

**COMMUNITY PARTICIPATION IN SOLID WASTE
MANAGEMENT OF DHAKA CITY
- A CASE OF KALABAGAN AREA**

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Community Participation in Solid Waste Management of Dhaka City - A Case of Kalabagan Area

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Abstract

In recent years, innovative approaches have developed or are being patronized by city governments as effective instruments of urban environmental management which are also cost effective. In case of Dhaka City, although there is a lack of such innovative approach from the city government, several NGOs and CBOs have taken active interest in urban environmental improvement programmes through participating in solid waste management of the city. This paper reports about a community based collection system developed by an urban community that has effectively contributed to the urban environmental improvement in one area (Kalabagan) of Dhaka City.

Key words: Community participation, Solid waste management, NGOs, CBOs.

INTRODUCTION

Dhaka is the capital city of Bangladesh and it is the largest city in the country. The city is one of the sixth municipalities belonging to the Dhaka Metropolitan Area (DMA) which covers an area of 1530 sq km (Figure-1). The city has an area of 360 sq km and a population of about 7.0 million, the density of population is 19,445 persons per sq km. The growth of city population is estimated at 4.2% and the projected population of Dhaka City would be around 9.0 million in 2010 A.D.ⁱ According to DCC estimates, everyday between 3000 to 3500 tons of solid waste is generated from residential, commercial and industrial activities in the city.ⁱⁱ Per capita generation of solid waste in Dhaka City is estimated at 0.5 Kg/day. Of the total waste generated in the city, DCC collect and dump 50.0% and 15.0% are recycled and the rest 35.0% are discarded into streets, drains, ditches, canals and open spaces.ⁱⁱⁱ Slum and squatter dwellers constitute 35% of city population and only 9% of this population have any form of solid waste collection service, the remaining 91% dispose their wastes into low-lying lands, road side drains or local drain or khals (canals).^{iv} The uncontrolled disposal of solid waste has led to many environmental problems including localized flooding through clogging of drains. One study thus remarks that despite high demand for all forms of recyclable material in Bangladesh and a large number of people involved collecting and recycling industrial commercial and kitchen refuse, solid waste is one of the most visible form of pollutants found in city streets, open areas, unused public and private lands, ditches and water bodies.^v

EXISTING SOLID WASTE MANAGEMENT OF DHAKA CITY AND ITS PROBLEMS

Present Solid Waste Management (SWM) system of Dhaka City consists of three components - collection, transportation and disposal. Solid waste of Dhaka consists of domestic (49%), industrial (24%), commercial (21%), others (6%).^{vi} Dhaka City Corporation (DCC) has an organized solid waste collection system which is operated through the 10 zonal offices of the Conservancy Division that are responsible for the refuse collection within the zones. The community bin (CB) system of collection is being practiced by DCC. The CBs are made of corrugated iron (CI) sheets and of masonry construction. While the CI bins have a normal size of 1 metre dia and 1 metre high with a lid, the masonry bins are of variable sizes. At present, there are 2,450 CI bins and 1,595 masonry

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dustbins in DCC area.^{vii} The DCC has a fleet of 250 garbage trucks, 300 containers, 3500 hand trolley and a budget of Taka 284.1 million.^{viii} A total of 5,779 cleaners distributed in 10 zones of DCC work both day and night shifts for cleaning the city. The collection of waste and cleaning of streets are done manually by the cleaners who use short handled coconut leaf brooms and collect the swept materials in heaps and take them to dustbins or in their absence, to an open collection point by 5 cft capacity handcarts. There is no specific rules regarding placement of the dustbins. In the prevailing system of collection, households are supposed to dump their solid wastes in the CBs between 6 p.m. to 10 p.m.. When CBs are placed at far locations, households usually throw their garbage at any convenient point like road, ditches, ponds, lakes or surface drains. From a field survey in Dhanmondi and Kathalbagan areas of Dhaka city it was found that 35.2% households dispose domestic waste in dustbins, 41.2% dispose on roads or drain side, 13.2% on vacant lots, while 7% dispose in own premises.^{ix} Again, a field survey conducted in Kathalbagan which is an unplanned area of Dhaka City with narrow lanes found that only 5% of the residents use dustbins, while the rest 95% use roads, drains or vacant plots for disposal of wastes.^x

The present system of solid waste management by DCC has been regarded as inadequate and inefficient.^{xi} As a result, accumulation of large amount of uncollected wastes produces strong offensive odour and pollutes the air. It also acts as a breeding ground for mosquitoes, flies and other insects which affect living environment. In a word, the present method of collection and disposal of solid waste by DCC is very inefficient.^{xii}

COMMUNITY PARTICIPATION IN SWM - A CASE OF KALABAGAN AREA

Kalabagan, a densely populated area with narrow roads and lanes, is located in the central part of Dhaka City (Figure-1). Typical of many inner city areas, narrow streets, lanes and by-lanes of Kalabagan hampered the DCC's day to day garbage collection. Thus, the residents remained hostage to the refuse that they themselves produced regularly. Indiscriminate littering on roads, lanes, by-lanes led to emissions of bad smells from decomposed wastes and also from drains clogged with wastes. As a result, the living environment of the area deteriorated. This environmental degradation attracted the attention of one resident of the area Mr. Khurram who with his friend Dulal devised a mechanism to tackle the situation.

In order to tackle the waste disposal problem, a house to house collection of domestic waste was started in 1987 and for this purpose they purchased two rickshaws and modified them into vans (Plate-1). With the help of local people and community participation these vans started collecting wastes from houses and disposing them at CBs located at a far distance on the Mirpur road for collection by DCC (Plate-2). Each rickshaw van has been manned with 3 persons. Initially this operation was limited to Bashiruddin Road and North Dhanmondi Road. The success of the operation has led to the formation of another CBO at south Kalabagan with 1st and 2nd lanes in 1990 under the initiative of Engr. Motiur Rahman and the local residents. At present, there are four community based and participated waste collection organizations working in the area.

Figure-1

BANGLADESH



Plate-1: Rickshaw Yan Used for Domestic Solid Waste Collection.

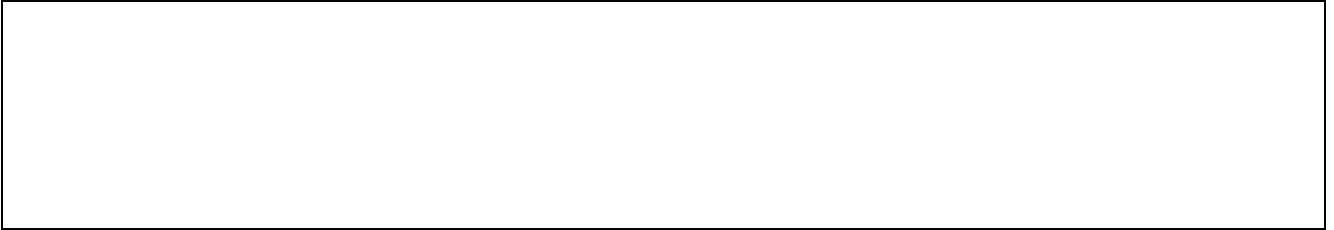


Plate-2: Sorting of Domestic Waste Before Putting into Demountable Containers

Table 1: CBOs working in the Kalabagan Area of Dhaka City.

| Name of CBO | House hold | Charge | Revenue | Staff salary | Vans/ Car t s | Staff |
|--------------------------------------|------------|--------------------|------------------------|-----------------------|---------------|-------|
| Parichchanna Kalabagan | 800 | Tk.15 (US\$0.30) | Tk. 9000 (US\$177.0) | TK 8,200 (US\$ 1610) | 2 | 7 |
| Kalabagan (S) Samaj Kallyan Parishad | 500 | Tk. 30 (US\$ 0.60) | Tk. 13,000 (US\$255.0) | Tk 12,900 (US\$253.0) | 2 | 9 |
| K'bagan-Panthapath | 300 | Tk. 20 (US\$ 0.40) | Tk 5,500 (US\$108.0) | NAV | 1 | 3 |
| K'bagan-Green Road | 250 | Tk. 20 (US\$ 0 40) | Tk. 4,500 (US\$ 83 0) | NAV | 6 | 3 |

Source: Field Visit, 2000.

The experience of the Kalabagan CBO approach reveals that a house to house collection of domestic waste is very effective from the viewpoints of cost and environmental improvement. It has been reported that the area now stands as one of the cleanest of the city. Garbage cannot be seen on the streets. The drains are clear and therefore the problem of water logging, once regular in the area, is now a matter of the past. It was learnt that at present about 140 CBOs are working in different parts of the city area and nearly 130,000 households are covered.^{xiii}

CURRENT PROBLEMS OF THE CBOs

Despite achieving remarkable success in solid waste collection which has contributed to the environmental improvement of the area, the CBOs also face multi-dimensional problems which are presented below:

- a. Staff problems - availability of sweepers and collector.
- b. Service charge collection problems - defaulters, evasion (20%) and waste, no standard bins.
- c. Secondary collection points- trucks/demountable containers and timing.
- d. Collection van keeping.
- e. Construction debris - beyond scope.
- f. Budget problem - small, frequent repairs required.

CONCLUSION

The CBO initiatives of collection need to be extended and patronized by DCC. The city government should play the role of facilitator for the CBOs, because it will highly reduce the conservancy expenditure of DCC. A model similar to this type may also be applied in the slum and squatter areas with active involvement of the communities and NGOs. The scope of CBO work may be extended towards disposal of the solid waste after the model of WASTE CONCERN, ie., small scale decentralized waste disposal through converting the waste into compost which is technically and economically feasible in Dhaka. A CBO based solid waste collection plus disposal after the WC model would help the urban poor by providing them employment.

Notes and References

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- ⁱ World Bank, 2000, **Urban Development Strategy and City Assistance Program in South Asia (Bangladesh)**, Interim Report, p.2-2.
- ⁱⁱ DCC, 1999, **Solid Waste Management of Dhaka City**, p.1.
- ⁱⁱⁱ *Ibid*, p.9.
- ^{iv} FAP-8B, 1991, op. cit., p.3-6.
- ^v World Bank, 2000, **Urban Development Strategy and City Assistance Program in South Asia (Bangladesh)**, Interim Report, p.2-34.
- ^{vi} DCC, 1999, op. cit., p.8
- ^{vii} ADB, 1998, **Dhaka City Management Reform Pilot Project**, final report, Dhaka: BCAS, p.61.
- ^{viii} DCC, 1999, p.21-24.
- ^{ix} Enayetullah, I., 1995, **A Study of Solid Waste Management for Environmental Improvement of Dhaka City**, unpublished M.URP thesis, Dept. of URP. BUET, Dhaka, p.65.
- ^x Enayetullah, 1995, op. cit., p.65.
- ^{xi} In a recent ADB report 5 bottlenecks have been identified in the SWM of Dhaka City. These are - (a) negligence of duties and non-accountability; (b) reporting system and office hierarchy; (c) lack of supervision; (d) lack of co-ordination; and (e) lack of professional workers. ADB, 1998, op. cit., p.62.
- ^{xii} Enayetullah, 1995, op. Cit., p.51.
- ^{xiii} Communication with Mr. Maqsud Sinha of WASTE CONCERN.