

# **Education for Waste Management in Bangladesh**

**Tapas Ranjan Chakraborty and A Atiq Rahman\***

## **Abstract**

Bangladesh Centre for Environment Education (BCEE), a joint initiative of Bangladesh Centre for Advanced Studies (BCAS) and Centre for Environment Education (CEE), India, has been implementing a waste management education project in Bangladesh. The main objective of the project is to produce effective tools to involve primary and secondary schools in the solid waste management and recycling related programs to improve the present waste related problems of Bangladesh. A teacher manual has been developed. Forty teachers trained with the manual, are teaching students in 20 different schools in and around Dhaka. The students' learning activities are based on the method of 'learning by doing'. As part of the curriculum, the students conducted several community activities that motivated the local community to get involved in waste management. This community has already taken the initiative in managing local waste. For promotion of Sustainable Development (SD) in Bangladesh, development and implementation of such need-based and ecology/habitat specific curricula are necessary. This paper will focus on the experience in the field of ESD in the waste management education project in Bangladesh.

## **Introduction**

Education is an essential tool for achieving sustainability. People now recognize that current economic development trends are not sustainable and that public awareness, education, and training are the key to moving society towards sustainability (McKeown, 2002). The formal and non-formal curricula for the primary and secondary level in Bangladesh focuses mostly on basic education. Co- and extra-curricular activities became a part of education from the late 90s with the realization of the vision of women's literacy.

The success of EE in the field of SD has already been proved. Solid waste management is a growing environmental and SD concern in developing countries. In Bangladesh, urbanization and urban migration make the solid waste problem a massive one. Based on these needs, BCEE came up with the waste management education program in Bangladesh.

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\* Bangladesh Centre for Environment Education (BCEE)  
Bangladesh Centre for Advanced Studies (BCAS)  
Website: [www.bcas.net](http://www.bcas.net)  
[tapas.rcb@bcas.net](mailto:tapas.rcb@bcas.net)

## The Status of Waste Management in Bangladesh

Methods of waste disposal have not changed in Bangladesh in over ten thousand years (BCAS, 2001). Earlier, people used to pile it and then burn it, or just bury it in some out-of-the-way place and forget about it. But today, there is too much garbage and not enough place left to throw it away. For example, Dhaka, the capital city of Bangladesh, is one of the fastest growing metropolises of the world, with an annual average growth rate of 6.6 per cent. Within the Dhaka City Corporation (DCC) limits itself, the present population is estimated at 8.4 million in an area of 344 sq. km (Bangladesh Bureau of statistics (BBS), 2001). The population of Dhaka, a mega city with an area of 1353 sq. kms, is estimated to be around 12 million. The population within DCC's limits generates about 3,500 metric tons of municipal solid waste per day (DCC, 2002). DCC is responsible for the management of this enormous amount of solid waste. With limited manpower and logistical resources, DCC can collect only 42 per cent of the total solid waste generated every day, while the rest lies on roadsides, near open drains, and in the low-lying areas of the city. The efficiency of waste collection of the municipalities and the local governments is more or less the same in both the large and small cities of Bangladesh.

### Waste Management in Bangladesh's Curricula:

Although EE is included in the current curricula, waste management education is not. In the formal education curricula the coverage accorded to waste management education is as follows for the primary and secondary levels:

Table-1: Environment education in the formal curricula of primary and secondary schools

Level	Class	Book	Chapter	Contents
Primary	III	Introduction to Environment (Sociology)	Chapter 1: Our Environment: Environment Pollution	Waste is a cause of pollution
	IV	No		
	V	No		
Secondary	VI	No		
	VII	General Science	Chapter 20: Making necessary things from waste materials	Reuse
			Chapter 23: Population increase and environmental pollution	More people cause more wastes
	VIII	No		
	IX-X (Science)	Biology	Chapter 14: Environmental Pollution and Conservation	Waste is a cause of pollution

Even in non-formal education, the presence of waste management education is not enough. The reason for this may be that in rural areas, solid waste is not considered a major cause for environmental concern. But the fact is, due to rapid urbanization the problem is increasing very drastically. Currently, in the non-formal curricula of BRAC, and Prashika waste management has been included; the waste concern activities included in these have better coverage and are more focused on adults and technology. BCEE's waste management education project is a co-curricular module that can be used both in primary and secondary schools and is perhaps, the first attempt in the country at this level. This paper is based on the experience of BCEE's Waste Management Education activities.

### **BCEE's Waste Management Education**

BCEE promotes EE and communication in Bangladesh, and is a joint initiative of BCAS and the Centre for Environment Education (CEE), India. The Waste Management Education project was supported by the British Council, the British High Commission, Dhaka, and was implemented in September 2001. Waste Concern, an NGO working for waste management in Bangladesh, manages the technological aspects of the project.

Under this project, the book *Garbage to Garden* published by CEE in 2000 was adapted, based on the problems, culture and needs of Bangladesh, as a manual for teachers. The teaching method adopted was that of 'learning by doing'. The activities of the project were as follows:

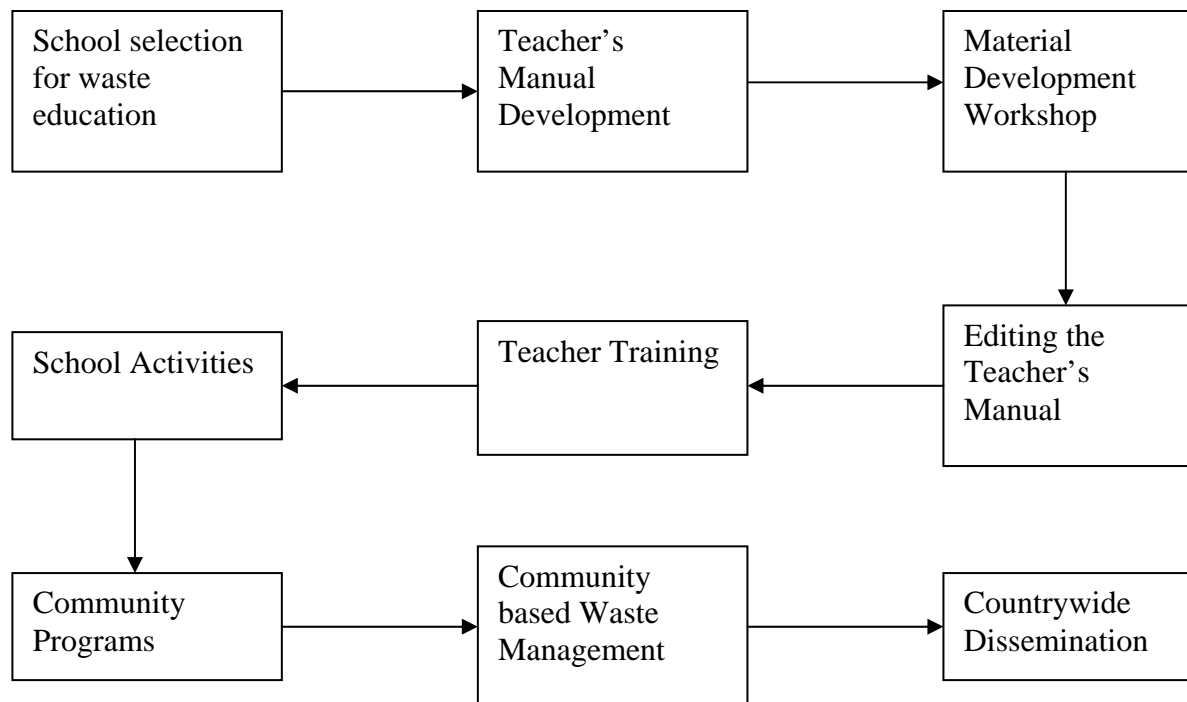


Figure 1: The project implementation method of BCEE's Waste Management Education program

The title of the book in Bangla is *Aabarjana Bebastapana Shikha*, which is translated as 'Waste Management Education'. The book contains 9 modules and 42 activities. The modules are as follows:

- What is Waste
- Consumerism and Solid Waste Problems
- Garbage on Streets
- Waste as Resources
- Segregation
- Waste Management
- Reuse of Waste
- Recycling of Waste
- Garbage to Garden

Forty teachers were trained on the manual and they later conducted classes based on this guide in 20 schools in and around Dhaka: seven schools in Dhanmondi, Dhaka, six schools in Savar, and seven in Gazipura in the Gazipur district.

It takes about eight-to-ten classes to teach the entire curriculum. Motivated by this initiative, the students conducted several community programs including, street drama, rallies, door-to-door campaigns, community dialogue, etc. The schools have developed their own waste management cell and have linked it with the community waste management action.

### **Impact on the Community**

Knowledge about waste management and the activities of the students have created some awareness of the issue in the community. A short study conducted by the Kazi Abu Taleb Model Academy on the impact of this curriculum on the community has shown that, because of the student activities under the waste management education curriculum, the community awareness level has increased by 32 per cent. The students of Utshya Biddanication have developed their own system of kitchen waste management that is now followed by the people of the Royer Bazar Area of Dhaka. They have formed networks with community-based garbage collection systems that collect garbage door-to-door and get Taka 10 (US \$ 0.15) from every house.

The activities of the Gokul Nagar school students have inspired the Gokul Nagar market committee to build a community dumping bin. A local level NGO of the area is willing to build a compost pit to manage the garbage from the student halls and faculties of Jahangirnagar University, for which the university authorities have agreed to provide land.

## **The Problems of Introducing an Extra-curricular Program**

Some local needs require more emphasis and the community needs education and an awareness of the issue, but including such programs at the school level in both formal and non-formal education requires substantial efforts. It is believed by community motivators that any form of curricular education is more effective than mass awareness raising campaigns. Introducing a new course is easier in non-formal schools than in formal schools. Students above Class II have about eight classes a day, making it difficult to find time for extra courses.. In Bangladesh, Tuesday is a half-holiday, with working hours in the morning. Most of the extra curricular activities in schools are conducted on this day. Most of the schools working with the Waste Management Education course were willing to have the class on Tuesdays. There are some bottlenecks, but with a 'top-down' approach a new course could easily be introduced in the schools. Introducing extra or co-curricular courses in a 'bottom-up' approach i.e. implementing the activity only with teachers and avoiding the management though easier, is not sustainable in the long run.

## **The Scope of Extra Curricular Courses for ESD**

In Bangladesh, there are six Education Boards but textbooks are published only by the Text Book Board of Dhaka. The entire country follows the same curriculum. In practice though, the country has a distinct ecosystem and development activities are always area specific or require local adaptations. Moreover environmental problems, development alternatives, and the scope of work varies locally. In this case extra or co-curricular courses can play an important role in development. NGOs and some local institutes have already started a few initiatives but to achieve the desired result they need favorable government policies.

## **Conclusion**

### **The Sustainability of Waste Management Education**

Problems arising from solid waste are increasing drastically. The creation of new garbage management systems has added social problems to the existing environmental ones. The concept 'waste is wealth' is now gaining ground. ; The Waste Management Education program has played an important role in the community, especially in families' management of garbage. Some schools have already established their own system of garbage management. The adapted curriculum will be soon be ready for countrywide dissemination. It is true that the need for waste management education is very area specific—urban, semi-urban and industrialized rural areas need it in a greater degree. The present trend for urbanization and development is increasing the demand for waste management education. To meet future needs only a co-curricular course is not enough. The Text Book Board may think to add more texts in the curriculum; at the primary school level it could incorporate it with the subject of personal health, and for the secondary level, it could be included independently.

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