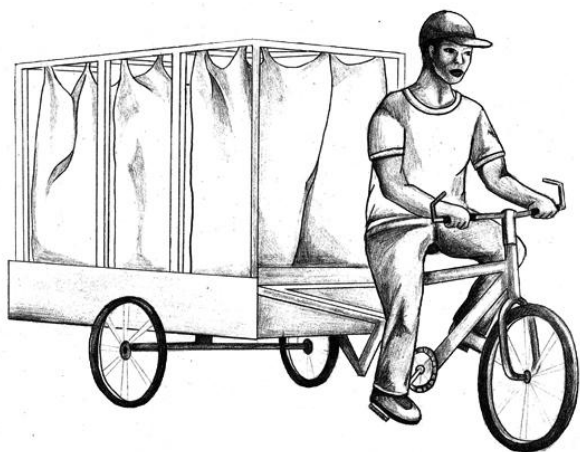


Making Waste Work: A Toolkit

How to collect waste safely and efficiently

A step-by-step guide



How-to guide 11

Part of
Making Waste Work: A Toolkit
for community waste
management in low and middle
income countries

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wasteaid.org.uk/toolkit





WasteAid UK is a charity working to make an impact on the global waste emergency by:

- Partnering with local organisations to improve the health, environment and livelihoods of people without waste services.
- Building the skills of local people to deliver practical solutions to the waste management crisis in their own communities.
- Raising awareness of the benefits of proper waste management and campaigning for greater change.

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11 How to collect waste safely and efficiently

Collecting waste keeps neighbourhoods clean and reduces health risks, particularly for children.

Summary: Collecting waste means gathering it from where it is produced (such as a home, business or market) and transporting it, either to an intermediate collection site or to a final place of recycling or disposal.

Waste materials: All – but think about how different waste types will require different types of collection. For instance, food waste may leak and attract flies, so will need containing and covering, where some bulky wastes, like cartons, may need to be transported in a larger container.

Benefits: Containing waste properly and transporting it safely and frequently enough means that it is less likely to attract animals and insects, smell bad, and spread disease. It is important to collect waste properly and efficiently, and to leave the area clean afterwards.



Think about any materials you want to keep separate so they are easier to recycle.

Always try to improve the collection so it takes less time and effort.

Clean up after you have collected the waste.



Collect the waste in suitable containers and often enough so it does not become a nuisance or a danger to people.

Use containers with lids and handles, and make sure they do not leak.

Take care: sharp objects can puncture waste sacks. Lift heavy objects carefully.

Waste collectors must wear protective clothing – gloves, covered feet, arms and legs, and highly visible colours to avoid traffic injuries.

Always wash thoroughly after working with waste, especially before preparing or eating food or smoking.

Types of waste collection

There are three types of waste collection¹.

1. Household

Household members collect their own solid waste in containers and carry it to a composting, recycling or disposal site or secondary storage.

This is suitable for collection of small amounts of waste and local (neighbourhood) processing or waste disposal.

The most suitable method is either to hand-carry or to use a small cart or wheelbarrow.

2. Neighbourhood

A representative of several households collects their waste and takes it to a composting, recycling or disposal site.

This is suitable for the collection of larger amounts of waste, and will require an animal and cart, a larger hand cart or a motor vehicle.

It requires strong community co-operation.

3. Community

Householders and businesses put waste out for collection, and paid workers collect the containers and take them to a community composting, recycling or disposal site.

There might be door-to-door collections, or communal containers placed near the road, marketplace or other public area.

This method requires co-operation from householders and businesses, requires collection of charges and payment of salaries to workers, and requires either an animal and cart or a motor-collection vehicle.

Figure 1: The three types of waste collection.

¹ The advice and diagrams in this How-to guide are based on USAID (1982) *Water for the World*, pp 385 – 464. We recommend consulting this document for more detail. It is available freely online at http://pdf.usaid.gov/pdf_docs/PNAAL484.pdf

Containers

Waste containers are useful for temporarily holding solid waste before it is collected for disposal.

The type of container and its size may vary depending on availability and local preference. Containers used for community and paid-worker collection systems should hold 50-200 litres and must be sturdy enough to stand up to rough handling. Modern plastic containers with lids are often the most appropriate and easiest to obtain.

The number of containers needed depends on the amount of waste and the frequency of collection. There should be more than enough containers to hold all the waste generated between collection days.

Be aware that metal waste containers can be seen as valuable objects and might get stolen. If there is a risk of theft, either use containers made from very low value materials (such as recycled plastic or bicycle tyres), or alternatively keep them in a compound or locked to something secure.

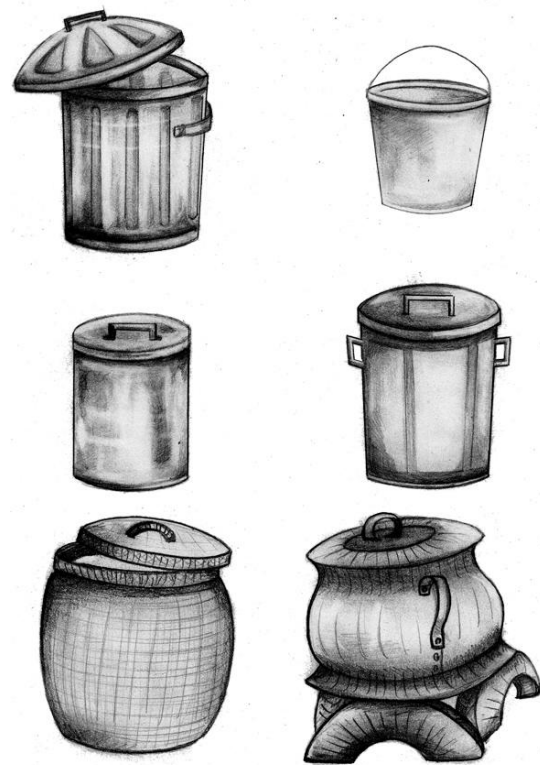


Figure 2: Different types of waste container.

Cleaning equipment

After collecting waste from a home or a public collection site, it is good practice to clean the area of any residue.

The type of equipment depends on the area to be cleaned, the nature of the waste, and personal preference. For household and community systems, individuals must provide their own equipment. For paid worker systems, the equipment should be provided by the community.

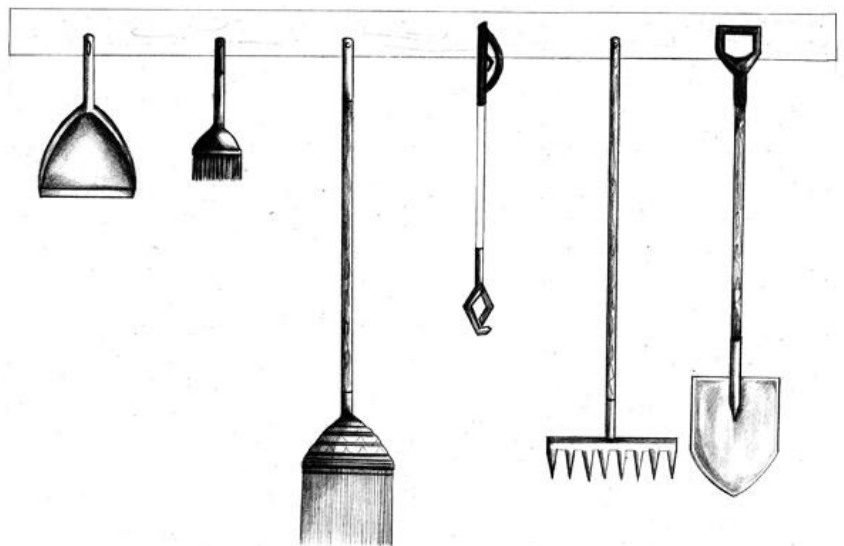


Figure 3: A range of useful cleaning equipment.

As shown in Figure 3, brooms and dustpans can be used to clean out houses, porches, pavements, or streets. Litter pickers are useful for picking up small pieces of waste. Shovels can be used to remove animal manure from the yard. Rakes, pitchforks, and shovels can be used to pick up harvest wastes or scraps from fields or factories. Short handled rakes are also useful to clean corners of footpaths.

Transporting waste

There are many ways to transport waste, depending on the amount and type of materials, and the distance to the processing or disposal site.

Figure 4 shows a range of options. You can collect waste simply by hand in sacks (a) or tied with string, or use a wheelbarrow or handcart (b) or bicycle trailer² (c). To transport large amounts of materials you will need an animal-drawn cart (d) or motorised vehicle (e), and these will add to your costs considerably.

The loading height of a vehicle should be no more than 1m for ease of handling. Vehicle repair and replacement parts must be readily available, especially for paid-worker collection systems.

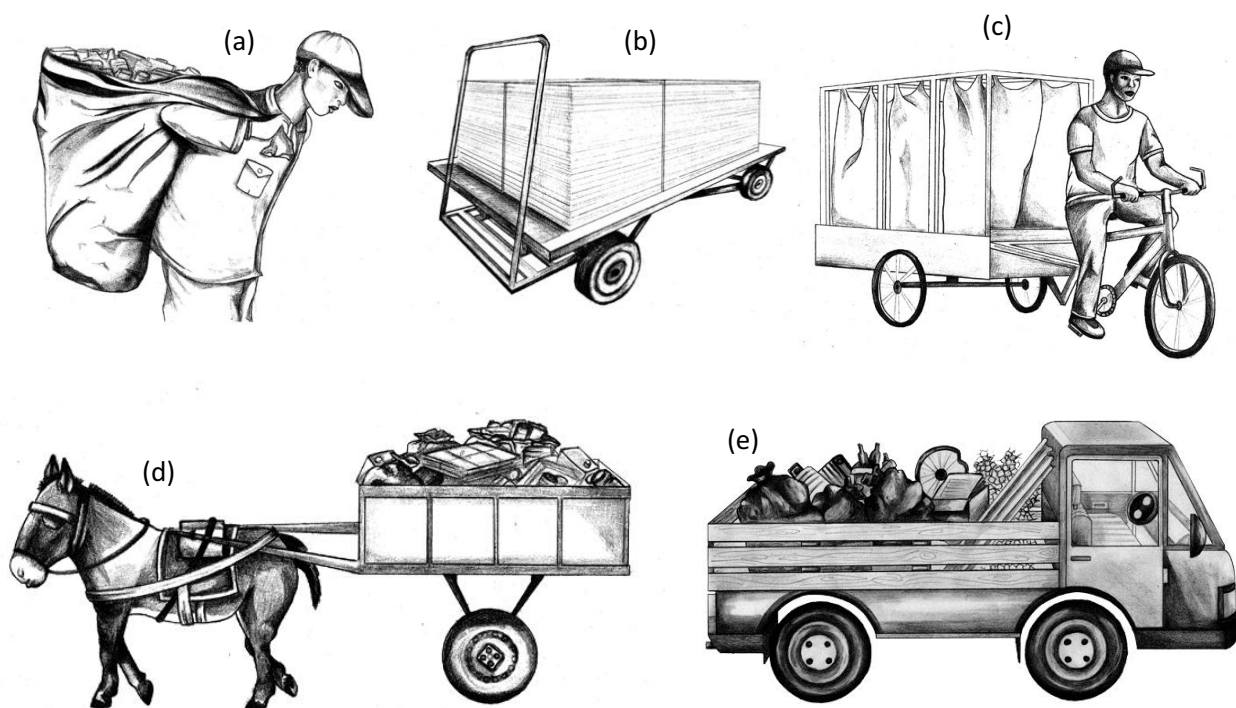


Figure 4: There are many different ways to collect waste.

Frequency of collection

Solid waste should be collected often enough to easily handle the amounts being produced. This could mean collecting daily or two or three times a week. Collections of organic waste need to be at least once per week, because it takes just over a week for fly eggs to mature.

A daily market needs a daily waste collection. For other areas, two collections per week is usually enough. It is helpful to consider the following factors:

- Climate: In warmer, wetter climates organic waste will decompose (rot) more quickly, creating odour and attracting insects and other pests.

² This tricycle was designed by Wecyclers, which offers a recycling collection service to densely populated low-income neighbourhoods in Lagos, Nigeria.

- **Separate collections:** It is a good idea to collect food and woody waste frequently to avoid attracting flies and vermin. Dry materials such as paper and plastics can be stored and collected less frequently.

Placement of waste containers

Containers for collecting waste directly from homes, businesses and markets should be easily accessible to the collection team. If waste containers are transported to the disposal site, it is important to provide replacements or return the containers afterwards.

It may be that a container is filled in one location and collected from another. For example, a container may be placed near a market stall and filled with waste during the morning, then carried to the side of the road for collection by a paid worker in the afternoon.

Collection routes

Establishing a collection route is important to save time and effort and to make sure the system runs efficiently. An established collection route encourages a routine of cleanliness in the community. Plan the route so that it is as short and simple as possible and ends as near as practical to the disposal site³.

When the schedule has been agreed, draw up a map like in Figure 5.

To help establish a waste collection routine in the neighbourhood, it can be helpful to keep a record of participants, give timeslots to stallholders or householders, ring a bell when the collector is present, agree places to collect, and provide the collectors with a reward incentive.

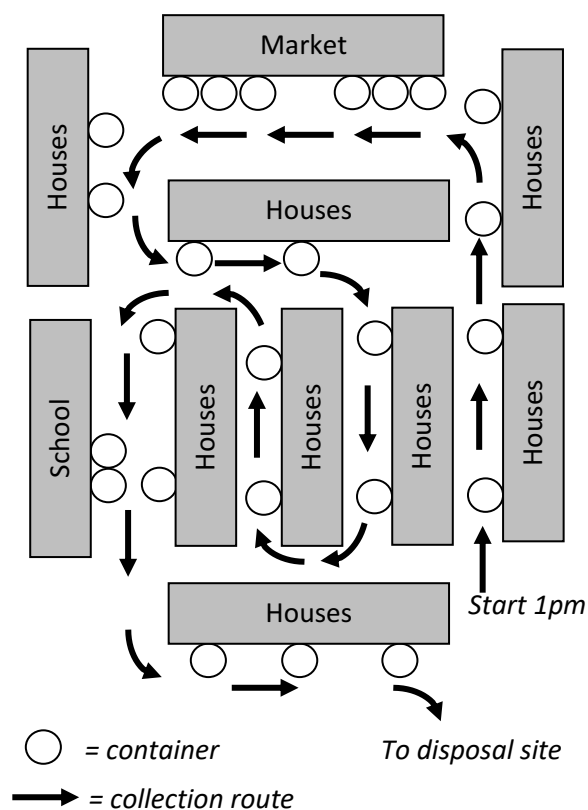


Figure 5: Example of a waste collection schedule.

³ For further reading, see the UN-Habitat Guide, *Collection of Municipal Solid Waste in Developing Countries*, available online.