

An Approach Paper on "Zero Waste Bachhauli Village"



"शून्य फोहरको अवधारण राखी,स्वरोजगार बनौं/बनाऔं ।
आफनो घर दैलोबाट, प्लाष्टिक भोगेला मुक्त गरौं ॥" - ZWCp



1. Introduction

A trained member of Zero Waste Himalayas (ZWH) and an active local resident of a Bachhauli village, Mr. Surendra Chaudary, requested Pragya Seeds Nepal for the implementation of a “Towards Zero Waste Sauraha” program. Pragya Seeds Nepal is associated with THANAL, Kerala, India the creator of Zero Waste Himalayas. A team of Pragya Seeds Nepal visited this town, Sauraha, in the Bachhauli Village Development Committee (VDC) on 27th October 2012 with a one day workshop on “Zero Waste Himalayas”. The main responsible people from the community, hotel association and governmental bodies of Sauraha, as well as local actors, women groups and students from colleges and schools participated in the workshop. Acting upon their request, Pragya Seeds team visited Sauraha November again and formed Core Team, Technical Advisor Group and Resource team and with the help of the VDC secretary and local committee members, Pragya Seeds Nepal done research and prepared an approach paper. This is the result of a preliminary survey of implementing Zero Waste in Sauraha, and for this only basic and vital information, including some demographic features was collected.

2. Bachhauli VDC and Tourism

The Bachhauli VDC is located in Inner-Terrai lowlands of the Chitwan District in the Narayani Zone of south-central Nepal, 166 KM SE of the capital city Kathmandu. The Bachhauli VDC lies north and east of Chitwan National Park (CNP), one of the major river of Nepal, the Rapti River lies between Bachhauli VDC and CNP.



Figure 1 Jungle safari.

There are 9 wards in Bachhauli. One of these is Sauraha, Nepal’s 3rd major tourist destination. The Bachhauli VDC lists the population of the Bachhauli district as 11979, (acc. to 2010 VDC survey) with a female and male population of 5698 and 6281 respectively. Most residents live in traditional Tharu housing but the numbers of concrete-built houses out are rising rapidly. Ground water is the main source of water for most households and businesses. Chitwan National Park as a main tourist attraction spot was established in 1973 and granted the status of a World Heritage Site in 1984. Tourists per month who take part in elephant and jeep safaris, rafting tours, and guided jungle walks. There are approximately 200 elephants residing in the district.

3. Social and Economic State

The Bachhauli district is governed through a VDC model with leadership in the form of a Secretary. There have been no public elections in the recent years for a VDC president. The VDC secretary carries all the governmental responsibilities.

Local organizations include Children & Women’s Promotion Center, Restaurant Association, Hotel Association, Jaycees, Sauraha Youth Club, Rotary Club, Happy House Fair Trade Foundation, Cooperative Authentic Art, Janakpur Women’s Development Center, Nature Guide Association, Buffer-zone Management Program, and Pragya Seeds Chitwan.

Other occupations of the local economy revolve around the booming tourist industry with many residents owning and/or operating hotels, restaurants, tour companies, souvenir shops, cyber cafes, laundry services, and transportation services like tonga (horse-cart), ox-cart, and jeep. The local elephant industry employs 200 people who work as breeders, mahouts, phanets, and pacchewas. Additional trades like tailors, barbers, mobile phone dealers, and dry goods can also be found. Major local industries include 11 bottled drinking water (Sauraha Refresh Drinking Water & Bakery Udyog P. LTD), milk (Chitwan Milk LTD), honey, elephant dung paper, and cement blocks. Local artisans are skilled in basket-weaving, sewing, wood-carving, and painting. Local Women cooperative are producing many products, which are sold in Sauraha and also all over the world.

According to interviews with local residents, approximate numbers of major economical infrastructures found in VDC are listed in table 1.

Table 1 economical infrastructures in Bachhauli

| Infrastructure | Numbers |
|---------------------|---------|
| Hotels | 100 |
| Restaurants | 55 |
| Schools | 5 |
| Hospital | 1 |
| Public Clinic | 1 |
| Cold Stores | 40 |
| Orphanages | 5 |
| Cultural Center | 1 |
| Museum | 1 |
| Recreational Fields | 1 |

Figure 2 Waste discarded near by the bank of Rapati River



4. Present State of Solid Waste Management

To date, no government laws are in place regarding waste management and no government program exists for waste collection or disposal. Several community rules and regulations are in place restricting dumping, but these are rarely enforced. One local NGO, Recycling Project Sauraha, has taken on waste management in the Sauraha ward, but lacks the resources and manpower to cover the entire VDC.

Recycling

Currently, Recycling Project Sauraha has set up 9 sets of bins, one for plastic bottles and one for other discards, throughout the Sauraha village and has established a segregation and collection program with a few hotels.



Figure 3 Recycling Project Sauraha

With the use of one cycle rickshaw of 1 m³ volume and four drivers, discards are collected from bins and hotels and taken to their recycling center approximately 0.3 km away from the center of town. At the recycling center, discards are segregated into separate glass, metal, paper carton, and plastic categories to be sold to dealers on a small rate per kg scale. Although a significant quantity of waste from the community is diverted to the recycling center, a large quantity of waste from hotels, businesses, restaurants, and private households remains uncollected and is typically burnt or buried in a private backyard or landsite, dumped along roadsides or into the river.

Events

In addition to daily waste production, major festivals like Dasain, Tihar, Holi, Magi Sangaranti, the annual Food Festival and the International Elephant Race add significant pressure to the management of waste. The International Elephant race, a three-day event, attracts thousands of domestic and international tourists. In 2005, some 15,000 domestic and international tourists attended, with media coverage by the BBC, Chinese and Indian TV and local and national newspapers and T.V. channels of Nepal.

Figure 4 Waste on the periphery of public drinking water hand pump



Sewage

In defecation Free Zone, most hotels and private homes have septic tanks for sewage and waste water. However, it has been alleged that some establishments are still dumping sewage into the river as the cost of cleaning a septic tank can reach 45,000 NRS. Public toilets can be found at the Bus Park and entrance to the park, but open defecation is still a problem during the harvest season, when there is an influx of migrant workers.

5. Opportunities



Figure 5 Recycling products

Much strength lies in existing cultural traditions and community organizations of the Bachhauli district. There is a long tradition of using natural materials for infrastructure and handicrafts, lending strength to a promotion of a more environmentally sound living model. It also offers possibilities for waste to resource products. Several training programs have already been established to train local women in income-generating trades and some shops promote local handicrafts. With the large elephant population, there are many opportunities to use the dung for paper production, compost, and energy production – already several shops are selling handmade products made from dung and some private vermi-composting models are already in place.

6. Weaknesses/Problems

1. All sweets and snacks are packaged – no local varieties are available.
2. There is a lack of awareness and education about waste among the population.
3. Not enough resources are available to provide bins for the collection.
4. There is a lack of long term commitment; projects which are started are abandoned after some time.
5. A lot of waste is generated by tourists who pass through the area quickly and cannot be made aware appropriately.
6. There is no filtered drinking water system available.
7. There are practices of illegal dumping near the river bank as well as emission of factory waste water to the river.
8. The burning of waste, including plastics, is still common practice, though declining on a small level.
9. Packaging materials and plastic water bottles are cast along the trails in the jungle during elephant safari.
10. The storage of construction materials on road sides is a major source of dust emission.
11. There is presently no way to treat small packaging plastics (packets of Pukar, Pan Parag, chocolates, etc.), so even in the Sauraha Recycling Project resource center the pouches are burned in open air.
12. Most waste generating traders (large scale hotels and restaurants) are not much responsible for the waste management.



Figure 6 Waste burning around

7. Road map for attaining Zero Waste

1. *Detailed survey (material flow and opportunities)*
2. *Development of the Resource Team*
3. *Campaign and Education*
4. *Capacity Building Programs*
5. *Establishing Resource Recovery Facilities*
6. *Developing management and monitoring system*

8. Conclusion

In order to design a Zero Waste Plan for the Bachhauli village, the following information is needed:

1. Location Map
2. Basic Statistics of the VDC as per 2010 census
3. Policies on waste management
4. Planned outlay for the financial year 2069 and 2070
5. Current waste management plan and financial outlay
6. Basic Statistics of Tourism inflow, income and expenditure
7. Future expansion plan (if any) of Eco Tourism in the Zone

Through both the strengths and weaknesses of waste management in the Bachhauli village, we believe that Sauraha can develop into a Zero Waste Village, to be an example to be followed by the region.