M Sc Degree in Environmental Science

GUIDELINES FOR SUSTAINABLE SOLID WASTE MANAGEMENT SYSTEMS IN LOCAL AUTHORITIES IN CENTRAL PROVINCE, SRI LANKA

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ABSTRACT

The thesis explores the current status of solid waste management (SWM) systems in the Local Authorities of Central Province of Sri Lanka and prepares a guideline to keep in order the solid waste management of the area.

Waste accumulation, lack of proper separation at initial stages especially due to paucity of awareness and illegal dumping are the main problems in the province for the last few decades.

Data was collected via questionnaires and direct observations. The questionnaires were used to collect data from each Local Authority regarding the status of current solid waste disposal systems. Data analysis was carried out in order to identify the status and problems associated with existing solid waste management systems in the Local Authorities in the Central Province. Finally a guideline was prepared in order to improve the solid waste management systems in the local authorities.

The study concludes that in each local authority the amount of solid waste generated has been rapidly increasing. Although the local authorities in the central province play an important role in collecting, reuse, recycle and disposal of solid waste the entire process has not been developed properly hence there are many problems still occur.

The main influential aspects affecting the whole process are political, institutional, social, financial, economical and technical aspects. The technical aspects are concerned with the planning, implementation, and maintenance of separation, collection and transfer systems, waste recovery, pre-treatment and final disposal of solid waste. In the Central province of Sri Lanka, local authorities are facing great difficulties in promoting separation, collection, pre-treatment and securing proper sites for land filling due to various reasons. Until all stakeholders become full participants in a common systematic procedure, a fully sustainable SWM system is not possible. Increasing community awareness, use modern technology, increase infrastructure and human resources, enhance coordination among industries, Government Institute and public and formation of new regulation and policies are vital for better management of solid waste.