

Waste Management - Issues and Solutions

by Asoka Abeygunawardana

The urban population across Sri Lanka has increased from 10% in 1970 to 40% in 2010 with accelerated economic and social development, increase of population and efforts to increase the standard of living. Colombo and its suburbs have developed into a metropolitan area and several provincial city clusters such as Kandy, Kurunegala, Galle and Matara, too have expanded. Rapid economic changes and urbanization resulting from open economic policies introduced since the 1980s have not been balanced by improved urban infrastructure service facilities, particularly in the area of urban solid waste management (SWM). As a result solid waste is openly dumped in a few locations in the towns.

Local Authorities are obliged by law to collect and dispose of solid wastes put out by residents in areas in their jurisdiction. Collection and transport of solid waste are carried out by the Local Authorities with different levels of service and little capacity for meeting minimum accepted health or environmental standards. Daily waste collection by Local Authorities is estimated at 2,500t, of which the Western Provincial Council accounts for 60%. There are six MCs with a waste collection greater than 100 t/day and three MCs between 50-100 t/day, with the Colombo MC collecting 680 t each day.

It is important to recognize the basics and the complexity of the waste management process before attempting to find a sustainable and lasting solution to the problem in Sri Lanka. Waste management is important as it is visible; politically sensitive, consumes a considerable share of the municipal budget, and, has a direct impact on public health, environment and natural resources. It is difficult to find a solution as there are many different stakeholders with different aspirations and agendas that include social, technical, political, institutional, environmental, and financial aspects of waste stream elements. All these are related yet they are often not connected.

The main weakness in most of the programs implemented so far has been focus on just one or two aspects of the problem only. Common problems encountered are copying models from the North, lack of a comprehensive policy framework for waste management and the shortage of tools to analyze and improve efficiency, effectiveness and sustainability. For addressing these issues, the Ministry of Environment and Natural Resources formulated a National Policy on Solid Waste Management and National Solid Waste Management Strategies in October 2007. Playing a role beyond that of a regulator, Hon. Minister Champika Ranawaka took the initiative of implementing a Rs 5.7 billion project titled 'Pilisaru' for developing the solid waste management infrastructures of Local Authorities. The Government in 2008 introduced a 'Green Levy' by applying the 'polluter pays' principle to earn Rs. 6 billion during the period 2008-2010 out of which Rs. 3 billion would be allocated for the Pilisaru program. Another Rs. 2.7 billion will be provided by the General Treasury. This was a bold decision made by the present Government but, unfortunately, it has not been implemented so far. Under the present policy framework, non-polluters also have to pay for pollution.

The 3 year "Pilisaru" project was for establishing infrastructure facilities at LAs to address the core issue of the problem, namely, managing the bio degradable part of the waste by establishing compost plants and low cost sanitary land fills for disposing residual waste. The facilities were to be established and managed by the local authorities with the financial assistance and guidance of the Ministry of Environment. The necessary management setup is yet to be established for the sustainability of these schemes.

Establishing the infrastructure for waste management alone cannot resolve the issues prevailing in the sector. The ultimate solution for managing municipal solid waste in the modern world is Integrated Sustainable Waste Management (ISWM). The basic principle of ISWM is integrating all stakeholders to a single process which is of utmost importance for sustainability of such schemes.

Though the waste on public land is the property of the Local Authority it is not the only stakeholder in the sector. Waste generators, waste collectors, compost producers, the recycling industry, landfill operators, donors, NGO's/CBO's and Universities are often neglected but vital stakeholders in the waste management industry. Ministry of Environment, citing the importance of having all stakeholders on board, has established the National Pilisaru Platform which includes representatives of all key stakeholders to oversee the implementation of the program as an essential element in the ISWM process.

We have to accept the fact that most of the LAs have no inbuilt capacity to formulate, establish and run proper waste management plants due to lack of professional staff and skilled labour as they are currently working mainly with the less educated and unprivileged community in the society. Hence, parallel to providing funds, the Pilisaru program should conduct a continuous capacity building program with the input of the academics, professionals and experts in the sector. It is essential to introduce and establish public-private and civil society partnerships in the waste management sector to enhance the efficiency and productivity as a foundation for ensuring the long-term sustainability of the sector.

Another important issue that needs to be addressed is labour management. The LAs similar to other government bodies are less efficient in terms of labour management. A proper partnership of public, private and civil society entities, together with workers incentives and welfare can drastically improve the efficiency of the workers as has been proven in many sectors. Balangoda and Hambantota Urban Councils together with some other LAs have successfully demonstrated different types of Private-Public and Civil Society partnerships in waste management during the last 5 years. Accordingly legislative environment is needed to be strengthened and reformed.

The biggest bottleneck in the waste management sector is meeting the costs of Operation and Maintenance (O&M). The LAs annual revenue and grants received from the central government for municipal waste management is only sufficient to meet waste collection and transportation related costs. There are no funds available for operations relating to separation, composting, recycling & final disposal. It is assumed that these costs should be met by the revenue collected by selling recycled products and compost. A healthy revenue stream will create an environment for improving the quality of products, expanding the facilities and encouraging the staff to perform better.

The all recyclable waste i.e. sheet metal, iron, paper, cardboard other than plastics and glass rarely reach waste management centres at present as they are mostly collected and sold by the informal sector. The income of the recyclable waste i.e. plastics and glass, is negligible when compared with the overall costs at waste management centres. Compost is supposed to be the main product of these centres but it is important to note that only 4-6% (by weight) of waste received at the centre is converted to compost and waste separation and processing for producing compost is a labour intensive activity.

The maximum retail price of a compost kg is Rs. 9 at present. Even if the entire quantity of compost produced is sold at the current price, only about 50% of the full operational cost can be covered thereby. In costal towns like Hambantota the income is only one third of the total cost as over 60% of waste received by the centres is sand. Further it is not possible to sell even 10% of the compost produced at some of the waste management centres even at a price of 9 Rs/kg. Therefore a large

quantity of compost remains heaped up in compost production plants that have a monthly production over 15,000 kg. It is reported that all compost produced is sold only in the Bandarawela UC area albeit at an average price of Rs 7 as vegetable growers in the area do not get the chemical fertilizer subsidy. The sale of compost has hitherto remained an unresolved and grave problem. The breakdown of production programs is evitable unless an immediate change is brought about to this situation and the intervention of the Government is essential to change it.

There are two major reasons for low market prices for compost. Firstly, the main competitor of compost; chemical fertilizer is 95% subsidized at present. Secondly, the compost produced from municipal waste cannot compete with agriculture residue compost as there is additional labour involved with waste separation. There are two things to be done to create a better market for compost. Firstly the Pilisaru program should have the facility to test the compost produced by the LAs to ensure that quality compost is produced for agricultural applications. Former Chairman of the Central Environmental Authority (CEA) in 2008 November, realizing the need, agreed to establish a laboratory at the CEA for that purpose and give the required certification. Unfortunately there has been a long delay in implementing this decision since the resignation of the former chairman.

Secondly, and most importantly, there is a need to give a subsidy for compost similar to the chemical fertilizer subsidy for compost to compete with imported chemical fertilizer in the open market. The government recognizing the need took steps to establish the Compost Authority under the Ministry of Agriculture. However, most unfortunately, nothing significant is happening on that front. If the government is to give a similar subsidy for compost then compost producers can sell compost at a price of 180 Rs/kg; a subsidy of 170 Rs/kg. The government should phase out the chemical fertilizer subsidy for at least two reasons: to reduce chemical fertiliser imports and to stop land degradation. The best way to encourage farmers to use compost is to give at least a 20 Rs/kg subsidy. This proposal, if implemented, will resolve all issues in the municipal waste management sector.