



Ban on the bags: Much needed, much awaited

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It has been announced that a Government ban on polythene bags will take effect in the Capital from January 1, 2002. There could be no better a New Year's gift for the citizenry and even for those not yet born. But there could be yet many a slip between the cup and the lip. Environmentalists and the conscientious residents of particularly the cities are watching the developments with concern. In fact, the much-awaited ban, as announced by the government, will be a crowning culmination to a long and zealous campaign undertaken by a good many NGOs, the media, social clubs and individuals. However, political and commercial odds against a ban are made to look so large that some sceptic activists are not willing to believe the ultimate until a moratorium actually takes effect. It is only to strengthen the argument in favour of the much-needed ban, and to lend support to the government decision and declaration that we bring to our readers today the contextual contents of this page.

Carrier bags made of thin polythene sheets have for quite some years now been adversely affecting our ecosystem in lieu of providing us with some comforts, its waterproofing characteristics perhaps being its most dominant and saleable attribute. The real danger with poly-bags, as they are dotingly called, is that while its few good points are starkly visible, the larger darker side of polythene lies concealed. For nearly two decades we have in a way lived with a seemingly enchanting second wife while foolishly ignoring the industrious and more useful first. It is time to discard the second for good.

Discarded polythene bags have been responsible for many a woe of the residents of the capital city. Clogged drains and flooding at the first drop of rain have been most incommensurate and visible, but experts have been warning of unseen dangers such as cancer from effects of the popular black and coloured polythene bags. Ground and riverbeds are also severely affected, as are unwitting livestock and other animals.

Previous attempts by the government to ban the production and use of the ephemeral poly-bags, primarily because of its unbridled disposal practice, had been frustrated by lobbyists in favour of manufacturers, who shall turn out to be the only losers. For any ban to even take off, it will be in some ways obligatory on the government to create an environment for the hundreds of poly-bag factories to phase into new ventures. It may also be required to prop up such factories with financial relief for alternate employment over a given span of time.

The interest of the manufacturers, minuscule compared to the harm their products perform, should in no way deter the government from launching the ban, which would be one of its most significant and laudable achievements in its much-talked about first 100 days.

Once the big and difficult hurdle of the capital is overcome, one will expect the ban to be extended to the whole of the country within another one hundred days.

Let the future generations get to see polythene bags only in museums under the caption, KILLER.

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Polythene -- it must go finally

KAZI MOHAMMAD SHEESH AND KYAW SHA CHING

ONE of the benefits of many scientific and technological developments is the invention, production and use of plastics and Polythene. Any new product, which is very easy to use, cheap by cost and use of which becomes indispensable, becomes in a very short span of time, a popular commodity for use in our daily life. Plastics and the Polythene are such popular commodities. Broadly speaking plastics is also a kind of Polythene. While we started accepting Polythene as an essential commodity for our everyday use we never thought that Polythene bags, which is very useful as a single unit for individual use would become collectively a threat to the whole of humanity or society. As we did not know the consequence, a new question has arisen as to whether we should continue using Polythene or should we endeavour on destroying it? The answer may not be simply assertive or negative. Before we go for discussing that aspect let us review the history of Polythene and its use in our country.

The word 'Plastic' comes from the Greek word 'Plastik', which literally means 'anything mouldable'. Polythene is a complex chemical compound. Its chemical name is Polyethylene Fibre. In our country, the chemicals used as raw materials for production of Polythene are Polypropylene (PP), low density Polyethylene (LDPE), high density Polyethylene (HDPE). Polythene produced with PP is transparent and usually used extensively for packing garments and other exportable materials. Polythene produced with LDPE is semi-opaque. It is used for producing a range of items popularly known as plastics - hangers, water tanks, and household and office items. HDPE is mainly used for the production of shopping bags. About 90% of these bags are consumed locally and 10% is exported as Polythene bags. The HDPE Polythene bags, for the extent of their use and the manner of their disposal, are prime among all the Polythene products that are causing hazard to our environment. Our concern is mainly the HDPE Polythene bags. All of the chemicals used for production of the Polythene are individually recyclable.

Polythene was first invented in the second half of the last century. In USA it was first produced in 1958 when it also came into use. The history of establishment of the Polythene industry in our country is very recent. In 1982 two or three small-scale industries started producing Polythene in our country. At present there are about two thousand industries of plastics and Polythene in the country. Out of these the number the HDPE Polythene factories are about 300 of which about 250 are situated in and around Dhaka City. The average daily production of these factories is about 1.5 to 5 tons. Everyday more than 15 million pieces of various kinds of Polythene bags are produced from these factories. Only in 20 years, on the one hand, the demand for the Polythene has grown tremendously and on the other hand; this product has become a great threat to the environment. As a result, persons conscious of the environment have become concerned about the use of Polythene. To reach a conclusion regarding continuation of the use of Polythene or its cessation, we must know more about Polythene, some of which are given below.

Out of 15 million pieces of Polythene bags used per day throughout the country Dhaka City alone use about 6 million pieces. About 40% of the users of Polythene bags belong to the low-income group and about 30% are their representatives. About 25% belong to the middle class. The remaining 5% belong to the upper class and others. It is also to be observed that everyday about 52% of the users buy or get free-of-cost new Polythene bags while they

go for shopping, meaning that more than 50% of the Polythene bags are used for one-time only.

The amount of foreign exchange earned from the export of Polythene is not at all negligible. This amounts to about Tk.1000 million per year. The most important sector in earning our foreign exchange the garments sector uses the PP variety extensively. It is used also for packing individual garment and other items.

The advantage for use of the Polythene is that it is very cheap, waterproof, very light in weight, easily available and it is mostly used as one-time use item.

Despite of all these inherent advantages we should critically examine the various bad effects of Polythene and causes of those effects. The very quality for which Polythene is useful to individual users is again the reason for its harmful effects on the collective society foremost among them is that Polythene is not biodegradable. Polythene does not dissolve in water or mix with the soil. Due to the

Polythene bags manufacturers prefer to produce large quantities of black Polythene. And coloured ones, too.

Considering all these ill effects, banning the production and the use of Polythene has emerged as a commonsense way out. On several occasions, decision was taken to ban Polythene, partially or wholly. An ironical story regarding the ban of the Polythene may be cited. A few years ago news was televised regarding an inter-ministerial meeting wherein the adverse effects of the Polythene were elaborately discussed. Among other decisions the need for immediate banning of the Polythene was taken. On the same day another televised news showed the minister, who presided over the previously mentioned inter-ministerial meeting, was distributing cooked rice (*khichur*) among flood victims in Polythene bags; most of the bags were of black Polythene. In such a situation could we be able to take a decision regarding the two extremes - whether to ban the Polythene or to continue use of the Polythene?

technologies for immediate solution to our needs without considering their adverse implications on our environment. Before we employ this new technology, we must examine any possible hostile environmental effects of Polythene produced by the **New Degradable Plastic Technology**.

We are very happy to learn that recently the government has taken measures to ban, even if gradually, one kind of the Polythene, the HDPE shopping bags. At the first phase this Polythene bags will be banned in Dhaka city from January 2002. The ban area will be expanded phase wise to the whole country. For the time being, if we are not in a position to completely cease the adverse effects done by the Polythene, we can try to reduce the adverse effects of it to a substantial extent by adopting some measures.

The Polythene bags available in our country are so thin, cheap and easily available (in most cases available free-of-cost) that we use a new Polythene bag every time instead of using the same Polythene bags for several times. So this Polythene bags, specially the black Polythene bags (not those used for collecting wastes) must be banned immediately. Other bright coloured Polythene bags contain harmful metals like Lead and Cadmium. This should also be banned without delay. We hope this time the government will be able to achieve this goal as envisaged in the recent decision regarding this. In the mean time, only thick and fancy Polythene bags with handles may be used, instead of the kind of Polythene bags presently used. As those will be costlier and fancy, users will be encouraged to use the same bag for several times. We must grow habits of using the same Polythene bag for several times.

We must be aware that Polythene does not itself pollute the environment as the two-stroke engines. In case of the Polythene the user is the main polluter. We could reduce the pollution due to the Polythene substantially if we could use the Polythene appropriately and proficiently.

Used Polythene bags should be disposed of along with the Plastics and other wastes only at the places or dustbins, as designated by the city corporation or such authority. Measures should be taken to develop mass awareness in this regard.

Local (*paara, mahallah*) clubs, voluntary organisations, NGOs may take initiatives to collect Polythene, the Plastics and other wastes from residences, roads, etc. for disposal at proper location.

Measures should be taken to develop mass awareness regarding emission of gas in the production of Polythene and the adverse effects of the use of Polythene.

Alternative materials to Polythene should be thought of. In this regard, use of environment-friendly materials like paper and jute bags may be encouraged.

Propaganda should be undertaken for developing mass awareness to reduce use of Polythene and to involve the mass in this movement.

If it is not possible to ban Polythene totally, it is necessary to make it mandatory to adopt scientific methods for recycling and natural degradation.

Before it becomes possible for us to ban Polythene, the users must be made conscious that improper use of Polythene is a punishable offence.

If possible, to ban Polythene finally after taking successive steps for reduction of Polythene.

To examine the effectiveness of the newly invented degradable Polythene.

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Indiscriminately disposed of polythene bags pollute environment.

Effects of polythene on health

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CHEMICALLY Polythene is a polymer of ethylene of high molecular weight. It is a thermoplastic material which when heated gets softened due to weakening of intermolecular forces and melts. It is largely used for packaging and in most widely used as carry-bags.

Hundreds of new polythene products are appearing in the market everyday? They are dramatically proliferating into the common man's life. Polythene product due to their ease of use, hardness, light weight, waterproof nature and low cost has found a wide applicability in modern society. It is largely used for packaging and in most widely used as carry-bags.

There are about 300 poly-bag manufacturing plants in Bangladesh producing about 1500 tons products a day. About 50 lakh poly bags are used in Dhaka city daily and one crore in whole of the county 90% of these poly bags are thrown away indiscriminately. Problems with these polythene products are being visualised more and more in successive days.

Direct effects polythene: Polythene especially black polythene contains carcinogenic sub-

stances. Polythene is polymers of ethylene compound exist in a covalent bond, which is not easily oxidised. Polythene is made in presence of benzoyl peroxide an organic solution as for example benzene liquid, butane or propane. Usually polythene is manufactured by gas-phase polymerisation. The manufacturing process of polythene does not yield complete polymerisation but create different kinds of monomeric vinyl chlorides. Heavy concentration of these substances is highly toxic and may cause Cancer. Toxic substances mix with food materials when comes in direct contact with polythene e.g. Bread, Biscuits, Chips packed in polythene cover.

Most of the brightly coloured polythene (specially red and yellow) contain agent like lead and cadmium. When food stuffs are in contact with this polythene, they become contaminated. The contaminated food stuffs when ingested cause toxic effects on health.

Polythene materials may cause dermatitis when remains prolonged contact with skin.

Small children play with poly bags and make facemask with it. Non-porous poly bags may lead to acci-

dental suffocation for the child.

Domestic animals often ingest poly bags containing garbage. They may cause intestinal obstruction and die out of it.

Scavenger birds like crow suffers from food crisis due to disposing waste food materials in poly bags. It disturbs our biodiversity.

Environmental Pollution:

Soil pollution: Polythene is not a biodegradable substance. It remains in the soil for years together without any change. Due to presence of non-porous polythene air cannot pass easily in soil. Passage of water is also restricted in the soil by polythene. Soil does not get sunlight due to the presence of polythene. Beneficial bacteria are destroyed by polythene. Thus fertility of the soil is lowered and as such food production is reduced. If most of the cultivating lands are affected by polythene nutritional problem will occur in the country.

Water Pollution: Heaps of polythene bags block the water passage in the normal drains and sewers. This causes water logging in the community place. Stagnant water becomes contaminated with various are unwanted

substances. There will be problem of safe water supply in the community. Out break of water-borne disease like diarrhoea, dysentery will occur more frequently. Polluted logged water may cause dermatitis.

Stagnant waters in drains, shallow lands and small collection of water in scattered poly bags will be the breeding place for mosquitoes. Mosquito-borne diseases like Malaria, Filaria, Dengue, Encephalitis will spread more in the community.

Air Pollution: Polythene is collected by *tokais* (street urchins) form the street. These are stocked by junk-dealers and sale to manufacturing plants for recycling the polythene materials and production of new polythene. Burning of polythene produces toxic fumes and thus air pollution occurs.

Toxic substances like hydrogen cyanide, dioxin etc are liberated which are highly toxic for health. They destroy the human immune system. The burnt fumes form polythene destroy the ozone layer in the atmosphere and thus produce green house effect in the atmosphere.

not even put positive pressure on government to resolve them, then what right do we have to complain? Rather than talking about how terrible polythene bags are and saying we are helpless, why not take action now? It is easy to carry a jute or cloth bag to the market, and to have the vendors put everything in our bags. It is easy to ask vendors to use a paper bag instead of one made of polythene. If we don't have a bag, we can put all our vegetables into one polythene bag, instead of using a separate bag for each item. If we need 30 or 40 bags a week, we can try to get down to five or fewer. Week after week, year after year, that is a huge number of bags. And we can encourage our family members, friends, and colleagues to do the same.

When we see how easy it is to get by with very few polythene bags, we will understand that solutions are

already available, right now. The solutions are to return to the environmentally friendly bags that we discarded in favour of polythene, to change our individual behaviour, and to petition the government to make polythene bags less affordable, and thus less popular. If we care about our country and our environment, we will act now, rather than continuing to wait for a government or some mysterious force to save us.

Reducing plastic bag use: Case study of a Bangladesh housing community

Clogged drains that contribute to flooding, creation of massive quantities of non-decomposing litter, leaching of dangerous chemicals into the environment, decline of the jute industry, and major job losses, are just a few of the adverse and harsh reactions, as people switch from jute to polythene (thin plastic)

bags. In order to address the problem of polythene bag use, Work for a Better Bangladesh (WBB) launched a project in a community in Dhaka. Home to thousands of government workers and their families, the formerly pleasant and clean grounds had become littered with the remains of plastic bags, posing a threat to small children, cows, and the soil, as well as becoming an eyesore to all the residents and passers-by.

WBB arranged for trash collection from each home. Trash baskets were sold to the residents. The residents were happy to pay a small monthly fee for the convenience, which funded the project. WBB staff also provided stickers and leaflets promoting alternate bag use; talked to families about the issues, posted publicity signs about the project in the residential area, and conducted

repeated surveys. Over a six-month period, average household use of the bags dropped from 4.2 to 2.8 each day.

Further measures to reduce polythene bag use may include:

- 1. Lobbying the government for:
 - λ a lower limit on the thinness of plastic bags, so as to increase their cost.
 - λ an increase on the tax on raw materials used for bag production.
 - λ a cessation on new licenses to polythene bag manufacturers.
 - λ Promoting alternatives: trash baskets, use of bags made of locally available (biodegradable) materials.
 - λ Building awareness among the general population, shopkeepers, and the government about the problems of polythene bags and possible alternatives.



Campaign against hazardous polythene bag.

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