

32nd WEDC International Conference, Colombo, Sri Lanka, 2006

SUSTAINABLE DEVELOPMENT OF WATER RESOURCES, WATER SUPPLY AND ENVIRONMENTAL SANITATION

Mainstreaming Community-Based Sanitation in urban areas in Asia*Pedro Kraemer, India, Andreas Ulrich, Germany*

This Paper provides guidance for increasing involvement of low income urban communities in accessing neighbourhood level sanitation services in densely populated areas, based on the experience of CBS demonstration projects in Indonesia and India. It further explores the demand-responsive approaches in community selection and informed choice while attempting to mainstream CBS as an urban planning tool with local governments. The Paper aims to contribute to the reduction of the mismatch of overall CBS implementation plans and the reality situation. This review highlights strategies for effective cooperation among stakeholders and the need for better sanitation mapping and prioritization as a first step toward strategic sanitation planning.

Introduction

CENTRALIZED sewerage systems in Indonesia and India generally do not cover poor residential areas, many of which lack even the most basic sanitary infrastructure. Due to large investment costs, even if a few more centralized sewerage systems are constructed, large-scale sewerage programs are likely to bypass the urban poor.

In the 1980s, the Indonesian Government realized that urban sanitation facilities must be improved within a decentralized implementation framework that focuses on neighbourhoods. India made large efforts in providing public sanitation facilities in the last 20 years, turning to individual toilet strategy in 2005. However, the various sanitation programs that had been initiated in urban areas, failed to improve the situation because:

- Initiatives were driven by government supply strategies rather than by community demand.
- Funds were usually provided as 100% grants, thereby limiting ownership by the communities.
- Communities are not seen as true stakeholders - limited participation during planning process and in choosing technical options, limited to "contributions in kind" such as unpaid and unskilled labour.
- Focus on construction of sanitary facilities rather than on treatment facilities.
- No training provided for effective operation and maintenance (O&M) of the facilities.

This Paper provides recommendations, based on the lessons learnt from the development of over 30 CBS systems in Indonesia and India for mainstreaming CBS in urban areas. Included are strategies for effective cooperation between the communities that participate in co-financing, planning, implementation, and managing the CBS systems on the one hand and the governmental, NGO, and private

sector organizations which will support the communities on the other hand.

Background of the projects

The Indonesian experience is based on SANIMAS, or Sanitation by Communities, a demonstration project funded by the Australian Government, coordinated by the World Bank's Water and Sanitation Program and implemented by Bremen Overseas Research and Development Association (BORDA). The aim of the project is to pilot an approach to CBS as a demonstration for mainstreaming CBS as an option for urban planning.

In India the base of experience is 5 years of a CBS program financed by the German Government and implemented by BORDA, focusing on establishment of a CBS implementation-oriented network of specialized institutions (mainly NGOs).

A typical project involves setting-up, low-cost Simple Sewerage System (SSS) consisting of household sanitation facilities linked by a network of small-bore feeder sewers to a local wastewater treatment plant. In areas where low-income people resided in rented or non-regularized settlements, public Community Sanitation Centres (CSC) were constructed, consisting of toilets and bathrooms connected to a wastewater treatment facility. Each of the developed CBS systems serves 50 to 200 urban households.

In Indonesia, the program applied a competitive selection process and is operated mainly through the Local Government (LG). In India, this process was based on criteria applied to individual communities or ongoing government schemes with varying institutional set-ups and stakeholder compositions. Participating cities and/or communities were selected based on demand, through transparent and standard criteria that included technical feasibility, willingness to contribute and experience with other self-help projects.

Lessons Learned

A. Communication

- **Data from the selection process could contribute to availability of ‘sanitation mapping’ information.** The main selection criteria for cities are allocation of funds and institutional support while for communities technical feasibility is a key criterion. In particular, technical feasibility requires data on land availability, minimum elevation for piping, risk of discharging effluent, etc. The detailed information collected could be used in a larger effort to map sanitation needs at the local level. A priority ranking or “waiting list” could evolve to enlist communities when future investments for CBS occur.
- **The range of prospective communities could be increased by better communication and organization at the local level.** Although transparency in the projects was generally high, it is sometimes compromised due to poor time management resulting in only a single eligible community in the target region/area. Adequate time should be allocated to the demand generation process to ensure that communities are given a chance to voice their needs.
- **The promotional efforts fail to reach important local decision-makers when participants in kick-off seminars are lower-ranking government officials.** Lower-ranking officials often do not report back to their superiors, usually the decision-makers, who should be addressed by personalized communications and visits to increase their presence and buy-in to the program.
- **CBS approaches require a user-friendly communications strategy.** IEC materials are often perceived as confusing by LG officials, local facilitators and communities. For a better understanding and participation in the project, promotional material based on specific local characteristics should be developed. Exposure visits to similar successful projects is the most efficient IEC for all the stakeholders.
- **Even well prepared and previously tested IEC material is of limited use without experienced facilitators.** The IEC material must be applied by experienced facilitators who can guide communities through the assessment and informed choice process to reach consensus, the absence of which and inability to resolve conflicts can lead to inhabitants vetoing the project.
- **Lack of sufficient understanding of all components of a CBS intervention –software and hardware –by key actors leads to misinformation and confuses stakeholders.** Engineers require basic understanding of social preparation processes in CBS projects while social workers require basic understanding of technical options and legal implications. Tailored communication tools are essential for a successful communication with different stakeholders involved. Even simple and highly visualized Information–Education–Communication (IEC) materials such as the Informed Choice Catalogue (ICC) are of limited use as stand-alone explanations because knowledge about CBS (and sanitation concepts in general) among stakeholders is often rather low.

- **The selection criteria ‘past experience with self-help projects’ proved to be a useful indicator of communities’ capacity to invest and participate in the project.** Despite sometimes difficulties in accounting and efficient management, the selected communities proved the relevance of the “past experiences in self-help projects” selection criteria. Depending on the agreed role, they demonstrated willingness to form local committees, to act as motivated practitioners, to invest in necessary upgrades at the household level, to contribute 2-4 % of the construction costs in kind, and/or to pay user fees that will sustain the long-term operation and maintenance of the CBS systems.

Recommendations

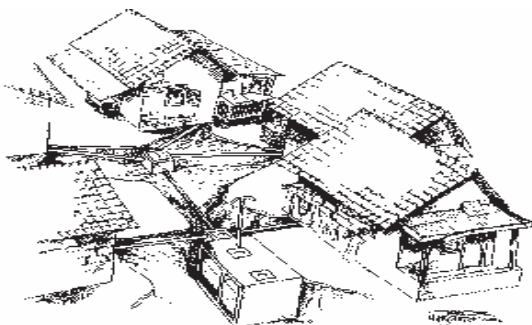
1. A priority ranking or “waiting list” should be developed to ‘register’ the need of potential communities for CBS development.
2. Communications during the selection process should be simple and informal with language tailored to the intended audience.
3. IEC strategies should include visual communication that reflects local culture and be reinforced through multiple-communication channels.
4. There should be an emphasis on strong facilitation and facilitator training.
5. Adequate time (3-6 months) should be allocated to the demand-generation process (information, social mobilization and informed choice) to ensure that all communities are given a chance to participate.
6. Personalized communications with senior officials should be ensured to increase their presence and buy-in to CBS programs.
7. Past experience with self-help projects should be used as an indicator of communities’ capacity to invest and participate in CBS projects.

B. Technology

- **Informed choice should be tailored to local conditions by eliminating options that are not technically feasible.** On an average 70% of the options in the full ICC are not applicable to every locality. Presenting them all creates confusion and dilutes discussion of the feasible options.
- **Implementing agencies and communities should be given incentives to implement projects in a cost- and time-effective manner.** The relative inexperience of community committees, local foremen/supervisors, and construction crews often results in comparatively high costs. Similar cost increase can occur when recruitment of construction workers takes place from neighbouring or participating communities resulting in an unintended incentive to prolong construction.
- **Truly informed consent depends on accurate cost estimates during the ICC process.** The higher the community involvement, the more comprehensive the assessment of expenses incurred by the community for construction is

needed (including road hardening, use of metered water, etc.), addressing also “hidden costs” (e.g. expansion of roof to accommodate toilet).

- ***There is a pattern in the choice of systems by communities based on asset ownership, availability of water, type of housing and experience with past sanitation projects.*** Given the choice between a SSS (see Fig. 1) and a community sanitation complex (CSC) (see Fig. 2), the SSS is favoured where the families own houses, space within the houses is sufficient to install a toilet, regular water supply is available and public toilet facilities had been used in the past or existing facilities were considered inadequate. CSCs are the option for communities where the majority live in rented houses, land ownership is not regularized or where space for construction of household toilets is insufficient.
- ***Land status must be clarified during the initial appraisal.*** Failure to obtain accurate information on land ownership and rights during RPA exercises causes delays or problems in implementation (e.g. CBS designs to be changed because anticipated land availability does not materialize or planned project sites are to be shifted because community members objected to pipes passing on their land).
- ***O&M training must start from the beginning of the project and is part of ownership development at community level.*** Agencies often conceive O&M training as an activity of the winding-up phase. O&M training must be integral part of the whole project, starting at the preparation process. Defining the O&M management system is part of ICC and a precondition to start implementation.
- ***Project environment often does not provide for realistic planning and professional management.*** Project or stakeholder timelines tend to overrule those of proven standard operation procedures (SOP), ending in endless or failed projects. Before implementation starts, all preconditions must be met: e.g. involvement of all actors mainly elected representatives and informal leaders, feasibility study, statutory requirements, clearances, O&M system, financing, and contracting.



Source: Informed Choice Catalogue, SANIMAS 2002

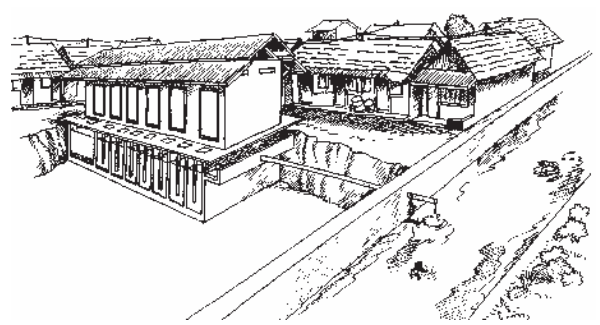
Figure 1. Simple sewerage system (SSS)

Recommendations

1. Only technically feasible options, based on data on water availability, asset ownership, geography and past experience with sanitation projects, should be presented during the community’s IC process. IC requires professional guidance.
2. Incentives should be given to implement projects in a cost- and time-effective manner.
3. ICC material should provide comprehensive cost estimates that include ‘hidden’ costs.
4. Land ownership should be assessed formally, including examining legal information, after participatory appraisals have been conducted and before community selection and design of CBS systems.

C. Institutions

- ***A strategy for scaling up facilitation capacity in CBS is needed, building on existing local capacity and horizontal sharing of learnings.*** Training LG employees and/or local NGOs to act as facilitators proved to be an ambitious task because of a lack of individuals with relevant hands-on CBS experience and the necessary technical background. Local facilitating agencies require teams of well-experienced facilitators. Low-salaried social workers and related high turn over, oppose the requirement of expert CBS-facilitator teams. Often, members of the local facilitating teams, thus end up supporting, rather than facilitating the communities.
- ***LG and NGO staff can only facilitate in a true sense after they have practical experience.*** Facilitators require practical experience in CBS implementation. In addition, NGO staff often lacks basic moderation and facilitation skills.
- ***A clear allocation of roles of all stakeholders and the availability of professional technical advice will enable future CBS initiatives to build on the pilot experience.*** BORDA’s interventions were largely successful due to local stakeholder demand and motivation to participate, factors on which future replications must be founded. However, supporting this must be a clear allocation of responsibilities for financial, institutional and techni-



Source: Informed Choice Catalogue, SANIMAS 2002

Figure 2. CSC with anaerobic baffled tank reactor

cal decision-making for all stakeholders including the national government, LG, NGOs, the private sector, communities and donors.

Recommendations

1. Future CBS projects should focus on capacity-building initiatives towards achieving hands-on experience.
2. LGs and NGOs should develop a strategy for scaling up facilitation capacity in CBS, building on existing local capacity, existing demonstration sites and horizontal sharing of learnings between stakeholders
3. National governments should develop guidelines outlining stakeholders' roles in investment and decision-making for CBS development on a wider scale
4. There remain knowledge gaps in mainstreaming CBS that should be addressed, specifically:
 - Mapping of sanitation needs at the local level.
 - Developing human resources to implement CBS;
 - Supporting regulations to promote CBS.
 - Streamlining the process for cost and time effectiveness.
 - Resolving land ownership issues in slum communities.

D. Financing

- **Lead LG agency must be identified early and its budget-allocation timetable must be considered during the CBS planning stage.** Financial contributions from participating LGs are often allocated from already existing budget positions (gov. schemes) or from "reserve allocations". Such ad-hoc allocations often proved to be unreliable, causing delays or even withdrawal of the financial commitments. Written agreements are essential, but are not a guarantee.
- **LG financial allocation procedures for CBS should be simplified and streamlined to accommodate CBS.** The recent decentralization process provides LGs also in India with more financial autonomy. Usually the government partnering CBS projects has no difficulty in allocating the required budgetary amounts for CBS projects, especially in Indonesia, even if community managed; however, the procedures are complex.
- **Commitment from LGs must support demand from communities.** During the selection process the demand must emerge not only at the community level, but also equally at the LG level. When analyzing the funding for CBS systems, communities are willing and able to pay beside for household toilets and O&M, about 2-3% in cash-and-kind towards capital investment. Where as the LG is usually contributing the major share.

Recommendations

1. Government must provide the incentives and have the political will necessary to prioritize sanitation.
2. Planning for regular budget allocations should be harmonized with LG infrastructure planning schedules.

3. Local decision-makers should be contacted and personally informed by project stakeholders well before formal budgets need to be approved.
4. The selection process for future CBS projects should focus on presenting the implementation concept to individual municipalities by meeting the actual decision-makers.

Perspectives for up-scaling

A "congruent replicability" of CBS is challenging because legislation and administrative practices vary from city to city, and different government agencies/departments take the lead often linked to different government schemes or local development targets.

Although sanitation is doubtlessly more often on the agenda and part of city development programs today, a major hurdle for scaling-up the process of provision of sustainable sanitation is still the fact that sanitation has not reached the priority required either in the governments, or the NGO sector.

Although decentralized systems generally require community ownership for O&M, in future, more sophisticated sanitation systems might consider the separation of ownership and operator. Such public-private models need to be explored further.

Decentralized sanitation systems are one of the technical options that now contribute toward the improvement of hygiene and environmental health in urban areas. Because the LGs share of CBS funding is high, additional options should be presented to them. A trans-sectional communication is required to involve stakeholders of other sanitation approaches (i.e. centralized operators). This will allow for more comprehensive planning and provide new options for a possible combination of decentralized and centralized systems.

References

- IRC (2004) Basic Urban Services Handbook – Environmental Sanitation for the Urban Poor.
- WSP/GTZ/AusAID (2005) Philippines Sanitation Sourcebook and Decision Aid.
- WHO/UNICEF (2004) Joint Monitoring Program for Water Supply and Sanitation – India.

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