

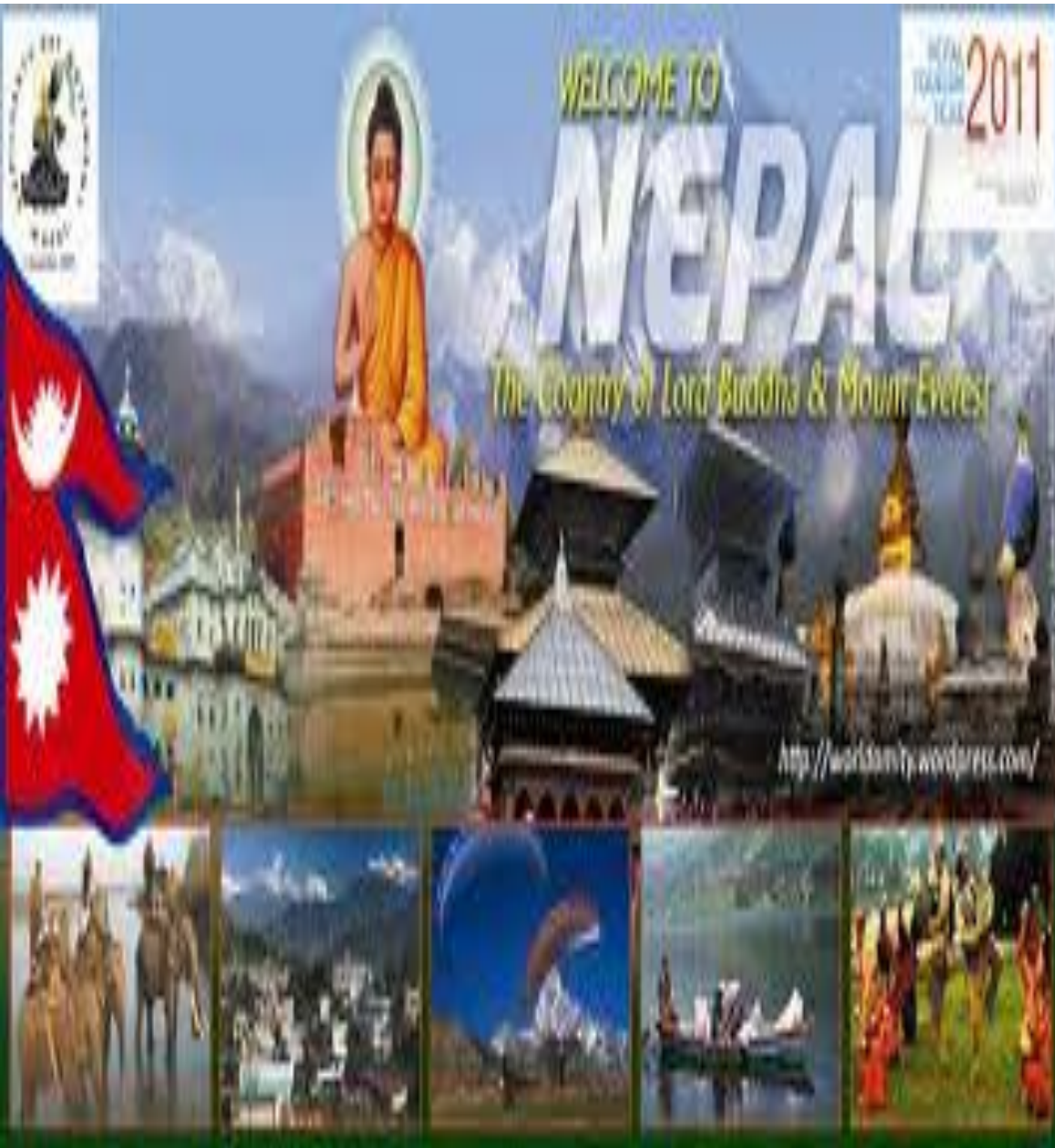
NEPAL



Presenter : Joint- Secretary – Shambhu K.C.,
Surendra Subedi & Hari Bahadur Kunwar

8th 3R forum Indore M.P., INDIA

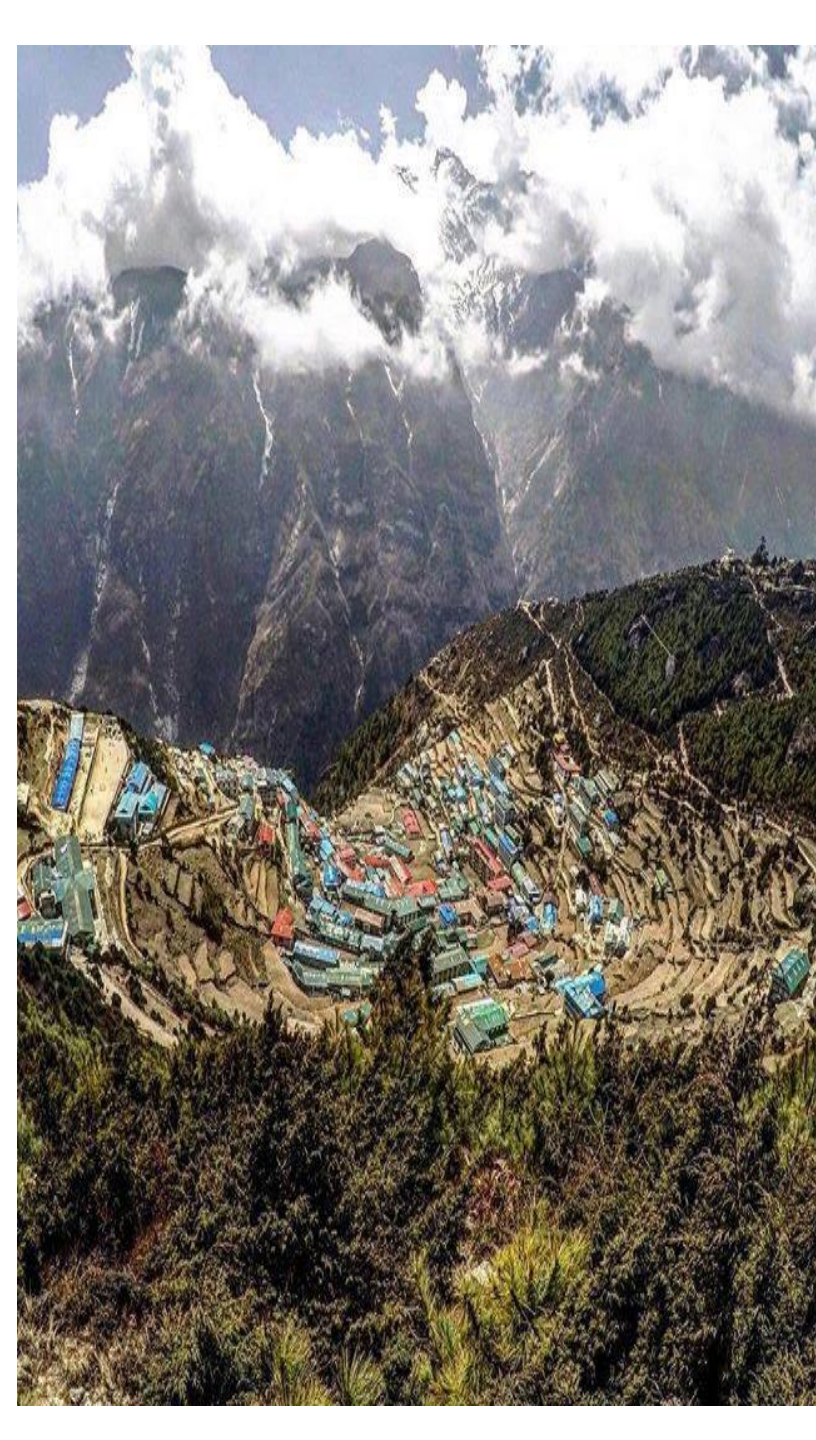
April 9-12 2018



NAMASTE
Good Morning

Acknowledgement

On behalf of Nepal, From the participants of Nepal, and Myself like to give hearty thanks to the Organizer, The participants from the different member countries and The people of INDIA for the overall management and providing this opportunity.



Outline of presentation

- Introduction of Nepal
- Some more about Nepal
- Waste Management in Nepal
- Existing Policy and Act for 3R in Nepal
- Authorities responsible for healthcare waste management
- Major recycling industries in Nepal
- Efforts of Country for Solid waste Management
- Challenges faced in implementation
- Possible Collaboration
- Some Glimpse About Waste Management



Map Of Nepal





Nepal on Globe

Total area: 147,181 Km² (i.e. 0.1% of global area)

Rich in cultural, ecological and biological diversity

Population: 26.49 m (48.50% M & 51.50% F), live in agriculture dominant environment

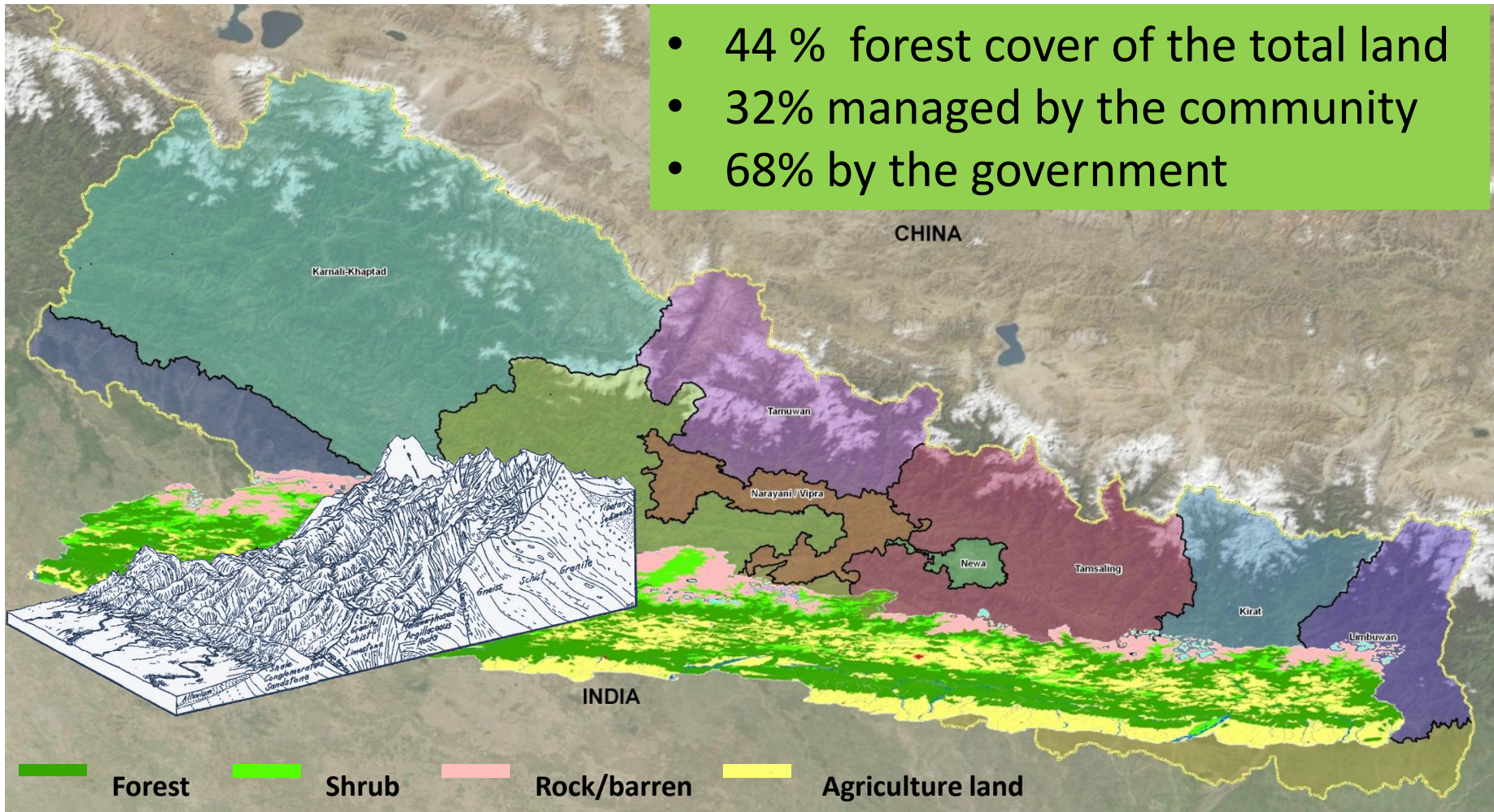
Population density: 180 persons per km²

Lat: 26⁰22' and 30⁰27' N

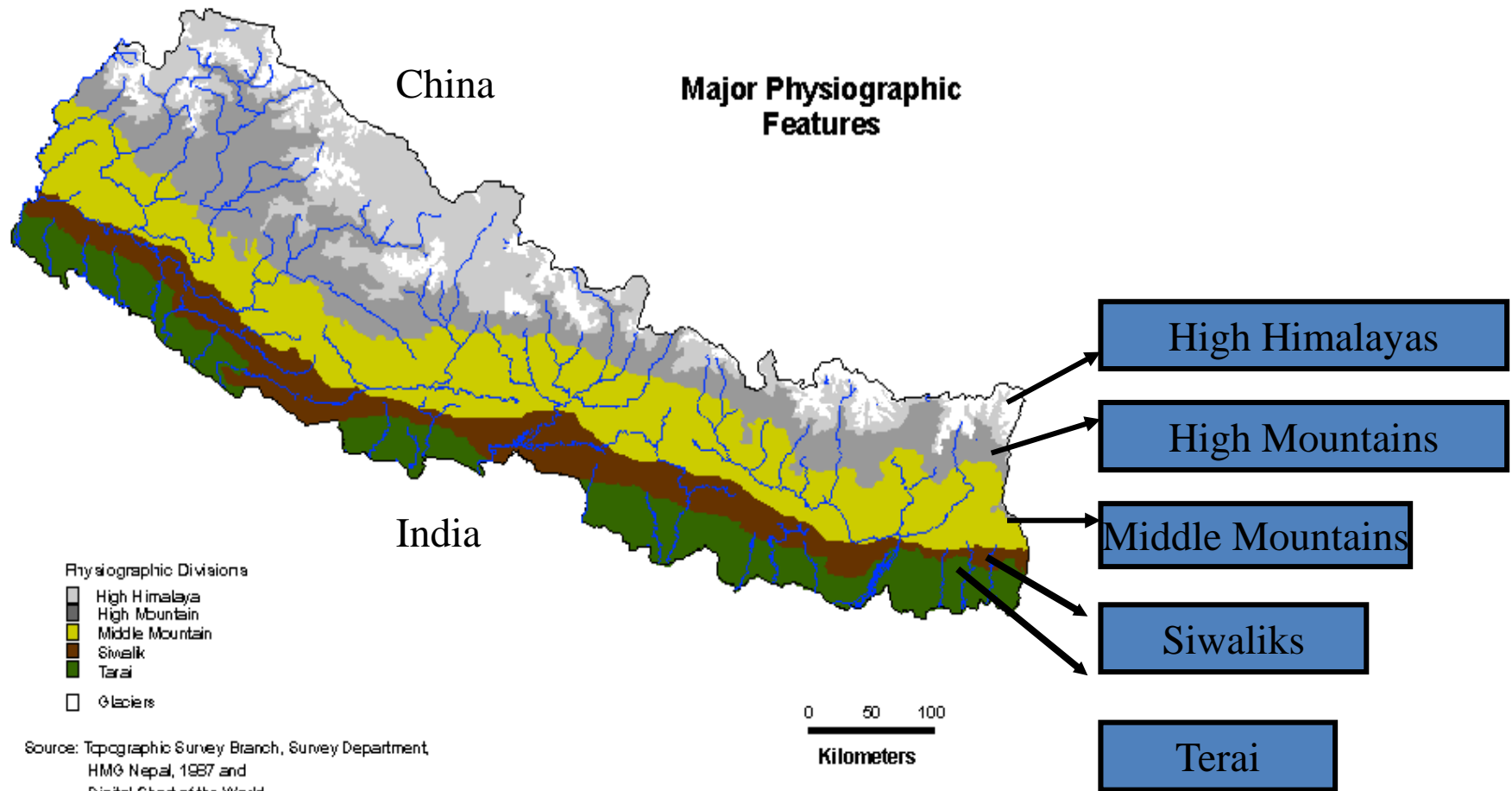
Lon: 80⁰04' and 88⁰12' E

NEPAL- Geography and forests

- 44 % forest cover of the total land
- 32% managed by the community
- 68% by the government



Physiography of Nepal





NEPAL: Weather & Climate



Climate: Alpine cold semi desert type to tropical humid type

Season: 4 distinct [Pre-monsoon (M-My), Monsoon (J-S), Post Monsoon (O-N) & Winter (D-F)]

Rainfall: 1600 mm (165 mm - 5500 mm) /yr

Precipitation: Varies from East to West

Annual temperature rise: 0.04-0.06°C





NEPAL: Biodiversity



- **Nepal is very rich in biodiversity due to:**
 - unique geography (Palaeartic and Indo-Malayan BGR)
 - with its dramatic change in elevation (70m - 8,848m from msl)
 - high variability in eco-climatic conditions
- **Nepal lies at a transition zone comprising 6 floristic regions (CBD, 2009)**
- **Nepal is a part of biodiversity hotspot, among 4 hotspots occurring in the Himalayan region.**



Waste Management in Nepal

Refers to garbage or trash management.

A System for handling all of the trash.

Municipal waste collection, recycling programs, dumps and incinerator.

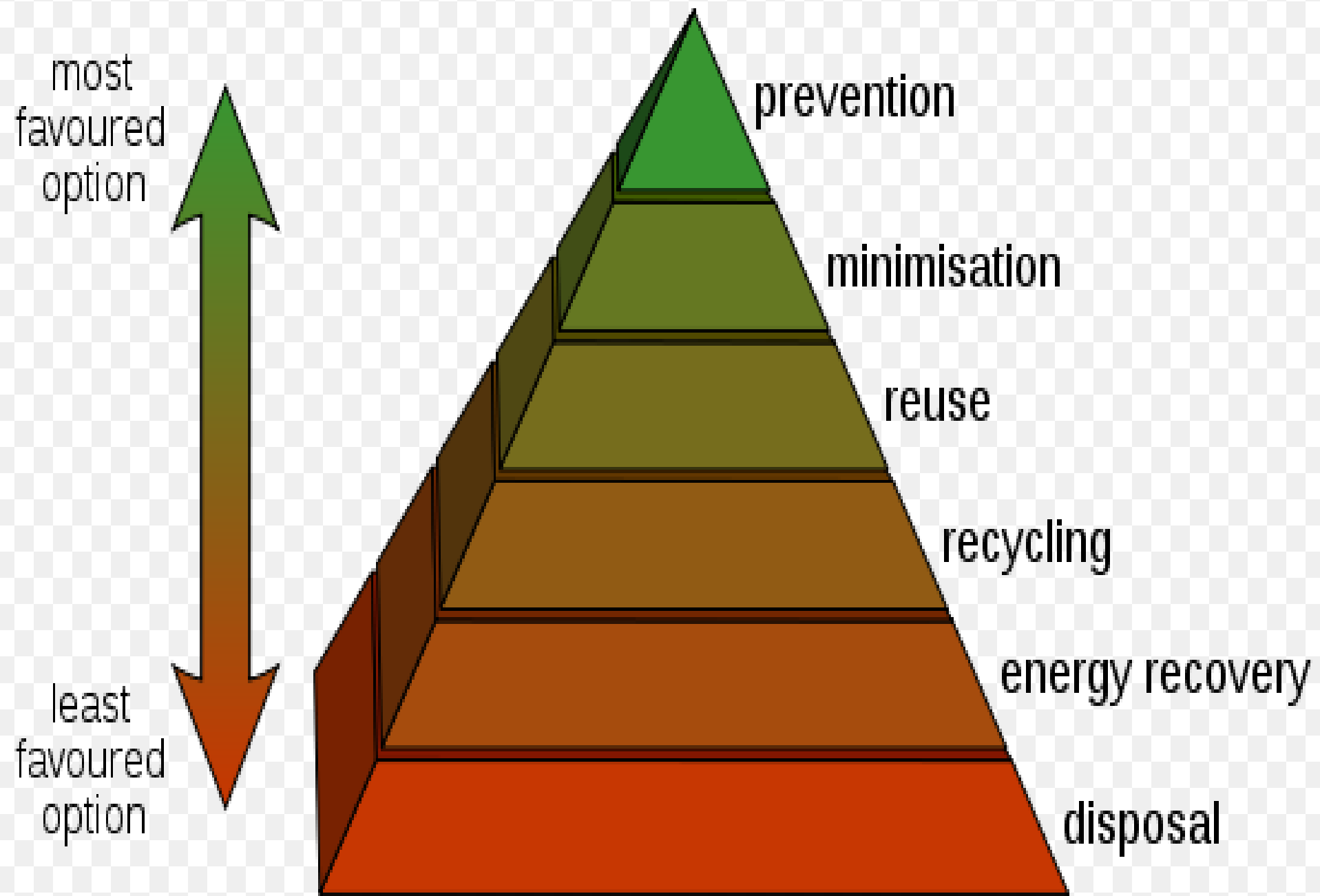
Reduce > Reuse > Recycle



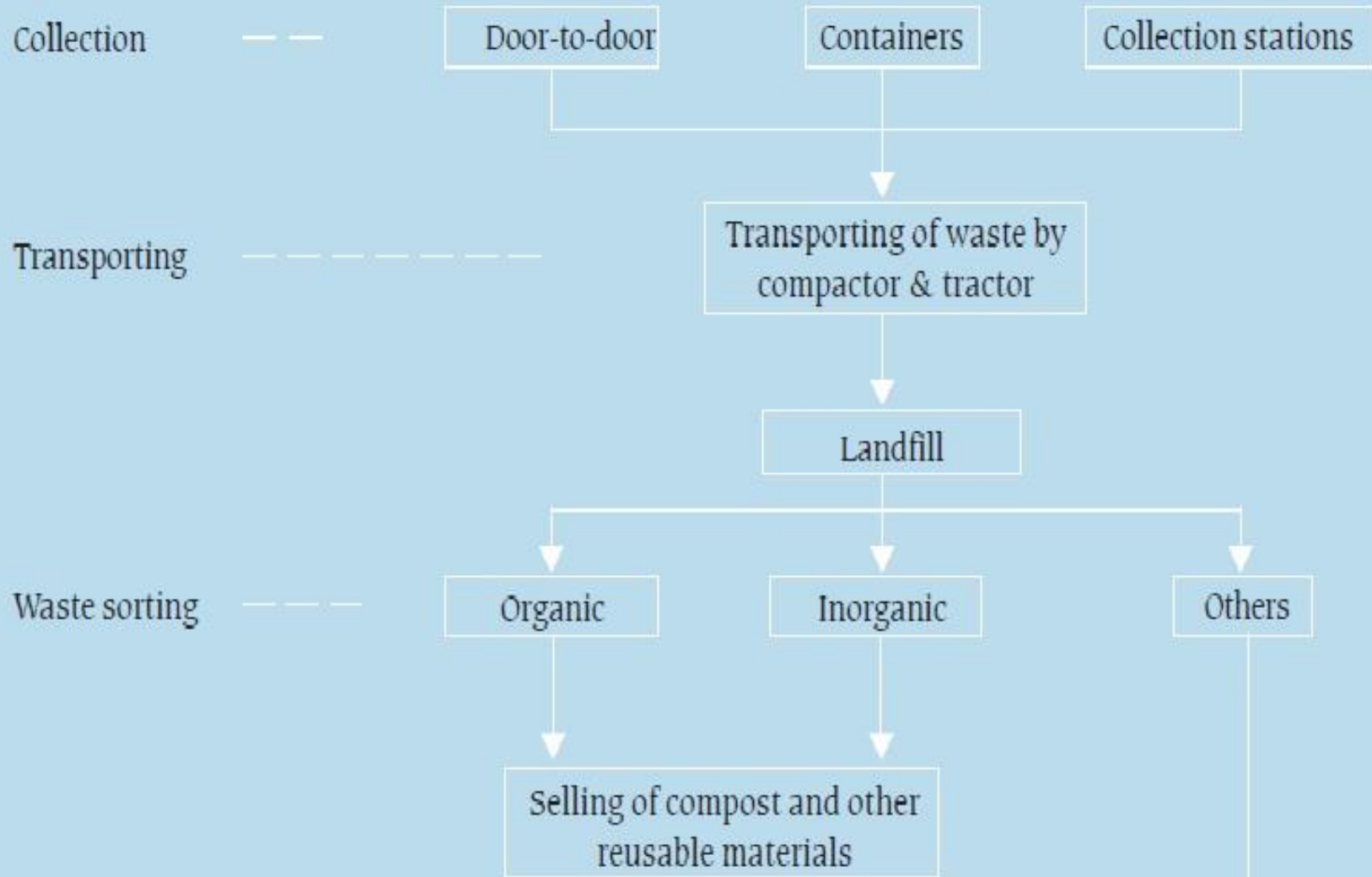
Principle followed.....

- The 3Rs (Reduce, Reuse, Recycle) to be followed for waste management.





Overall process



Existing Policy and Act for 3R in Nepal

- Local Government Operation Act, 2017
- Solid Waste Management Policy 1996 – Focused on 3R approach
- Solid Waste Management Act 2011 – Mandatory act for source segregation
- Environment Protection Act & Regulation 1997
- Sanitation and Hygiene Master Plan
- Nepal Water Supply, Sanitation & Hygiene Sector Development Plan (2016-2030)

Authorities responsible for healthcare waste management

- Ministry of Health & Population
- Ministry of Urban Development
- Ministry of Water Supply
- Ministry of Forest & Environment
- Ministry of Education, Science & Technology
- Ministry of Federal Affairs & General Administration
- Ministry of Industry, Commerce & Supply
- Ministry of Finance
- Solid Waste Management Technical Support Center (SWMTC) Hospitals, health care institutions

Examples of Pilot projects in Nepal

- SWM strategic plans has made in more than 25 municipalities
- Global Partnership for Output Based Aid (GPOBA) for Solid Waste Management in Pokhara, Ghorahi, Lalitpur, Tansen and Dhankuta Municipality of Nepal
- Secondary Town Integrated Urban Improvement Environment Projects (STIUIEP) in Biratnagar, Birgung and Butwal Sub-Metropolitan City
- www.swmtsc.gov.np

Inter-municipal cooperation in areas for effective waste management

- Strengthening the municipal capacity in 3R
- Establish basic infrastructure for recycling
- Promotion 3R activities at local level
- Behavior change of the people for 3R
- Improve financial sustainability in SWM

Major recycling industries in Nepal

- Plastic Recycling Industries
- Paper recycling industries
- Metal Recycling Industries



Efforts of Country for Solid waste Management

- M.Sc. Program in Environmental Science, Environment Management and Environment Engineering under various Universities in Nepal have integrated solid waste management in their academic curricula
- SWMTSC and municipalities have been conducting the various trainings for communities regarding waste handling, reuse, recycling of organic and inorganic waste including composting and other recycling options of different waste material

Challenges faced in implementation

- Weak institutional capacity
- Rare use of innovative technology
- Financial sustainability
- Community bargaining in and around landfill sites
- Lack of technical human resources for better management of solid waste
- Lack of awareness and self ownership
- Low level of research and development in the sector

Possible Collaboration

- Technical Support
- Human Resources Development
- Financial Support



Some Glimpse About Waste Management

Resource recovery by the informal sector at a landfill site.



Compacting Waste



Burning of waste



Leachate Treatment Pond



Organic composting





Organic waste dumping and waste sorting at landfill site



Leachate collection tank



Separated plastic ready for sale



Tree plantation at landfill site



Street sweeping and waste collection at various locations



Transporting waste to the dumping site



Waste collection



Vermicomposting at *Shaulibazar- 10*



Compost Bin



Use of community bins at Shantinagar -7



Biogas plant partially supported by Practical Action



Dumping of waste

Plastic bags on *suiro* hook





Compost bins ready for distribution



Prepared organic compost



Compact collection at UEMS



Label for finished product



Labelled product



Compost ready to sell



Gas ventilation





In addition.....



**The Mount Everest of Nepal
The Highest Peak of The World**



LUMBINI Birth place of the Gautam Buddha
Started Buddhism in the world







Tourism Sites





Tourism Sites





Cultural Dances



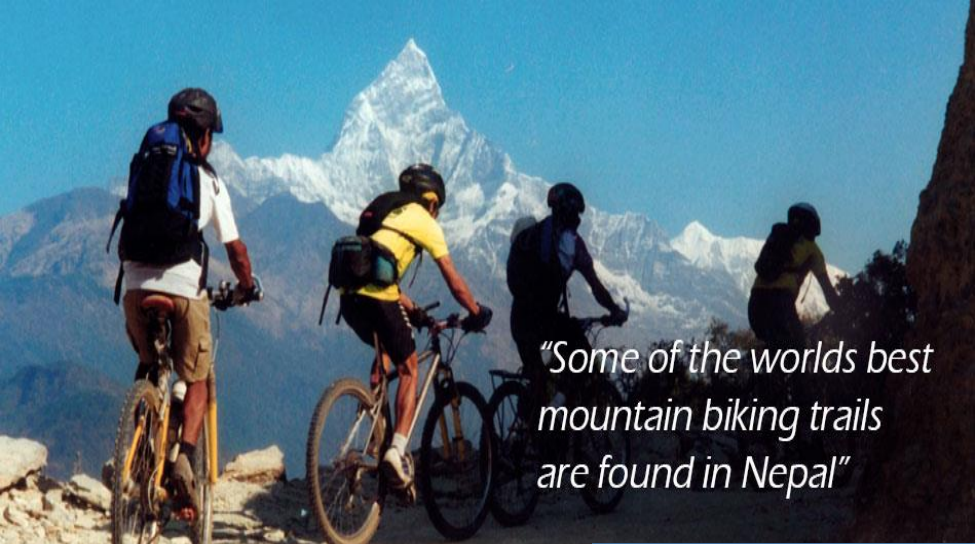




Festivals







"Some of the worlds best mountain biking trails are found in Nepal"





T
H
A
N
K

YOU