



ENVIRONMENTAL & HEALTH HAZARDS CAUSED BY THE USE AND DISPOSAL OF PLASTICS

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THIS workshop is on a subject of topical importance. As recently as a generation ago, the people of this country were not very familiar with plastics. Plastics are a group of polymers or resins that are synthesized from petroleum or natural gas derivatives. A wide variety of additives are incorporated to impart the desired product characteristics such as colour, flexibility and resistance to microbes, etc.

There are many different types of polymers which fall under the classification of "plastics". These include low and high density polyethylene, Polyvinyl chloride or PVC, polystyrene, Poly acrylate and Poly carbamate. In Sri Lanka, Polyvinyl chloride and low density Polyethylene have the largest market.

Today we encounter plastics, in one form or another, everywhere. We all know very well how useful plastics have been and will find it difficult to manage without it. We have come to accept them as an integral feature of industrialization and modernization. There is growing, but as yet inadequate, awareness of the environmental

ill-effects of plastics. For example, in land fills, most plastics are preserved virtually forever. If burnt, plastics release some extremely toxic gases. Most plastic containers cannot be re-used because they are contaminated and not easily cleaned. Similarly, industrial re-cycling (as desired form re-using) has severe constraints.

It is ironic that several of the very properties that have led to the success of plastics, now give rise to environmental concerns. While it is true that resistance to both water and chemical attack is often the characteristic most valued in plastics, this same quality become a serious drawback once the plastics are discarded. Plastic waste remains unchanged indefinitely.

The answer, it may appear, is re-cycling. But what is generally referred to as re-cycling is the manufacture of a lower grade of plastics from waste of a higher grade; often the output cannot be put to the same use as the input. Even if we stretch the term re-cycling to cover such processes, it may not be technically or economically feasible to re-cycle plastics more than twice or

thrice; much of it cannot be re-cycled at all. In any case re-cycling plastics is an environmentally hazardous industry involving the discharge of large quantities of toxic rinse water, effluents and fumes as well as piles of non-re-cyclable, non-degradable plastic waste.

These residues, if put into landfills, add to the bulk of landfills, remain undigested and even obstruct the digestion of biodegradable refuse. This is a rapidly growing problem; surveys have indicated that the amount of plastics in waste streams is rapidly multiplying. Some of these can be seen littered in residential areas and urban centres often holding stagnant water in which mosquitoes breed. Sweeping them away merely transfers the problem from one place to another.

Thankfully Sri Lanka has so far avoided the problems arising out of the import of plastic wastes generated in other countries. US companies, for example, export over 200 million pounds of toxic plastic wastes annually to countries of the South, especially in Asia. Countries such as China, India, Indonesia, Malaysia, Pakistan and the Philippines import such wastes. The primary target of US plastic waste importers is Asia. Several years ago there was a similar query from the CEA as to whether it was possible to bring in plastic waste into the country. This request, however, was rejected mainly in view of the lack of proper re-cycling or disposal facilities available in Sri Lanka. But, even if such facilities are available, the environmental costs will be heavy.

What I have said should not be interpreted to mean that we are totally against all use of plastics. That is not an available option: nor is a total ban desirable. There are many uses for which plastics are superior to any known substitute, even taking into consideration the high environmental costs of using plastics. Some uses of plastics will therefore continue to grow. In addition, new beneficial use of plastics will be found; but we can cut down on many uses of plastics and get back to greater use of traditional substances such as paper, glass, jute and cloth which it had displaced. We can also resort to more re-use of plastic containers as well as more industrial re-cycling of plastic.

The main reason for organizing this seminar on plastics is to discuss ways and means of tackling this problem. We invite innovative suggestions on measures which could be taken at policy level from industrialists, scientists and the public in general. I hope that this seminar will come up with some useful implementable suggestions which will keep this growing environmental problem under control. Designing and implementing solutions will require not only technical expertise but also much ingenuity and organizational skill and a clear understanding of economics and environmental concerns. I wish you all success.

[Extract from the Speech made by Dr D. Nesiath at the Seminar at Sausiripaya on 10th May, 1993 on the above subjects.]

Back Cover

ONE of the world's most picturesque spots is "Horten Plains" situated on the south western border of Nuwara Eliya District. This is Sri Lanka's highest tableland at a height between 2,100-2,300 metres, above sea level, also known as "Maha Eliya or Great Glade".

It has a wide variety of plants, birds and animals indigenous to Sri Lanka. Thus it is a national treasure.

"Maharatreal (Rhododendron Arboreum) with thick dark green foliage and bright red flowers which grows at a level over 1,250 metres covers the Horton Plains.

The current issue of **SOBA** is adorned by a Maharatreal plant growing at the World's End.

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