

## **The Clean Development Management (CDM) for Solid Waste Management: A Bangladesh View**

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**Introduction:** Human beings are intelligent creatures among the living beings on the earth. They learn and enhance their capabilities in the right time and in the right way in order to get things done most efficiently and most effectively. Human beings create technology to solve their daily life (both personal and socio-economic) problems through making, learning, remaking by trial and error, even by accident. Everyone, everywhere for every kind of human activity, uses technology. It is so intricately involved with human life that people often overlook it. It has become an indispensable part of our life. Thus the technology as a human-made “object” is inextricably linked with human beings’ life in all ways and serving different useful functions in different kinds of problem solving.

Any technology, even the pre-historic sharp stone to kill animals, is simply a human-made tool or means to enhance either physical or mental capacities. It does not only enhance individual capacity but also amplifies the group capacities to conquer, control and exploit natural resources for the benefit of humankind. Technology makes organised groups far more powerful than individuals and allows for organised group activities such as production, construction, distribution etc. to be performed in an easier way. As learning creatures, human beings are continually improving their ability (capability) to achieve the desired goals by using technologies. Bangladesh is a country with rampant poverty, poor socio-economic development and high level of environmental degradation where environmental concerns are new and emerging in the policy planning process. The vast majority of the poor are rural and are closely connected to natural resources for their livelihood.

Being one of the poorest nations in the world, Bangladesh is also one of the least per capita carbon emitters. The country’s overall environmental situation, however, is under threat and Bangladesh is one of the most vulnerable countries recognised by the all international institutions. Consequently, Bangladesh should be in a position to make use of the opportunities under the Clean Development Mechanism (CDM).

**Waste and Poverty:** Poverty and pollution are linkages either directly or indirectly. Pollution caused by generated through public and private industries and household waste are liable for air and water pollution. These are relevant to have a strong human health impact, reduction of human productivity and of death in many instances, particularly among the poor and marginalised communities. The combined pressure from the shrinking resource base and worsening living conditions weaken the productive capacity of the poor, make them more marginalised over time, and eventually trap them in what is often referred to as the “vicious circle of poverty.”

Disposal of untreated wastes into the river system from industries are polluted the flowing waters and the excessive use of pesticides and soil erosion are the cause of the non-flowing water pollution. However, these two kinds of water bodies are related to each other. Polluted surface water affects the health of poor people who cannot afford to choose between contaminated and non-contaminated sources. Waterborne diseases are the major cause of suffering for the poor people living in rural and urban areas. This combines with the problem of water supply for bathing in both rural and urban areas (especially for the poor families) as a major health problem for Bangladesh.

Poverty Reduction Strategy Paper Bangladesh stated that “Most of the liquid wastes created by the industries in Dhaka are dumped directly or indirectly into the rivers Buriganga, Balu and Sitalakhya. Estimates show that pollution from tanneries in Hazaribagh is responsible for an increase in the health-related expenditure of people living in the vicinity of the tanneries by, 125 US dollar per capita.” It also same for the big city such as Chittagong, Khulna.

**Bangladesh and Environmental Management:** The National Environment Management Action Plan (NEMAP) established in 1995 was a successful planning exercise between the government and the NGOs but in recent years, the spirit has been greatly lost due to bureaucratic interventions as well as non-accountability of the NGOs, particularly in the follow up of SEMP project. There is an increasing awareness on environment and natural resources management at the community level. The poor in general have been attempting to diversify their livelihood portfolio with natural resources management, optimal use of seasonality and supports received from social mobilization of NGOs and some government agencies. Most successful practices seem to be where eco-specific participatory management by the community has taken place. For the rural people, the central issue for environmental management and sustainable livelihood appear to be the question of access to resources in all dimensions - natural, institutional, social, infrastructural and financial. These are embedded in the central question of environmental governance. The representative democracy so far often enabled change in leadership but does not help the poor, in either case of access to resources, or better environmental governance.

Environmental management is a science driven and policy-based process where many actions can be done at the local level. Maximization of productivity of the ecosystems and access of the poor remain the central issues. Bangladesh has several examples where such management practices are showing good early results.

Successful environmentally sound rural development depends largely on a scientific understanding of the capability (capacity) of the natural resources system, interactions between communities, technologies and institutions. The level of scientific understanding is often limited and actions are motivated by vested interest including professional groups such as engineers, construction lobby and local power elite. A set of institutions is emerging out who are analysing some of these issues and need to be supported on a continued basis. Involvement of the emerging private sector in the environmental management and governance is also important.

Some of the key policy and action responses for environmental regeneration and sustainable livelihood for the rural communities include: a) integration of environment and development in policies, plans, programmes and projects, b) capacity building of local people and their participation, c) enhancing institutional capacity and creation of new institutions (community based organization), d) true government-NGO and community collaboration and partnerships, e) access of poor to natural resources, f) support the poor with micro-credit, g) eco-specific participatory resource management, h) introduction of environmental education in both formal and non-formal education, and, i) strengthening local environmental governance (Bangladesh Centre for Advance Studies, 2001).

Dhaka, the capital of Bangladesh everyday produces more or less 5000 tons of household waste. Though Dhaka City Corporation and the NGOs are collecting those still it remains on roads, in open drains and in low-lying areas. It has negative impacts on city dwellers as well as the city's environment. Sustainable waste management can be the way out to provide a livelihood in the city for its population and environment.

Not only household waste industrial waste also a problem for the urban people and its environment. The solid waste are collected by the poor scavengers, sorted, cleaned and sold to recycling factories.

Waste Concern (Bangladesh), a community based organisation started to use the household waste to produce organic fertiliser through composting. It based on the concept of reduce, reuse, recycle, and recover waste in urban areas. Organic content of the household waste which is responsible for groundwater contamination and methane gas emission turn into compost and the soil in urban areas can be improved and also reduces the harmful environmental impacts of landfills sites.

**CDM Opportunities:** The CDM has the potential to foster alternative Municipal Solid Waste (MSW) management options like composting, biogas, incineration to replace landfills as the prevailing practise in developing countries. This will help to reduce air and water resources pollution, reclaiming of resources, reclaiming of energy such as biogas, fuel from sorted waste, thermal combustion, creation of regular employment, improvement of health those are relevant to the sustainable development. CDM as an additional income stream could contribute to manage the cities landfills problem as well as improve the environmental condition.

The CDM is one the influential tools to deal with the introduction of landfill gas extraction in developing counties. Though, landfill gas extraction can only capture a fraction of the overall methane emissions from landfills, but waste treatment has the potential to completely terminate the methanisation potential of waste under controlled circumstances.

The condition for this to happen, however, is for the CDM projects to be linked with the country's national priorities and particularly to poverty eradication. The CDM project will have to go beyond the immediate GHG reduction benefits as perceived by the more industrialised countries and contribute to the sustainable development of Bangladesh. Bangladesh can take the following actions:

- Integrate sustainable development for poverty eradication with climate change mitigation process;
- Develop information and collaboration networks to widening knowledge in technical experts, academic institutions, private organisations and NGOs from developed and developing countries;
- Create capabilities for selecting the appropriate technology for Bangladesh, including recognition of traditional knowledge and skills;
- Build capabilities of the government and private sector, non-governmental organisations, regulatory agencies, financial institutions and users of the environmentally sound technologies.