



**12<sup>th</sup> 3R conference for Asian Local Governments  
22-23 Jan, 2020**

Presented By :  
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Lalitpur Metropolitan City

# Introduction

- ▶ Located in the Kathmandu Valley, which includes cities Lalitpur, Kathmandu (capital) and Bhaktapur.
- ▶ the second largest city in Kathmandu valley
- ▶ Area: 36.12sq. Km
- ▶ Population: Kathmandu valley 2.5 million, Lalitpur 300K – represents various cultures, diverse social life and historical significance.

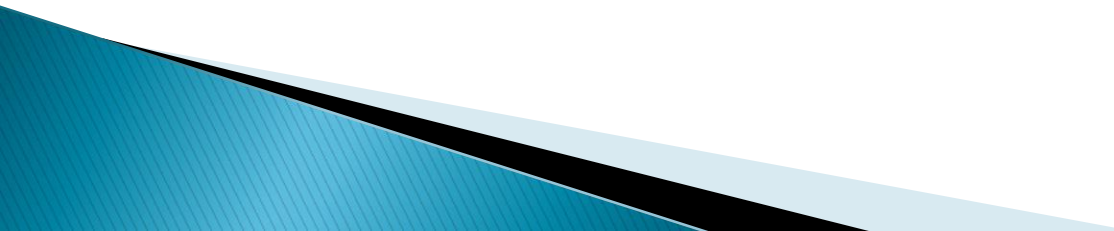


- ▶ Lalitpur is rich in cultural heritage, mainly traditional fine arts and crafts
- ▶ Patan Durbar Square is one of the World Heritages site is located in Lalitpur.
- ▶ Many Temples, Monuments, and Monasteries



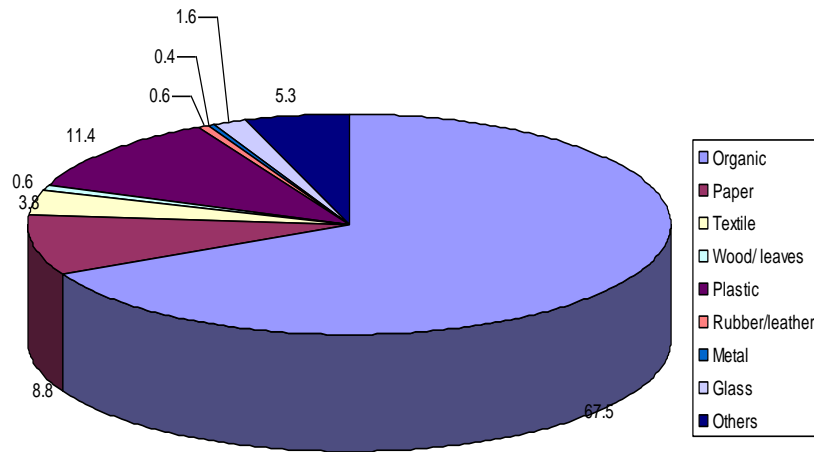
# Vision

Clean city through efficient management of waste collection on streets, public places and household (by the means of involvement of private sector as maximum as possible to ensure the sustainability of municipal resources in the long run; and let the city dwellers realize their responsibilities through awareness on city cleanliness and improved environment, whereby finally taking forward the application of polluters pay principle).



# Waste Management status of Lalitpur Metropolitan:

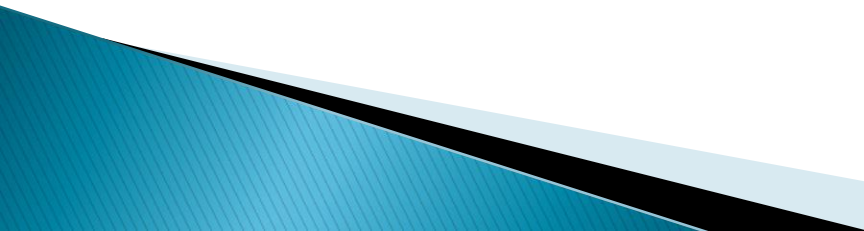
% of waste



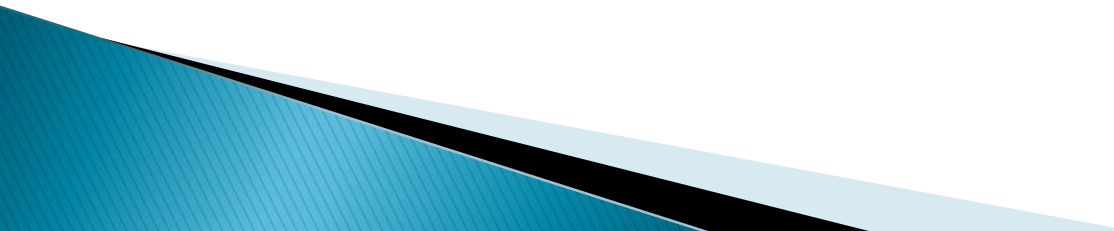
Composition of Waste In LMC

S.N	Waste Type	% of waste
1	Organic	67.5
2	Paper	8.8
3	Textile	3.8
4	Wood/ leaves	0.6
5	Plastic	11.4
6	Rubber/leather	0.6
7	Metal	0.4
8	Glass	1.6
9	Others	5.3

# Towards Waste Minimization

- ▶ Increased awareness among communities. Currently more than 25000 household are already trained (composting and terrace gardening)
  - ▶ Distribution of compost bins . Currently more than 4000 bins have already been distributed.
  - ▶ Strict monitoring policies and penalties shall be implemented.
  - ▶ Waste Free Lalitpur campaign initiated with collaboration with Rotract Club of Lalitpur Nepal
  - ▶ GPS based tracking system for the waste collection vehicles
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# Towards Waste Minimization

- ▶ Zero waste school programs throughout the metropolitan city
  - ▶ Establishment of three large scale compost plants to treat 9 tons of organic waste generated daily. Further plans to construct more composting facilities.
  - ▶ Promotion of institutional level anaerobic digesters in the city with collaboration with Alternative Energy Promotion Center
  - ▶ Trained more than 50 women group on upcycling products (producing handicrafts out of plastic waste materials)
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# Towards Waste Minimization

- ▶ Promoting new and innovative ideas such as development of smart bins, mobile applications
  - ▶ Promoting various research activities in the city on waste management issues in collaboration with Tribhuvan University
  - ▶ Improvement of waste sorting and recycling practices in the transfer station through introduction of bailer and monitoring.
  - ▶ Health care waste management assessment and E-waste status survey
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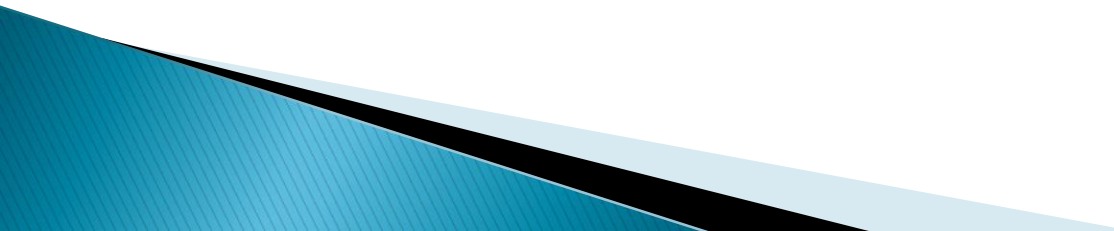
# Looking back

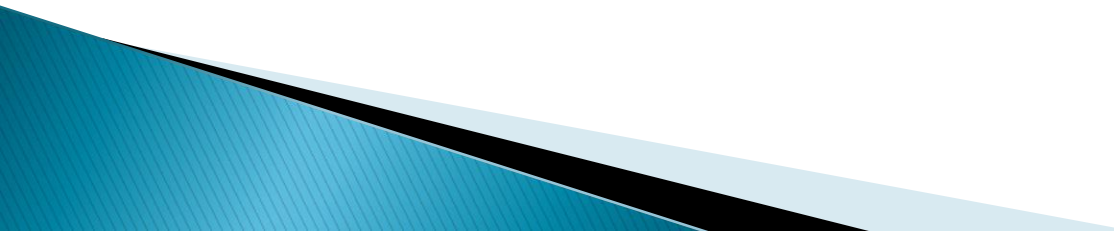
There were 32 open Station in 2005



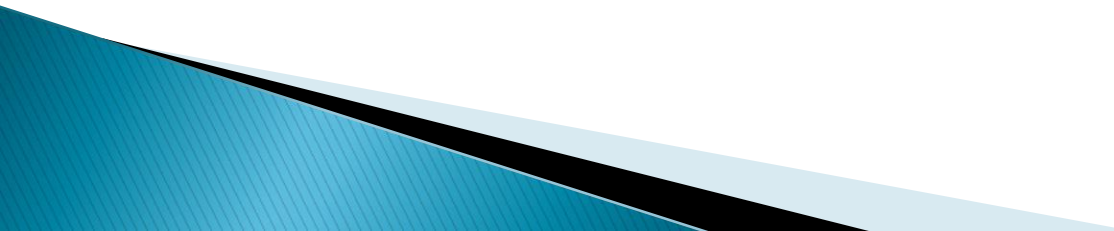
Still 5 open station left

# Challenges

- Mixed waste
  - Lack of awareness
  - Hazardous construction waste
  - Lack of material recovery facility (MRF)
  - Dependent on private sector
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- Limited resource
  - Institutional Challenges ( Inadequate coordination and capacity)
  - Rapid Urbanization
  - Technical Challenges ( Collection efficiency , Inefficient Technology and technical capacity)
  - Solidarity
  - Socio- Economic challenges (Politics on waste, Attitude and behavior, less priority, low investment )
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# What we have Achieved

- ▶ Install compost plant
  - ▶ Decrease waste ratio in landfill through compost plant
  - ▶ Improve Occupational Health and Safety (OHS) status among the waste workers (regular health checkup, safety dress and training)
  - ▶ Informal waste worker data based upgrade
  - ▶ Well function community recycle operated by local women's group .
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# Activities done by LMC to reduce Plastic waste :

- Declared the Central Zoo as a Plastic Free Zone
- Conducted Handicraft Training to reuse plastic and make keyrings, dalo, Dhakki etc.....
- Conducted 3R shop with the theme of reuse .
- Established collection center that collect milk bags, old cloths, plastic bottles and gives money in returned of the materials on the basis of weight.
- Install bottle cage in various junction to dispose empty water bottle .
- Zero Waste Concept in ward 20.
- Promotion of Reusable Material.
- Use of Cotton Bag in Supermarket.



# Activities done by LMC to reduce municipal solid waste :

- Conducted Awareness Raising Training on SWM and distributed more than 25000 set trash bin to various Women's Group .
- Conducted Home Composting Training and distributed 4000 set Compost bin in every wards of LMC.
- Terrace Gardening done by 1000 household
- Conducted school awareness program on SWM and School Kitchen Gardening at various school of LMC.
- LMC has started new innovation to manage waste by Kabaddi At your Door Step





**3R shop inauguration Program**



**Towards Green Cities:  
Resource recovery from waste**





**Community Material Recovery Center (Jagaruka Mahila Samuha  
Dhapagal Lalitpur )**



**Segregation Bins**



**Promotion of Rooftop Gardening**



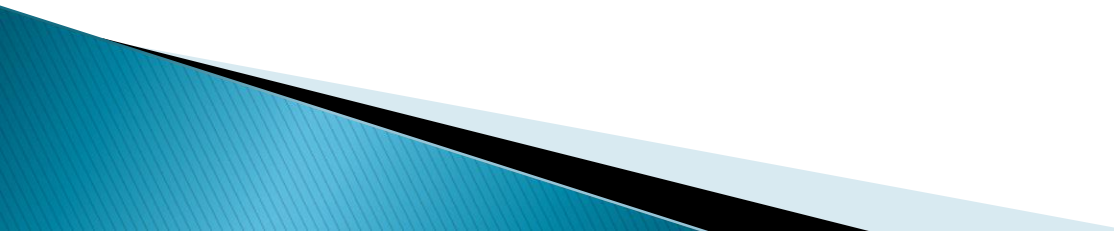
**Promotion of Cotton Bag**



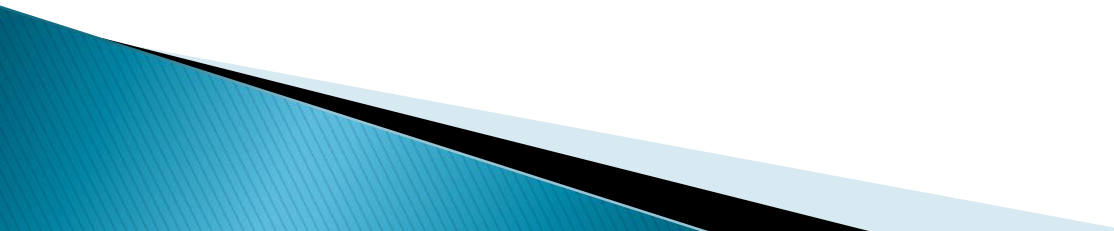


**Collection of Plastic waste by women's group**

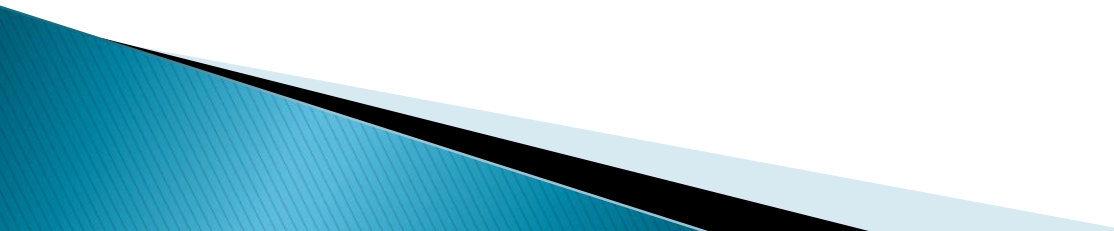
# Experience Learnt from Solid waste Management Project:

1. Develop Sustainable Society approach;
  2. Segregation of Waste at Source by promoting '3R' approach
  3. Establishment of Composting Plant for organic waste
  4. Training and distribution of Home Compost Bin;
  5. Promoting Terrace Kitchen Gardening using Compost Manure.
  6. Promote to construct green homes ;
  7. Raising Community Awareness on Waste Management through training and development of behavior change and communication approach.
  8. Improvement in Final Disposal or construction of sanitary landfill site;
  9. Advocacy & lobbying for implementation of SWM act, policy, strategy and documentation and dissemination of best practices in SWM
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# Way Forward

- ❖ Common SWM Facility for KTM Valley
  - ❖ Effective enforcement of SWM Laws and Guidelines
  - ❖ Adoption of Integrated /Holistic Solid Waste Management approach for KTM Valley
  - ❖ Adoption of Innovative Sustainable Technology and promotion of 3R principle ( Reduce, Recycle and Reuse)
  - ❖ Implementation of Polluter Pays Principle
  - ❖ Strengthening capacity (Institutional , Financial and Technical) of Local Government
  - ❖ Maximize Recycling Minimize disposal
  - ❖ Transparency in SWM
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# Five Approaches and Strategies

- ▶ Improvement of Collection and Transportation;
  - ▶ Promotion of Solid and Plastic waste Minimization;
  - ▶ Improvement of Final Disposal;
  - ▶ Promotion of Public Awareness;
  - ▶ Organization and Institutional Arrangement
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# Improvement of Collection and Transportation



Tipper



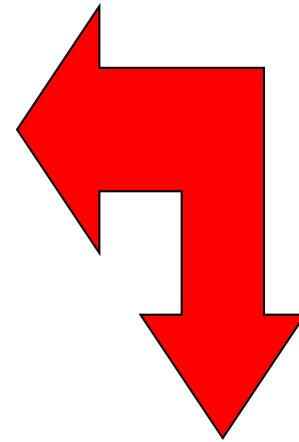
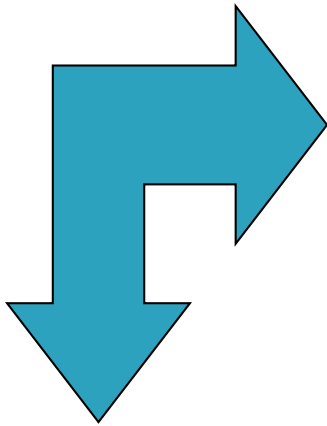
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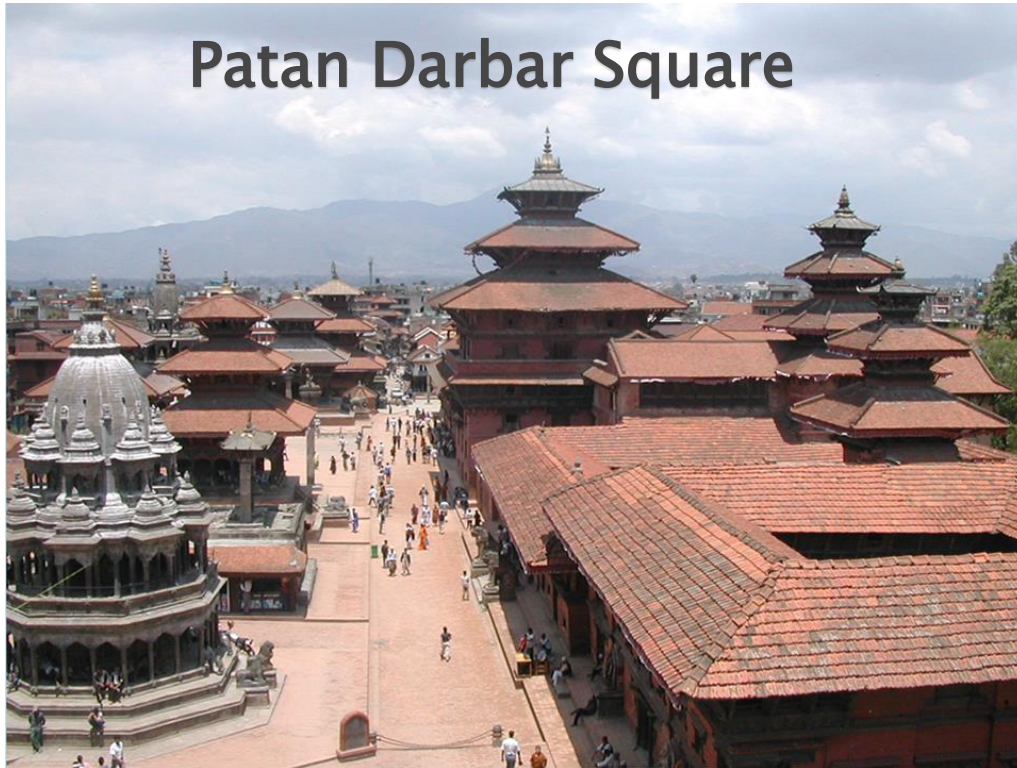


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## Patan Darbar Square



Thank You