributions to meeting the Millennium Development Goals in urban areas*, Poverty Reduction in Urban Areas Series, Working Paper 16, IIED, London, 80 pages

³¹ For more details, see www.sdinet.org

³² See Patel 2004, Mitlin and Satterthwaite 2004 and D’Cruz and Satterthwaite 2005, op. cit.

NGOs) demonstrate how the state can work with them to 'meet their needs' in ways that are affordable and possible locally, it can dramatically change the possibility of these rights being fulfilled. So the kinds of interventions described in this paper are not in conflict with pressures for greater equity and 'good governance'; indeed, they should be seen as essential components of this, as the very groups whose sanitation needs are not addressed gain more influence over what is done and stronger relationships with official providers.