



The need for waste management in post disaster rebuilding

The growing population and their changing consumption patterns have made Solid Waste Management (SWM) a serious environmental and social problem. (Sri Lanka has 65,610 sq km of land area, which is being shared by a growing population of 19.6 million people, giving it a population density of 298 persons/sq km.) In the past, a large amount of waste material produced was almost 100% biodegradable as the 'open dumping' of waste was in practice. But with new innovations and changing consumption behaviours, the non-degradable components of waste have gradually increased with extensive use of plastics, polythene and glass items. This situation has further become complex as different types of waste (such as domestic waste, market waste, industrial waste, agricultural and hazardous waste) has got mixed in the mainstream of the municipal solid waste. This has led to the increase in the quantity and variations in types of waste that is being generated. The situation has further aggravated as the final disposal is predominantly open dumping leading to increasing environment degradation and growing health problems.

Solid waste management practices needs to cater the variations in waste generation and composition. This variation takes place with time of the year (different festivals, other functions, etc) and with disasters.

Disasters cause huge amounts of waste that can be inorganic



or organic and some of them are even hazardous. Even though it is necessary to clear the debris immediately after a disaster, as they are hazardous, it does not happen as priority has to be given to address the basic requirements of the affected communities. Resettlement of people and supply of emergency relief become urgent in the whole recovery process.

In temporary camps and in housing schemes, waste management practices become different to the usual management practices community has been handling before. This is mainly due to changing behaviour patterns of the community and change in waste compositions that generate in temporary camps. As the population density is higher and the amount of waste generated in a unit area is high, inappropriate waste disposal practices are inevitable.

Who to contact: Project Manager – Intergrated Urban Development or the Resource Desk at

Practical Action (formerly ITDG)

No 5, Lionel Edirisinghe Mw, Colombo 5, Sri Lanka.

T +94 (11) 2829412 F +94 (11) 2856188 W www.practicalaction.org www.janathakshan.org E srilanka@practicalaction.org.lk

For specific details please contact the Project Officer in the Practical Action:

Hambantota T +94 (11) 4379339 E southern@practicalaction.org.lk

Ampara T +94 (11) 2224932 E eastern@practicalaction.org.lk



Therefore, the demand for waste collection is evident but local authorities do not have the required capacity to cater to the needs, due to lack of personnel, tractors and vehicles been used for other activities, dumping grounds are flooded/destroyed or used for other purposes. Thus, it is very important that the community is aware of proper waste management practices so that the increase in the composition of waste generation can be minimised.

Issues involving rebuilding

In post tsunami, waste management has become a growing challenge as in addition to the regular waste generated by the growing population. There is a need to address the waste generated by the changing consumption patterns of the tsunami affected people, largely staying in the transitional shelters. Besides, many new housing schemes, settlements and townships are developing everywhere.

These schemes, as well as the transitional shelters, hardly have the space or the capacity to tackle this problem. Therefore, it is important to link the new schemes with the local authorities to avoid waste management becoming a major issue when new housing schemes are occupied by people.



Currently, these upcoming schemes have created new waste generation points, patterns and challenges in waste management. It is evident that collection and disposal approaches are limited in the affected areas due to the non-availability of land to dispose waste (dumping sites). The lands that are available are allocated for housing programmes. Therefore, in rebuilding, the process should encourage the incorporation of waste reduction, reusing and recycling strategies.

What Practical Action can offer...

Our experience

Over five years experience in the area of solid waste management in Sri Lanka has earned Practical Action WM planning, implementation and research spheres.

- Provide technical knowledge on waste segregation, household composting systems, plastic recycling, paper recycling etc. This information is available in the form of technical briefs, guidelines and successfully implemented projects in Kurunegala, Colombo and Galle districts.
- Sharing best practices and experiences on waste management from local & international initiatives.
- Provide support to local authorities to develop integrated solid waste management strategies with high reference to waste avoidance, recycling and reducing the collection and disposal requirements.
- Provide expertise on solid waste management to the communities, local authorities and other interested groups. Practical Action has already undertaken training programmes targeting local NGOs, volunteers and municipal staff.
- Influence other NGOs, organisations and local authorities to not only identify SWM as one of the major activities in rebuilding, but also provide them technical support for the implementation of simple but effective techniques like the usage of composting bins.
- Provide implementing agencies and communities the requisite information on eco-sanitation. Process to develop mobile units, complete with working models of compost toilets and other associated SWM techniques, has been initiated, which can actually make the communities, as well as the authorities, view what is being talked about in reality.

Information and knowledge

- Training manuals on integrated waste management and concrete compost bin manufacturing process.
- Database of resource persons on SWM.



- Technical briefs on Home composting, plastic recycling, composting systems, paper recycling, recyclable waste purchasing centre.
- E-group on environment.
- Resource CD on integrated waste management.
- Video on home composting.

People centred approaches

People centred processes - mechanisms to include those who are unheard and ignored are at the heart of our approach when developing technologies.

(Practical Action develops any project by planning with people using community based approaches - E.g. community managed waste purchasing centres, home composting and home gardening programmes. The approach adopted by Practical Action -South Asia involves all stakeholders, the rural community in the decision making in all aspects of the project to ensure sustainability).

Waste management options

Integrated planning: The people centred approach adopted ensures that all the stakeholders participate in the process of planning and implementation of sustainable waste management system and the whole problem is viewed holistically.

Awareness generation: Workshops and trainings of the implementing organisations and stakeholders are organised to explain the problem and technology available to tackle these.

Composting: Most of the waste generated is biodegradable. Practical Action uses home composting and centralised composting methods to tackle this problem, where in home composting is preferred for houses and areas that have available space, and centralised composting is encouraged where space is an issue. Both, compost bin manufacturing and compost generation have potential as livelihood option, which is being linked with Practical Action's Rural Incubation Centres.

Recyclable collection, purchasing centres: Almost 15-30% of waste collected can be recycled, which is then used as raw material for other recyclable products. It was realised that the

technology to recycle exist, yet hardly any collection process is in place. Accordingly, collection has been linked with purchasing centres, where in community can sell the collated recyclable waste. These centres are managed by the community and are a good source of livelihood for many.

Tackling tsunami debris: Practical Action in association with the Institute for Construction Training and Development (ICTAD) is promoting recycling of tsunami debris, where a pilot project has been initiated to crush and convert the debris into bricks and then test for the strength of these bricks.

Training and capacity building

Practical Action can undertake training on

Sensitisation on Integrated participatory SWM

- On Compost bin fabrication for concrete fabricators



- Handmade paper production
- Planning of Integrated Solid Waste Management
- In depth training on integrated participatory waste management, where in series of capacity building workshops are conducted on waste management (this is a continuous process which is linked to the field level implementation).





Target groups for training

- Technical officers, environmental officers of local authorities
- Local NGOs, interested groups on request (e.g. youth groups, volunteers)

Training schedules are drawn up as and when requests are made for such – 30 participants for training.

The course content focuses on the sensitisation of environmental problems, current practices and difficulties faced by local authorities and the community. Awareness on waste management options (ex: 3R / 4R concepts options for Reject, Reduction, Reusing, Recycling of waste) community based approaches, integrated planning and implementation with field exercises. This is organised as a split programme with a time break to enable trainees to engage in field implementation under the guidance and supervision of solid waste management resource pool initiated by Practical Action.

Statement of principles

An outline of Practical Action's core values and aspirations guiding reconstruction

Introduction

All human activity is guided by a set of values and beliefs. Practical Action respects the diversity of human belief systems – social and religious – but has a set of principles underpinning all of its work. This section outlines the values and basic principles underlying the approaches and practices Practical Action adopts and encourages others to replicate.

Putting people at the heart of reconstruction

Technology options adopted in reconstruction should be people-centred.

Technologies should concentrate on;

- what matters most to the people with whom we work,
- respect their rights, and
- Support their own efforts to improve the quality of their lives.

Building in partnership

Poor people work hard to find their own solutions to poverty. In the aftermath of the tsunami it is evident that all sectors of society have suffered from the loss of life and possessions yet the economically disadvantaged are perhaps most vulnerable.

Reconstruction efforts should

Aim to give them access to information, knowledge and options - to identify their priorities and makes choices for themselves.

Respecting diversity

Reconstruction efforts should respect basic human rights, regardless of differences in gender, ethnicity, caste, livelihood, religion or physical ability. The practical expression of this respect should be evident in the dialogue that takes place to inform planning and resource allocation, in designing and delivering the services that will contribute to rebuilding lives and livelihoods.

Showing concern for future generations

Reconstruction efforts and the related technology choices should aim to be sustainable - economically, environmentally, socially and institutionally.