

Livable Cities Newsletter



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Focusing on Zero Waste

This newsletter is used to provide updates and information to the Livable Cities Network. The theme for this edition is zero waste. Many thanks to Kamana Manandhar for preparing all the articles for this newsletter. Please share this newsletter with your partner groups and anyone who might be interested.

What is “zero waste” and why is it important?

As cities grow in both population and in economy, how to deal with the solid waste created by both businesses and residents is a huge challenge for municipal governments. According to the World Bank (<http://go.worldbank.org/A5TFX56L50>), it is common for municipalities in developing countries to spend 20-50 percent of their available recurrent budget on solid waste management. Yet, it is also common that 30-60 percent of all the urban solid waste in developing countries is uncollected and less than 50 percent of the population is served. In many developing countries, dumping in open spaces and water bodies, and burning are normal practices. These practices create many health and environmental hazards.

“Zero waste” refers to the the process of avoiding and eliminating the creation of waste. Zero waste can be achieved using the three Rs (in order of importance):

Reduce - when we reduce the amount of waste we create, it is considered waste prevention. What this means is that we should consume less and throw away less. It is the most important and effective of the three Rs because the waste is not created in the first place. Manufacturers can reduce by designing and creating products that last a long time, are not toxic, and have minimal to no packaging. Residents can reduce by not buying or using products that they do not need. Examples include not buying bottled water and not using plastic bags.

Reuse - when we reuse a product it means that we use it more than once either for the same purpose or a different purpose. The idea behind reusing is that we keep using items as long as they have a function or value. Reusing is important because it saves landfill space and saves energy from having to create new products, but still requires, ultimately, for products be be thrown away.

Recycling- when we recycle we divert products that have reached the end of their useful lives and use them in the production of new goods. This is energy intensive so reducing is better. Composting is considered a form of recycling and is a good way to recycle food waste.

Working on Zero Waste in Lalitpur

Resource Centre for Primary Health Care (RECPHEC) and Luzza Nepal have been working on a Zero Waste Program in Lalitpur district. The purpose of the program was to develop environmentally friendly communities that can ensure the public health of residents, and to recover household waste as a resource and recycle it as a source of renewable energy. First the program team chose 100 households in a specific ward as the pilot community. Then one representative of each household was given training on waste management and production of biodegradable manure through the method of Takakura Composting (see page 3 for details about Takahura Composing).



Garden Plants using compost

The community was trained on how household waste can be managed within the household, the pros and cons of waste collection and management, and its effect on the community, the environment and individuals. Information was shared on how biodegradable waste can be recycled and how it can also be a source of income. The community was also educated on how production of solid waste can be decreased through the 3 R process (Reduce, Reuse and Recycle) by doing the following:

- Separating bio-degradable waste such as kitchen waste, vegetable scraps, and leftover foods.
- Separating reusable products such as TVs, furniture, and show pieces, which can be used by another users.
- Separate recyclable products such as paper, glass, metal, plastic, wood, textile, tires, tubes etc.
- Not to mix toxic waste such as batteries, heavy metals (Zn, Hg, Cd), chemicals, pesticides, and insecticides, which need to be treated specially.

In addition, participants were taught how to create a kitchen garden on their terraces. They were given instructions on how to use earthen vases for producing vegetables along with flowers.

They were also taught how the insects and pests could be controlled. Details were given about how to select good quality soil, seeds, how to use compost, and how often the soil should be replaced.

The community is now composting acceptable organic waste and using feedstock that is otherwise wasted in the landfill for their kitchen gardening. The regular practice of composting and recycling of waste has successfully reduced the amount of waste produced by that ward that would have been sent to landfill sites. The people of the community are also able to consume fresh vegetables from their own kitchen gardens. They are very happy with the result as they are consuming healthy food in a low-cost manner and they also are conscious that they are contributing to a healthy environment.

Reducing Polythene Bag Initiative

The campaign against the use of polythene bags, initiated by RECPHEC, has raised awareness among many stakeholders and resulted in important policies. The initiative was organized in Lalipur Sub-Metropolitan City (LSMC), Illam City, Itahari City, and Jhapa City. Reduction of polythene bags is an important initiative because plastic bags do not breakdown easily, they take up valuable land-use space, and they can be seen littered throughout the city. Illam, Itahari, and Jhapa were successful in declaring their cities as “polythene bag free zones”.

Lalipur Sub-Metropolitan City (LSMC) has been working towards a complete ban by first developing a campaign focused on supermarkets. Many supermarkets and stores have now partially switched to using reusable bags, which allows store customers to avoid using the single-use polythene bags. A 50 per cent subsidy on 10,000 reusable bags was provided to supermarkets and stores who signed the commitment during the campaign period. Customers were also encouraged to bring reusable bags from home. In cooperation with the supermarkets and the Municipality a campaign was initiated to discourage the use of polythene bags. The results of this campaign are that fewer polythene bags were used in the campaign supermarkets. The next step for this program is to introduce alternative bags in department stores and at the Central Zoo.

Takakura Composting Method



Takakura Method is a rapid technique of compost production that requires approximately two to three weeks. It is ideal in tropical areas and can be operated in small places. The organic waste is broken down by micro-organisms that are cultivated from local materials. The method involves making a seed compost from fermented solutions and a fermenting bed. Organic waste is then mixed with the seed compost and left to degrade in a ventilated container or basket.

One tonne of organic waste can be processed inside a 100 square metre area and can produce 200-250 kilograms of compost products per day or 6-7 tonnes in one month. This technique is simple and involves five easy steps:

1. Making a fermenting solution - the solution is a mix of water, sugar or salt, and yoghurt or vegetables scraps.
2. Making a seed compost - using the fermenting solution, mix in rice bran or rice husks to create a fermenting bed. Store the mixture in a carton box for three to five days. It is ready to use when white mold has formed and mixture has dried out.
3. Make a compost container - it should have holes on the side for ventilation. Suitable containers include plastic crates or wicker baskets. Line the inside of the container with thick paper. Place the seed compost on the bottom.
4. Cut up kitchen scraps and add to compost container.
5. Use the compost.

For more information and pictures, download the PDF: http://starstorage.blob.core.windows.net/archives/2010/1/5/lifefocus/home_composting.pdf

Partner Profile

Resource Centre for Primary Health Care (RECPHEC) was established in 1988 when a group of enthusiastic health professionals and development activists initiated discussions among themselves about the poor health status of Nepali people, its causes and possible solution. It was realised that there was a need for a group of committed health and development professionals to advocate on issues related to the health rights of the people.

Resources of Interest

Institute for Global Environmental Strategies - <http://strategies.org/>

Zero Waste International Alliance - <http://zwia.org/>

Next issue...

In the next issue we will be highlighting work that Work for a Better Bangladesh has done to save rickshaws in Dhaka.

Interested in becoming a Livable Cities Network member?

To become part of the Livable Cities Network, e-mail Kristie Daniel, Program Director, Livable Cities at kdaniel@healthbridge.ca.



HealthBridge's Livable Cities program aims to improve health, gender equity, poverty reduction, and the environment in developing countries by focusing on how cities are planned, designed, built, and adapted.

HealthBridge's Livable Cities program works in partnership with local NGOs, academic institutions and governments in developing countries. We help local partners identify needs, develop and implement appropriate solutions, apply innovative and sustainable practices, and promote effective policies through research and action.

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