



Community-based solid waste management

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IN BANGLADESH SOLID waste management is the responsibility of the urban authorities (Municipalities and City Corporations). However, in accordance with the Paurasava Ordinance, 1977 citizens are responsible for primary disposal of solid waste, i.e. household to waste bins while urban authorities responsible for secondary disposal (waste bins to final disposal point). This sharing of responsibility is not fully understood in the Bangladeshi urban context. As a result citizen mismanagement and misplacement of waste takes place in the process of disposing of waste to the bins. The urban authorities, for several valid reasons, fail to dispose the waste properly. Garbage strewn over urban centers testifies to the inadequacy and inefficiency of the present system. The urban environment becomes polluted due to the ill management of solid waste. The worst thing of present waste management system is that the poorer class suffer the most from the system. Only a community based waste management system can take care of all of these problems.

Methodology

In this paper our experience of responsibility sharing between communities, NGOs, CBOs and urban authorities is presented. The experience is limited to 'Khulna Municipal Solid Waste Management Project', being implemented in 6 wards of Khulna Municipality and 'Dhaka Peri-urban Water and Sanitation Program', in the slums of Tongi and Narayanganj. SDC & RWSG support the first project while Water Aid Bangladesh supports the second.

In this paper "Community" is defined as citizens and institutions that produce solid waste. With the phrase 'Solid Waste Management (SWM)' we are talking of a process of doorstep collection to final disposal of solid waste.

Figure 1. denotes an ideal waste management system currently practiced in the project areas:

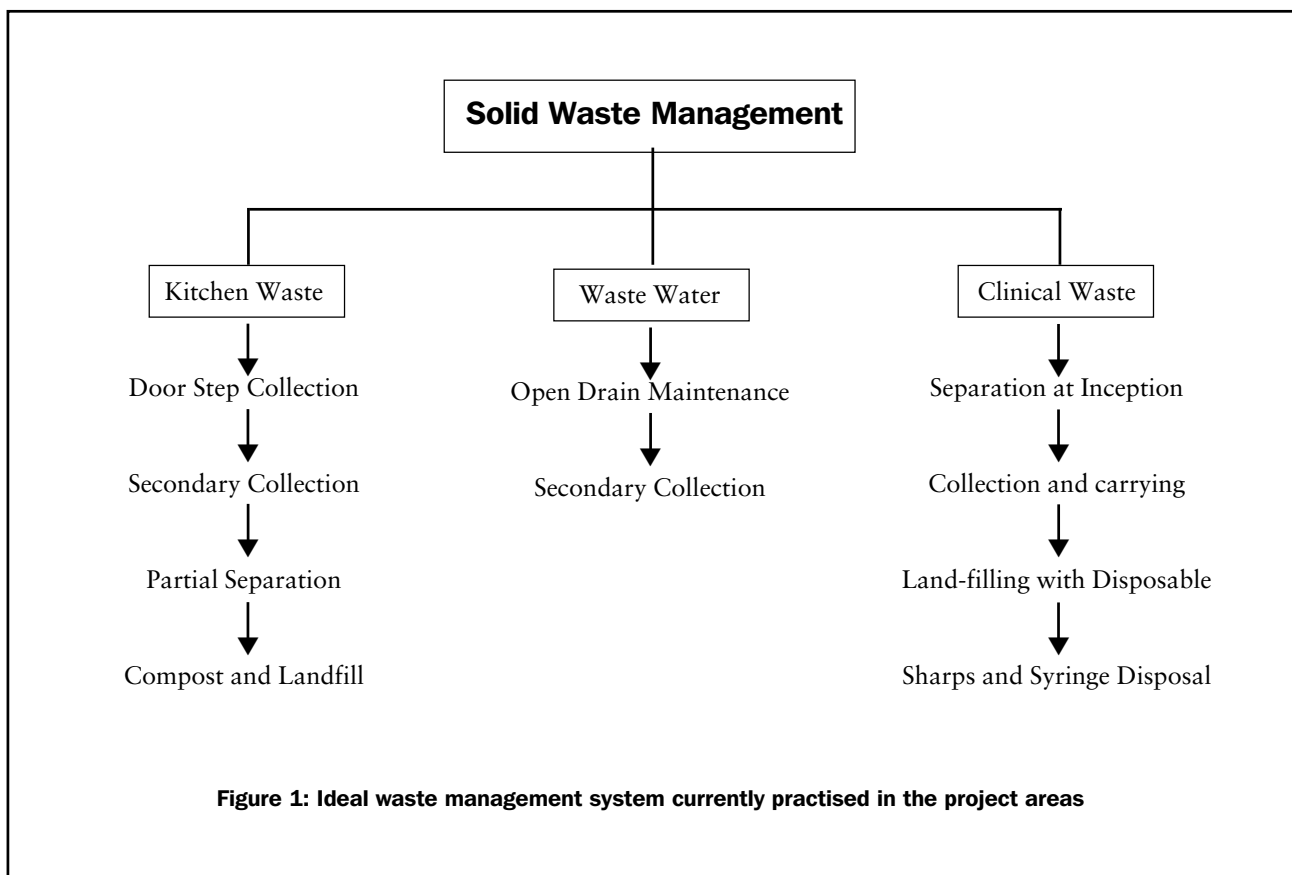


Figure 1: Ideal waste management system currently practised in the project areas

Community perception regarding waste management

The perceptions about SWM include that waste is something what has been rejected by our sense of utility and one should get rid of it. The process of getting rid of the waste does not consider others' discomfort or problems. The communities see the following ideal roles of stakeholders in waste management:

- Urban Authority – cleaning of roads, creation and maintenance of sewer system, solid waste disposal.
- Citizens – disciplined disposal of solid waste in courtyard or dustbin.
- CBOs and NGOs – health awareness creation.
- Public Health – punish those who do not comply with waste disposal system and drainage management.

The community members were found concerned as to the filthy feeling from the impact of unclean drains and roads. But there was no mention of health hazards unless the facilitators mentioned them (Participatory Urban Appraisal, Khulna-1998).

The changed perception and action

Prodipan developed a community based waste management program within the above prevailing situation. From the very beginning urban authorities were consulted and taken as partners of the SWM programme. The municipalities and city corporations agreed to work for better coordination with the people's initiative. Within the municipalities and city corporations the political will and motivation of working for a "Clean City" existed.

Responsibility assumption

At the beginning of the SWM programme none of the stakeholders was clear about the ways and means of coordinating themselves on SWM initiatives. After careful analysis of the weak areas of present SWM, an understanding was reached. The communities would discipline waste disposal through doorstep collection. It was also agreed that alternative use of waste and sanitary land filling should be tried out in order to avoid long term environmental catastrophes.

The doorstep collection of the waste and sewerage maintenance was vested to Prodiopan and two other CBOs. Prodipan also started piloting composting as a self-reliant project using solid waste. The composting project will add value to waste and thereby attract individual entrepreneurs in waste disposal process. The urban authorities started to systematize the secondary collection and transportation of collected waste in accordance with the need of the community. In communities Waste Management Committees (WMC) were formed to institutionalize the household initiative. Households agreed to share further responsibilities by contributing to the cost of doorstep collection of the

household waste. The WMCs emerged as a pressure group/institution to keep an eye on secondary disposal.

The success of the system led to the successful implementation of clinical waste management. The changed role assumption of different stakeholders has changed community perception regarding SWM. These changed roles are in the process of being institutionalised. Roles of different stakeholders can be described as in Table 2.

From table 2 the change of perception and role assumption of different stakeholders in SWM is evident. To date the Khulna Model is the most effective model for large-scale community based SWM in Bangladesh. No doubt further improvements will come with the passing of time and more effective models will emerge with the changing situation and initiatives.

Process of reaching the ideal situation

The journey towards a participatory household-based SWM system from a parochial waste management culture is challenging. Door to door motivation was a key instrument. Prodipan was focused on involving the urban authorities in the process. However in all the working areas the first resistance came from an unexpected corner, from the trade unions of City Corporation and Municipalities. It took several meetings for Prodipan to make the unions understand that through doorstep collection and community participation they were not under threat of losing their jobs. This experience taught us that for community-based initiatives skilled communication in order to avoid resistance from unexpected corners is essential.

The second intervention was Participatory Urban Appraisals at community level involving community members from different walks of life, which included the slum dwellers. Rallies, local gatherings, posters and leaflets were the media of awareness raising.

Last but not the least; Water-Aid hygiene education tools were used effectively for awareness building and program participation of the citizens.

Involving the community in SWM

The community preparation was followed by practices to turn the ideas into culture. The practical community involvement in solid waste management was achieved in the following ways:

- In the project both the community and the urban authority was involved from the inception of the integrated waste management planning stage.
- Community and urban authorities became involved in overseeing day to day waste management in side their areas. This task includes inspection of doorstep waste collection supervision, secondary waste collection supervision, drain maintenance monitoring by the Waste Management Committee (WMC), respective Ward Commissioner and the field staff of the Municipality / City Corporation.

Table 1. An ideal waste management system

Stake Holders in SWM	Previous Role Assumption	Present Role Assumption
1. Urban Authorities City Corporation Municipalities Public Health Authorities.	cleaning of roads, creation and maintenance of sewer system and Solid waste disposal.	cleaning of roads, creation and maintenance of sewer system and Solid waste disposal. Additional Role- Participation in community meeting on waste disposal issues. Encouraging CBOs & NGOs in door step collection of waste through MOU. Joint planning of solid waste management with CBO/NGO, & urban authorities. Arrangement of proper disposal of waste.
2. Citizens and Institutions Markets. Educational Institutions. Shops. Restaurants and Food Chains. Commercial Enterprises. Others.	Disciplined disposal of solid waste in courtyard or in dustbin.	Disciplined disposal of solid waste in courtyard or in dustbin Additional Role- Financial contribution for doorstep collection. Financial Contribution for additional waste management service. Participation in solid waste management planning and implementation. Work as part of pressure group towards an effective waste management.
3. Community Based Organizations and NGOs.	Health awareness creation.	Health awareness creation. Additional Role- Door step collection of solid waste. Collection of community contribution. Drain cleaning. Clinical waste management.

- The WMCs employ the waste collectors' van drivers. Their job is dependent on the satisfaction of the WMC.
- Use of simple equipments and technology, which the community can understand and control. For example, spades, van rickshaw etc.
- All stakeholders of SWM are seriously involved in planning and contributing to the process of financial sustainability. The contributions are in the form of:
 - i) Time spent for management coordination
 - ii) Time spent for counseling the urban authorities and the NGOs.

iii) Financial contribution to meet the expenditure of primary collection and other Municipal Services (MS).

We should bear in mind that the community has its own limitations to the extent it can participate in the waste management process. The limitations come from a lack of technical expertise, time constraints, internal contradictions and political influences.

In order to overcome the above problems efforts are being made to institutionalize the SWM system. Potential institutions that could undertake SWM activities are CBOs, NGOs, individuals and even business institutions. The

essential precondition is that the willing parties should be ready to work under the supervision of WMCs and the local urban authorities.

In Khulna Nabarun Shangsad, a local CBO is taking over one community's SWM. In Narayangang, the local slum committee of Dhaka Match factory is in the same process.

Strategic Approach

The community-based approach is working well for the SWM in our current working areas; a strategic approach for SWM needs to be developed. The strategic approach should follow these essential aspects:

- Development of a policy framework, which will realistically incorporate the SWM, need for all social, economic and geographical sectors.
- The sustainability consideration of SWM should not benefit the high-income class at the cost of the poorer section.
- Policy decisions need to be taken on
 - i) Paurasava Act.
 - ii) Municipal Taxation Policy.
 - iii) Public Health Policy.
 - iv) Environmental Laws Related to Waste Handling.

Waste disposal should be viewed in an integrated manner that would arrange disposal of the following:

- Solid waste
- Waste water
- Clinical Waste
- Toxic Waste
- Radioactive waste
- Industrial Effluent
- Other wastes

Finally the guarantee of community based SWM is the awareness, eternal vigilance, united action and participation of the community people themselves. Any SWM program should have the built in process of ensuring the elements mentioned in the preceding lines.

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