Environmental Challenges of Plastics Waste in Bangladesh

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Executive Summary

The plastic industry of Bangladesh has grown significantly over the years but still has significant opportunities to grow in the coming years:

- Currently the industry size is about $3 billion. Domestic consumption is $2.2 billion and exports are $0.8 billion.
- Per capita plastic consumption is about 8kg which is far below the level in other regional economies; if per capita consumption reaches similar level of other developing countries, the industry size will be $5 billion in next 5 years.
- Bangladesh plastics industries produce basic products for RMG, construction material, packaging and household goods. However, plastic usage is very low in other sectors such as agro-processing, automotive and electrical/electronics.
- Moving up the value chain will enable Bangladesh to tap exports market further.

There are still a few significant challenges for the industry:

- Generating 3,36,000 tons/year of plastic waste and around 17,000 tons/year is going to the landfill.
- Government has banned use of poly shopping bag since 2001.
- Mandatory jute packaging regulation.
- Absence of food packaging regulation as of now.
- Inefficient recycling industry along with inadequate waste disposal and collection practices.
- Shortage of skilled labor specially for repair and maintenance; no formalized training institute. BPGMEA is working to setup a Bangladesh Plastic Institute of Technology to overcome these issues.
Waste Generation and Recycling Scenario

Total Plastic Waste Available for Recycling
3,36,000 tons/year

Unsoiled (30%)
1,34,400 tons/year

Soiled (30%)
2,01,600 tons/year
69% Recycled

Available Plastic
2,33,202 tons/year

1,30,368 tons/year

1,02,816 tons/year

98,784 tons/year

49% of the soiled salvaged

51% of the soiled
Relationship between Population and Waste Generation

Urban Population (million)

- 1991: 20.8 million
- 2005: 32.76 million
- 2014: 41.94 million
- 2025: 78.44 million

Waste Generation:

- 1991: 6493 Tons/day
- 2005: 13330 Tons/day
- 2014: 27,000 Tons/day
- 2025: 50,000 Tons/day
Comparative Analysis of Composition of Waste at Landfill Sites

Source: (Ahmed 1992), (Waste Concern 2005), (Waste Concern 2014)
Plastic Waste Consumption and Recycling Trade Chain

- Manufacturer
- Wholesaler
- Vangari Dokan
- Households
- Feriwalla
- Van Collectors
- Dustbin Tokais
- DCC Collectors
- Dump Tokais

Flow:
- Soil Recyclables
- Clean Recyclables
- New Plastic Products and Packaging Materials
Akers Involved in the Collection Process

Feriwalla
Van Collectors
DCC Collectors

Cleaning, Sorting and Size Reduction........
Unfavorable Regulations for Plastic Industry

- Government has banned use of poly shopping bag since 2001.

- Mandatory jute packaging regulation act has taken place.

- Absence of food packaging regulation in place as of now.
Goal
To stop plastic going into land and open environment

How to Do it?

By Stopping use of plastic
- Very difficult to stop
- Will create adverse impact on economy

By promoting more recycling of plastic waste
- Economic gain
- Less import of virgin plastic resin
- Export potentials
- Positive impact on balance of payment.
- Improvement needed in Product Design and Packaging (ie. Shopping bags)
- Existing recycling facilities need to increased and made efficient and compliant with environmental standards
- Promotion of Plastic Waste Recycling Initiatives
- Policy & Financial incentives for Plastic Recycling initiatives both and demand and supply side
- Promotion of Environment Friendly Packaging System
- Extended Producer Responsibility
- R&D on Plastic waste Recycling

Recommendations

- Promotion of 3Rs
- Segregation of Waste
- Awareness Campaign

- Separated waste Collection System
- Awareness Campaign
- Capacity Building

Soil Recyclables
Clean Recyclables
New Plastic Products and Packaging Materials
Major Findings

- 70% of plastic waste is recycled in the country resulting in saving of US 1 billion in the year 2014 by avoiding import of virgin resin.

- Plastic wastes such as used PET bottles are exported from Bangladesh worth US208 million. Government provide 10% cash incentive PET export is encouraging recycle industry.

- Science plastic is non-biodegradable it is essential to promote recycling of plastic waste and to reach 100% recycling rate leaving no amount of plastic waste to be land filled.

- Import of waste/ recycle plastic is restricted in Bangladesh, allowed only in EPZ.
Export of Recycle Plastic

• By BPGME recommendation, government is encouraging export of **PET** bottle, flakes. Government provide 10% cash incentive on pet flakes export.

• Over the past ten years, the recycling of the Poly Ethylene Terephthalate or PET bottles has steadily grown into an industry in Bangladesh. Street children scavenge the used packaging for food products, beverages and edible oils sell them to factory owners.

• The flakes are made into fibers and are a base material for clothing, pillows, carpets and polyester sheets. These PET flakes are exported to China, Korea, Vietnam and Thailand for US$208 million at 2014.

• Local industry has developed using PET flakes to produce geotextile which is used in the country to prevent land erosion and dams at river banks.
Recent Initiatives

• The National 3Rs (reduce, reuse and recycling) Strategy on Waste launched in 2010

• In 2012, the Department of Environment (DoE) of the Government of Bangladesh has initiated a pilot source segregation of waste project by adopting the concept of 3Rs (Reduce, Reuse and Recycling). This pilot Initiative is operating in Dhaka and Chittagong using the Climate Change Trust Fund.

• Plastic Waste Recycling Plants are included in the Bangladesh Bank’s Green Banking and refinancing scheme to promote Green Projects and Products in the country.

• Pursuing with government for VAT (Value added Tax) exemption on recycled plastic resins to attract investment on recycle industry.

• Import of waste/ recycle plastic is restricted in Bangladesh, allowed only in EPZ. Working with the government to allow Plastic waste import for recycle Industry.
Major Progress

- Improving relationship with major NGO and Policy makers who were against plastic usage.
- Carried out yearlong Campaign in electronic and print media to promote positive image of Plastic.
- Continuous dialogue with major media and regulatory bodies to promote the positive image of plastic industry.
- Bangladesh recently formed a waste management foundation where BGMEA is an active member.
- To promote 3R BPGEA is working with environment department by giving out free Plastic Beans to limited residential areas.
- BPGEA is working with Environment department, Municipality and related NGO’s to assist post-use waste collection.
- We are at the final stage of setting up Plastic Industrial Park supported by the Government.
• We would like to invite you all at IPF (International Plastic Fair) 2016.

• Thank you All...we welcome regional cooperation and support.