

'Solid waste no more waste but like gold' says Sri Lankan-born scientist C. Visvanathan

HOW would we react to a nauseatingly stinking dump of garbage in the vicinity? Stinking of all kinds of foul odours because it is in various stages of natural decomposition? Many of us would wrinkle up our noses and try to walk away from it as fast as possible. That is because for many of us, garbage is a waste, a polluter of environment and a violator of our aesthetic feelings. Hence, in our judgment, garbage is something that should not be there in a decent environment.

When you see a heap of dirt, you must see a beautiful rose

We hold this view, because our vision does not extend beyond our eyesight. However, if we are able to see the whole process of a natural phenomenon, our view on garbage would be different. This was beautifully explained by the Vietnam born Zen Master Thich Nhat Hanh, in a commentary he wrote on the Prajnaparamita Hridaya Sutra, also known as Heart Sutra and said to have been preached by Bodhisattva Avalokitesvara, (Sutra available at: <http://www.buddhanet.net/e-learning/heart.htm>) under the title 'The Heart of Understanding: Commentaries on Prajnaparamita Heart Sutra' (available at: <http://terebess.hu/zen/mesterek/Thich%20Nhat%20Hanh%20%20The%20Heart%20of%20Understanding.pdf>).

Says Nhat Hanh: "Defiled or immaculate. Dirty or pure. These are concepts we form in our mind. A beautiful rose we have just cut and placed in our vase is immaculate. It smells so good, so pure, so fresh. It supports the idea of immaculateness. The opposite is a garbage can. It smells horrible, and is filled with rotten things. But that is only when you look on the surface. If you look more deeply you will see that in just five or six days, the rose will become part of the garbage. You do not need to wait five days to see it. If you just look at the rose, you look deeply, you can see it now. And if you look into the garbage can, you see that in a few months its contents can be transformed into lovely vegetables, and even a rose.

If you are a good organic gardener and you have the eyes of a horticulturist, looking at a rose you can see the garbage, and looking at the garbage you can see a rose. Roses and garbage inter-are (or inter-depend). Without a rose, we cannot have garbage; and without garbage, we cannot have a rose. They need each other very much. The rose and garbage are equal. The garbage is just as precious as the rose. If we look deeply at the concepts of defilement and immaculateness, we return to the notion of 'inter-being' (p 44)

Professor C. Visvanathan: waste is no more waste but a resource

A Sri Lankan-born scientist, Professor C. Visvanathan, Dean of the School of Environment, Resources and Development at the Asian Institute of Technology or AIT in Bangkok (Refer to: http://www.faculty.ait.ac.th/visu/main_page.htm for his profile) expresses the same view as the Zen Master Nhat Hanh. In an interview with this writer at AIT, Visvanathan boldly declares: "Solid waste is no more waste to be condemned; it is like gold which we could put back to human benefits."

His academic credentials are from three prestigious institutions of higher learning: a bachelor's degree in technology from the Indian Institute of Technology, Madras, a Master of Engineering from AIT and a doctorate in chemical/environmental engineering from France's Institut National Polytechnique in Toulouse.

Environmental economists: Waste management a must

Visvanathan, the scientist, speaks like an environmental economist here. To an environmental economist, waste-matter is an undesired-by-product that is unavoidably generated in the natural processes of all economic activities. Since it is undesired, it is called a "bad" as against its desired counterpart which is called a "good". However, goods cannot be produced without producing bads. For instance, at a very elementary level, one cannot inhale oxygen, a good, without having to exhale carbon dioxide, the bad. If one is prohibited from exhaling carbon dioxide, one cannot live because he cannot take in the good, oxygen. Hence, both the good and the bad come as a package together.

What has been done so far has been to use the environment as a dumping ground for bads. However, the unplanned dumping of bads into the environment has caused, first at the local level, and then at the national level and finally at the global level now, irreversible environmental catastrophes. Hence, environmental economists have recommended the proper management of waste so that the bad could be converted to a beneficial-matter for mankind's use.



AIT Prof. C. Visvanathan

This issue was brought to public focus by this writer in a previous article in this series relating to the proper management of polythene under the title 'Banning polythene to green the globe: alternatives are not that green either' (available at: <http://www.ft.lk/2011/06/06/banning-polythene-to-green-the-globe-alternatives-are-not-that-green-either>). However, all these methods were just a postponement of a major environmental issue to the future by solving the problem in one place and creating a problem elsewhere.

as well as businesses without causing harm to public health. The main method was to collect waste-matter regularly and dispose of it by burning or dumping into waterways or using for land-filling.

However, all these methods were just a postponement of a major environmental issue to the future by solving the problem in one place and creating a problem elsewhere.

My View



Economics Matters

By W.A. Wijewardena

Management of solid waste to avert environmental problems

The second evolutionary process commenced after 1970s when the whole globe became concerned about the growing environmental problems due to the accumulation of solid waste in the environment. However, waste was still a waste and not a resource. Hence, public policy on waste management was principally directed towards waste-matter should be disposed without causing harm to environment. Sri Lanka is still in this stage of the evolution of waste management process.

Waste as a resource

In the third stage, waste-matter is considered as a resource and policies are being formulated to harness their resource value to society. The concern for this has emerged due to two reasons. First, the fast economic growth throughout the world in the last few decades has demanded a higher utilisation of non-renewable natural resources. Second, the finite supply of these non-renewable natural resources has led to their fast depletion.

This issue was first raised by the Club of Rome, an independent think-tank of scientists concerned with emerging global resource issues, in mid 1980s. In a publication in 1972 titled 'The Limits to Growth' which soon became an international bestseller attracting millions of fans worldwide, the Club of Rome called for limiting economic growth in order to sustain future economic prosperity. This call has been answered only in after the onset of the second millennium where waste-matter is now considered as a resource that could be used for enhancing the global prosperity.

Waste management and climate change issues

The fourth stage is now emerging with global concerns for climate change as principally pronounced by the UN's

Intergovernmental Panel for Climate Change or IPCC (available at: <http://ipcc.ch/>). Thus, the waste management issue which was hitherto a national issue has now become a global issue. The political force which has sprung up with concerns about global climate change issues is now emerging as a powerful global lobbying group. As a result, no country today can be oblivious to the need for proper solid waste management.

Holistic waste management a must for sustainability

The fifth stage is the future of the evolutionary process involving the solid waste management, according to Visvanathan. The world is now concerned about the sustainability of its prosperity and sustainability has been defined by the UN Commission on Environment and Development, also known as the Brundtland Commission going by its Chairperson Gro Harlem Brundtland, as

ly dispose of these solid wastes. The strategy they currently use is simply to dump them in waste dumps and use for land-filling. Hence, Sri Lanka's largest waste producers are still in the first and second stages of the evolutionary process of waste management identified by Visvanathan.

As such, they are still infants in a holistic waste management strategy. With proper policy focus, they should grow from infancy to adulthood in waste management in which waste is no longer a stinking waste, but a resource which can be used for the betterment of the citizens. The team of researchers at AIT, led by Visvanathan, has developed easy to use and cost-effective technology for holistic urban solid waste management. In many parts of Thailand and other East Asian countries, this technology is now being used.

An important breakthrough in this connection has been the development of technology to recover natural gas available abundantly in the cases where solid waste has been used for land-filling. The use of such land for any commercial purpose should be done, according to Visvanathan, only after extracting the natural gas remaining trapped beneath such land.

FT Quote

“Developing countries use land-filling as the main method of disposing solid waste produced by their growing urban populations. With the limitation of the available land for this purpose, it has become necessary for identifying other methods of solid waste disposal. Visvanathan notes that solid waste disposal options should necessarily change and these options are in fact fast changing worldwide. They have principally changed from land-filling to recycling, energy production and composting. But, these are hampered by four types of constraints: lack of money, technology, proper policy and capacity”

AIT's offer of a collaborative hand

According to Visvanathan, AIT has been very liberal in sharing its new discoveries and knowledge with anyone who wishes to use them for the furtherance of mankind. It can provide training, give technology support and even develop new technologies to help individual customers to have better solid waste management systems. It is also willing to develop linkages with other research institutions and universities to have collaborative technology development projects.

Don't solve your problem by creating problems elsewhere

Attempts have been made in the recent past to make Colombo a clean city, a development about which the Colombo elite has been openly happy. But little have they realised that they have cleaned themselves by dirtying elsewhere and that elsewhere is also within this island. Thus, Colombo has solved its problem by creating environmental issues for others. But Colombo and its satellite urbanites have a better option today in the form of holistic waste management where waste is used as a resource.

This is a public policy which Sri Lanka should adopt as a matter of priority. It is not a difficult task since the required technology is now available in the neighbouring countries. This public policy could be facilitated by private participation by going for a green lending policy by Sri Lankan banks. Visvanathan says he is willing to train Sri Lankan bankers in the art and science of assessing green banking projects.

It is up to Sri Lanka to tap this kind gesture by a world renowned Sri Lanka born scientist.

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