

Peri-Urban Livelihoods Are Overlooked in Urban Waste Management

The re-use of urban waste already represents a significant component in many peri-urban livelihoods strategies. Changes in waste composition and waste management are making productive peri-urban use much more difficult and dangerous, while existing health and safety problems are not adequately addressed. Yet the livelihoods involved and the threats to them do not figure in the waste management plans of cities and towns.

In the areas researched, the re-use of solid and liquid urban waste has been providing many peri-urban people with a means of enhancing agricultural productivity and creating income-generating opportunities. In Hubli-Dharwad and Kolkata (both India) and Kano (Northern Nigeria), urban waste re-use has had a significant history. In all these cases, though, re-use of urban waste occurs informally, and receives little or no support in official policy, leaving it vulnerable.

Hubli-Dharwad, India. In Hubli-Dharwad, urban waste re-use has offered a means for productivity improvements in peri-urban agricultural for decades. Solid waste is used in the wet season, when rain-fed irrigation is relatively accessible, while liquid waste represents a significant source of nutrient-rich irrigation during the dry season.

Until recently, composted urban waste has been available to farmers and informal vendors by auction at municipal sites. Now these auctions have been discontinued, and the compost goes to urban users who are willing to pay a high price for it

Kolkata, India. The re-use of urban waste for fish-rearing and agriculture has been practiced in the East Kolkata Wetlands for over a hundred years. The 19th Century creation of the city's peri-urban municipal waste disposal site was the trigger for farmers in close proximity to the site to make use of solid organic waste as a resource. Moreover, sewage from the city is used to irrigate these fields.

Of much greater importance is that the sewage is fed into many large ponds, supporting the production of about 13,000 tons of fish per annum. The wholesaling and transport of the fish and vegetables to Kolkata's markets supports several thousand jobs. Many of the urban residents who buy the produce are themselves poor. Waste from fish ponds is further utilised as fertiliser for rice farming and horticulture.

Kano, Nigeria. Peri-urban farmers near to Kano have used urban waste for centuries, and demand remains high. The poor standard of urban waste collection results in the waste reaching a relatively advanced stage of decomposition before it becomes available to farmers, resulting in improved suitability for agricultural application.

Kumasi, Ghana: The use of urban wastes in Kumasi is very limited and much more recent. There is some crop irrigation with water containing sewage from the city. Recent experiments with new productive activities (conducted by the Natural Resources Systems Program of the UK Department for International Development) have used sawdust from the city's sawmills in the rearing of grasscutters (a large rodent) and in mushroom cultivation in peri-urban villages. The waste from these activities is in turn re-used as horticultural fertiliser. Most farmers near to Kumasi continue to prefer chemical fertilisers. Meanwhile, the cost of inorganic fertilisers has increased steadily in recent years and most of Kumasi's solid waste is placed in a landfill site, in spite of its predominantly organic composition. These factors suggest that increased usage of urban waste could achieve significant economic benefits for peri-urban farmers.

Continued Use is Threatened. The research clearly illustrates the variety of urban waste reuse in peri-urban production systems. Often the livelihoods involved are those of poor people. Moreover, there are dangers to which these poor people tend to be more exposed. Untreated liquid waste, for example, contains high levels of faecal matter and industrial pollutants. A degree of treatment would reduce the health risks to the users and the levels of heavy metals in the fish or crops produced. There are treatment procedures, including effluent filtering, that are within the capacity of individual farmers, but lack of knowledge stops their use. For instance, Hubli-Dharwad farmers have found used medical syringes in raw sewage, which are then distributed directly onto crops because the sewage is not filtered. Simple filtering does not require complex equipment or training, although for the poorest peri-urban residents, even the limited investment required for such treatment is often unrealistic.

These dangers are increasing because the composition of both liquid and solid wastes from cities and towns is changing. In particular, the level of inorganic material and of dangerous substances is growing. For solid wastes, it is possible to sort out the inorganic material. Unfortunately, this raises the cost of reuse, even when the task is performed by labourers before spreading the organic

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remainder on crop lands, as is the practice in East Kolkata.

Recently, sorting of solid wastes by the municipality was introduced in Hubli-Dharwad, illustrating another change that threatens traditional peri-urban reuse. This is the increasing attention given by urban officials to waste disposal. To partly cover the costs, Hubli-Dharwad officials compost the resulting material and sell it to users in the twin cities at costs that small and marginal peri-urban farmers are not able to pay. Moreover, development and urbanisation processes are increasing the costs to transport urban waste to agricultural plots. For one thing bribes to the waste lorry drivers to secure delivery are augmenting with the competition from private compost contractors. For another, with rising inorganic contents, more waste has to be purchased in order to gain the same amount of organic waste.

Near to Kolkata, the government agency that controls the flow of sewage to the fish farms only sometimes shuts off supplies. However, the level of nutrients is destined to drop dramatically if a planned treatment plant is installed. As for solid wastes, they will simply not be available for the East Kolkata farms if better management practice stops the bribing of vehicle drivers who now dump

their loads on the roadside before reaching the waste disposal site.

Policy Implications

During the formulation of policies, there are good reasons to consider peri-urban practices that use urban wastes. A great many peri-urban livelihoods have been shown to be dependent on these practices, as well as a good deal of food production for city populations. These livelihoods and the production do not necessarily die as a city expands, for they can relocate further out where they engage new groups of rural people. For the time that any particular peri-urban dwellers can engage in them, the livelihoods that reuse urban wastes are important to cushion the difficult transition to urban living that lies ahead, especially for the many who are poor. If there was a better understanding of the role already played by urban waste reuse in peri-urban livelihoods and in urban food security, for the first time this reuse might be weighed in the balance against other management objectives. Policy that reduces the threats to peri-urban reuse of urban wastes could bring greater income and safety to poor peri-urban people as they undergo their transition into an urban economy, while supporting continued production of low cost food for poor urban residents.



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