

In goes garbage, out comes compost

Pix by M. A. Pushpa Kumara

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A state-of-the-art garbage system is now turning Colombo's mountains of garbage into compost, easing the capital's long drawn-out disposal problem and offering hope for other cities in the country.

Seven hundred and eleven tonnes of garbage are dumped in Bloemendhal every day. Staggering statistics when one considers that this is only the amount generated by residents within the Colombo Municipality limits.

"Those living within the Colombo MC are the source of 50% of the garbage generated in the Western Province," says D. P. Hettiarachchi, Senior Assistant Secretary of the Ministry of Home Affairs, Provincial Councils and Local Government. All Municipal Councils functioning in the country come under the Ministry of Local Government.

With the population of Colombo and other urban areas rising steadily, the Ministry teamed up with other organizations and the Municipal Council to find a long-term solution. "We identified that there would be a garbage crisis in the 1980s, and plans were formulated to stop an impending crisis," says Lalith Wickramaratne, Director (Engineering) Solid Waste Management, Colombo Municipal Council (CMC).

Following consultations, the Municipality asked the government to obtain a grant of US \$ 10 million to start work on a sanitary landfill where garbage would be dumped and later used as biogas. A World Bank grant was obtained and preliminary work was soon underway. The Colombo Environment Improvement Programme was thus inaugurated in 1990. Three locations were identified - Hanwell, Welisara and Alupotha (Meepe). But political pressure caused the project to be abandoned after a nine-year period of testing and research.

The CMC then called for tenders asking anyone who had a feasible solution and adequate capital investment to come forward.

"We received only three tenders," says Mr. Wickramaratne adding that Burns Environmental Technologies (Pvt.) Limited (BETL) was given the task of handling Colombo's refuse.

Since 1990 the garbage had been dumped into a 35-acre plot of land owned by BETL. "The new contract we entered into with the Municipality meant that not only were we to handle the dumping of garbage but that we would also provide a solution to the problem of garbage disposal," says BETL General Manager Sumith Jayawardena.

Under this system, garbage collected within the Municipality limits by

the CMC's 80 compacted trucks is deposited at the site in Bloemendhal. In more residential neighbourhoods, the collection is done three times a week since these houses have more space to store garbage but in underdeveloped areas, it is collected every day.

In 1998, the CMC privatised garbage collection in the Fort and Pettah area as a pilot project and with this operation being successful, 50% of the city is now under a private contract with Abans Environmental Services.

All the garbage dumped at Bloemendhal at the rate of Rs. 550/- per tonne is separated into biodegradable and non-degradable substances. After a stipulated time period this waste is transported to the composting plant at Sedawatte. According to Mr. Wickramaratne, since 80% of the refuse in Sri Lanka is organic, recycling is the most effective method of handling it.

Hitherto, neither the government nor the private sector had experience in the management of Municipal Solid Waste (MSW). After studying MSW management in Arizona in the United States (where weather conditions are similar to our own) and in consultation with neighbouring In-

dia, BETL purchased the modern plant which is now in place in Sedawatte.

"The BETL plant is the single largest MSW unit in the country that engages in managing sites as per international standards, for about 800-900 tonnes of refuse per day," says Mr. Jayawardena. The plant at Sedawatte is the largest of its kind in South East Asia and amongst the 10 largest in the world.

The initial dumpsite was an open area, where the trucks would simply dump whatever garbage was collected during the day. "We were asked to set up a closed dumpsite by the CMC," said Mr. Jayawardena. The existing garbage was levelled and a concrete slab built over it. Now garbage is dumped over the concrete. Eighty-five percent of the stench is controlled with the installation of a natural odour neutralizer system.

The dumping grounds have their own drainage system. "This guarantees that whatever liquid is emitted from the dump does not make it back to the mainstream and is recycled for further use," says Dr. Ranjan Jayaratne, the Head of Research and Development at BETL. Water is necessary to preserve the moisture level of the piles of garbage.

	Colombo	Kandy	Sri Jayawardanapura Kotte	Dehiwela/ Mount Lavinia
Population	642,000	110,000	116,000	210,000
Square area	37 km ²	2 853 ha	17.04 km ²	21.17 km ²
Solid Waste per day (AVG)	711 tonnes	80 tonnes	100 tonnes	150 tonnes

Plans are also in the pipeline to construct a 1000-square foot fully covered dumping station in about three months that would further minimise pollution. Any gases emitted by the garbage will be cleaned and then let out into the atmosphere through tall chimneys.

Having started operations on November 1, 2002, the plant is running smoothly, turning out at least 100 tonnes of compost per day. The plant has a maximum capacity of 1200 tonnes.

Any plastic that is separated through this process is kept aside, as BETL hopes to purchase a washing plant that will be used in the plastic recycling project. An incinerator through which hospital waste is to be destroyed has already been identified and will be activated in Sri Lanka soon.

Eventually, BETL intends to make a proposal to handle the garbage of the entire Western Province.

"Whatever method is adopted,

people have to first understand the problem," says Dr. Ben Basnayake of the Agriculture Department at the University of Peradeniya. "Integrated methods are the only way in which we can finally solve the crisis."

With the CMC having its garbage problem under control, what of other urban areas? The Kurunegala Municipality has a dumping site 2-3 km outside its limits - a seven-acre land flanked by forest reserves on three sides and a road on one. Municipal Commissioner E.M.P. Ekanayake explains that the garbage (20 tonnes a day) that is dumped is separated manually and after a week the land is levelled using bulldozers. The remaining garbage is converted into compost.

"It is a very primitive system to treat the refuse," he says, adding that they have requested the Urban Development and Low Income Housing Project that comes under the Ministry of Urban Development for

a more effective and long-term project for garbage disposal. This, however, is still being studied.

The Galle Municipality, meanwhile, having two dumping sites within the city limits has initiated a pilot project involving 2,000 families. Waste that can be recycled is separated, leaving the biodegradable waste to be turned into compost. The project so far has been successful and therefore will be extended to another two wards. By next year they hope to cover half the city. Teams from the Netherlands and Norway are studying the project. "We have started an awareness campaign as this is a people participatory project," says Galle Municipal Commissioner A.L.A.A. Siriwardene.

As with the CMC, other local bodies need to install workable strategies, while harnessing the people's co-operation to deal with a problem that for too long has been raising a huge stink.

