

SITUATION ASSESSMENT AND BEST PRACTICES OF SELECTED MUNICIPALITIES AND OPPORTUNITIES FOR WASTE INTO RESOURCE

PRESS RELEASE

Solid waste management is one of the priority areas identified as part of developing clean cities and has been taken into the top priorities of the Local Authorities (LA) as it directly impacts on the public health and environment. Current waste handling practices in Kathmandu Valley and major other cities of Nepal are based on a “collect and dump” approach that overlooks significant opportunities for turning waste into resources. There is thus the potential to adopt a paradigm shift from a waste management to a resource management approach.

This report is prepared in support of FPU Strategic Partnership Program under the project of Countering Fake News of NEFEJ. Aiming to know the best practices and implementable solutions for the Solid Waste Management of the Kathmandu valley and other major cities, to demonstrate how this concept could be implemented and reduce the current challenges that they are facing.

As an outcome of field visit to selected municipalities (namely Waling, Bheerkot and Pokhara) conducted in March 2020, the following best adoptable practices:

1. WALING MUNICIPALITY:

- Source segregation practice has been doing since 5 years and municipality collect the segregated waste from the source using separate vehicles
- People in the community are aware to keep their waste at separate bins/sacks and only bring to the vehicle at the collection time. Reduced to litter waste in the public open spaces (road, water bodies etc.). Municipality had provided regular awareness campaign/orientation in the communities.
- Municipality had leased the land of community school and established “Waling Nagarapalikako Sarsafai Kendra” where the collected dry wastes are re-segregated selling to the recycling vendors as a resource material.
- Municipality already purchased plastic shredder machine and establish separate facility to shred all the rejected plastics with the aim to use it for making “Green Road”. In addition to this, they are planning to use broken glasses and plastics to make the concrete blocks that will be used to pave the pedestrian lane along the road of Waling.
- It is found encouraging to all of us that the municipality has been able to generate revenue of 80 Lakhs by charging service fee from the community and selling those recyclables that comes after collection.
- In order to manage the biodegradable waste, composting facility has been developed and planned to operate in near future.

2. BHEERKOT MUNICIPALITY

- Learning from Waling, Bheerkot Municipality has started to build Resource Recovery centre including Green Park. They have already started selling recyclables that are collected from the households
- Municipality had already publicised the rate of the recyclables in order to encourage them to segregate at source, and they pay to the citizens accordingly at the time of collection.
- Municipality has encouraged to separate and store at their own space, which will be sending direct to vendor from the collection point instead of bringing them to the recovery center.

- Municipality encouraged to establish SMEs based on waste processing like textile processing, Plastic waste processing to make polyethylene pipes. The plastics accumulated at recovery center is regularly selling at the same recycling vendor.
- Since the citizens are getting direct cash from the municipality for their source segregation actions, they are found much aware and adopted no littering at public open spaces.

3. POKHARA METROPOLITAN CITY (PMC):

- PMC has made mandatory to use the closed vehicles for the waste collection and transfer purposes and all are painted in green colour and visibility of PMC is ensured. This helps the waste will not blow away through wind, people found it clean during collection and driving through road.
- PMC contracted temporarily (max. 2 years of service) for 8/9 private stakeholders for the waste collection and transfer to the landfill. They are given to use the receipt of PMC's own and the amount collected from customers goes to the bank of PMC. As per the contract, PMC will release 80% of the fund collected to the contractors leaving 20% amount at their own bank account as revenue.
- Private contractors have to collect from the identified ward areas and take all the collected waste to the landfill. They are not allowed to do segregation and processing at their points. PMC had contracted separate private vendor for the waste segregation at the landfill which again pay royalty in monthly basis.
- PMC also contracted a private sector named "Waste Services P. Ltd" for the central level Health care waste management services located at the side of the Landfill site. The station has a shredder and 2 autoclave units for disinfections. This contractor also has to pay royalty to PMC on monthly basis.
- Landfill Site at PMC is found not been properly managed, however this properly designed sanitary landfill, including leachates collection and treatment system and composting. One biggest challenge facing by PMC is that this current landfill site will be stopped by December 2020 as of starting operation of the International Airport which is established nearby.

With these best practices, team has recommended the following adoptable steps for the Kathmandu metropolitan City and other local authorities.

- It is urgent to implement proper source segregation and establish environmental friendly processing cum recycling which will be divert waste into resource
- In Nepal, Solid Waste Management Act, 2068 (2011 AD) and Solid Waste Management Rules, 2070 (2013 AD) are the two regulations that govern the SWM sector in Nepal. Waste prevention practices are needed to adopt and local governments are responsible for the collection, transportation and disposal of waste in an environmentally sustainable manner.
- In Kathmandu Metropolitan City, there is no precise figures exist on waste collection coverage, but it is estimated that 30- 40% of the waste generated in the city is collected by municipality itself and rest of the percentage (60-70%) has been informally collected by the private companies/organizations. The ambition of the major local authorities of the Kathmandu Valley are to provide full collection coverage in the city, and go through the process of recycling as much as possible, latter to send it to the sanitary landfill site for safe disposal.
- The impact on private sectors increment in waste collection in Kathmandu as the citizens started to pay for the waste collection services more than 2 decades ago, and the private companies association has begun, this has resulted municipal waste collection reduced significantly as of their lack of resources and management in the ground.
- Other challenges identified to achieve a higher waste collection coverage are the low accessibility of some areas by waste collection trucks, especially in core areas with narrow

lanes. So there should be proper awareness raising campaigns for the population in general to the need of collecting and properly handling waste.

- Recyclable materials found in solid waste streams are routinely recovered at least in the landfill site by PMC through contracts. KMC can have encourage the activities of both informal and formal stakeholders in order to establish and operate scraps collection centers, recycling centers and upcycling centers. Also municipalities can provide seed money and recommendations to get subsidies on the equipments imports and support to lessen the hassle in transportation of recyclables for its proper management practices. Likewise, the transportation of those materials should be done with closed type vehicles or compactors.
- KMC should continue to provide training and orientation for source segregation and composting of biodegradables, make available of compost bins and rooftop farming equipments with subsidised rate which subsequently reduce 60-65% waste generation at source.
- Feeding the appropriate level of food waste to animals, then establish and operate decentralized waste composting facilities, bio-methanation with the bottling station as in Pokhara and compost which can be utilised for urban rooftop vegetable farming and agriculture. This will help to manage the generated biodegradables in decentralised level.
- Establish decentralized secondary waste collection points with the participation of micro-enterprises; Community-driven waste banks with the organization of waste pickers cooperatives.
- In order to manage the unsegregated waste collected from the ward areas, Municipality need to establish the appropriate sized Material Recovery Facility (MRFs), which will process waste stream and sorted out of various recyclables that would be extracted for its resource again. For the operation and management, municipality can engage the formal and informal private sectors, which can provide efficient services and maintenance of the MRFs. If this cannot be done, Municipality can have approach the model of Bheerkot Municipality, to develop the separate chambers and segregate the dry waste separately and sell them to the recycling vendors.
- Provide easy permits and regular monitoring services to waste and scraps collection and transfer for recycling and environment friendly management.
- For the management of rejected plastics and other composite materials, Municipality can have adopted the wise use of shredding and processing of those elements for making "green Road" and also can have used to make concrete blocks for paving pedestrian lane as planned in Waling Municipality.

Few more suggestions:

1. Actions like waste generation and collection, transport, re-segregation, storage, sales and processing are required to documented in regular basis. This can be made in the software applications and have to be regulate for analysis time to time for the proper decision making of the specific waste management without delaying.
2. Health care and insurance facilities for the waste management workers and they should have properly equipped with safety equipments including PPE.