

Sanitation

Sanitation is the safe disposal of excreta, refuse and waste water. Damage to existing sanitation systems or large-scale population displacement following a disaster present major health risks, and create the need for emergency sanitation.

Excreta disposal

Defecation should be avoided in areas likely to contaminate the food chain or water supplies (e.g. groundwater sources; river banks; upstream from wells; agricultural land). **Children's faeces** are commonly more dangerous than those of adults. Consider specific needs of menstruating women, children, disabled, ill and elderly.

Key considerations for planning appropriate excreta disposal methods

Location/physical environment	Rural or urban location and numbers of people affected. Local topography, groundwater level and soil type.
Environmental and climatic conditions	Climate and seasonal rainfall patterns. Land use and agricultural practices.
Social and cultural practices	e.g. for anal cleansing, handwashing, menstruation, disposal of children's and women's faeces, clothes washing
Technological issues	Availability of existing facilities, space, water, cleansing and construction materials. Suitability of shared facilities, visibility and protection issues, community-led options.

Possible alternatives for safe excreta disposal (from Sphere Handbook 2011)

Demarcated defecation area	Used in immediate relief phase when a huge number of people need immediate facilities while procure alternatives.
Biodegradable plastic bags (PeePoo)	Used in immediate relief phase with large numbers of people, particularly in densely populated urban areas.
Trench latrines	Used in the initial response - up to two months
Simple pit latrines	Planned from the start through to long-term use
Ventilated Improved Pit (VIP)	Context-based for middle to long-term response (incorporates a chimney to reduce flies and smell)
Ecological sanitation (Ecosan) with urine diversion	Context-based in response to high water table and flood situations. Planned from the start for middle to long-term use (contains and sanitises the waste for fertiliser)
Septic tanks	Used in urban disasters from response and into recovery.

Solid waste management, drainage and vector control

Safe collection and disposal of solid, organic, hazardous waste (household, health, market and industrial) reduces breeding of vectors and pollution of water sources. Special handling, storage, treatment and disposal of health care waste (sharps, blood, body parts, infectious waste, chemicals, pharmaceuticals etc.) is required, as is the management and burial of dead bodies.

Drainage must be well planned and maintained to control the flow and collection of surface water which can accumulate from households, water points, leaking toilets and sewers, rain or floods. It poses health risks from vectors, contamination of water sources, damage to latrines, dwellings, agriculture, the environment and drowning.

Vector-borne diseases are spread by vectors such as mosquitoes, other biting insects, rats and mice. Control through careful site selection (e.g. avoiding surface water where insects breed), and effective excreta, drainage and waste management.



Photo credit: S. House, Medical Centre, Oxfam Pakistan

Designing facilities with physically vulnerable people

The most important principle is to design facilities WITH disabled people and their carer, to improve access through:

Providing equipment and assistive devices according to needs
e.g. a moveable seat, or a commode chair.

Adapting and modifying existing facilities
e.g. adding a ramp, or a handrail, or installing a seat.

Designing and constructing facilities that are accessible for all
e.g. additional space or easy access path to ensure a wide range of users, irrespective of age or ability.

Use a combination of all three approaches as needed.

Additional resources on All In Diary website

Management of Dead Bodies after Disasters © PAHO 2016
Solid Waste Management in Emergencies © WHO 2013
Planning for excreta disposal in emergencies © WHO 2013

Web links for further information

<http://www.emergencysanitationproject.org>
http://wedc.lboro.ac.uk/knowledge/notes_emergencies.html
Water and Sanitation for the Urban Poor: <https://www.wsup.com>