



# Waste Management Baseline Survey Nepal

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# Background

- Solid Waste Management Act 2011 of Nepal has made responsible for local bodies for the construction, operation, management of infrastructure for collection, treatment and final disposal of Municipal Solid Waste (MSW)
- It remains a socially complex and technically ever-challenging task for municipal authorities because of the limited information about solid waste status
- The quantity of solid waste is increasing every year in all the municipalities and in emerging cities mainly due to fast urban population growth and changing livelihood styles
- Most of the municipalities, including newly declared municipalities, have no planned activities on SWM
- It is required to scaled all over the country to develop baseline of the SWM which will ultimately provide sustainable and environmentally friendly SWM services at municipal levels

- SWM is a crosscutting issue that affects and impacts various areas of sustainable development in each of the three sustainability domains: environment, economy, and society
- The emerging literature has established direct linkage with solid waste management issue to 12 out of 17 SDGs.

# Situation of Nepal

- Nepal's urban population is 59.9% covering 293 municipalities
- Internal migration into urban areas is increasing rapidly
- Solid waste management is no exception, particularly in large urban centers, as the problem of uncollected or improperly dumped waste
- With rapid urbanization, population growth and new economic and social activities municipal solid waste is increasing at alarming rates
- Creation of immense pressure on municipal services, particularly to manage ever increasing amounts of waste
- Managing solid waste has been accorded a **low priority** mainly because the demand is higher for other public services in many municipalities in Nepal
- Local bodies are experiencing difficulties in developing management plans due to the **lack of SWM baseline information**
- Solid wastes are **not effectively managed**, it's result has serious adverse impacts on environment as well as in public health













# Objective of the survey

- To find the baseline data and information on SWM, including the quantity and composition of municipal solid waste (MSW) and other vital information on the state of SWM in the municipalities of Nepal
- To develop the SDG indicator 11.6.1 *Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities*
- To develop the indicators designated by FDES on the solid waste sector
- To provide a clear recommendation for appropriate sustainable waste management solutions that are low cost and locally appropriate, provide sustainable development benefits, and ultimately create transformational change towards low carbon, resource efficient, resilient, and sustainable cities.

# Coverage and survey preparation

- 293 Municipalities of Nepal
- Stakeholder consultation for the questionnaire design and dummy tables
- Questionnaire test, comments and feedback added
- Training for supervisor and enumerator
- Data collection and supervision

# Content of the questionnaire

- Introduction
- Land use information
- Infrastructure
- Organizational and managerial information
- Financial information
- Composition and collection of solid waste
- Information on Transfer Station
- Information on Landfill site
- Policy arrangement and miscellaneous
- Challenges/needs in waste management

# Data Entry & Data Analysis

- Data entry programme was developed in CPro & data analyzed by integrating Visual FoxPro and Microsoft Excel
- The data was tabulated with disaggregated output data on the basis of following variables:
  1. Province level data tabulation- 7 provinces
  2. Agro-ecological Zones – Mountain, Hill and Tarai
  3. Type of Municipality – Metropolitan City, Sub-Metropolitan City and Municipality
  4. Age of Municipality – Established within last 5 Years, Established within Last 6 – 15 Years and Established before 15 Years

## Selected Waste Variables

- Percentage of population served by municipal waste collection
- Expenditure on waste management
- Total revenue collection from service provided
- Total amount of municipal waste generated (Tonnes/day)
- Municipal waste collected from households and from other origins (Tonnes/day)
- Solid waste collection by type (organic, inorganic, others) Tonnes/day
- Total hazardous waste generated (Tonnes/day)
- Per capita annual municipal waste collection in kg
- Percentage of population with access to waste disposal service
- **Total amount of municipal waste collected**
  - of which:* Recycled
  - Composted Incinerated Landfilled

# Limitations of the survey

- About 80% municipalities, which were formed after federalism in the country in 2013, do not have enough physical infrastructure and mechanism for waste management and record keeping
- Response rate 93 percent



# Major survey findings

# Major challenges and current needs

## Challenges

- ❖ Increased Waste
- ❖ Low awareness
- ❖ Landfill site problem
- ❖ Inadequate infrastructure
- ❖ Human resources
- ❖ Geographical difficulties
- ❖ Lack of resources

## Current needs

- ❖ Capacity development
- ❖ Increase awareness
- ❖ Allocate enough budget
- ❖ Infrastructure development
- ❖ Implementation of laws/policies/rules
- ❖ Coordination with three tiers of govt.
- ❖ Landfill site(quality/sufficiency)

# Conclusion

- The survey has clearly revealed that waste generation has been gradually increasing over the years in the past and it is likely to grow further in the years to come.
- Increasing consumption and production activities of all subsectors of the economy along with the growing population, settlements, urbanization, industrialization etc. will continue to contribute increased waste generation.
- Government has to develop effective measure to respond the challenges in this sector
- Local governments have to play vital role in planning and implementation of their specific activities for waste management remaining within the national framework of waste management plans and policies.

# Recommendations

## Policy recommendations

- Develop a holistic and integrated waste management plan by federal and/or provincial government
- Reform and/or update legislative measures in waste management sector and enforce them strictly

## Activities recommendations

- The municipalities are recommended to develop their in-house capacity
- Develop efficient landfill sites including waste transfer points
- It is necessary for all the municipalities to procure and operate efficient intermediate facilities for waste transportation, sorting/grading, compaction and management

- To set up modern waste treatment plants in appropriate locations of the cities
- The municipalities would require taking efficient measures to convert waste to energy including recycling, reusing of waste and production of manure
- Implement scientific tariff collection against waste collection and management from different users to enhance their internal resource generation
- Mass awareness raising among the common users and other agencies in private and public sector with ppp model
- Effective collaboration and coordination is necessary among the stakeholders involved in waste generation and waste management



**Thank you !!!  
Your comments and queries are  
highly appreciated !!!**