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PLASTIC BAGS AS A BURNING ENVIRONMENTAL HAZARD FOR BANGLADESH

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Abstract

Plastic bags are inevitable and essential part of our present lifestyle. A huge quantity of plastic bags is exposed to the environment every day. However, developed countries are recycling or dealing the used plastic bags in such a manner that the environmental hazards are almost negligible or at least minimum. On the other hand, Bangladesh is facing serious environmental hazards due to unrealistic legislative step and improper disposal or mishandling of consumed plastic bags. Therefore it is the prime time to urge the real scenario of the plastic bag hazards.

Keywords: Plastic bag, Waste disposal, Environmental hazards, Non-biodegradable waste.

Introduction

Plastic bags, much popular to the society but problematic to the environment was come up with the convenient design firstly by the Swedish Company "Celloplast" in 1965. Since the mid1980s, the use of plastic bags in numerous applications has become quite common in all over the world. A huge number of plastic bags are given out to consumers by supermarkets and stores to carry their goods in. They are cheap, light, durable, and easy to carry in all cases throughout the world. It is estimated that there are more than 500 billion new plastic bags in global circulation annually (Wagner *et al.*, 2012). The U.S. alone goes through 100 billion shopping bags annually. Bangladesh was in same trend since 1993, approximately 1.4 million households in Dhaka city disposed of an average of 4.5 million plastic bags (ESDO, 2002).

Plastic Bags as Environmental Hazards

Although plastic bags appear to be fragile and light, their negative environmental effect is devastating. Plastic bags may cause large amounts of pollution in every step of

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their life cycle from the extraction of raw materials, production, transportation, and recycling or disposal. Plastic bags are potentially one of the main causes of death to marine animals (New York Harbor Water Quality Report, 2008) and wildlife, such as birds, in addition to the aesthetic effects on beaches, parks, and trees. It is surprising that up to one hundred thousand or more marine animals die each year by eating plastic bags as food by mistake. In other situations, after the photo-degradation of plastic bags, some toxic compounds remained and could be eaten by fish, shellfish or any other marine life. This allows the toxins to enter our food chain through bioaccumulation (Puget Sound Keeper Alliance, 2011).

Due to the lightweight structure, plastic bags can litter the land, our waterways, streets, and air. One of the major impacts of plastic bags in Bangladesh is their impact on the storm water drainage system. Drainage systems blocked by plastic bags have been identified as a major cause of flooding in Bangladesh during monsoon season. Following the 1998 flood it was estimated that up to 80% of the city's waterlogging was caused by polyethylene blocking drains. Polythene disturbs the flow of nutrients in the soil and reduces the infiltration of sunlight and water. Polythene destroys beneficial bacteria in the soil, depleting its fertility which directly affects agriculture. The improper disposal of plastic bags is threatened public health in Bangladesh as they increase the incidence of mosquito borne diseases such as dengue and malaria (Tawhid, 2004). The blockage of drains and the sewage system by plastic waste increases the amount of standing water which acts as a breeding ground for mosquitoes (The Daily Star, 2011). Polythene is also an agent of cancer, skin diseases, and other problems. Improperly disposed of bags end up in the sewer creating blockages and water logging and the resultant ponds contain raw sewage and a variety of other materials disposed of via the sewer. The decomposition of sewage materials in sunlight causes these ponds to emit toxic gases in an alarming rate (Hossain, 2009). As plastic takes 20 to 1000 years (Derraik, 2002) to degrade will pose a long-term challenge for managing drainage infrastructure in Bangladesh.

Legislative Step: Bangladesh Overview

Bangladesh was the first country to ban plastic bags. However, Bangladesh is still struggling with the issue of plastic bags and enforcing the ban. In 1990, Environment and Social Development Organization-ESDO began an initiative to draw public attention to the issue of plastic bags, through writing articles in the newspaper and conduct community awareness campaign. Based on the popular demand, in 1993, Ministry of Environment and Forest (MoEF) took an initiative to ban the production and trade of polythene bags. The Cabinet agreed with the MoEF proposal. In 1999, following the 1998 flood, the MoEF again started campaign against polyethylene through its

Sustainable Environment Management Programme (SEMP, 1999) that led to the formation of a Task Force by the Government under the Ministry to work towards framing a strategy for phasing out of polythene shopping bags. The Ministry then started a vigorous campaign from market to market for sensitization and motivation and announced that January 1, 2002 shall be the cutoff date for production and use of 20 micron thick polyethylene shopping bags in Bangladesh. The law of section 1 under the Bangladesh Environment Conservation Act, was revised in 2002. According to Rule 6ka of Clause-5 under Section-9, there is restriction on the production and sale of environmentally harmful products. According to Department of Environment (DoE) and Bangladesh Management Programe (BEMP, 2002), if it is proven that any kind of plastic bags or products made of polyethylene or poly-propylene is detrimental for environment then government could control/ban the use of these products to any selected area or all over the country and there are specific penalty and punishment available for production, import and marketing, sale and exhibition for sale, store, distribution, transportation or use for commercial purpose.

Legislative Step: International Overview/Aspect

Many countries in the world are also facing the problems with the issue of plastic bags and they have developed different measures to control or banned plastic bags. Some of the countries commonly charged money for using it by customers as because they have strong level of recycling system especially in Japan and USA. Countries such as Zimbabwe, (New Zimbabwe, 2010) Rwanda, Tanzania, Eritria, Somalia, Bhutan banned usage of plastic bags. South Africa, Uganda and Kenya have minimum thickness rules to control usage of plastic bags and Ethiopia, Ghana, Lesotho and Tanzania are considering similar measures (Sarah, 2007). Other countries are finding creative ways to reuse plastic bags. For instance, Niger is pressing used plastic bags into bricks for its roads (Natasha, 2005). In May 2007, Hong Kong proposed a 50-cent "polluter pays" levy on plastic shopping bags. London's 33 councils plan to ban ultra-thin bags from 2009 and tax others. In 2005, French lawmakers voted to ban non-biodegradable plastic bags by 2010. In India the western state of Maharashtra banned the manufacture, sale and use of plastic bags in August 2005, after claims that they choked drains during monsoon rains. In 2002, Plas Tax was issued in The Republic of Ireland, which is a fee on plastic bags. This new tax resulted in a ninety four percent drop in plastic bag consumption in one year (Convery *et. al*., 2007). In Taiwan, a partial ban in 2003 phased out free bags in department stores and supermarkets and disposable plastic plates, cups and cutlery from fast food outlets. In Japan everyone has to pay 5 yen per each bag and after use it is maintained properly for recycle. San Francisco in United State became the first and only

US city to outlaw plastic grocery bags in April 2008. Australia introduced a plastic bag tax of 15-30 cents per bag in 2003. In two years, baseline consumption of plastic bags was reduced from 5.95 billion bags to 2.92 billion bags. Not only did this tax reduce consumption by approximately 44% but a survey was also done that concluded that over 85% of smaller retailers were aware of the code, and one in four stopped using plastic bags entirely (Report on Actions to Reduce Circulation of Single-use Plastic Bags Around the World, 2010).

Conclusion

Though there have been various efforts to reduce the usage of plastic bags, in order to make a difference and reduce usage of plastic bags, legislative involvement in implementation is necessary as it is observed that the consumers have no longer maintained the ban of plastic bags in Bangladesh. The flow of plastic bags is same as before. It was only controlled but not banned in reality, as it is available elsewhere in the country. To conclude that, as there is no waste management system, no proper recycling unit, no awareness in people but increasing package system of every kind of food items, it is the high time to rethink about this burning issue of plastic bags to recover its threatening situation which may create the non-recoverable hazards towards the sustainable environment in future. This article may communicate a large project indicating about the production, manufacturing, and supplying of plastic bags, cause of its popularity, its overall problem to the environment and how to mitigate this problem. So what can we do about the greatness of this small matter?

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