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MUST METROS DIE *of* PLASTIC ASPHYXIA?

How can metros stop plastic bags from choking their drains and causing death to animals and even atmosphere in the long run? Find out...

Ask any octogenarian how Delhi and the surrounding territory (now NCR) used to be two-decades after Independence (1950s-60s) and he would swear that pollution and scarcity were unheard words then. Besides, if there are two mega cities that have consistently downgraded themselves in terms of living conditions, especially in relation to the quality of water, air and traffic, it is the capital and the city of dreams—Mumbai!

In the 1950s, Delhi had an expanse of unconstructed land. It had far fewer automobiles and they did not flout traffic norms. The water was cleaner and in abundance. The sewage system did not choke and the NCR never flooded. It's been over five decades, but did the rulers even bother to care? Had they cared, they wouldn't have blatantly and so conveniently overlooked the law or disregarded the concern for the quality of life for its citizens.

But that is the visible side of problems. Ponder a bit on the lesser visible problems and there seems to be a flood coming (quite literally) ! The unauthorised buildings/construction in every nook and cranny seem to completely disregard the civil life for the inhabitants. The waste disposal system is nothing but a mere wasteful exercise ! There is waste lying everywhere but in the places meant for it.

Plastic facts

Plastics are resistant to chemicals and both thermal and electrical insulators. Being very light in weight, they can be processed in various ways to produce thin fibres or into intricate parts. Some plastics can be foamed. There are innumerable usages of plastics of various varieties, be it for packaging of foodstuff or in home construction.

Plastic bags are cheap but not many people who use plastic bags for the slightest needs know how lethal are the plastic bags. Almost all plastic is non-biodegradable. Plastic bags choke drains and sewers, and are easily swallowed by cattle and stray animals causing disease and death. They emit poisonous gases on burning and lead to respiratory complications. Plastic bags of low grade contaminate food products wrapped in them—from milk to cooking oils. Plastic bags are being manufactured by almost 10,000 unregistered units in the country and on an average 5500 plastic bags reach the middle class of 1000 households every day.

Plastic carry bags

Most plastic carry bags are made by fusing two identical-size rectangular plastic sheets together on three of the sides with one side left for the opening. This type of shape allows for simple, cheaper manufacturing and compact storage of the bags before use.

Polyethylene is an economical plastic, so it is commonly used for disposable bags. Plastic bags can be made in various colours, including translucent or even transparent in some cases. Bags made of high-density polyethylene (HDPE) are typically translucent, but not fully transparent. Bags made out of low-density polyethylene (LDPE) can be quite clear, but are still usually not as transparent as other plastics. HDPE and LDPE bags are manufactured from waste of the petroleum industry.

Plastic environment

Plastic bags have both positive and negative environmental impacts. Compared to other disposable alternatives (such as paper bags and cardboard boxes), the durability, strength, low energy intensity and light weight make plastic bags prefererable. However, their longevity in landfills and propensity to be easily littered (owing to their light weight) make them an environmental problem.

Biogradable plastic bags

Technological advances have resulted in plastics that have the same strength and other qualities as conventional plastic but degrade by a process of oxidation, initiated by putting a small amount of additive into the conventional plastic. There is little or no additional cost and there is no need to re-equip factories and re-train the workforce. Oxo-biodegradable plastic can be safely used for direct contact with food. Unlike PVC, the polymers from which oxo-biodegradable plastics are made do not contain organo-chlorine, nor do they emit meth-

ane and nitrous oxide when they degrade.

Global warming

Biodegradation of any plastic emits methane and carbon dioxide, which are both greenhouse gases; composting tends to release more carbon as methane, which is 23 times more potent for global warming than CO_2.

The government needs to consider what happens to the waste plastic products which escape collection, as it is impossible for the industry and the government to ensure that they are all collected—and even if collected, ensure that they are all recycled. One argument is that all plastic bags should be made from oxo-biodegradable plastic, except for very long-life items. If collected they can be recycled, composted or incinerated with energy recovery, but if not collected they will degrade and disappear.

Trash bags

Big plastic bags have now become a more convenient and more sanitary way of handling litter. These are widely used today. Plastic trash bags are fairly lightweight and particularly useful for disposing wet waste, as is commonly the case with food left over, and for wrapping up litter to minimise odour.

Plastic bags for rubbish or litter are normally sold in a number of sizes at grocery and many other stores in packets of almost a dozen to several dozen. The size and thickness of the bags, as well as the number of bags, are often specified on the packet.

The simple rectangular-shaped bags come with twist ties in the packet to be used for closure once the bag is filled. The rubbish bags with draw strings were introduced, perhaps, over a decade ago, and their strings can be conveniently pulled to close up the bag after it is filled with litter. Most commonly, the rather soft, flexible plastic used to make rubbish bags is LDPE or, for strength, linear low-density poly**e**thylene (LLDPE). HDPE has been used in some cases, which gives a more crinkly (less soft) texture or feel.

Other large sizes are often used in business and institutions like hospitals and community kitchens. Tall, kitchen-rubbish-size is somewhat smaller size routinely available to consumers for lining kitchen rubbish containers. There are even smaller sizes available for lining wastebaskets.

Oxo-biodegradable bags

Increasingly, people in developed countries are switching to oxo-biodegradable rubbish sacks and bin-liners. Organic waste can be put into oxo-biodegradable plastic sacks in homes, restaurants, hospitals, etc and put straight into the composting plant, so smells, disease transmission by flies and handling hazards to humans are effectively minimised. The bags do not need to be opened and disposed of separately. Oxo-biodegradable plastic is particularly useful for 'back-of-store' use in supermarkets, as waste bread and other products wrapped in oxo-biodegradable plastic packaging can be put into oxo-biodegradable sacks and put straight into a composting plant.

Oxo-biodegradable/compostable bags can be safely

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assimilated into the green waste stream, and do not need separate collection. The resulting compost is a valuable resource for farmers and growers, and since oxo-biodegradable plastic (unlike the starch-based alternative) releases its carbon slowly, it produces high-quality compost. Oxo-biodegradable plastic does not degrade quickly in low-temperature 'windrow' composting, but it is ideal for 'in-vessel' composting at higher temperatures required by new animal byproduct regulations.

It is not of course acceptable to apply conventional plastics to the soil even if they are fragmented, since physical shredding does not transform plastic into a biodegradable product. However, the properties of peroxidised and embrittled oxo-biodegradable plastic are quite different from those of the original plastic. The transformed plastic behaves in the same way as nature's wastes.

HC directive

Not long ago the High Court had directed the Delhi government to ban non-biodegradable plastic bags in the capital for all purposes or explain reasons for not extending the ambit of the existing ban. A division bench comprising judges M.K. Sharma and Reva Khetrapal issued the direction on a public interest litigation by NGO Tapas, seeking the court's directions to notify the Delhi Plastic Bags (Manufacture, Sale and Use) and Non-biodegradable Garbage (Control) Act. The bench directed the Delhi government to notify the act, extending the ban on the use of non-biodegradable plastic bags in the city for all purposes. The law is currently applicable only to five-star hotels, 100-bed hospitals and 100-seater restaurants.

Residents' woes

Some Mumbai residents, including movie producers, have sued the state government for responding slowly to the crisis created especially since last two years in the rains that paralysed India's financial and entertainment capital. Residents blame haphazard planning, bad drainage and poor roads for the flooding and landslides.

Associations' verdict

Meanwhile, Arvind Mehta, managing committee member of the All India Plastic Manufacturers Association (AIPMA), claims that more than 1000 manufacturing plants would be forced to shut down in Maharashtra, putting 100,000 people out of work. "The government is passing the buck. We are being made scapegoats. The waste management system and people's littering habits should be corrected."

The All India Agro Industries Paper Mills Association (AIAPMA) secretary general S.P. Sharma says, "We do not seek a ban on plastics as most people feel. We are for ban on plastic bags that choke the drains and are non-biodegradable. Our efforts at awareness about the evil of using plastic carry bags have paid rich dividends. Now there is awareness among masses but still the government needs to be more stringent."

While Mr Murthy, secretary general of Indian Paper Manufacturers Association (IPMA), says " It is due to the people's concern for hygiene and ecological concern that the government has taken an initiative to ban certain light-weight plastic carry bags. As a societal issue, we are not banning the use of all plastics, it is the thin plastic bags. They have caught the fancy of public as they are cheap and have certain advantages, but our efforts over last three to four years have had an impact. There has been a sea change in terms of using paper bags wherever it is possible. Plastic packaging is also harmful for products like milk. Most packaged water bottles aren't safe either. Biodegradable is what nature can take care of by itself. All paper, unless plastic-coated, is biodegradable."

"In the case of newsprint or other printed paper, it is the ink that is problematic, so paper has to be first de-inked, where the pulp goes for recycling without the ink strains. The carry paper bags for groceries are simply not available as they have to be of a particular strength and of non-tearable variety. However, there has been an age-old tradition to use jute bags for carrying and the government is working towards this. This could be used as an alternative to plastic bags. But unless people wake up and absolutely refuse any usage of plastic carry bags, one can't wish away this evil. It is up to the people. They must show zero tolerance for it." The buck stops with the people.

Microns issue

The news that appeared on February 28, 2006 in all

newspapers was shocking, unexpected, unthoughtful and as such completely against the interest of the plastic industry. Prior to this, on February 7, 2006 there was a news item stating that below 50-micron plastic bags will be banned. The AIPMA had sent a protest letter along with the industry view and adverse effects if 50-micron thickness is benchmarked by the government of Maharashtra. In fact, the industry was expecting a soft decision towards the plastic industry in view of numerous representations that had been made by the AIPMA on behalf of the industry right from the day one after the deluge in July 2005.

Therefore the ordinance to ban plastic bags up to 50 microns by the state will have disastrous consequences without solving the problem of litter and solid waste management, which is the real concern, feels AIPMA.

The plastic industry is disappointed with the news that plastic bags will be banned immediately without giving the small manufacturers, and even the big setups, time to dispose of all the pending stocks. Overnight banning the plastic bags will not only throw the industry out of gear, causing voluminous loss not only to the public but also the state government. Even the proposal of the plastic industry to print/self-emboss on every carry bag the details of the manufacture certifying the size and thickness to ensure use of 20-micron and above plastic carry bags cannot be implemented overnight. If the government is serious about streamlining the use of plastic bags, the industry must be given appropriate time instead of bringing out the ordinance overnight.

In the past, the manufacturers sat with the government to implement ban on the use of plastic carry bags below 20 microns to provide a viable solution to littering habits of citizens and promote recycling in a sustainable way.

Plastics can be carcinogenic

According to a finding on cancer by John Hopkins Institute in the US, do not place plastic wrap and plastic containers in microwave. Dioxins are highly poisonous to the cells of our bodies. These may cause cancer, especially breast cancer. Also don't freeze your plastic bottles with water in them as this releases dioxins from the plastic. Cover food with a paper towel instead of plastic wrap.

Enough of people blaming the government and vice versa. While passing the buck in this country is blended with the 'system of corruption,' one hopes that the partial flooding recently in Mumbai, inside parts of Delhi and NCR, mostly Faridabad, which even claimed lives, will be a grim reminder not just to the governments of NCRs to take this as a wakeup call but also to the residents. The most environment-friendly solution at present is to drastically reduce the amount of plastic bags used—a method championed by Ireland in 2002, where a plastic bag tax was introduced, reducing plastic bag usage by almost 90 per cent.

A word of mouth not to use plastic carry bags, backed by the government's policy and legal, punitive action to those who trade in it, will go a long way in cleansing this mess.

We must ensure use of only biodegradable plastic bags. This will ensure clean and free-flowing drainage system and ward off an increasingly precarious self-made calamity in the rains. To say that the NCR is plastic-choked would be an understatement. The sewage system of Delhi and the NCR is clogged with plastics. It is asphyxed and unless we the people change our ways, a sureshot crisis is brewing under our feet. Banning plastic bags less than 50 microns is uncalled for, says AIPMA.

Ireland, Bangladesh cases

A tax on plastic shopping bags in the Republic of Ireland drastically reduced their use by more than 90 per cent and raised millions of euros in revenue. The tax of 15 cents per bag was introduced in an attempt to curb litter and the improvement had been immediate. Bangladesh has banned polythene bags altogether, while Taiwan and Singapore are taking steps to discourage their use.

Even as the debate rages on in our country, it is imperative to ponder over the most important issue: How to stop these harmful (thin) plastic carry bags from choking the drains and causing death to animals and even atmosphere in the long run ? The answer is simple: Use reusable canvas or nylon bags to transport groceries. Paper bags have more recycled content and are more recyclable. Carry your own nylon or paper bags and refuse to accept plastic bags for packaged stuff. A word of mouth not to use plastic carry bags, backed by the government's policy and legal, punitive action to those who trade in it, will go a long way in cleansing this mess. If Ireland can do it, why can't India?

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