

Household solid waste management: how effective are the strategies used in Harare Zimbabwe?

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Abstract

Sustainable development amid a clean environment is desirable although many urban councils in developing countries have persistently did not achieve this. The City of Harare authorities are ceased with the status of household solid waste management service delivery. This study therefore aimed to research the effectiveness of the strategies employed by the town of Harare in household solid waste management. To achieve this, structured questionnaires, interviews, observations and focus group discussions were employed in data gathering together with secondary data. The study was conducted in Harare's low, medium and high-density income suburbs. Findings revealed that organic solid waste constituted the most important proportion of waste generated in Harare and other forms also are generated yet their collection is extremely minimal.

Human settlements are facing increasingly complex and formidable environmental problems, particularly in Less Economically Developed Countries (LEDCs). These include water, ground and air pollution. Notable problem is household solid waste whose production has not been matched by a rise within the capacity of municipalities to manage the waste, giving rise to disposal problems . Waste management and disposal seem to be the major challenges in the face of financial, technical and administrative incapacity of developing countries . This waste emanates from both residential and industrial sources, and will be managed in ways in which are environmentally friendly, ecologically sound, economically viable, and socially acceptable and without causing health hazards . Thus, the strategies employed within the management of household solid waste are of concern especially given the very fact that quantities of household solid waste are on the increase and may increase fourfold by 2025 (World Resources, 1996). These diseases are often avoided if proper waste management strategies are put in situ . Harare, capital city of Zimbabwe, is in danger to those ever-increasing household solid waste management problems. The Harare council is facing household solid waste management challenges. This is because of a number of factors which include among others lack of financial capacity, technical expertise, limited environmental education and increased population numbers. The Harare council is therefore facing household solid waste management challenges because it tries to effectively manage household solid waste at low cost, and reduce environmental degradation and deterioration thanks to improper disposal of household solid waste. Both organic and inorganic waste are produced and

dumped haphazardly in Harare. Researches are undertaken to determine the causes of this poor household solid waste management. The interested stakeholders seem to be blaming different factors. The government and residents blame lack of capacity by the city authorities, poor prioritisation/misallocation of funds and corruption while the City fathers owe it to underfunding which inhibits the acquisition of the proper equipment for refuse management and lack of cooperation by the ratepayers. The long-term goal is to propose sustainable and effective household solid waste management interventions that are cost effective, economically and environmentally sound. Strategies have been traditionally recommended for waste minimisation and these are part of the waste management hierarchy and involve reusing, recycling, reducing, avoiding and land filling. This research examines the effectiveness of these conventional waste management strategies. This is against the background that major challenges are faced in household solid waste management in Harare and of note is the identification of suitable sites for and selection of methods of household solid waste disposal, lack of proper and adequate compactors and skilled personal, environmental education and financial resources. Waste is classified as either organic or inorganic. These are further divided into two categories which are hazardous and non-hazardous waste. This classification is based on the potential of waste to cause damage or harm to living organisms and the environment in general. Waste emanate from different areas like industrial, domestic and commercial sites and these provide different benefits and pose various problems to the environment if the strategies wont to handle them are not effective . These sorts of waste require a special strategy of management to minimise their negative effects on the environment. In Harare all waste is dumped irrespective of its origin, nature and potential impact to the environment and without following proper processes recommended for waste disposal. The proper conventional ways of managing solid waste include the Integrated Solid Waste Management (ISWM) and therefore the 3Rs of waste management (Reduce, Reuse and Recycle). Internationally known principles of waste management are the sole noble thanks to go. If the environment is to be protected there is need to completely avoid waste generation; this can be done by avoiding the use of non-biodegradable products and encouraging the use of biodegradables. In cases where the population cannot avoid the non-biodegradables, it's knowing

reduce whatever waste being generated. This reduced waste should be reused and be recycled in order to reduce the sprouting of waste dumps. This includes the re-using of waste which will be used again before throwing it away as waste. In cases where recycling and recovering of waste fails, it's environmentally proper to treat all waste to avoid releasing poisonous substances into the environment. After treatment then the waste can safely be disposed into a landfill and not a dumpsite where it is not properly managed.

The results show that household solid waste management strategies in Harare are not effective especially in the medium and high-density suburbs and this is attributable to several

factors. Therefore, the subsequent recommendations could also be very useful in improving household solid waste management in several residential areas of Harare. Setting up of recycling and reusing commercial-industrial entities which use a number of this household solid waste are often an efficient strategy since the availability of the solid waste would be met by the demand. For example, a biogas plant can be developed as most of the household solid waste produced in Harare is food leftovers and other biodegradable waste.

Keywords: Solid waste, Household, Management, Strategies, Effectiveness, Harare, Zimbabwe