

MOBILIZING THE COMMUNITY FOR SUSTAINABLE MUNICIPAL SOLID WASTE MANAGEMENT: CASE STUDY OF TANSEN, NEPAL

City Profile

The city of Tansen is located in the Southern lap of the Mahabharata range of Western Nepal in Palpa district. Tansen is the administrative centre of the district. The city is located approximately 310 km from Kathmandu, on the Southern slopes of Himalayan ranges. The topography of Tansen municipality is relatively flat with gentle slopes. The city is famous for its historical background with temples and rich culture. The economy is based on tourism and cottage industry.

- Area: 22 sq. kms
- Total Number of Wards: 15
- Population (Census 2011): 29095
- Number of Households: 7000 (approx.)
- Climate: Tropical

Rationale for Selection of this Pilot Project

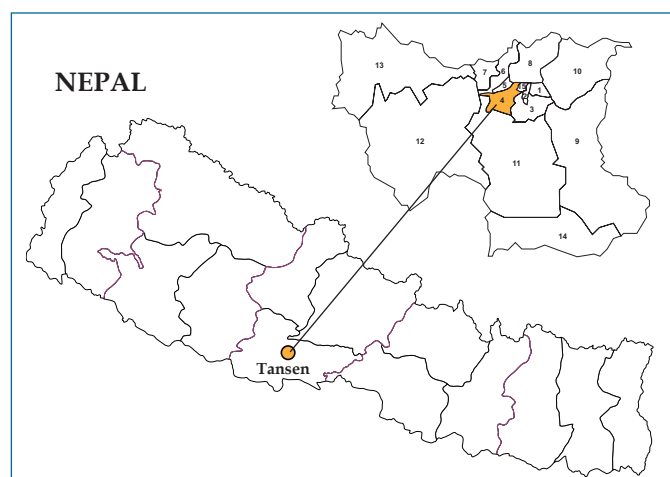
The city of Tansen is one of the most important tourist destinations in Nepal; an estimated 40 percent of all

tourists visiting Nepal go to Tansen. With an increased number of tourists, there is a corresponding increase in waste generated that needs to be appropriately managed. Increasing urbanization and population has also created a greater demand for municipal services. Currently, solid waste management in Tansen includes collection, transportation and open dumping of municipal solid waste. Littering is a common practice among local citizens and visiting tourists. As a result, waste is strewn all over the roads and in public areas, leading to unhygienic conditions in the city. A year ago, the only sanitary landfill of Tansen was closed due to public litigation and is not in use since then. In the absence of an operational sanitary landfill, the municipality has been dumping waste in the adjacent forest land thereby causing severe environmental damage.

The city needs a solid waste management system that will ensure prevention of littering while at the same time reduce the waste to be landfilled. Under the European Commission supported project “SUNYA- Towards Zero Waste in South Asia”, Tansen Municipality decided to set up a decentralized ward level solid waste management system to promoting environmental conservation while also ensuring resource recovery from waste. Along with the stakeholders it was decided to initiate the pilot activity at Ward No. 4 and then replicate it in surrounding wards. The pilot ward falls within the core area of the city consisting of both commercial and residential areas.

Objective

The overall objective of the pilot project was to initiate basic source segregation practices at household level, encourage resource recovery through household level composting and recycling and reduce pressure on landfilling. The objectives of the pilot project included:



Location of pilot project area in Tansen

- To create awareness among citizens regarding segregation of waste into dry and wet fractions
- To provide 100% door to door collection of segregated waste from both residential and commercial areas
- To promote household level composting
- To promote reuse and recycling of dry waste
- To completely stop the usage of plastic bags
- To help the pilot ward develop into a potential area for “Home Stay”, thereby promoting tourism

Approach

Tansen Municipality selected Ward No. 4 (Makhan Tole) for implementing the pilot project. The ward comprises of residential, commercial, and institutional areas. The project involved all the waste generators and demonstrated implementation of sustainable practices of solid waste management. The municipality was instrumental in mobilizing the community for ensuring 100 percent source segregation and streamlined collection of waste by following an intensive awareness generation campaign coupled with institutional arrangements of separate collection, and composting of wet waste.

Current Situation of Ward No. 4

- Area: 2 sq.km
- Population: 1000
- Number of Households: 350
- Market: 225-250 shops

Methodology

The Municipality followed a two pronged methodology for implementing the pilot initiative which included both soft measures like awareness generation as well as hard measures of distribution of bins and actual collection and processing of waste.

Information, Education and Communication

- A sustainable solid waste management program, regardless of the strategy, requires significant cooperation from waste generators and active community participation. Understanding the fact



Meeting Tole lane organizations (TLOs)

that awareness and education campaigns are essential to bring about behavioral change among citizens in managing their waste, Tansen Municipality organized intensive campaigns targeting households, shops, commercial and institutional premises, rag-pickers, schools, non-governmental organizations (NGOs), the informal sector, media, etc. to ensure their participation in managing city waste.

- IEC materials such as hand bills, hoarding boards, flyers and local media like FM jingles and TV messages were used to disseminate the information. Local folk songs were also used to reach out to the masses.
- Community was trained in practicing bin composting in households and in using the compost for gardening.
- Sanitary workers were trained on usage of PPEs (Personal Protective Equipment) and collection of source segregated waste and its separate transportation.
- Health programs were organized for the community along with sanitary workers, rag pickers to sensitize them about health hazards of unscientific solid waste management.

Institutional, Managerial and Infrastructure Development

- The municipality provided blue bins to each household for separate storage of wet waste.
- Additionally, red bins along with blue bins were provided in commercial areas like shops and public areas for storing dry waste and recyclables
- Wet waste and dry waste is collected on alternate days making it easier for sanitary workers to ensure complete segregation while transportation.



Collection of Segregated Waste

- Once a month, domestic hazardous wastes like tubelights/bulbs, paint containers etc. is collected separately.



Segregation of Wastes at Market Areas

- Municipality distributed cloth/jute bags for use in place of plastic/polythene bags
- Municipality distributed compost bins and worms for propagating composting and vermicomposting.
- Small support programs for rag pickers and scrap dealers also motivated the informal sector to support the municipality in its endeavor

Results/Outcomes

The pilot initiative helped in gathering community support for segregating waste at the household level in Ward No. 4 resulting in almost 80 percent source segregation. The collection in the pilot area also rose to 70 percent. The pilot initiative also led to increased household composting thereby decreasing the amount of wet waste going to open pit composting. Almost more than 70 percent of households have started practicing bin composting at their households.

The local community takes pride in showcasing its work. The strong support of the community is evident by the fact that street sweeping is conducted by people themselves and not municipal workers.

Placement of large bins in public places also resulted in preventing littering. Dry recyclables are segregated at secondary points by the informal sector and sold off to recycling units in Butwal, providing a source of income to rag workers while also promoting resource recovery and reuse. Tubelights, rags, bulbs, glass bottles etc. are already separated at the household level from the waste, ensuring no hazardous material in the street bins. People have stopped using plastic cups and plates. Tansen Municipality has declared a complete ban on usage of plastic bags from 5th June, 2014 – World Environment Day.

Tansen is trying to convert the old dumpsite Bandevi as “Waste Processing Centre” where the organic waste

will be converted as compost manure and dry waste will be segregated. The forest user committee has agreed to provide required waste land for processing, ensuring that forest land is not cleared for this purpose, preserving the existing flora and fauna very consciously.



Bins for segregation of waste at public place

Success Factors

The factors that contributed to the successful implementation of the project include:

- Awareness campaigns played an important role in the successful implementation of the pilot project in the municipality. The municipality, in cooperation with the 117 TLOs and schools conducted mass information, education and communication campaigns to build community support and consensus.
- Involving community at every step of planning helped build trust and ensured their cooperation in SWM activities and practices. This also helped in convincing people to pay for these services.
- Training of community for practicing vermicomposting/composting along with distribution of bins generated interest in household level waste management among the citizens.
- Strict monitoring by the TLOs (at wee hours of morning) ensured no littering and open dumping of waste along roadsides.

Lessons Learnt

Though the municipality has been working towards motivating and involving community at every stage of solid waste management, it is noticed that stronger and sustained efforts on generating awareness and interest is required. Municipality needs to involve students as ‘agents of change’ to bring the required behavioral and attitudinal changes in the society. Some houses are still inaccessible to the municipal waste collectors because



Waster collector with dry waste



Bin Composting at Household

of their location in narrow lanes while some households still do not actively participate in the initiative. To tackle these issues, consistent awareness generation campaigns along with provisions of strict penalties are required.

Sustainability and Replication

With the success of this pilot project in Ward No. 4 municipal staff are now confident enough to replicate the model in other wards. In Ward No. 8 and Ward No. 15, the community has already begun segregating waste. With the TLOs in pilot ward acting as pioneers, it is easy to involve more wards under the initiative. Moreover, the municipality has declared its goal of becoming 'Zero Waste by 2018' which essentially requires the replication of the project in the entire city.

Project Partners



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About SUNYA

SUNYA - Towards Zero Waste in South Asia is a project supported by the European Commission conducted in the South Asian countries of India, Nepal, Bhutan, Bangladesh and Sri Lanka. The seven cities of Shimla, Coimbatore, Hetauda, Tansen, Phuentsholing, North Dhaka and Matala partnered in the project, which was led by Municipal Association of Nepal and technically supported by ICLEI South Asia, VVSG (Association of Flemish Cities and Municipalities, Belgium) and ARGE (Association of Waste Prevention, Austria). The project focused on introduction of principles of 3R for municipal solid waste management, promoting reduction, reuse and recycling of waste through community mobilization and involvement, and scalable pilot demonstrations of reduction of waste generation and sustainable management. For more information, please visit: <http://www.sunyaproject.org/>

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Contact

Administrator

Tansen Nagarpalika

Tansen, Palpa, Lumbini Area

Nepal

Phone: +977-75-520109, 520909, 520129

Email: bishnutara@gmail.com