

# Solid Waste Management in Hawassa City, Ethiopia: Practices and Challenges

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## ABSTRACT

Municipal solid waste management (MSWM) has emerged as one of the greatest challenges of improvement in Ethiopia. This study is conducted in Hawassa City, one of the fastest urbanizing cities in Ethiopia, to assess the existing solid waste management (SWM) practices and challenges observed in the city. The study relies on a case study research design. Sufficient data was gathered through rigorous interviews and field observations. It was also supported by quantitative data gathered from published and unpublished documents. The findings of the study revealed that the current SWM practices of Hawassa City are ineffective and inefficient. The major factors that contributed to the existing ineffective and inefficient SWM system in the City are insufficient collection coverage, improper storage, transportation and disposal, limited budget allocation, absence of standards for licensing private service providers, weak capacity of the municipality to enforce by-laws and create awareness to the community.

## KEYWORDS

Collection, Disposal, Handling, Hawassa, Transportation, Waste

## INTRODUCTION

Municipal solid waste management (MSWM) refers to the control of generation, collection, transfer, treatment, recycling, resources recovery and disposal of solid waste (SW) in urban areas (Ogwueleka, T. C. 2009). Its aim is to conserve and protect human health and the environment (Pongracz et al., 2004). As stated in Thompson and Wilson (1994), the management of SW reduces adverse impacts on the human health and environment, and supports economic development and improves the quality of resident's life.

However, the management of solid waste (MSW) continues to be a major challenge in urban areas throughout the world. Particularly in the rapidly growing cities and towns of the developing countries, the MSW displays a collection of problems which include low collection coverage, irregular collection services, open dumping, the breeding of flies and parasite, and rising of informal waste picking or scavenging activities that can expose scavengers to be infected by different infectious diseases and physical injuries (Seik, 1997; Ogawa, 2008). In addition, the diverse sources of SW generation and the complex nature of its composition make it difficult to manage. As a result, governments and

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municipalities are facing considerable difficulties to provide adequate solid waste management (SWM) services. But, compared to developed countries, developing countries produce less per-capital solid waste (Solomon, 2006).

SWM is, therefore, a critical component within urban sanitation and it is also one of the most important and resource intensive services provided by municipalities (UNHSP, 2010). Studies also show that municipalities in developing countries spend 20-50% of their available budget on SWM and serve less than average inhabitants (Memon, 2010). They collect and manage only 30-50% of the waste generated. This implies that SWM is of a growing concern facing the developing countries because of its social, economic and environmental implications (Hailemariam & Ajeme, 2014).

As stated in the Forum for Environment (2010), one of the challenges that are faced by Ethiopian secondary cities such as Hawassa are the problem of sanitation in general and solid waste management (SWM) in particular. Municipalities and city councils in Ethiopia have become aware of the negative consequences of poor SWM and have devised and implemented a system to collect and dispose of solid waste that involves collection cooperatives since the year 2001. Though, a study conducted in 2004 by UNDP in Hawassa City showed that the municipality collected and disposed 50% of the solid waste generated daily while the rest is either burned or left to decompose in open space or is dumped in unregulated landfills impacting the environment negatively (UNDP, 2004). Moreover, another study conducted in 2010 by Forum for Environment revealed that the daily waste generation rate in the city is increasing from time to time with little improvement in the solid waste management practices.

Due to the expansion of industries and other opportunities in the city, its population has been growing alarmingly. Correspondingly, the solid waste generated by households, business centers, industries and institutions in the city has been progressively increasing (HCM, 2018). This necessitates an effective management of SW at the various stages of its generation, storage, collection, transfer and transport, processing, and disposal and recycling. However, as it is observed during site visit there has not been improvement in solid waste management practices in Hawassa city and the challenges continued.

In Hawassa there are studies conducted related with municipal solid wastes by Sibilo and Tamiru (2014); Hunachew and Biruck (2014); Rebecca et al. (2016); Molla et al. (2016) and Tiku (2018) which emphasized on factors affecting the adoption of sustainable MSWM, solid waste characterization and recycling potential, waste management and preservation of lake Hawassa eco-system, fecal sludge management, and plastic waste management practices respectively. However, none of these studies were focused on the general solid waste management practices and its challenges in the city. Therefore, this study is intended to assess the solid waste management practices and its challenges in the City as well as to propose measures to be taken for an improved solid waste management.

## **REVIEW OF RELATED LITERATURE**

### **Municipal Solid Waste Management Practices and Challenges in Developing Countries**

Municipal solid waste (MSW) is defined to include refuse from households, nonhazardous solid waste from industrial, commercial and institutional establishments including hospitals waste, market waste, yard waste, and street sweepings (Ogwueleka, 2009). Solid waste management has been a big challenge to urban areas of all over the world due to the lack of suitable facilities for the collection, transportation, treatment and disposal of the larger quantity of MSW generated daily in urban areas (Thanh et al., 2010). Hence, managing solid waste becomes increasingly challenging for municipalities to collect, recycle, treat and dispose of huge amounts of solid waste both in developed and developing countries with increasing population, prosperity and urbanization (Subhan et al., 2014).

In most developing countries, wastes are either scattered in urban centers or disposed-off and dumped in unplanned way in slopes and gorges. The infrastructure, facilities and skills for collection,

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