

An innovative community-based waste disposal scheme in Hyderabad

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Introduction

A community-based voluntary waste disposal scheme, implemented in 1992 in Hyderabad, is one of the first of its kind in India being launched by an urban civic body with the assistance of NGOs and community-based organisations (CBOs).¹ Its purpose is to help keep neighbourhoods (or colonies, as they are often called in India) clean, as well as to make it quicker and more effective to lift waste with the help of employees of local organisations; *to involve waste-pickers* who collect the waste; and in order to develop a favourable social climate within which to educate citizens on the importance and economic value of waste.

The inclusion of waste-pickers from the informal recycling sector provides a main linkage to the formal sector of Municipal Waste Management (MWM).² They are not only capable of handling the collection of waste from each household (where Municipal Corporation of Hyderabad trucks cannot reach it) and transporting it to the municipal waste bin, but also of integrating the collection of waste with the existing recycling activities of the informal sector. This scheme could, therefore, potentially provide a large portion of these waste-pickers with sustainable work that is both economically and environmentally viable.

Labour-intensive segregation of waste by informal sector workers for recycling by factories, as well as the establishment of compost plots at the local level, designed and organised by the Municipality and the NGOs or CBOs, represent realistic steps towards the use of more ecocentric approaches in future MWM which are at the same time cost-effective in terms of natural resources.³

Hyderabad's community-based waste disposal scheme

The economic objectives of the scheme are not only to make waste management more effective, and to link up with the informal recycling activities, but also to increase the utilisation of biodegradable waste collected for the production of compost by introducing vermiculture and composting methods.

The Municipality was estimated to produce around 660 tonnes of organic manure per day during 1994; by 1999, this will rise to 1,800 tonnes per day. Other possibilities, such as the future production of fuel pellets are also being examined. Social objectives include the rehabilitation of between 10,000 to 20,000 of the approximately 35,000 waste-pickers in Hyderabad by providing them with work, free medical treatment, allowing them to sleep in night shelters, and providing non-formal education and vocational training (*Newstime* 1994).

The scheme started in June 1993, and is managed by community- or neighbourhood-based organisations (NBOs) within middle and upper income areas. At present, 167 colonies with around 100,000 households, are involved in such programmes. The scheme is also taking place in 217 slum areas, some of which are managed by the former Overseas Development Agency (ODA, now called Department for International Development. For simplicity's sake all these areas are called *ODA slum areas*). This type of scheme also functions with the help of CBOs or NBOs and comprises a total of 190,000 households (MCH 1994). In addition to colonies and slums involved in the scheme, twelve vegetable markets with biodegradable waste have been selected to take part.

The present waste disposal scheme entails recruiting one or two unemployed youths (or adults) in each residential area, usually local. Currently, they are drawn from among unemployed people and not yet from existing waste-pickers. Every day, between 6 a.m. and 9 a.m, the 'waste collector' visits the homes involved in the scheme to collect their waste. This is dumped in a box (200kg capacity) that has been fitted onto a tricycle, (the scheme therefore is often called the Tricycle scheme). Once all the waste is finally collected from each household it is dumped in one of the MCH bins or in one of the 'garbage houses' (at present an extra 100 are being constructed). The waste is then cleared daily by the MCH conservancy staff.

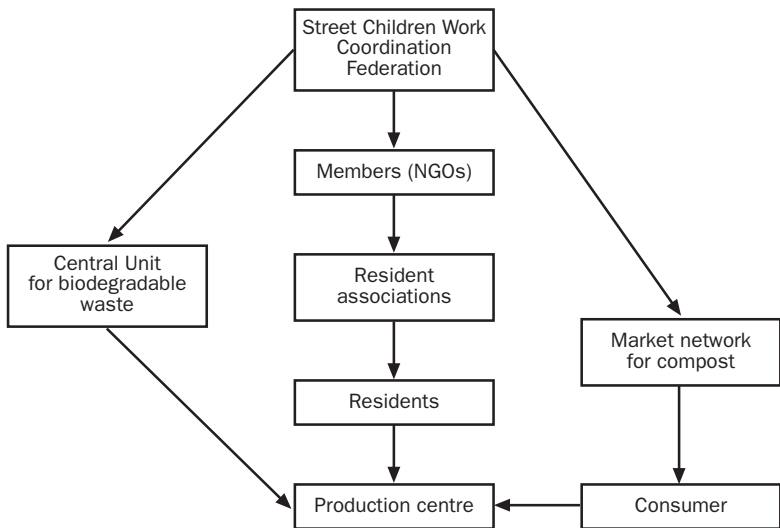
To encourage the residents in middle- and upper-income areas to join the scheme, the MCH pays a subsidy of Rs.5/- per household per month as an incentive to the CBO or NBO for maintaining daily operations. An

average of about Rs.10/- per month is charged to each household as a membership fee, and Rs.5/- at the time of enrolment as an admission fee. The monthly fee plus subsidy gives the CBO or NBO an income of Rs.0.50 per day from each participating household.

No subsidies for the waste disposal scheme, however, are given for households in any of the ODA slum areas. These must pay the additional fee of Rs.5.00 per household themselves, but neither the ODA nor the MCH give funds for the waste disposal scheme in these areas. Officials say that these areas are not paying any property taxes and that already enough additional finances are being funnelled into them.

The proposed scheme also intends that households should segregate their waste into two containers, one for non-biodegradable and one for biodegradable waste. The former will be disposed of in the 'garbage house' in the residential area. The latter (organic) waste will be taken to a plot in the residential area, usually half an acre in size, for the production of compost. This is made with the help of earthworms given by the MCH free of charge. The organic manure produced in each of these plots will be brought to a central unit, which will be under the supervision of the Street Children Work Coordination Federation, where it will be collected, packaged and marketed (see Figure 1).

Figure 1 Flow chart of Hyderabad's waste disposal scheme



A total of seven vermiculture centres have been identified where biodegradable waste collected from residential areas will be turned into organic manure. Successful pilot studies for vermiculture have taken place in one of these.

At present, in the middle- and upper-income Municipal areas, a total of 301 people have been appointed by the various NGOs or CBOs to collect waste from households using the tricycles. The Municipality has estimated the annual saving in the collection of waste from households to be approximately 8.04 million R/s (after subtraction of subsidies). Within the ODA slum areas, the scheme has employed a total of 217 people with annual estimated savings of 13.63 R/s (MCH 1994).

Survey conclusions

In order to assess the potential success of the scheme, a survey was conducted in Hyderabad, focusing on whether or not community participation is a realistic response to solving the problems involved in MWM.

Two surveys were administered to monitor the effectiveness of the schemes within the seven administrative districts (or circles, as they are often called), each of which contains some areas in which NGOs or CBOs are involved in the waste disposal scheme. In the first year of surveying only a certain number of questionnaires were administered in each of these circles. The first, which took place in October 1993, was a pilot study. A total of 100 questionnaires were administered, of which 50 were to households which were part of the scheme (participants), and another 50 to households who did not participate (non-participants), as a control group. The same methodology was used for the ODA slum areas in which a total of around 25 surveys were administered each to the participating (experimental) group and to the non-participating (control) group.

The second survey was administered in September 1994 on a larger scale with additional questions. During the second year of the survey a total of around 210 questionnaires were administered around the MCH areas and 122 to the control group. Within the ODA slum areas a total of 100 surveys were undertaken, but only to those who were part of the waste disposal scheme.

Conclusion

This Practical Note has raised a number of diverse issues regarding municipal solid waste management based on the integration with informal recycling activities in waste disposal schemes. It has briefly addressed the attitudes of citizens with respect to the scheme; and although it is impossible to reveal all the survey results here, evidently most respondents in both areas seem enthusiastic and willing to assist in the scheme, provided the Municipality itself takes the leading role in MWM. Therefore, the essential point is that — provided the Municipality remains primarily responsible — citizen participation through the waste disposal scheme seems to represent a realistic approach to the solution of the solid waste management crisis in Hyderabad.

During the survey it became clear that much preparatory work was still necessary to integrate informal recycling activities, such as the vermiculture project for the recycling of bio-degradable waste, and for the employment of waste-pickers. Since this part of the project has not yet been successful, residents have become less enthusiastic about it, although they have become more aware of the potential of recycling in general, as well as the employment of street waste-pickers in particular.

The prospect of the waste disposal scheme linking up with existing recycling activities seems promising, but can only be realised after initial problems have been overcome. In ODA areas, however, less of a recycling base exists due to their own re-use of old materials. Educational campaigns have been found useful in gathering sufficient support from citizens for making the link with the recycling activities as beneficial for them as possible.

The overall conclusion is that community participation is a realistic response to solving the problems involved in MWM. However, if the Municipality of Hyderabad and citizens want to solve its waste-management crisis and to clear away its backlog of uncollected waste, it has to abandon its conventional methods of waste management and its 'old' mainly technocratic model. That approach relies largely on the public bureaucracy and on complicated and costly technologies, such as machinery, to provide its services. Although the Municipality needs to adjust its organisation to changing demands and to alter its financial management, especially by extending its tax structure, it can surely save financial costs by applying more appropriate technologies, a move towards a 'new' model in solid waste management based on community participation. Applying this 'new' model — although still at an

experimental stage — reflects the official acknowledgement of the importance of the recycling sector, and implies a more ecocentric approach for solid waste management services combined with more effective labour-intensive means of providing them.

Notes

1 The expenses for the project are funded by the Municipal Corporation and UNICEF, although the work depends largely on the cooperation of local NGOs, CBOs and, citizens.

2 The informal sector of MWM is 'associated with unregistered, unregulated activities, individual and family enterprises, small-scale and low capital inputs, local materials and labour-intensive techniques' (Furedy 1989:14)

3 Ecocentric in this context refers to self-reliance, self-sufficiency, small-scale production, low-impact technology, and recycling.

Bibliography

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