

Polythene is choking our environment to death. Can we continue to use this 'necessary evil' without further harming the earth?

Picking up the pieces

By Hiranthi Fernando

Schoolchildren in Wattala are collecting discarded plastic bags from their homes and neighbourhoods. Once washed and dried, they are taken to school on a particular day. For every 100 used bags collected, the children are given a raffle ticket. A grand draw will be held before the Sinhala and Tamil New Year with attractive prizes such as a colour TV, mountain bicycles, radios and school bags on offer. Fifty lucky winners will also get a savings deposit account.

This is a pilot project by the Lions Club of Colombo Orient, together with the Plastics and Rubber Institute and the local authorities of Wattala, aimed at creating awareness among schoolchildren on how they could contribute to keeping their environment clean.

An eyesore in any garbage heap, plastic bags clog drains and waterways, prevent the absorption of water by the earth, erode top soil, hinder the growth of vegetation and cause the death of animals who consume them. The thin film type plastic, used in the common 'sili sili' bags is the worst offender.

While some environmentalists are lobbying for a ban on the use of plastic bags, others believe the solution lies in recycling and reusing the bags. In the case of a ban on plastic bags, a viable alternative has also to be found. Plastics, which include polythene, are cheap materials. If we discard plastic, what do we do with the garbage, is another question.

"The problem is not plastics but the lack of a proper waste management programme," said Sunil Liyanage, GM of the Arpico Recycling Plant. "Plastic products replace wooden furniture and paper bags, which require trees to be cut. Plastic has a high visibility factor, which makes it appear as though it dominates a garbage dump, whereas it constitutes only about 10% of the garbage," he points out.

At the Arpico Recycling Plant at Nawinna, plastic waste from within the group as well as outside is recycled. A huge mound of polypropylene was piled up in the factory. It included raw materials, wrappings, factory waste etc. The material is first sorted, cut into flakes, machine-washed with detergent, after which they go into a tank to wash off the detergent. After being through a dryer, the flakes are put out in the sun to dry them 100%.

The dried flakes are dyed and then put into the extruder and pelletizer. From the extruder, they come out in long strands, which go through a cooling bath. Finally the strands are cut into granules, which are used as raw material in the manufacture of various plastic goods. "It is a saving on foreign exchange," Mr. Liyanage said. "For instance, this lot is being used for agricultural pipes."

The Arpico plant turns out about 15 - 20 tons of recycled plastic per month, which are sold to manufacturers. While using mostly waste polythene from the group, they also purchase from outside sources, as there is a fairly well-defined network of collectors who buy plastic waste from sources and resell to recyclers. There are several recyclers in the country of which 5 - 6 are large-scale recyclers.

At present it is polythene film that is recycled. Recycling of hard plastics such as bottles has not started yet. However, these do not cause as much problems to the environment. It is the thin gauge polythene such as the lunch sheets and thin bags that cause the most problems. In India, polythene below a certain gauge has been banned.

"A fair amount of recycling takes place in the country," says Anver Dole, who also has a recycling plant. "There is a distinction between plastics used for food packaging and others." The recycled material cannot be used for food packaging but is used for many other purposes. Mr. Dole said that the plastic



The mound of polythene to be recycled

has to be sorted first, because in recycling, all types of plastic cannot be mixed. There is a simple coding system for plastic packaging material, so that it can be sorted into categories.

"The plastic industry is not the small industry people think it is," Mr. Dole said. "There are 232 registered plastic processors, of which 192 are BOI companies. The investment in plastics amounts to Rs.11.5 billion. About 25,000 people are employed in plastics in the BOI sector and about 8,000 in non-BOI companies."

Plastics have become popular throughout the world because it is cheap and tough. In Sri Lanka, the per capita consumption of plastics is 4.5 kg per person per annum. The world average is 18 kg, while in developed

countries such as the USA, Germany and Japan, the consumption is between 80 - 100 kg.

Another large-scale recycler who has been in the plastics field since 1984, T.L. C. Chandraratne says some factories give them their waste to be recycled and given back. "Other factories sell us their waste for recycling. In Sri Lanka almost 99% of factory plastic waste is recycled and added back to the production line." According to him, recycled material is as good as new material for many uses.

The next step in recycling is converting post-consumer plastic waste into raw material. His company commenced operations as a manufacturer of plastic bags in 1991. "In 1998, we changed our main line of activities

to plastic recycling as we are concerned about the environment." At present, he said, they need around 1000 kilograms of waste plastic per day for recycling. In recycling they use Low Density Polyethylene (LDPE), High Density Polyethylene (HDPE), Polypropylene (PP) and High Impact Polyethylene (HIPS).

"We have plans for future expansion projects but at times we have a shortage of plastic waste," Mr. Chandraratne said. They buy even 50 kilograms of plastic if it is delivered to them.

In Sri Lanka, consumers usually use one bin to collect all kitchen garbage. If waste could be separated, recyclers will receive clean used plastics. Householders would be paid for the used plastics they supply and re-

cyclers would not face shortages of raw material. "We sell old newspapers, used glass bottles, then why not plastics?" questions Mr. Chandraratne. "There is value in consumer waste. It is a valuable raw material for the recycling industry."

Secretary of the Plastics and Rubber Institute (PRI), Lal Motha said that within the next six months, they hope to set up regional collecting centres so that householders could hand in their used plastic items. Domestic collection points need to be promoted and household collection encouraged, he says.

They also need to develop a communication system to link plastic waste collectors and recyclers. Recyclers say they will also purchase bottles and hard plastic items in the future.

Pix by Ishara Kodikara



The end result: Recycled plastic