



BHUTAN
Believe

From Policy to Practice: Bhutan's Zero Waste Journey
Bhutan's Zero Waste Journey through Social and Private Sector
Engagement

Presenter: Jigme Gembo (Mr.)
Waste Management Division, Department of Environment & Climate Change (DECC)
Ministry of Energy and Natural Resources
Royal Government of Bhutan

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Bhutan at a Glance

1. Small Landlocked Eastern Himalayan country
2. Total land area of approximately 38,394 square kilometers
3. Terrain: Highly mountainous with altitudes ranging from 100 - 7000 masl
4. Population: ~800,000
5. Capital: Thimphu
6. 70% forest cover (Constitution mandates at least 60%)
7. Development guided by Gross National Happiness (GNH)

Why waste is a growing concern?

1. Rapid urbanization
2. Increasing imported goods
3. Rising plastic consumption
4. Limited recycling industry
5. High transport cost (mountain terrain)





Article 5. Environment

Constitution of the Kingdom of Bhutan

Section 5.1: "Every Bhutanese is a trustee of the Kingdom's natural resources and environment for the benefit of the present and future generations."

Legislations for Waste Management

Sl. No.	Legislation	Document focus
1	Waste Prevention and Management Act of Bhutan 2009	- Establishes the legal foundation for waste management. - Defines waste categories and responsibilities of regulatory, implementing and local agencies.
2	Waste Prevention and Management Regulation 2012 and Amendment 2016	- Provides operational guideline for waste segregation, collection, transport, treatment and disposal. - Mandates the implementation of 3R principles and enforcement mechanisms.
3	National Waste Management Strategy 2019	- Outlines eight strategic tools for integrated waste management across all waste categories. - Sets national targets and timelines and addresses implementation barriers.

Institutional Framework

As per the Waste Prevention and Management Act of Bhutan 2009;

- The Department of Environment and Climate Change (DECC) is the regulatory authority for waste prevention and management and is responsible for coordinating and overseeing the implementation of the Act.

The following agencies are responsible for implementing waste management initiatives for different waste components:

- Ministry of Infrastructure and Transport (infrastructure design of waste facilities)
- Ministry of Industry, Commerce and Employment (Waste resulting from trade and industry)
- Ministry of Health (Hazardous and medical waste)
- GovTech Agency (E-waste)
- Local Governments (Thromdes & Dzongkhags)
- Civil Society Organisations (public awareness and promoting public private partnership)



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ZERO WASTE BHUTAN

Our interpretation of Zero Waste

1. Reduce at source
2. Improve segregation
3. Recover resources
4. Minimize landfill dependency
5. Build circular partnerships

Roles of Communities and Civil Society

1. Youth volunteer campaigns
2. School awareness programs
3. Local advocacy initiatives
4. Community led clean up drives



Emerging Private Sector Participation

1. Small scale recyclers and buyers of plastics/metals
2. Hospitality and tourism waste reduction practices
3. Local recycling entrepreneurs.

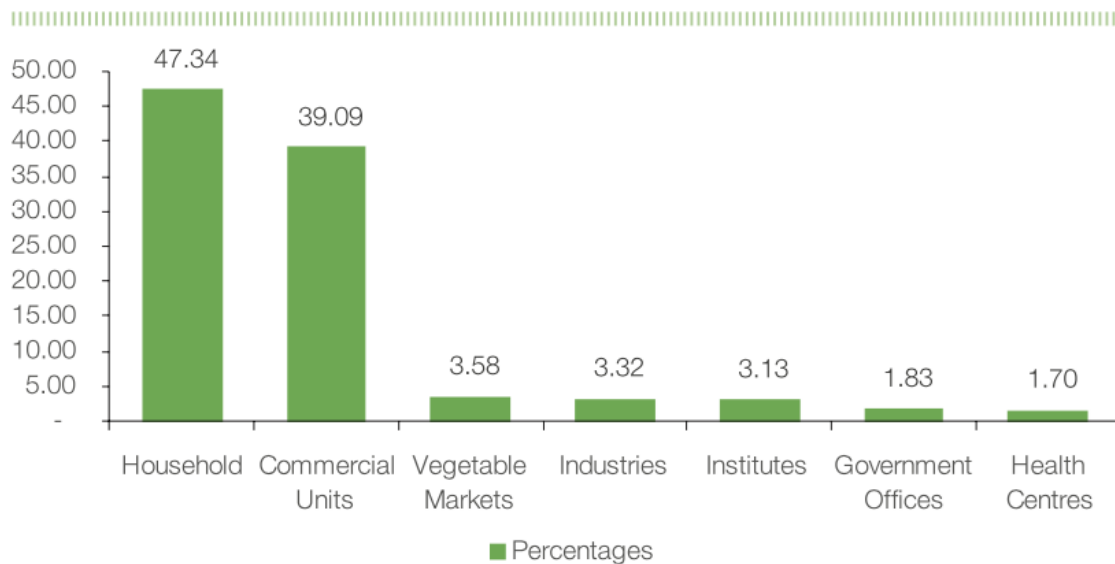


Waste by Numbers

According to the National Waste Inventory Survey 2019:

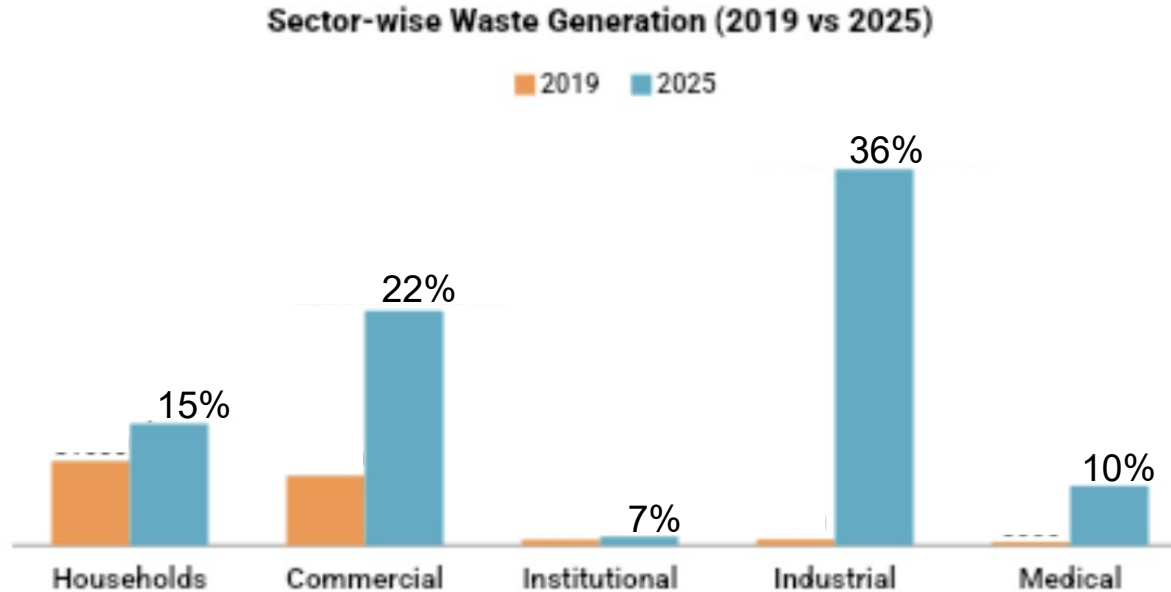
- Total waste generation: 172.16 MT/Day
- Per capita waste generation: 0.23 Kg

Figure 1 Proportion of wastes from different sectors in percentage



Preliminary Findings from NWIS 2025

- Total waste generation: 769.5 T/day.
- Per capita waste generation: 0.98kg



13th Five Year Plan (2024-2029)

Sl. No.	Project	Activity	Area of focus
1	Waste Material Recovery Facility and Incinerator (GoI-PTA)	Installation of Material Recovery Facilities and procurement of incinerators	- Construction of MRFs in Paro and Zhemgang Dzongkhag - Establishment of Integrated Waste Management Facility (IWMF) in Gyalsung Academies
2	Promotion of Circular Economy	Enhance Integrated Waste Information Management System	- Enhancement of Zero Waste App
		Circular economy enterprise development	- Initiated the Clean Thimphu Clean Paro initiative with support of SACEP under the PLEASE Project, funded by the World Bank
		Study to assess waste collection vehicles and disposal sites	- IWMF initial study (completed) - Revision of NWIS and Waste Strategy - Development of Zero Waste Road Map in collaboration with JICA Bhutan under the Waste Management Capacity Development Advisor Project.



**Her Majesty The Gyaltshen Graces the Launch
of Waste Management Initiatives on
June 2, 2019**

Zero Waste Hour

Theme: “My Waste, My Responsibility”

Vision:

- To achieve Zero Waste Society by 2030.
- To inculcate a sense of social responsibility towards managing our own waste through behavioral changes.
- Observe at least one hour on the second day of every month as “Zero Waste Hour” by cleaning our own surrounding areas.



Key Challenges

1. Technical Capacity Constraints: Lack of trained personnel and technical expertise in waste management, limits effective monitoring, enforcement and adoption of modern waste management practices.
2. Insufficient Infrastructure and Resources: There is a lack of adequate infrastructure, including waste collection points, transportation vehicles and recycling facilities, particularly in rural areas.
3. Financial Constraints: Waste Management is further constrained by limited funding for waste management infrastructure, facility maintenance, monitoring programs and awareness campaigns.
4. Behavioral change: Changing public mindset continues to be the most significant challenge in effective waste management.

Strategic Priorities

1. Support the Local Governments and private enterprises in strengthening waste management services and infrastructures.
2. Upscaling Clean Thimphu Clean Paro initiative as a model to other Dzongkhags.
3. Ratification to Rotterdam Convention and Stockholm Convention to address issues related to emerging waste categories that arise from cross boundary movement.
4. Collaborate with academia for research and development to foster innovation in waste management.
5. Strengthen advocacy, awareness and community engagement.
6. Transitioning from cleaning campaigns to behavioral change.
7. Sandboxing financing mechanisms like Extended Producer Responsibility.
8. Adopt international best practices into the local context.

Different Contexts, Shared Vision

Kamikatsu (Japan)



- Advanced segregation system
- Strong community compliance
- Mature local circular model

Bhutan



- National level policy commitment
- Early-stage infrastructure
- Scaling across mountainous terrain

Shared aspiration: Zero waste through circular systems - pathways differ by context

Bhutan's Zero Waste Journey

Policy-led

Partnership
driven

Still evolving

Committed for
the long term

Zero Waste is a transformation in progress



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THANK YOU