

Solid Waste Management in **Tikapur Municipality**



His Majesty's Government
Ministry of Local Development
Solid Waste Management and Resource Mobilisation Center



Clean Energy Nepal



Environment and Public Health Organisation

Preface

Solid Waste Management in Tikapur Municipality¹ is one among a series of 58 reports, which briefly describes the current situation of solid waste management in each of the 58 municipalities in Nepal. The information presented in this report was obtained from a review of relevant literature, interviews with key municipal staff as well as other stakeholders, and a waste generation and composition survey. As the report is based on information collected over a short period, including a one-week field visit conducted in September 2003, this is not a comprehensive study, but it provides a brief overview of the solid waste management situation in the municipality.

This study was commissioned by Solid Waste Management and Resource Mobilisation Centre (SWMRMC) of the Ministry of Local Development. A team of four experts, Dr. Nawa Raj Khatiwada, Bhushan Tuladhar, Ashok Tuladhar and Dinesh Raj Manandhar, coordinated the study. The field investigations in each of the 58 municipalities were conducted by a team of environmental officers under the guidance of the coordination team.

This series of reports will be valuable for researchers as well as planners and managers of solid waste management systems. An analysis of the key findings from all the 58 municipalities is presented in a separate report published by SWMRMC.

Clean Energy Nepal (CEN) and Environment and Public Health Organization (ENPHO) wishes to thank Mr. Surya Man Shakya, General Manager of SWMRMC, for taking this bold and innovative initiative of gathering information on the solid waste management situation in all the 58 municipalities of Nepal for the first time. We also wish to thank the coordination team, as well as Mr. Murali Ranjit and Mr. Nirmal Acharya of SWMRMC, for their valuable input. Finally, we are very grateful to all the environmental officers who visited the municipalities to collect the required information and the municipal staff and the local people who have provided us with this information.

Bhushan Tuladhar
Executive Director
Clean Energy Nepal

Dr. Roshan Raj Shrestha
Executive Chairman
Environment and Public Health Organization

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¹ This report was prepared by Bhushan Tuladhar based on field investigations conducted by Sandeep K.C.

1 Introduction

Tikapur is mid-sized municipality located in Kailali district of Seti Zone in Far-Western Development Region. The Municipality is located in the Terai plains 14 km south of Lamki Bazaar, which is on the East-West Highway. Pathraiya River is located to the West and Karnali River to the East of the Municipality.

Tikapur is one of the few planned municipalities in Nepal. Tikapur Development Committee was formed back in 2013 to develop the town in a planned manner and it started its work in 2027. The original plan was to develop a total of 3000 bigah of land with 1000 bigah for allocated for modern agriculture, 1000 bigah for well-managed forests, 800 bigah for landless people, and 200 bigah for town development. Over the years, however, these plans have not really materialized. Nothing has been done on modern agriculture but the settlement area has developed beyond the allocated 200 bigahs.

Table 1: Background Information

NAME	TIKAPUR MUNICIPALITY
District	Kailali
Year of Establishment	2053 B.S.
No. of Wards	9
No. of Urban Wards	1
No. of Rural and semi urban Wards	8
Total Area	67.11 sq. km (CBS data)
Built-up Area	NA
Major Rivers and Ponds	Karnali, Pathraiya
Total Road length	Total: 212.25 km
Population (2001)	38,722 (CBS data)
No. of Households (2001)	6,287 (CBS data)
No. Shops	NA
No. of Restaurants, hotels and shops	NA
Annual Population Growth Rate (1991-2001)	4.2 percent
Estimated Population for 2003	42,043
Population Density	626.45 per sq. km

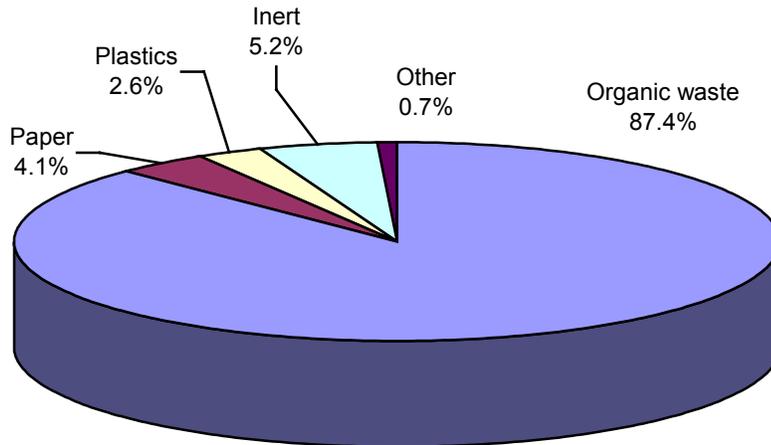
2 Waste Generation and Composition

According to a field survey done in 2003, the average per capita household waste generation rate in Tikapur was 0.09 kg/person/day. This is fairly low compared to the average waste generation rate in urban areas of Nepal, which is 0.25 kg/person/day. Considering the total population of Tikapur in 2003, which is estimated to be 42,043, the total amount of household waste generated in the municipality comes out to be about 3.8 tons per day. If we assume that 75 percent of the total municipal waste is generated by households, then the total municipal waste generated by Tikapur becomes about 5 tons per day.

The survey also indicated that approximately 87 percent of the waste is organic in nature, while only 2.6 percent is plastics and 4.06 percent is paper. Although this is not surprising for a relatively rural municipality like Tikapur, the amount of organic materials in the waste is higher than the national average of about 65 percent and the amount of plastics and paper in the waste is well below the

national average. The average amount of plastics and paper in Nepalese municipal waste is 8.0 percent and 8.9 percent respectively.

Figure 1 Waste Composition



3 Waste Collection

Tikapur Municipality estimates that it collects approximately 0.9 ton of waste per day. If we assume the total waste generation rate in the Municipality to be about 5 tons per day, the collection efficiency is about 20 percent. Most of the waste that is not being collected is probably waste from rural areas within the Municipality.

The Municipality sweeps approximately 4 km of roads in the urban area on a daily basis. The waste collection method used by the municipality consists of road-side bins as well as road-side pick up from open waste piles. These services are provided daily.

The Municipality has one tractor with a 2.3 m³ capacity trailer and 3 rickshaws for waste collection.

4 Final Disposal

The collected waste is usually disposed in a crude manner in ditches along road-sides or in open piles. Although this is the normal practice for waste disposal in many municipalities in Nepal, it is not an environmentally friendly way to dispose waste. The disposal site that is currently being used has an area of about 2 kattha and is approximately 1.5 km from the city. The Municipality estimates that this site can be used for about one more year.

The Municipality does not have any plans to develop a new landfill.

5 Composting and Recycling

Tikapur Municipality does not have any programs for promoting recycling and composting and the Municipality does not have any information regarding household and community level composting.

Although there are a few scrap dealers involved in collecting inorganic recyclable waste, the Municipality does not have any information on them.

6 Special Waste Management

Tikapur has one hospital and a few clinics. But the Municipality does not have any special system for collecting the hazardous medical waste generated by these facilities. The hospitals and clinics either manage the waste on their own or dump it with regular municipal waste.

The city also does not have any system to collect other types of special waste such as construction/demolition debris, industrial waste, and dead animals.

7 Community Mobilization

Tikapur Municipality does not have any programmes to work with local communities or school children in the areas of waste management or promote people's participation in waste management. Similarly, there are no private companies, NGOs or local organizations active in the area of waste management.

8 Organizational and Financial Aspects

Information on organizational and financial aspects of waste management in Tikapur Municipality is not available.

9 Major Problems and Issues

The main problem associated with waste management in Tikapur is the lack of a sanitary landfill and compost plant. The lack of the necessary resources (technical, financial and manpower) is another major issue in the municipality. Tikapur needs to improve its waste collection system and it also needs to work closely with local communities.

10 Conclusion & Recommendations

As Tikapur is a new municipality and relatively rural municipality, it does not yet have the necessary structure and system to manage solid waste. Although solid waste management does not seem to be a major problem at present, it is time that the Municipality starts to look seriously into this issue and address it in an effective manner. The municipality should formulate appropriate strategies and start improving the waste collection and disposal practices.

Recommendations:

1. The Municipality should set up a Solid Waste Management Unit within its organizational structure and equip the section with adequate resources and trained manpower.
2. The Municipality should introduce door to door waste collection system to the extent possible so that waste is not disposed on the streets.
3. The municipality should compel all the health institutions to manage their waste by burning it or burying it.
4. The Municipality should encourage local communities to practice household composting. For this the municipality should organise training and awareness campaigns. The municipality may also encourage local people to set up community compost plant.

For more information, please contact

Executive Officer
Tikapur Municipality
Phone: 091-560118; 560499
Fax: 560128