



# Transformative approach to sustainable healthcare waste management in Nepal



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# Extent of the problem of HCWM



“Over half of the world’s population are now at risk from occupational, environmental or public health threats from improperly treated medical waste.”

Harhay *et al.* (2009) Tropical Medicine and International Health 14(11): 1414-1417

Healthcare Facilities in Nepal generate about **75 ton/day** of waste (*HCWM Conference 2019*)

In Nepal, **only 10% of health facilities have basic level healthcare waste management service** (*Further analysis of Nepal Health Facility Survey 2021*)



**Basic level healthcare waste management services at all level of HCF by 2030**



# Background



First National workshop on healthcare waste management (HCWM) and WASH in healthcare facilities organized by MoHP in Dec 2019

12 points collaborative actions to work on HCWM promoting environment friendly technologies.

Endorsement of National HCWM standard and Operating Procedures 2020.

Development of Integrated training packages on HCWM, WASH and Environmental Health.

COVID19 pandemic exposed the immediate need of comprehensive assessments of Health Care Waste and its management in the hospitals

Healthcare waste management comprehensive intervention in COVID-19 designated hospitals





# Objective



**Institutionalize  
sustainable  
practice of  
healthcare  
waste  
management**

**Support**

Support hospitals in implementation of proper waste management as per MoHP's National Healthcare Waste Management Standards and Operating Procedures - 2020

**Build**

Build capacity of hospitals and stakeholders to become environmentally resilient

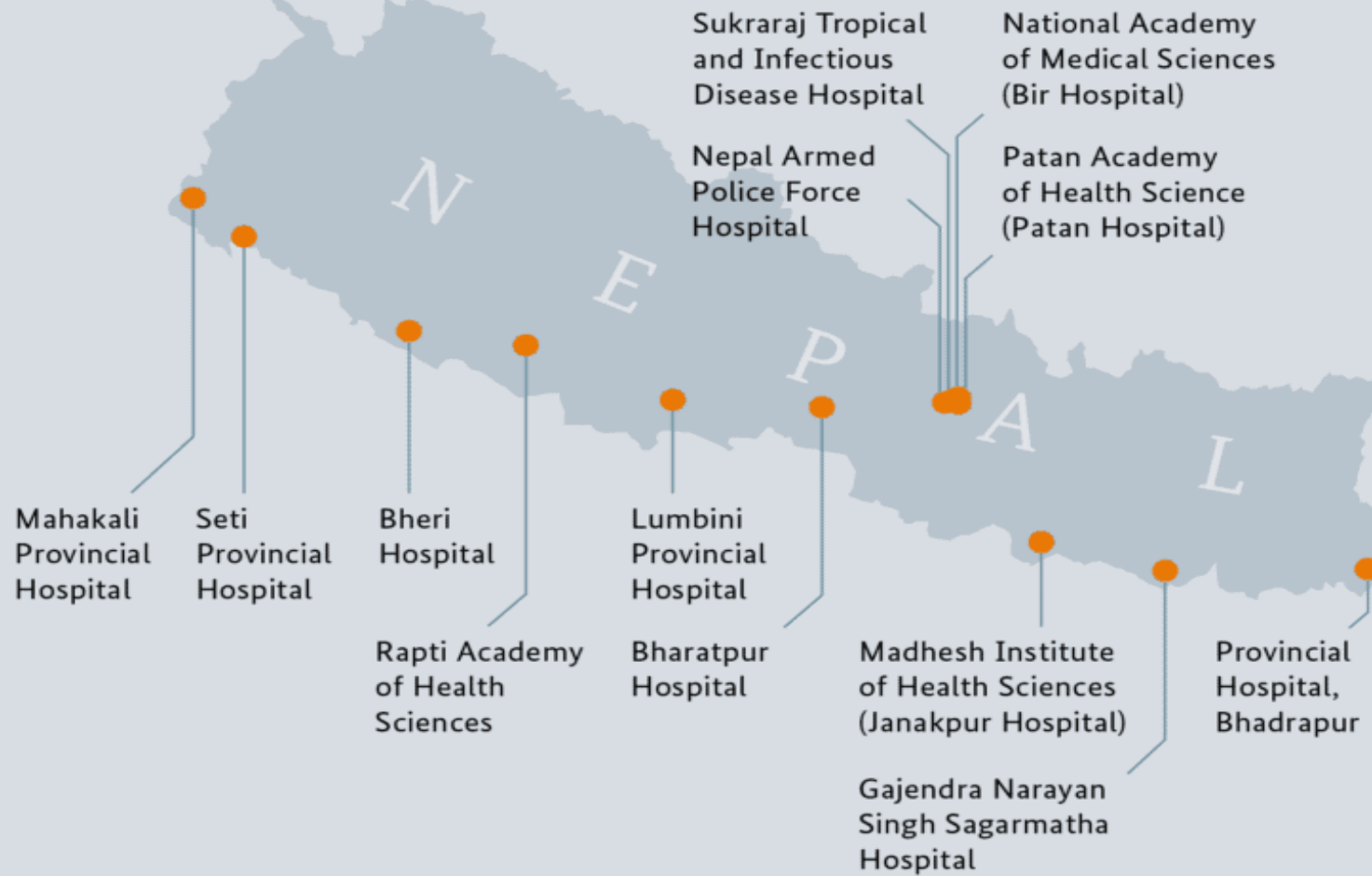
**Empower**

Empower hospitals and stakeholders to become role models in sustainable healthcare waste management





# Geographical Coverage





# Approaches



- Assessment of hospital readiness to HCWM, WASH and IPC in beginning of COVID-19 pandemic

Detailed Assessment  
(April 2020)

Infrastructure development and equipment supply  
(July 2020 to June 2021)

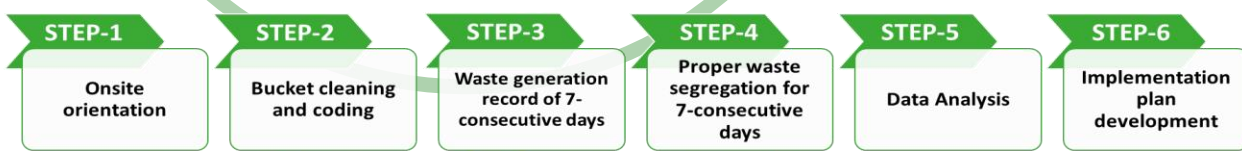
- Refurbishment/construction of HCWM treatment center
- Supply and installation of equipment and utility (Autoclave, medication trolley, bins, etc.)

- ▶ MToT, hospital-based training
- ▶ HCWM model ward setup and replication
- ▶ Structured data recording and reporting
- ▶ Regular validation and maintenance of autoclave
- ▶ Regular onsite mentoring and coaching
- ▶ BCC for good practices

Evaluation and dissemination  
(January 2024 – June 2024)

- ▶ 7-day endline assessment (Jan. 2024)
- ▶ Documentation and learning dissemination

HCWM Intervention  
(July 2021 to December 2023)<sup>1</sup>





# Key findings – Baseline Assessment

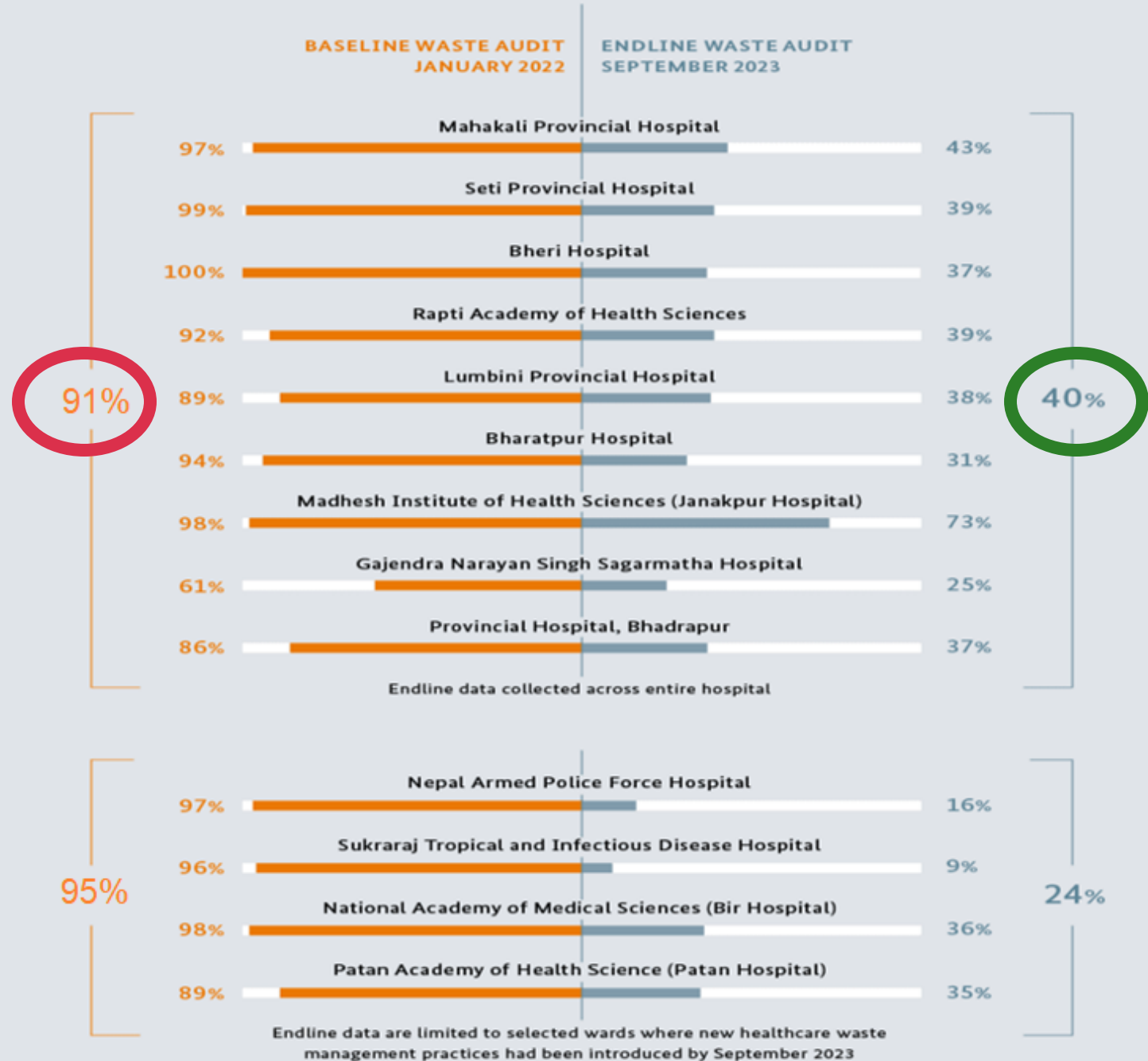




# % OF INFECTIOUS WASTE, BEFORE AND AFTER INTERVENTIONS



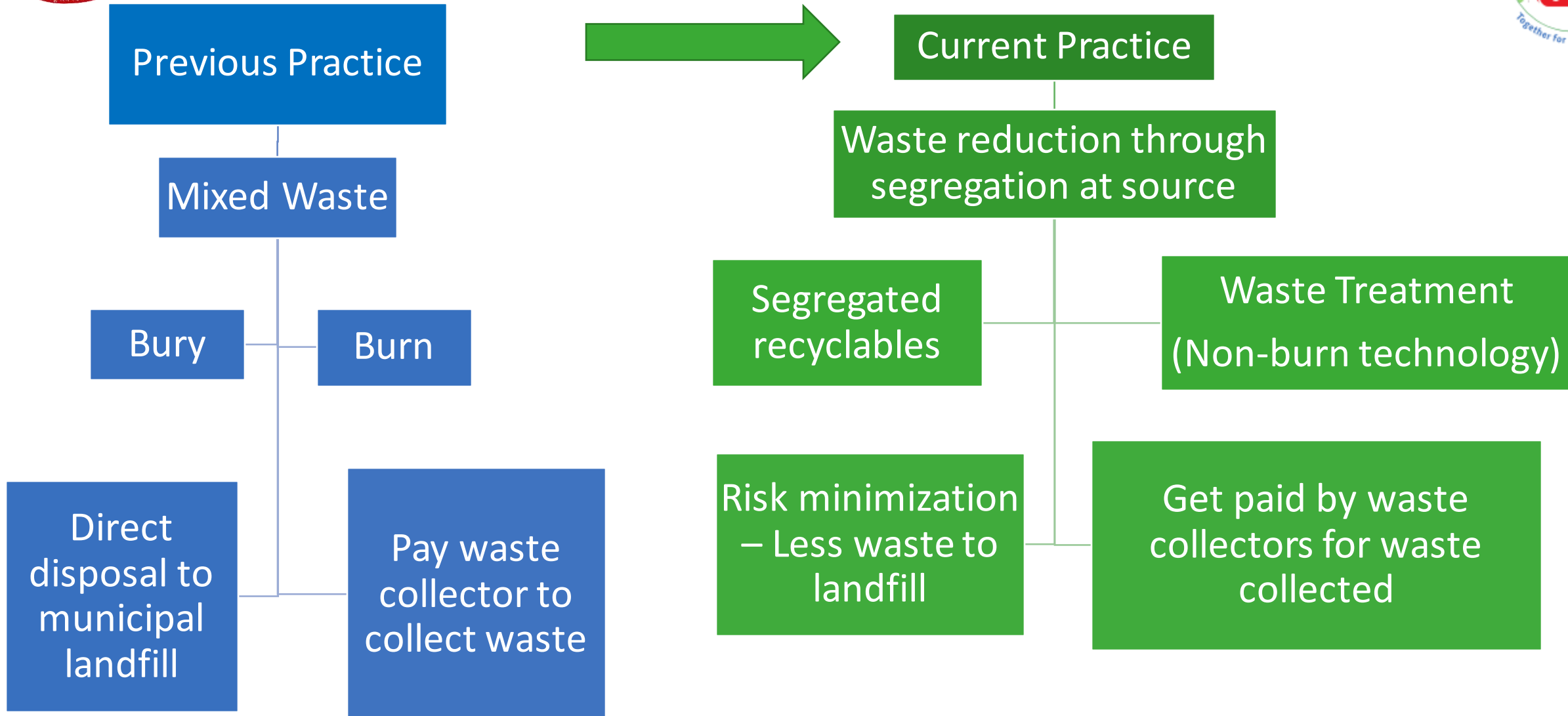
## Key findings: Baseline VS Endline Assessment







# Result





# Results in each step of HCWM practices



Segregation



Transportation



Treatment



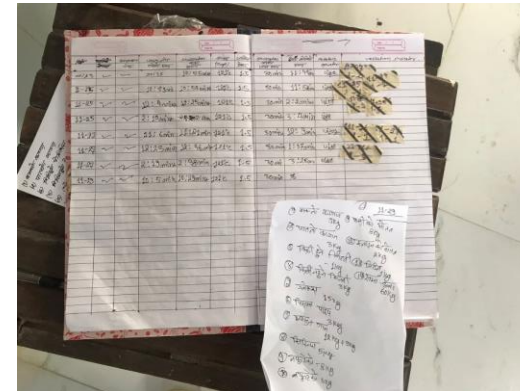
Post Rx segregation



Storage/Resource recovery



Disposal



Data management and quality assurance



Occupational health and safety





# Learning and Recommendations



Dedicated HR retention and budget for HCWM



Procurement and maintenance of equipment



Integration of HCW with municipal waste system



Expand scope of recycling waste



Occupational health and safety measures



Behaviour and Practice



Use of evidence generated on HCWM practices



HCW data M&E through HMIS



Replication of HCWM good practices to basic HFs



Leadership/Management





# Status of 12 points resolutions on HCWM



12 points resolutions - National Workshop on HCWM and WASH in December 2019	Progress till date
1. Formulate medium and long-term strategies for sustainable management of EH/HCWM/WASH in health facilities	<ul style="list-style-type: none"> <li>• National HCWM SOP 2020</li> <li>• National Standard of WASH in HCF 2022</li> <li>• 3 Years workplan and budget on HCWM</li> </ul>
2. Roadmap for HCWM will be prepared and implemented	<ul style="list-style-type: none"> <li>• Final draft of roadmap completed</li> </ul>
3. HCWM practices as per approved SOP and a model of Integrated HCWM will be developed and scaled up gradually based on best practices	<ul style="list-style-type: none"> <li>• Institutionalized HCWM practices in 20+ hospitals</li> <li>• Integrated HCWM project in Nepalgunj SMC and Dhangadhi SMC</li> <li>• Provinces provided HCWM equipment to hospital</li> </ul>
4. Develop a collaborative framework to bring stakeholder working on EH/HCWM/WASH through establishment of a separate unit	<ul style="list-style-type: none"> <li>• EH and HCWM section in MD/DoHS</li> <li>• HCWM committees in hospitals</li> <li>• HCWM focal persons at each hospitals</li> </ul>
5. Promote occupational safety and social protection measures for service providers, professionals and people involved in waste management	<ul style="list-style-type: none"> <li>• Promotion of healthy waste workers in Nepalgunj</li> <li>• Revision of OHS guideline</li> </ul>
6. Develop, pilot and scale-up a model information system on HCWM/WASH in hospitals and healthcare facilities	<ul style="list-style-type: none"> <li>• Implementation of HCWM audits and waste trackers tools</li> <li>• Advocacy for HCWM indicator in HMIS</li> </ul>



# Status of 12 points resolutions on HCWM



12 points resolutions	Progress till date
7. Ensure waste management system and waste audits conducted by skilled personnel are mandatory for establishment, operation, renewal and upgrading of health facilities	<ul style="list-style-type: none"><li>• Detailed diagnostic assessment of federal and provincial hospitals in Koshi, Madhesh, Gandaki, Lumbini and Sudurpashchim</li></ul>
8. Coordinate, collaborate and partner with three tiers government and private sector for promotion and management of skilled HR EH/HCWM/WASH in health facilities	<ul style="list-style-type: none"><li>• MToT on EH/HCWM/WASH in HCFs (Approx. 180 personnel)</li><li>• Basic training to 400 health workers and orientation to 700 health workers and waste workers</li></ul>
9. Promote climate change resilience measures in health programmes to reduce the adverse effect of climate change on public health	<ul style="list-style-type: none"><li>• Vulnerability assessment and Climate resilient HCFs project piloted in 3 hospitals</li><li>• National estimate of health sectors GHG emission</li></ul>
10. Scale up good practices, lessons learned and cost-effective programmes following 4R principles and will discourage the use of plastics and related products	<ul style="list-style-type: none"><li>• Practice of 4R principles and Zero waste management in HCWM</li><li>• Resource recovery from HCWM in &gt;20 hospital</li></ul>
11. Consider aspects related to on EH/HCWM/WASH in HCFs in the design and planning of all health facility-related programmes	<ul style="list-style-type: none"><li>• Advocacy to DUDBC and NDRRMA to incorporate HCWM and WASH in designing HCF</li></ul>
12. Promote studies, innovation and research, and prioritise use of evidence	<ul style="list-style-type: none"><li>• Study on Liquid waste management of hospitals/ health institutions</li><li>• Study tour and peer learning on IHCWM.</li></ul>



# Acknowledgement



S.N	Name of Health Facilities	Province	Type of hospital
1	Patan Academy of Health Sciences	Bagmati province	Federal
2	Lumbini Provincial Hospital	Lumbini	Provincial
3	Mahakali hospital	Sudhuraschim Province	Provincial
4	Bheri Hospital	Lumbini	Federal
5	Gajendra Narayan Singh Hospital, Rajbiraj	Madesh	Federal
6	Rapti Academy of Health Sciences	Lumbini	Federal
7	NAMS, Bir Hospital	Bagmati Province	Federal
8	Bharatpur hospital	Bagmati Province	Federal
9	Janakpur provincial hospital	Madesh	Provincial
10	Nepal APF Hospital	Bagmati Province	Federal
11	Sukraraj Tropical and Infecteous Disease Hospital	Bagmati Province	Federal
12	Seti provincial hospital	Sudhuraschim Province	Provincial
13	Mechi Hospital	Koshi	Provincial





Thank you

