



Water and Sanitation Program

An international partnership to help the poor gain sustained access to improved water supply and sanitation services

Pilot Project on Solid Waste Management in Khulna City: *The Role of Participatory Urban Appraisal*

South Asia Region

This note describes the Participatory Urban Appraisal that was carried out at the inception of a pilot project on solid waste management in Khulna, Bangladesh. It outlines the objectives of the appraisal and the methods used. The outcomes are analysed and the recommendations made for project activities are listed. In conclusion the note details aspects of the project which resulted from information gained from the appraisal sessions.



BACKGROUND

The pilot project was launched in Khulna city in March 1997 with a phasing out date of December 2000. The project is financed by the Swiss Agency for Development and Co-operation (SDC), with technical and management support from the Water and Sanitation Program (WSP). A local NGO, Prodipan, was selected to implement project activities in collaboration with Khulna City Corporation (KCC).

The main objectives of the pilot project were:

- ⌘ To gain a strategic understanding of the urban waste and sanitation situation and to identify a range of appropriate options suitable for communities who are willing to share costs and participate in the management process.
- ⌘ To make an assessment of social and economic prerequisites and institutional changes needed to incorporate the partnership approach in municipal service delivery;
- ⌘ To identify ways in which municipal authorities can link up with community management of solid waste; and
- ⌘ To identify the potential to scale up from the pilot project to a larger investment in urban waste management.



Khulna City Corporation (KCC)



Swiss Agency for Development and Co-operation (SDC)

Increasing community awareness and participation in project activities to enable communities to gradually take responsibility for their own waste management was a key element of the pilot project. The Participatory Urban Appraisal (PUA) was an important process in this organisation phase. A general description of the pilot project and details of the community process is provided in earlier publications in this series (No.1 and No. 2). This paper describes the Participatory Urban Appraisal (PUA) which was an essential process in the development of an effective and sustainable project. Many of the PUA recommendations were included in the subsequent project activities.

OBJECTIVES

The aim of the PUA was to select suitable locations for project interventions and to generate data for the planning stage of the project . The specific objectives were to create understanding about:

- ⌘ the present solid waste generation and disposal patterns within households, the primary and secondary disposal points and the waste disposal timing;
- ⌘ the community perception of solid waste management;
- ⌘ the willingness of the community to pay for waste disposal services;
- ⌘ the waste recycling situation; and
- ⌘ the extent of private sector involvement.

The PUA also discussed the issue of drainage which is closely related to solid waste management.

THE PROCESS

An international NGO, DASCOH (Development Association for Self-reliance, Communication and Health) designed the Participatory Urban Appraisal (PUA) using guidelines prepared by Water and Sanitation Program (WSP). The various stages of the PUA are illustrated and explained.



Preparation

In May 1997, representatives from WSP and Prodiplan discussed the concept of the project, the procedures for implementation and the roles of facilitators for the PUA sessions. A team of facilitators, drawn from Prodiplan staff members, was established and trained to conduct sessions by the acting consultants, DASCOH.

PUA Sessions

Sessions were organised in potential project areas representative of a cross-section of city neighbourhoods. Participants were selected from a diversity of backgrounds professions and income groups. Men and women were equally represented.

Trained Prodiplan facilitators outlined the purpose of each meeting and explained what needed to be done for the project to succeed. The sessions used a variety of participatory methods which included open drawing, mapping, bar diagramming, Venn diagramming, flow diagramming, focus group discussions and semi-structured interviews. Boxes 1 and 2 illustrate examples which emerged from these groups. Additionally, informal and semi-structured interviews were held with various stakeholders such as Khulna City Corporation (KCC), Department of Public Health Engineering (DPHE), owners of solid waste micro-enterprises, sweepers, Ward Commissioners etc. Feedback to the participants was an important part of

the session as this reinforced learning experiences and clarified recommendations for action.

Outcomes

PUA sessions were held over a four day period and data collected provided a basis for the design phase of the primary collection initiative. The sessions addressed issues such as the solid waste management systems in operation at present, consumers' perceptions of these, the potential for primary collection and waste recycling. The appraisals were followed by a one day review workshop for the nine Prodiplan staff members involved. This reviewed the process, analyzed outcomes and made recommendations for future action. The most relevant points to emerge are:

Assessment of the existing situation

- ⌘ Solid waste generation has increased steadily over the last five years as a result of higher consumption and greater packaging of goods. Households generate approximately 2kg of waste per day, much of which is organic. The rate is variable due to seasonal availability of fruit and vegetables and the occurrence of festivals.
- ⌘ At present housewives or maid servants dispose of household waste up to six times a day. It is frequently dumped indiscriminately due to a lack of roadside bins or bins being in a poor condition (low-income areas), bins being surrounded by waste or too far away and socially unsafe for maid servants to use (higher-income areas). Hawkers (itinerant waste buyers) frequently call on householders to collect valuable waste (e.g. paper, metal, plastics) for which they either make a small cash payment or pay in kind.
- ⌘ A lot of waste is dumped in drains causing flooding in the rainy season. Participants suggested that more effective cleaning of these drains by the KCC would not be enough to solve this problem and that community education to

prevent dumping should be increased.

- ⌘ There is no regular time for collection from the roadside waste bins by KCC trucks.
- ⌘ There are 19 NGOs and CBOs based in Khulna, most of them concentrating on the concerns of women and the poor including water and sanitation issues; but only one organisation focuses on Solid Waste Management (SWM) and environmental sanitation.
- ⌘ An extensive informal waste recycling industry already exists in Khulna. However, much of the waste is transported to Dhaka for processing, as energy costs there are cheaper. No composting system exists in Khulna.

Community perception of groups involved in the SWM system

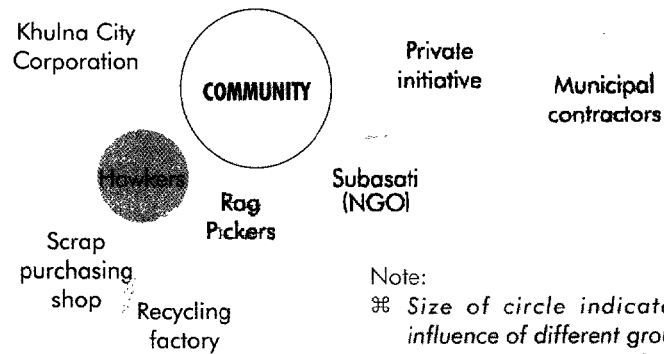
The KCC was seen as the most important organisation involved in solid waste collection and disposal. As tax payers, participants felt that they had the right to demand from them, and get, a reliable service. The Local Government Engineering Department (LGED) support KCC through a local NGO, Subasati, who are considered an effective actor in collection and disposal. Municipal contractors were viewed as influential but with a profit seeking mentality and little consideration for the community. Waste purchasing shops and recycling factories were also seen as influential. Hawkers and waste pickers were both considered to be close to the community.

Community perception of problems in solid waste management

The main problems identified in the present SWM system are:

- ⌘ Lack of awareness of waste disposal and environmental sanitation at household level; no awareness creation at community level;
- ⌘ Roadside bins insufficient and often broken. Scattering of waste from bins by dogs etc;

Venn diagram showing all stakeholders in the project, their influence and effectiveness in disposing of household solid waste Box 1



Note:

- ⌘ Size of circle indicates the influence of different groups
- ⌘ Closeness of circle indicates the effectiveness of different groups

- ⌘ Throwing waste into drains causing blockages and overflow into streets;
- ⌘ Inadequate latrines in public places; and
- ⌘ KCC failing to meet its responsibilities; not cleaning market places regularly.
- ⌘ KCC filling and raising private land with waste.

The top three problems prioritised by the participants.

- ⌘ Lack of community awareness.
- ⌘ Overflow of clogged drains.
- ⌘ Inadequate number of roadside bins.

Khulna City Corporation's perception of problems in solid waste management

The KCC identified the main problems with their operations as:

- ⌘ Lack of public awareness (e.g. dumping waste in drains)
- ⌘ Lack of community cooperation (people not carrying waste to bins)
- ⌘ Lack of funding (people not paying taxes, insufficient government funds);
- ⌘ Inadequate logistics;
- ⌘ Lack of effective sanitation (in some wards, human excreta goes straight into the drainage system);
- ⌘ Lack of manpower and equipment which means they cannot dispose of waste daily; and
- ⌘ Poor supervision of KCC staff and a feeling of job insecurity.

Community willingness to participate and contribute financially

- ⌘ Participants wanted better solid waste management, primary collection services, regular collection of waste from roadside bins and better cleaning of drains. They are willing to pay Taka 5-10 per month for daily primary collection.
- ⌘ They are willing to be involved in programmes which foster community awareness and encouraged households to change behaviour patterns.

Recommendations

Recommendations based on the outcomes from the PUA.

- ⌘ Household waste should be collected twice a day using methods agreed after local consultation.
- ⌘ Disposal of waste into drains should be stopped.
- ⌘ Logistics for waste collection and disposal should take into account increasing generation rates and seasonal variations.
- ⌘ Awareness raising activities should be involved in the local monitoring committee.
- ⌘ Planning for activities must take into account the differences (including disposal practises) between various communities in different areas.
- ⌘ Regular waste disposal from

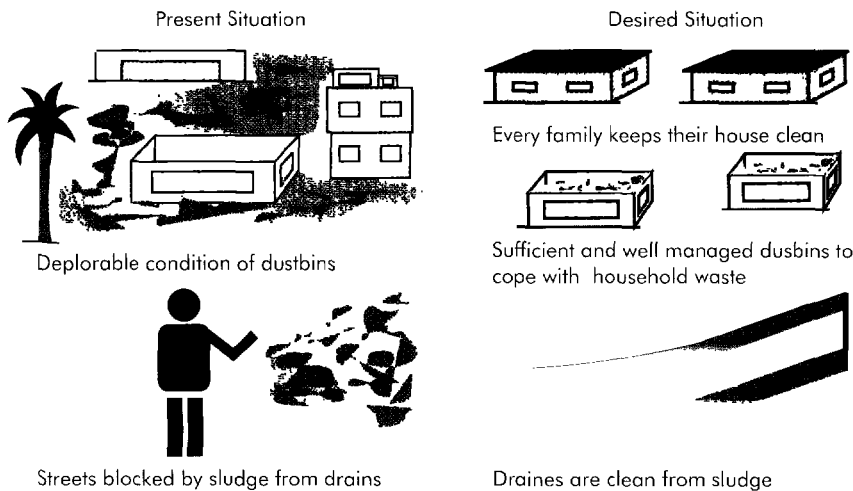
The diagram below is an example of community aspirations for an ideal waste disposal system

Box 2

PUA sessions debated community aspirations. The objectives were:

- ⌘ To identify aspirations for an ideal waste disposal system
- ⌘ To decide on actions necessary to achieve the desired situation
- ⌘ To discuss community willingness to pay for establishing their ideal waste disposal system.

The method used was open drawing need assessment; participants were encouraged to draw pictures relating to the present situation and then the desired situation. Obstacles preventing achievement of the goal and ways to overcome these barriers were also discussed. The drawing below shows one participants' view of the present situation and the situation to which they aspire.



The above drawings are recreated from the participant's drawings

primary to secondary collection points should be ensured.

- ⌘ NGOs should be involved in waste collection and disposal.
- ⌘ Further potential for waste recycling and segregation, including community based microenterprises, should be evaluated.
- ⌘ KCC staff should be motivated with a reward system funded by householders.
- ⌘ Primary collection funded by householders should be introduced.
- ⌘ Local committees for regular monitoring of the system should be established.

Work Plan

The PUA highlighted important and unsatisfactory aspects of the existing system and suggested solutions to improve the situation. These were considered essential in planning for an effective and sustainable project. Many of the PUA recommendations were incorporated into the Project WorkPlan.

These include:

- ⌘ Six wards, representative of a cross-section of city areas, were selected for the pilot project.
- ⌘ Awareness and motivation campaigns were targeted at housewives and maid servants to improve poor waste management habits.
- ⌘ Households were motivated to collect daily waste into a container or plastic bag in their houses instead of disposing of it six times a day.
- ⌘ A daily primary collection system was introduced. Initially, operating twice a day, this was cut back once a day to reduce collection time and increase cost effectiveness.
- ⌘ Local Waste Management Committees were established to monitor project activities. These committees will manage the waste disposal schemes when Prodiplan activities are phased out at the end of the project.

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Other Publications in the Khulna City Series:

1. Community Based Pilot Project on Solid Waste Management in Khulna City: General Project Description
2. Pilot Project on Solid Waste Management in Khulna City: Community Organisation and Management

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