

Worms turn muck to money

Plastics and polythene bags are not the only waste to take care of says S.Ananthanarayanan.

Ms Veena Nagpal recently led a chat discussion on disposal of biodegradable wastes, in a program run by IndianWildLifeClub.com, a community portal on environment. With much public awareness (although without matching action) of non-biodegradable waste, like plastics and polythene bags, a feeling has grown that waste which can be easily broken down by natural processes cannot be harmful.

Dealing with organic waste

Ms Nagpal explained that even organic waste leads to disease spreading litter on roads, and the menace of flies, rats, foul smells and infection. Bio-degradable domestic waste thus causes serious health problems. The difficulty is naturally the most serious in cities, where populations are growing and municipal capabilities cannot keep pace.

Ms Nagpal then described a method using worms and bacteria, to convert domestic waste into valuable manure, which sells at a good price and also keep the environment hygienic and pleasing.

World experience

Municipalities the world over have worked at waste collection and disposal. But the facilities have been inadequate and waste accumulates in the streets and at transfer stations. Some cities installed large scale recycling projects but the installations proved too complicated, expensive to maintain and unsuited for local conditions. Alternate approaches to make use of domestic refuse as a resource have been more promising.

As cities grow, the distance between the point where waste is generated and the place where it can be dumped keeps increasing. Waste disposal requires manpower and equipment for waste collection and then for its transport and finally, areas for dumping. The load of waste disposal, which would affect roads, power and fuel consumption, manpower, then increases and can well put a practical limit on how large a city can ever grow.

The obvious answer has been informal methods of waste recycling, very near the place where the waste is generated.

Domestic composting

The method of composting is to break down biodegradable organic matter with the help of bacteria and micro-organisms that work in the presence of oxygen. This is unlike

bacteria that can work in confined spaces, like vegetables rotting inside a plastic bag or even the effect on our teeth and oral cavity during the night, when we sleep. Unlike this kind of decomposition, aerobic decomposition, which is in the presence of oxygen, is odor-free.

When composting is done at the industrial scale, the plant would monitor the sources of carbon, nitrogen oxygen and water and control the temperature for the most efficient action. At the domestic level, the compost heap is just a pile of organic waste, turned over with a rake every few weeks, at best, but it works and small towns and villages manage their waste quite well.

It is within cities and in apartments that a fast and compact method of composting is needed. Ms Nagpal explained that such a method is available, with the help of worms, in **vermicomposting**. The garbage is put into a composting bed along with a can of composting worms, which are now sold at several outlets. The worms rapidly eat all the organic matter and excrete a soil-nutrient material called worm castings. It is for this action of worms that farmers encourage healthy worm populations in their fields.

In domestic composting, a container is prepared with a moistened base and a charge of worms. Domestic waste is added for a few weeks and the worms and micro-organisms convert the entire contents into rich compost – rich, dark, earth smelling soil conditioner.

“It sells at a price of Rs 17 a kg”, says Veena Nagpal. A program of encouraging each home or even each housing society to have a vermicompost bed could relieve the municipality of its most onerous burden and also generate ready cash resources!
