



# Report of the National Workshop on Municipal Solid Waste Composting

Organized under the contract

National forum on Solid Waste Management in Sri Lanka  
Within the framework of the LOGO South country program  
Sri Lanka

Held at the

**Amaya Reef Hikkaduwa, Galle, Sri Lanka**

Held on

**November 20-21-22, 2008**

Organized by

**Energy Forum**



EF

Partners

**Pilisaru Program, Ministry of Environment and Natural  
Resources, Sri Lanka**

**Waste Consultants, The Netherlands**



Submitted to

**VNG International, The Netherlands**



International

Date of submission  
**31st December 2008**

## Contents

Abbreviations .....	iii
1. Executive Summary .....	1
2. Objectives of the workshop .....	<b>Error! Bookmark not defined.</b>
3. Opening statement of Mr. Valentin Post .....	<b>Error! Bookmark not defined.</b>
4. Experiences of the current municipal solid waste compost producers... <b>not defined.</b>	<b>Error! Bookmark not defined.</b>
5. Presentation on ISWM by Mr. Valentin Post of WASTE.....	<b>Error! Bookmark not defined.</b>
6. New Municipal Solid Waste composting projects .....	<b>Error! Bookmark not defined.</b>
7. Responses of the participants .....	<b>Error! Bookmark not defined.</b>
8. Recommendations .....	<b>Error! Bookmark not defined.</b>
Annex 1: Agenda of the Workshop .....	<b>Error! Bookmark not defined.</b>
Annex 2: Participants list .....	<b>Error! Bookmark not defined.</b>
Annex 3: Questionnaire used for getting details of the existing composting plants.....	<b>Error! Bookmark not defined.</b>
Annex 4: Documents circulated at the workshop.....	<b>Error! Bookmark not defined.</b>
1. Compost production and processing .....	<b>Error! Bookmark not defined.</b>
2. Municipal Solid Waste Composting in Sri Lanka.....	<b>Error! Bookmark not defined.</b>
3. Utilization of compost .....	<b>Error! Bookmark not defined.</b>

## **Abbreviations**

- CBOs - Community Based Organizations**
- CEA - Central Environmental Authority**
- CMC - Colombo Municipal Council**
- ISWM - Integrate Sustainable Waste Management**
- LA - Local Authority**
- MSW - Municipal Solid Waste**
- MT - Metric ton**
- NGOs - Non Governmental Organizations**
- UC - Urban Council**

# Report of the National Workshop on Municipal Solid Waste Composting



## 1. Executive Summary

A National work shop was held from 20<sup>th</sup> - 22<sup>nd</sup> November 2008 at the Amaya Reef Hotel Hikkaduwa in order to exchange the experience gathered in producing compost from municipal solid waste and in order to plan the programs scheduled to be launched in the future.

This workshop was organized by the Energy Forum and Waste International with the financial assistance of VNG international. The "Pilisaru" project of the Ministry of Environment and Natural Resources too extended co-operation towards this event. The Chief Guest at this workshop was Mr. Udaya Gammanpila, the Chairman of the Central Environment Authority. The Waste international was represented by its Senior Advisor Mr. Valentin Post whilst Mr. Malaka Dasanayaka, Planning Manager of the "Pilisaru" Project, Mrs. Neranja Jayasena of the Solid waste Management Authority and Mr. Bandula Chandrasekera of the Energy Forum too participated. This workshop was facilitated by Mr. Asoka Abeygunawardana, the Executive Director of the Energy Forum and Advisor of the Ministry of the Environment.

At present the disposal of garbage is one of the greatest unresolved problems in Sri Lanka. The disposal of bio-degradable waste has become an even graver problem due to the spreading of foul smells and pollution of water courses. As a solution thereto, experiments have been carried out in the utilization of degradable waste to fill low lying lands in a hygienic manner. But this is not a suitable long-term alternative because of the loss of water retention areas due to the filling up of low lying areas and because of the loss of valuable organic material contained in garbage. Two main methods that have been experimented to produce compost from bio degradable municipal solid waste is the setting up the compost yards and the installation of biogas generation units. Of these alternatives, the easier and more sustainable method at present has been compost production.

Attention was given at the workshop to technological and management issues pertaining to the manufacture and marketing of compost.

1. Even though a number of technological methods of producing compost using municipal solid waste have been experimented in Sri Lanka at present, the method that has been confirmed even amidst difficulties up to now is windrow composting. Since the compost producing plants need a scientific knowledge of micro-organisms to optimize the process, a mechanism should be formulated to provide this specialist service in a formal manner.
2. Even though systematic planning is required for the establishment of compost yards, the officers of Local Government Institutions have not received a formal training in preparation of proposals for establishing compost plants. Furthermore the officers involved in this process need skills to understand the problems that arise in producing compost and resolving them. But the officers have not received any such training. Therefore it is necessary to launch a formal training program obtaining the specialist services pertaining to the installation of compost manufacturing plants and maintaining those plants in a proper manner to maintain the quality standards of compost.
3. There is no formal procedure to examine and certify the standard of compost. Therefore a certain degree of uncertainty has arisen regarding the standard of compost manufactured from municipal solid waste. Tests conducted have confirmed that there is no heavy metal content in the municipal solid waste in Sri Lanka. However state of uncertainty regarding the quality has arisen due to the lack of a formal procedure for certification. It has not been able for compost manufacturers to test compost samples periodically in a systematic manner due to the excessive price charged by laboratories for testing. It was proposed at the workshop that steps should be taken to change this situation and the Chairman of the Central Environment Authority stated at the workshop that steps will be taken to provide suitable laboratory facilities for this propose before 1<sup>st</sup> April 2009.
4. Even though municipal solid waste management is a fast developing science and industry in the world, waste management remains at an undeveloped level in Sri Lanka. The workers who are engaged in this industry in Sri Lanka belong to a less privileged section of society. If the compost industry is to be maintained at a stable level a new personal management program has to be launched because the skills and efficiency of casual labourers and other employees attached to the Local Government institutions are at a low level. For this purpose a suitable methodology is needed to adopt. Management techniques of private sector should be used appropriately by the Local Government Authorities for improving the efficiency of the workers. Experiments in this regard have at present been carried out successfully in the Balangoda and Hambantota Urban Council areas. Management techniques of the private sector have been used in these UC areas. The Local Government Authorities have had a bitter experience as regards entrusting waste management completely to the Private Sector. Thus in the past private firms have deceived Local Government Authorities. Therefore there is a necessity of developing a partnership between Local Government institutions and the private sector.

The experiences gathered in the Hambantota and Balangoda areas can be used in other areas. Hambantota Waste Management Centre is managed by a civil society formed with patronage of the Urban Council whereas certain activities of the composting plant at Balangoda are outsourced.

5. While handling municipal waste for composting it is a must to separate waste and also to overturn piles for aeration; both functions are labour intensive. The cost of manufacturing compost from Municipal Solid Waste is higher than the cost of other compost manufacturing programs mainly due to this reason. The main source of income for maintaining the compost centre is the sale of compost. Serious difficulties have however arisen as regards the sale of compost in the ordinary market as very large subsidies are given for chemical fertilizer. At present none of the Municipal waste compost producers are in a position to sell all compost they produce. Even if we assume that all the compost manufactured at compost manufacturing centres are sold at existing market prices, only 50% of the entire expenses of the centre could be met. Therefore it is the responsibility of the Government to formulate some methodology for the sale of compost. For this purpose either subsidy should be granted for compost just in same manner as the chemical fertilizer, or the Government should buy compost and distribute it among the farmers in order to familiarize farmers in the use of compost.

Accordingly it was recommended at this National workshop that the above mentioned steps should be taken in order to make the program of producing compost from Municipal solid waste successful. Financial facilities have been provided to a number of Local Government Institutions under the 'Pilisaru' Program commenced by the Ministry of Environment and Natural resources in order to commence compost programs. But it became clear that participant Local Government Authorities at the workshop that had received financial assistance under the 'Pilisaru' Program to commence new compost programs, did not have a systematic program of compost manufacturing. In these circumstances there is a risk of the compost manufacturing process breaking down quickly even if it is commenced. Since the sustenance of those programs depends solely on the launching of the above mentioned actions in order to overcome the challenges that have arisen, it has become essential to give the attention thereto. There is an urgent need to formulate a systematic program for the Local Government Authorities selected and to launch a training program to train the officers and employees at all levels of those institutions. The financial contribution of the 'Pilisaru' project or an International Non-Governmental organization is needed for this purpose.