# The search for Kathmandu's new landfill

Science and logic needs to prevail over politics

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The total waste of Kathmandu and Lalitpur cities can be recycled by setting up a 300 ton/day organic fertilizer plant for which an India-Nepal joint venture project is already selected. By doing this, the waste disposal problem is reduced by 80% with minimal environmental impacts, and high quality fertilizer can be generated. But despite the suggestion of different experts, the government is ignoring this simple solution to valley's difficult problem and using Okharpauwa as landfill site following the advice of politicians who want to build a road to Okharpauwa. Experts have concluded that Okharpauwa is technically, environmentally and economically unsuitable as landfill site.

The search for a landfill site to manage Kathmandu's waste has been going on for over a decade. Yet we have nothing to do for it except a few reports and few kilometers of new roads. National and international experts have time and again said it in many reports and seminars that the technical solutions to Kathmandu's most talked about problem are readily available. Yet we continue to dump all of the city's waste in sacred Bagmati river every day. And we will probably continue to do so until science and logic prevails over the greed and short sightedness of politicians. Politicians and decision makers must understand and respect the technical aspects of waste management and stop making this a political issue.

Waste management was not a major issue in the past primarily because not much was produced in the first place and whatever was produced was recycled. According to a study done about 40 years ago, human waste generated by Kathmandu residents at that time were sold for NRs. 0.50 per tin (1). Furthermore, several houses used to share a 'sagaa' to manage their waste (Sa means compost and gaa means pit in the Newari language). We can draw three conclusions from this: (a) waste had a value, (b) waste recycling was a standard practice, and (c) people felt it was their responsibility to took care of their waste themselves. These basic principles of waste management are relevant even today and Kathmandu's waste management system needs to be built upon these foundations. Waste should be seen as a resource that needs to be recycled to the extent possible, not dumped (2).

Today the cities of Kathmandu and Lalitpur produce about 300 tons of waste per day and almost all of this waste can easily be recycled. About 70 percent of this waste is organic in nature, which can and should be converted into organic fertilizer. Although composting of organic waste has been done since ancient times, recent innovations such as the use of efficient microorganisms and mechanized screening of the finished product, allow us to accelerate the entire process and produce high quality fertilizer. This has now made waste composting a profitable venture and many cities in India are setting up large scale compost plants. This can be done in Kathmandu as well. Once the organic waste is converted into organic fertilizer, most of the other waste such as plastics and paper can be recycled by the private sector. Whatever remains (about 20 percent of the incoming waste) mainly consists of inert materials such as stones and dust, that can be landfilled with minimal environmental impacts.

Three years ago, Kathmandu Municipal Corporation (KMC) had called for proposals from the private sector and selected an India-Nepal joint venture project which would use Indian technology to set up a 300 ton per day organic fertilizer plant. All the municipality would have to do was provide the garbage and the required land (about 10 hectares) on lease, while the private company would do the rest, i.e. make organic fertilizer, recover other recyclable materials, sell the fertilizer and recyclable materials, and landfill the rejects. KMC identified suitable land for the project and requested the government for it. All the government had to do was give the green signal for the project to go ahead and provide the requested land, which belonged to the government. It would not have cost the government anything. Yet for the past three years, the government has ignored this simple solution and followed the advice of politicians who want to build a road to Okharpauwa a proposed landfill site.

Okharpauwa is not the solution to Kathmandu's waste management problems. It is technically and environmentally not suitable and is very expensive. The Environmental Geology Project of Department of Mines and Geology conducted a geological evaluation of the site and concluded that it was not a suitable site for a landfill. Similarly, a study done by Kathmandu Valley Mapping Programme indicated that cost for operating a landfill site at Okharpauwa, which is 28 km

from Teku Transfer Station, will be more than four times higher than locating the landfill at Chovar (3). Furthermore, KMC will have to invest in several large trucks to transfer the garbage to Okharpauwa. The municipality will not be able to handle this additional cost. As a result KMC has made its position clear that it does not want a landfill site in Okharpauwa but rather prefers to have a compost plant and landfill at Chovar, located six kilometers south of Kathmandu.

Chovar has an old limestone quarry belonging to the government owned Himal Cement Factory, which is now closed. The quarry can be used as a landfill for rejects from compost plant and the land next to the quarry can be used to set up the compost plant. The nearest house is about 300 meters away. The fact that the land is government owned and it already has a good quality road leading up to it means that it can be quickly developed into a waste treatment facility. Several experts have seen the site and said that it is a good one.

Therefore to solve Kathmandu's waste management problems, the government should first treat the waste as a resource and look for a site to set up a compost plant instead of a place to dump it. Setting up a compost plant instead of a landfill is a far better option from an environment as well as economic point of view. Furthermore it will be easier to find a land for a compost plant than for a landfill. Chovar seems to be good place to set up the compost plant as well as a landfill for the rejects from the plant. The site needs to be further studied and the process of involving a private company to build and operate the compost plant needs to be initiated immediately.

The government has now acknowledged the importance of a compost plant but is planning to import European technology for this purpose. This will be a mistake as high tech facilities usually do not work in Nepal. We need technologies that are suitable for Kathmandu. It should be simple to operate and maintain and it should have proven its effectiveness in places similar to Kathmandu. This would mean that an Indian technology, is probably more suitable than European. Here once again several experts have told the government to go for Indian technology, but the Ministry of Local Development is still pursuing a high tech solution, which is attractive to look at but its efficacy in place like Kathmandu is questionable.

The problem of waste management in Kathmandu is technically not very complex, but the government needs to listen to technical logic and ensure that simple solutions do not go to waste.

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