

Ungarbaging the Dhaka City

Imagination is more important than knowledge
— Albert Einstein

Garbage Management Begins at Home

by Sohela Nazneen

The Alternatives team talked to several female and children from each of the following areas: Aga Sadek Lane, Azimpur, Bangla Motors, Elephant road, Dhanmondi, Kakrail, Malibagh to find out how they managed waste disposal, what they identify as the problem and how do they think the system can become efficient. A majority of them were homemakers (who belonged mostly to middle, lower middle class), part-time household workers and 'tokais'.

THE connection between women, children and garbage management of Dhaka Metropolitan City may seem very thin, since the garbage collection and management system of Dhaka City Corporation (DCC) is mostly for one way entirely manned by men (except for the female sweepers, but they have no role in the garbage collection system). However, women and children do play an important role in management and disposal of household garbage. The following facts would clarify their role: (i) a household is a major producer of organic waste and other recyclable waste (paper, tins, bottles etc), (ii) homemakers and household workers decide how these waste products would be disposed, (c) children (tokais) and women play a major role in the recycling of papers, polythene, plastic products etc, and (iv) management of waste in the household influences one's attitude towards garbage management and cleanliness.

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Stakeholder's View
The respondents identified many factors that make garbage disposal system inefficient. These factors are interrelated, and make the problem of garbage disposal system multi-layered.

(i) It Begins At Home: Most of the homemakers and household workers interviewed agreed that how households disposed their waste was an important part of the garbage disposal system in the city, although it may not appear to be so. Almost all of the homemakers said that they were careful and conscious about how, when and where the trash was disposed. Most of them stated that

they instructed their household worker (bua) to dispose waste in the dustbins (on the main road), they used double polythene bags to dispose waste, instructed 'bua's to tie the bags securely, and dispose organic waste every day.

Those who lived in multi-storied apartments (i.e. in Dhanmondi, Kakrail) claimed that they had an efficient garbage collection system (with specific rules about what type of bags can be used, what time garbage would be collected etc). However, when probed a little deeper many had a different story to tell about their neighbors.

Many respondents acknowledged that their neighbors did not dispose their garbage properly. Papers, peels, vegetable skins (even sanitary napkins) etc were disposed on the staircase, in front of the house by not so 'conscientious' neighbors were common complaints raised by the respondents who lived in housing colonies or flat buildings. Some complained that their neighbors did not instruct their houseworkers how to use garbage bags, or where to dispose waste etc and, thus, aggravating the garbage management system of the whole neighborhood. The major factor behind this was identified as lack of civic sense or education (shikkha). One distressed resident of Aga Sadek lane complained that her neighbors in her flat building dumped garbage in front of the house. She stressed that they felt that as long as their own floor was clean, garbage in front of the house was not their headache. "This is almost cultural," she said, "we have no civic sense. Personal hygiene is stressed but no one cares about the community. No one is aware about the health hazards."

Surprisingly, part-time houseworkers also echoed this sentiment. They said that though many homemakers left specific instructions about garbage disposal, many 'apas' (babhis or 'khalammas' did not care as long as the garbage was not in the house. They also stated that some houses did not use garbage or polythene bags, instead garbage was collected in a bucket and dumped in the dustbins. It was interesting to note that the houseworkers did not worry about garbage piling up near their homes in the slums. They admitted that they did quarrel if someone left a

pile of garbage in front of their door. However, they felt that since they did not live in 'pucca' houses and slums were dirty, it did not matter if they disposed their garbage in the open (as long as it was not in front of their door).

The other fact that was interesting was that location seemed somewhat important factor in determining how 'conscientious' the neighbors or residents of a flat building would be in disposing garbage. Residents of Aga Sadek lane or crowded part of the city complained the most. However, lack of awareness and civic sense was also apparent in other areas.

(ii) Faults in the System: The respondents identified many faults that make the garbage collection and management system inefficient. Their complaints were similar to those identified by the males in an earlier survey carried out by the Alternatives team.

(a) The first complaint was that DCC officials did not monitor the collection of garbage from each area. "Doesn't the government pay these men for collecting garbage? Then why isn't it demanding prompt service from them? Why can't it have someone to see if these men do their jobs?" asked one bewildered part-time houseworker.

(b) The second complaint was that DCC workers did not collect the garbage regularly.

(c) The third problem that was mentioned was that DCC did not have enough resources (adequate number of trucks etc) for daily garbage collection.

(d) Some respondents felt that the number of dustbins was not adequate in some areas (esp. those who lived in Aga Sadek lane).

(iii) External Factors: The respondents also felt that there were external factors that affected the garbage disposal system negatively.

(a) Many pointed out that though 'tokais' play an important role in recycling paper, plastic products etc, they also add to the problem. The tokais

take the garbage bags out of the bins and dump the trash on the street and take the bags or go through the garbage for papers etc, this further aggravates the situation. The tokais who were interviewed did not feel that they needed to put the trash back in the bins. "The truck will come to take it all away anyway. And no one wants this trash. Plus we have to earn something," said one little girl emphatically who was rummaging through the garbage in Dhanmondi.

(b) Many stressed that people were not aware and are constantly littering the streets/public places with chocolate wrap, banana skins, paper cups etc and are reluctant to use dustbins. One angry mother from Elephant Rd said "People laugh at you if you do not want to litter. My children are embarrassed by my 'weird habit' because I refuse to litter the already dirty streets and wait till I get home."

(c) The respondents also felt that haphazard urban development and lack of adequate steps by the authorities in planning where the dustbins should be built etc has made the situation worse.

(iv) Health Hazards and Related Issues: The female Dhakaites felt that there was only one bright spot in the whole picture. That was paper, newspapers were recycled by paper or paper bag making industries with tokais playing an intermediary role. They also pointed out that plastic cans, tins etc were reused and recycled. However, some expressed concerns about the health hazards involved in reusing paper bags made from newspapers. They pointed out that in many cases papers were collected from the dustbins and these bags were made in slums where the conditions were far from hygienic. It was also alleged that the tokais collected polythene bags from the bins, washed them and sold them to the street side shops for reuse. Respondents felt this practice wait the consumers at risk.

Many respondents also stated the empty bottles (shampoo, soap, cosmetics etc) were used to market counterfeit products that were made in Jinjira.

The children who are involved in the whole recycling business report that it is very profitable (Tk 5/6 for each ser of newspaper, Tk 6/7 for each ser of hard papers, Tk. 4/5 for thick plastic bags etc). They admitted that buyers paid high prices for shampoo bottles etc that are in good condition. They are least bothered about health hazards or cleanliness or counterfeit products. Moreover, they prefer the independence they have in this job.

Cleaning Up the Mess
The respondents came up with various solutions for cleaning up Dhaka. Some of them were innovative while others were more familiar.

(i) Awareness Raising:

Most felt that people should be made aware about the health hazards involved if garbage is not disposed off properly. Some suggested that media and door to door campaign about how trash should be disposed (using double bags, tying bags securely etc) should be carried out to reach the homemakers. Some felt that innovative cartoons, skits and ads ("not patronizing or boring ones as 'Ashe pashe molla felen na' etc" said one homemaker) can help reach the children and adult both and raise consciousness. One proud schoolteacher narrated how she used stories to make her grandchildren aware against littering.

Awareness begins at home," she said. As for the slums a few felt that active campaign by health workers may help. "If family planning programs were successful why not this?" asked one social worker. However, some expressed that 'mere words' would not go very far, people would not enjoy the ads, programs and they would forget about them. One part-time houseworker emphatically said "We are Bengalis.

Mere words will not do. We need something strong. May be lathis (stick) will help."

(ii) Fixing the Present System:

The suggestions made by the female respondents on this issue are not very different from the other survey carried out by the Alternatives team. Many homemakers expressed that if DCC informed the residents about a certain time and day in advance when they would collect garbage from that area, then the system would have functioned more efficiently. Many felt that DCC should have strict monitoring system and area wise supervisors should be appointed for effective management. Some even suggested that higher management should impose fines on negligent officers who fail to monitor their underlings. A few of the respondents mentioned that the DCC workers need to be given incentives for better performance. Some suggested that

those workers who collect more garbage should be paid more. Many said that the number of trucks, dustbins should be increased.

(iii) Other Alternatives: Many respondents felt that privatization would be a better way for solving this problem. Local committees for deciding on an arrangement with DCC about when and how to collect trash from the houses were also mentioned as an alternative. However, many felt that in areas where 'neighborly' feelings were not overflourishing this may not work because of the free rider problem.

Other than these familiar suggestions a few respondents mentioned very innovative solutions. One engineer argued that the dustbins should be modeled so that the trash can be crushed and be given a compact form. This would prevent anyone from rummaging through the garbage. A few suggested that color-coded bags could be used for garbage disposal. If DCC had determined the colors, then organic waste and papers etc would be disposed in separate bags. One stated that it would be good because the tokais would know which bag to take. Some felt this would help in recycling. However, many wondered that people may not want to go through the trouble

of buying or disposing garbage in color coded bags and may want to circumvent this law.

Local watch dog committees were also mentioned for keeping the areas clean and for dealing with not so 'conscientious' neighbors. One part-time houseworker asked, "Are there any laws against littering or improper disposal of garbage? If not, then the people cannot do much since they have no basis for legal complaint? Ain thakle thik hoye jabe kono na kono somoi."

However, most of the respondents agreed that the main missing components are good will and awareness. And along with administrative measures awareness raising at home is the key to an efficient garbage disposal system. As one researcher put it "Unless we are able to re-educate the adults and accept our responsibilities, no matter what administrative measures we take the problem will persist." The demand for an effective garbage collection system can be strongly made only after we have developed a sense of ownership about our city and have kept our part of the bargain to keep this city clean.

The author is fellow, Centre for Alternatives.



Who litter the streets? Nobody cares!

Compost Plants: Ecocentric Approach towards Waste Management

by Lailufar Yasmin

Recycling process presents a viable option for getting rid of waste and increasingly gaining popularity world wide. Bangladesh is yet to come a long way to pursue and explore the possibilities of recycling, which might bring some economic benefit for the country also. On behalf of the Alternative team, I visited an NGO, Waste Concern, who are conducting a pilot project on making compost from organic waste. The effort was inspired involuntarily as their purpose is to exploration of economic benefit associated with recycling of waste.

THE issue of garbage disposal and waste management is always of much concern in a developing country like Bangladesh. With the increasing population, expansion of the city without proper planning the situation aggravated further. The city-dwellers seemed to have accepted to live with garbage scattered around along with strong stench and health and environmental hazards. Not only that we lack basic civic sense of not throwing off wastes here and there but also there is a tremendous lack in part of both citizenry and the government to come up with alternative plans to manage the immense amount of waste produced in the Dhaka city everyday.

We are, rather still accustomed with the old, traditional centralised system of waste disposal in which the DCC collects and disposes waste in a certain place. The previous place of waste disposal in Jatira Bari is already filled up, now waste is disposed in Matuiale. Not only this system of waste collection and disposal pollutes the environment, but also occupies a huge area and entails a large amount of carrying cost as these places are usually located in the outskirts of the city. Consequently, the economic cost of the land is reduced.

Recycling process presents a viable option for getting rid of waste and increasingly gaining popularity world wide. Bangladesh is yet to come a long way to pursue and explore the possibilities of recycling, which might bring some economic benefit for the country also. On behalf of the Alternative team, I visited an NGO, Waste Concern, who are conducting a pilot project on making compost from organic waste. The effort was inspired involuntarily as their purpose is to exploration of economic benefit associated with recycling of waste. The Waste Concern, a benevolent

NGO represents a model to people of blending the disposal of waste with creating economic opportunity for the destitute people of Mirpur Section 2 area.

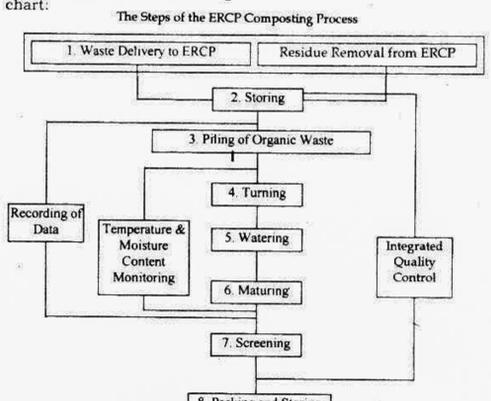
Waste Concern

The Waste Concern, established in 1995, works with the private sector and the local communities to improve the solid waste situation of the Dhaka city. The idea to launch an organisation dealing specifically with the waste came to the founder of the Waste Concern, architect-planner, Maqsood Sinha and his associate co-founder civil engineer-planner Iftekhar Enayetullah while conducting their postgraduate research on solid waste management and recycling in early 1994. The 21-member NGO is currently promoting a self-sustainable organic waste recycling project with a local financier.

The Waste Concern is working in the Section 2 of Mirpur, in a pilot composting plant, which is organic fertiliser. The prime goal of the project is to explore the technical and commercial feasibility of labour intensive aerobic composting technique, which is based on waste reduction, separation of compostable, recyclable and other wastes. This plant is a pioneering venture and first of its kind for a NGO in Bangladesh. Before starting the project, a survey on the farmers, who are the potential users of compost, was conducted by the NGO with the help of Environmental Task Force of Goethe Institute of Dhaka. The Lions Club of Dhaka North provided a small piece of vacant land. The Club

initially permitted a three-month period to observe the activity and since 1996, the plant is in operation.

The Waste Concern operates the plant on the basis of household waste collection system. At the initial stage, there were 100 households of the area with a monthly charge of Tk 10 per household for the collection purpose. This money was spent to pay for the salary of the driver. The number of households has now increased to 300 though the amount of money is kept the same. After the collection of waste, these are deposited in the plant and following the aerobic method, the garbage is processed to make compost. The procedure is shown here in the following chart.



The Activities of the Waste Concern

Waste Concern produces 1 ton of compost per day with five workers. The salary of the workers is paid from selling the compost in the market. The Waste Concern uses the Indonesian method in its aerobic processing which is aerobic by nature because given the weather condition of our country, the Indonesian technique works here good. The Chinese or Philippines techniques are less applicable in our country.

Community participation in the collection of wastes and source separation of wastes is promoted to increase the awareness of the people about

environment. They will try to do so by using multimedia techniques like, demonstration projects, TV, radio, plays, brochures, T-shirts etc. It also seeks to inculcate environmental protection and conservation message into school's extra-curricular activities and also develop a data bank of information from all over the world about waste recycling. Recently, the Waste Concern has established working links with the Programme for Literacy and Economic Association (PLEA) which is running a school at the Waste Concern premises for those illiterate street boys and women who are engaged in the waste recycling activities run by the Waste Concern.

The ultimate objective of the Waste Concern is to popularise compost from processing solid waste with the help of the informal sector, which is still an unexplored sector in the country. Once compost is made popular to the farmers, it will create a market in the domestic field that will help to the informal sector and also at the same time open another way to earn foreign exchange through export.

The production cost of compost using manual aerobic method as followed by Waste Concern is Tk 1.65/kg, however this production cost does not include land rent or cost. The prevailing market price of compost sold in Dhaka at present is Tk 10.00-18.00. Presently Waste Concern is selling its compost to a local company at a price of Tk 2.50/kg.

This indicates that a small-scale decentralised community based composting plant can be a commercially viable and self-sustained project.

Benefits of Solid Waste Recycling and Compost

Firstly, it is estimated that a small 20 ton capacity compost plant can have the following benefits for the city:

- Σ Compost Produced : 4 tons/day
- Σ Land Saved : 1.80 acre/year (previously used for waste disposal)
- Σ Amount DCC can save*: Tk 30.00 lakh/year

(*by avoiding to manage the 20 tons of solid waste a day)

As per the estimate of the Waste Concern, the total generated domestic waste of Dhaka city is 1,500 tons/day and if the organic portion is processed into compost, which is 1,200 tons/day, following benefits can be achieved in the Dhaka city:

- Σ Compost Produced : 240 tons/day
- Σ Land Saved : 44 hectares/year (previously used for waste disposal)
- Σ Amount DCC can save*: Tk 18 crore/year

(*by avoiding to manage the 1,200 tons of solid waste a day)

From the above estimation it is understandable that if organic waste processing steps are taken, it not only will generate economic benefits but also will generate employment for the urban uneducated and unskilled poor.

Secondly, through the recycling of waste, we can convert organic waste into compost, an organic fertiliser. In our country, to feed the hungry mouth of millions, a land is cultivated for two or three crops a year. This requires chemical fertiliser, which ensures better crop for the short term. On the other hand, overuse of land coupled with the use of chemical fertiliser is increasingly affecting the original composition of the organic matters and deteriorating the quality of soil. It also reduces the capacity of soil and the micro-organisms, which is vital for the growing plants. When compost is used in conjunction with chemical fertiliser, it prolongs the nitrogen availability to plants and also can help reviving the productivity of land. The ratio of mixing compost and chemical fertiliser is equal. It may prove as a bit problem-

atic to popularise this type of fertiliser to the farmers as in the initial stages, this kind of fertiliser may not provide as many harvest as chemical fertiliser does. But once the long term advantage of compost is highlighted and make the farmers understand, the farmers themselves will be eager to use this kind of fertiliser.

Thirdly, by producing compost, we can create the market of compost in the country and even reach for a foreign market, which some of the Asian countries like India, Indonesia, Brunei are already doing. Next, the process of recycling can provide job for the unemployed urban poor, especially for the destitute women, as it is such a labour intensive work where no basic skill is required.

One of the most advantageous points of this kind of composting plant is that it can be set up within the community because it spread almost no bad smell, which is in fact quite unbelievable. Therefore, due to this speciality of composting plants, the carrying cost of waste reduces and there is less chance of environmental pollu-

The effort of the Waste Concern shows that there is a way to manage our wastes in a sustainable way. Not only the effort is environment friendly, but also it can generate employment for the poor and destitute section of the society. It successfully links the plea to integrate environment with development, though in a small scale, which is the need of the hour to maintain the ecological balance of the environment.

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Down with the Garbage

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garding garbage management in the school curricula.

The Role of Media

Both the print and electronic media frequently displays advertisements and reports about the necessities of regular garbage removal and the civic norms regarding garbage management. But some expressed concern that these may not be enough for the illiterate population of our country. Interesting dramas could be made for the T.V and the Radio showing the ill affects of throwing garbage around. The newspapers can also publish cartoons on the issue.

In the 21st century one of hazardous issues that will

make the city life even more unbearable is the garbage removal and disposal problem. If we are planning to sit aside and wait for the government to solve all our difficulties, we are definitely making a mistake. To protect our own city from becoming uninhabitable we need to take few issues in our own hand. Resolving the garbage problem can be one of them. This definitely requires due concern about the depth and dimensions of the problem. On its part the government needs to show flexibility in terms of community involvement in the matter and provide necessary support. It is our problem and we need to work together.

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The topic of our next issue is: **Hazards of Travelling Abroad.** Creative suggestions are invited from our esteemed readers. Please send your materials to: Imtiaz Ahmed, Executive Director, Centre For Alternatives, Room No. 431, Lecture Theatre, Arts Building, Dhaka University, Dhaka-1000. Tel: 9661900-19, Ext. 4550; Fax: (8802) 836769; E-mail: imtiaz@bnagla.net

