Chapter 5

Recommended minimum objectives

This chapter contains detailed information on the recommended minimum objectives for each sanitation sector and definitions of the key terms used. These objectives are broadly based on the *Sphere Project* (1999) *Minimum Standards in Water Supply and Sanitation*. The *Sphere Project* is the product of international inter-agency collaboration and its aim is to improve the quality of assistance provided to people affected by disasters, and to enhance the accountability of the humanitarian system in disaster response. The minimum standards describe what people should have as a minimum for their health and dignity. Agencies should strive to do better wherever possible.

5.1 Minimum objectives

The minimum objectives are the recommended levels to be aimed for at respective stages of an emergency sanitation programme. Whilst they are based on the *Sphere Project* minimum standards they have been considerably expanded to incorporate more detailed objectives for each sanitation sector. These additions and any interpretation are solely those of the authors and do not necessarily reflect the opinions of the *Sphere Project*, however they were agreed by the advisory panel for this book.

Each of the following sections (5.2 – 5.7) consists of a table containing the minimum objectives for that sector. These are divided into immediate, short-term and long-term objectives for quality, quantity and usage of services. Each table is followed by a series of definitions of terms used within that table.

The objectives developed here are **not** standards, they are simply designed to guide and assist the practitioner in achieving adequate and appropriate service levels for each of the sanitation sectors. 'Emergency' situations vary greatly and these objectives should always be viewed in the broader context of local conditions and adapted accordingly.

Simply because objectives are set does not mean that agencies should strive to achieve these at all costs. A consultative approach should always be taken in programme design and this may identify times at which some objectives may be inappropriate or irrelevant.

Many of the terms and descriptions used in the Guidelines checklists and analysis tables are identical to those in the minimum objective tables and hence reference to these definitions can be used for clarification to assist in the completion of rapid assessments. Worked examples of checklists and analysis tables can be found in the Case Study.

5.2 Excreta disposal

Table 5.1. Recommended minimum objectives for safe excreta disposal

Criteria	*Immediate*
Quality	• Technically basic* • Barely socially and culturally acceptable** • Basic health protection measures in place★ • Technology sustainable for one month★★
Quantity	• Ratio of one space/cubicle to 100 persons accessible to all population or immediate responses only† • Maximum walking distance 70m (one way) • Availability of sufficient numbers of facilities at 1. Medical centres (one latrine space to 50 beds or 100 outpatients) 2 Schools (one to 50 girls and one to 100 boys) 3 Market areas (one to 100 stalls) 4. Feeding centres (one to 100 adults and one to 50 children)
Usage	• 50% of affected population has access to domestic facilities (100% in medical and feeding centres) ^ • 50% using facilities correctly on a regular basis

RECOMMENDED MINIMUM OBJECTIVES

	Short-term	*Long-term*
	• Technically appropriate*	• Technically very appropriate*
	• Socially and culturally acceptable**	• Very socially and culturally acceptable**
	• Minimal health hazard★	• No health hazard★
	• Technology sustainable for six months★★	• Technology sustainable for three years★★
	• Ratio of one space/cubicle to 50 persons accessible to all population	• Ratio of one space/cubicle to 20 persons accessible to all population
	• Maximum walking distance 50m (one way)	• Maximum walking distance 25m (one way)
	• Availability of sufficient numbers of facilities at	• Availability of facilities at:
	1. Medical centres (one latrine space to 20 beds or 50 outpatients)	1. Medical centres (one latrine space to 10 beds or 20 outpatients)
	2. Schools (one to 30 girls and one to 60 boys)	2. Schools (one to 15 girls and one to 30 boys)
	3. Market areas (one to 50 stalls)	3. Feeding centres (one to 20 adults and one to 10 children)
	4. Feeding centres (one to 50 adults and one to 20 children)	4. Market areas (one to 20 stalls)
		5. Offices (one to 20 staff)
	• 75% of affected population has access to domestic facilities (100% in medical and feeding centres) ^	• 95% of affected population has access to domestic facilities (100% in medical and feeding centres) ^
	• 75% using facilities correctly on a regular	• 95% using facilities correctly on a regular basis

Definitions of excreta disposal terminology

(see Chapter 6 for further information)

*Technical appropriateness

Technical appropriateness includes the following design factors:

- Keyhole size and shape (of slab)
- Foot rest position (if applicable)
- Minimum dimension for inside latrine 1m x 1m
- Superstructure provides necessary privacy and appropriate weather protection
- Drainage around excreta disposal facilities
- Access path to the space/facilities
- Seasonal variation has minimum affect on access to the space/facilities
- Accessible and easy to use by all vulnerable groups (i.e. children, women, especially pregnant women, disabled and the elderly)
- Lit at night if necessary
- Personal security for vulnerable groups especially women

Inappropriate:	None of the above
Technically basic:	Few of the above
Appropriate:	Most of the above
Very appropriate:	All of the above

**Social and cultural acceptability

In determining whether current provision is socially and culturally acceptable, the following factors should be taken into consideration:

- Religious or cultural factors affecting use of facilities
- Methods of anal cleansing
- Preferred defecation position
- Need for privacy
- Segregation of sexes or different groups and individuals for whom it is culturally unacceptable to share a latrine
- Provision for the disposal of women's sanitary protection or privacy for washing and drying sanitary protection cloths
- Cultural taboos
- Special arrangements for children

Very unacceptable:	None of the above
Barely acceptable:	Few of the above
Acceptable:	Most of the above
Very acceptable:	All of the above

★Potential health hazard of current system

The potential health hazard of the current system can be divided into the following categories of measurement:

Major hazard: Open and indiscriminate defecation being practiced by most of the affected population; no anal cleansing materials available; no handwashing facilities near latrines, or

no soap and water available for family latrines; high population of excreta-related vectors; potential water source (surface or ground) pollution from human excreta; and no O&M structures in place.

Basic health protection measures in place: Controlled defecation in designated locations, some anal cleansing materials available: some handwashing facilities available; possibility of water source (surface or ground) pollution minimised; and some O&M structures in place.

Reduced hazard: One space available per 50 people and not more than 50m away from dwellings; anal cleansing materials available, handwashing facilities near public facilities; some measure of vector control in place; no water source pollution; and community mobilisation and O&M activities taking place.

Minimal hazard: One space available per 20 people and not more than 25m away from dwellings, widespread availability of anal cleansing materials, handwashing facilities near public facilities and availability of soap and water at family latrines; minimum vector population: no water source pollution; and affected population responsible for O&M activities.

Measures that will increase the impact on disease transmission include.

- the facilities are hygienic, i.e. they are kept and maintained in a clean state inside and outside, they do not present a health hazard to all users and they minimise fly and mosquito populations;
- anal cleansing material is either accessible or has been provided.
- handwashing facilities are available at public latrines and soap and water at family latrines;
- the base of pits are at least 1.5m above the wet season water table and facilities are at least 30m away from surface water sources and
- in open defecation systems the drainage system does not run towards any surface water source and they are sited downstream of all water sources.

★★Sustainability of facilities

The sustainability of facilities is a measure of how long they are likely to be able to be used and maintained in a safe and appropriate manner, without detrimental effect to the community or environment. This includes latrine pit and superstructure life, as well as the ability and willingness of users to maintain facilities, appropriate funding, equipment and staff skills. Facilities should be designed with these factors in mind. Design lives are divided into immediate (<one month), short-term (three-six months) and long-term (>one year).

†Immediate responses

Where the term 'immediate responses' is used this refers to immediate interventions which are designed to contain excreta. These include controlled open-field defecation which may provide adequate defecation space but does not provide any individual latrine spaces Such measures only satisfy immediate standards and must not be relied upon beyond this.

^Accessibility of facilities

The accessibility of facilities means how easily various groups (including vulnerable groups) of the affected population have access to the facilities This includes physical access such as paths or roads, as well as segregation to provide access to minority or disadvantaged groups.

5.3 Solid waste management

Table 5.2. Recommended minimum objectives for solid waste management

Criteria		*Immediate*
Quality		• Technically basic* • Basic health protection measures in place★ • Technology sustainable for one month★★
Quantity	**Storage and collection**	• One bin or container (100litre) to 200 people for domestic solid waste • Maximum walking distance from bin 70m • Bins available in feeding centres, market places and distribution centres • One bin (100litre) to 40 market stalls • One bin (100litre) to 500 people using feeding centres
	Transport	• 0.2litre collection vehicle volume per person per day • 5litre collection vehicle volume per market stall per day
	Disposal	*Direct (on-site)* • 45m to family pit • 200m to communal pit • $6m^3$ pit/ 200 persons *Remote (off-site)* • 500m to final disposal site from nearest habitable building • $0.25m^3$ / person for landfilling • $6m^3$ pit/ 200 persons
Usage		• 50% of affected population has access ^ to facilities and is using them correctly on a regular basis • 50% of collected solid waste transported correctly • 50% of collected solid waste disposed of correctly

RECOMMENDED MINIMUM OBJECTIVES

	Short-term	***Long-term***
	• Technically appropriate* • Minimal health hazard★ • Technology sustainable for six months★★	• Technically very appropriate* • No health hazard★ • Technology sustainable for three years★★
	• One bin (100litre) to 100 people for domestic solid waste • Maximum walking distance from bin 50m Bins available in feeding centres, market places and distribution centres • One bin (100litre) to 20 market stalls • One bin (100litre) to 200 people using feeding centres	• One bin (100litre) to 50 people for domestic solid waste • Maximum walking distance from bin 15m • Bins available in feeding, centres market places and distribution centresOne bin (100litre) to 10 market stalls • One bin (100litre) to 100 people using feeding centres
	• 0.4litre collection vehicle volume per person per day • 10litre collection vehicle volume per market stall per day	• 1.0litre collection vehicle volume per person per day • 20litre collection vehicle volume per market stall per day
	Direct (on-site) • 30m to family pit • 150m to communal pit • $6m^3$ pit/ 100 persons *Remote (off-site)* • 750m to final disposal site from nearest habitable building • $0.25m^3$ / person for landfilling • $6m^3$ pit/ 100 persons	*Direct (on-site)* • $6m^3$ pit/ 50 persons • 15m to family pit • 100m to communal pit *Remote (off-site)* • 1000m to final disposal site from nearest habitable building • $0.25m^3$ / person for landfilling • $6m^3$ pit/ 100 persons
	• 75% of affected population has access ^ to facilities and is using them correctly on a regular basis • 75% of collected solid waste transported correctly • 75% of collected solid waste disposed of correctly	• 95% of affected population has access ^ to facilities and is using them correctly on a regular basis • 95% of collected solid waste transported correctly • 95% of collected solid waste disposed of correctly

Definitions solid waste management terminology

(see Chapter 7 for further information)

*Technical appropriateness

Inappropriate: Open and indiscriminate dumping of solid waste; no storage, collection, transport and disposal facilities; and no formal systems in place for solid waste management.

Technically basic. Solid waste disposed in designated areas which are cleared at least every two weeks, and community mobilisation in place to control open dumping.

Appropriate: On-site disposal facilities in place or basic containers provided and emptied at least every one-two weeks for domestic areas and two-three times a week at markets and feeding centres; off-site disposal in designated areas, and basic management system in place.

Very appropriate: On-site disposal facilities in place or well-designed solid waste containers emptied at least weekly and every day at markets and feeding centres, suitable collection vehicles of sufficient capacity and design used for off-site disposal to well-designed pits or landfill; and programme managed by skilled staff through formal structures integrated with other sanitation and health activities.

★Potential hazard to health

The potential hazard to health of solid waste systems can be divided into the following categories of measurement:

Major hazard: There is pollution of food and water sources; high vector population close to habitable buildings, medical waste mixed with general waste; no tools or protective clothing provided for workers; and access for people and animals is uncontrolled.

Basic health protection measures in place: Medical waste is separated from general waste; no pollution of food and water sources; and workers are provided with basic tools, boots and gloves.

Reduced hazard: Medical waste is separated from general waste, no pollution of food and water sources; workers are provided with basic tools, boots and gloves; access to off-site disposal facilities by people and animals is controlled, and disposal site does not cause smoke or odour hazard to communities.

Minimal hazard. Medical waste is separated from general waste; no pollution of food and water sources; workers are provided with full complement of tools and protective clothing plus facilities for changing and bathing; animals are prevented from accessing storage and disposal sites; and disposal site does not cause smoke or odour hazard to communities.

Measures that will increase the impact on disease transmission and minimise health hazards include:

- The bases of communal pits, general land-filling sites and medical waste pits should be at least 1.5m above the wet season water table (especially where groundwater is used for water supply) and 30m from surface water sources,
- Appropriate drainage systems should be in place to avoid the flooding of pits and landfill areas.
- Communal pits should be fenced to protect people (especially children) from falling into them.
- Insect-vectors and vermin numbers should be minimised by burning and covering waste with layers of soil.
- At no time should medical waste be mixed with domestic and communal waste.
- All workers handling solid waste and medical waste should be provided with and wear protective clothing.

★★Sustainability of facilities

The sustainability of facilities is a measure of how long they are likely to be able to be used and maintained in a safe and appropriate manner, without detrimental effect to the community or environment. This includes pit or vehicle life, as well as the ability and willingness of users to maintain facilities, appropriate funding, equipment and staff skills. Facilities should be designed with these factors in mind. Design lives are divided into immediate (< one month), short-term (three-six months) and long-term (> one year).

^ Accessibility of facilities

The accessibility of facilities means how easily various groups (including vulnerable groups) of the affected population have access to the facilities. This includes physical access such as paths or roads, as well as segregation to provide access to minority or disadvantaged groups.

Recycling

A long-term goal should be to promote the recycling of solid waste (excluding medical waste). This is more environmentally friendly and can lead to income-generation activities which may create less dependency on external aid agencies. The way that relief goods are packaged is a key factor in minimising waste and promoting recycling.

5.4 Waste management at medical centres

Table 5.3. Recommended minimum objectives for waste management at medical centres

Criteria		*Immediate*
Quality		• Technically basic* • Basic health protection measures in place★ • Technology sustainable for one month★★
Quantity	**Storage and collection**	• One set of three segregated containers per 40 beds • 20m average one-way distance to containers
	Transport	• Transport volume of 0.5litre per bed
	Disposal	• Original pit volume of 400litre per bed • Capacity of incinerator insufficient† • Incinerator 5m from nearest habitable building • Pit 50m from nearest habitable building
Usage		• 75% of waste appropriately collected and sorted • 75% of collected waste transported correctly • 75% of collected waste disposed of correctly

RECOMMENDED MINIMUM OBJECTIVES

	Short-term	*Long-term*
	• Technically appropriate* • Minimal health hazard★ • Technology sustainable for six months★★	• Technically very appropriate* • No health hazard★ • Technology sustainable for three years★★
	• One set of three segregated containers per 30 beds • 10m average one-way distance to containers	• One set of three segregated containers per 20 beds • 5m average one-way distance to containers
	• Transport volume of 1.0litre per bed	• Transport volume of 1.5litre per bed
	• Original pit volume of 800litre per bed • Capacity of incinerator sufficient† • Incinerator 15m from nearest habitable building • Pit 75m from nearest habitable building	• Original pit volume of 1200litre per bed • Capacity of incinerator ideal† • Incinerator 30m from nearest habitable building • Pit 100m from nearest habitable building
	• 90% of waste appropriately collected and sorted • 90% of collected waste transported correctly • 90% of collected waste disposed of correctly	• 100% of waste appropriately collected and sorted • 100% of collected waste transported correctly • 100% of collected waste disposed of correctly

Definitions of medical waste management terminology

(see Chapter 8 for further information)

*Technical appropriateness

Inappropriate: Medical centres do not have any segregated medical waste management system in place and medical waste is indiscriminately disposed of with domestic waste in public or dwelling areas. There are no formal storage, collection; transport or disposal facilities for medical waste

Technically basic: All medical centres have a very basic medical waste management system in place which is technically unsophisticated. Medical waste and general waste are segregated but all types of medical waste are disposed of together in a pit where they are burned at low temperature.

Appropriate: All medical centres have a medical waste management system in place which is technically appropriate. General waste, pathological waste and sharps/needles are segregated into different collection containers at source. These are safely transported to the final disposal sites where medical waste is incinerated and the ash deposited in a deep pit.

Very appropriate: All medical centres have a medical waste management system in place and this is technically appropriate. General waste, pathological waste and sharps/needles are segregated into different collection containers at source and transported separately. Disposal facilities are a combination of incineration and sealed disposal pits. The medical waste is incinerated at the correct temperature.

★Potential hazard to health

The potential hazard to health of waste management systems at medical centres can be divided into the following categories of measurement:

Major hazard: The pollution of food and water sources; high vector population close to habitable buildings; medical waste mixed with general waste; no tools, gloves or protective clothing are provided for workers; no disinfection; no incineration; and access for people and animals is uncontrolled.

Basic health protection measures in place: Medical waste separated from general waste; no pollution of food and water sources; workers are provided with basic tools, boots and gloves; and medical waste is disposed of in pits where it is burned.

Reduced hazard: Medical waste segregated into sharps, pathological and general waste and stored and transported in sealed containers; no pollution of food and water sources; workers are trained and provided with basic tools, boots and gloves; access to disposal facilities is controlled; and after incineration ash is deposited in deep pits.

Minimal hazard: Medical waste segregated into sharps, pathological and general waste and disinfected, stored and transported separately in sealed containers; no pollution of food and water sources; workers are fully trained and provided with full complement of tools and protective clothing plus facilities for changing and bathing; access to incinerator which operates at the correct temperature and does not cause smoke or odour hazard to communities is controlled; and ash from incineration deposited in a deep sealed pit.

Measures that will increase the impact on disease transmission and minimise health hazards include:

- The base of pits for medical waste should be at least 1.5 m above the wet season water table and at least 30m from surface water sources.
- Appropriate drainage systems should be in place to avoid the flooding of pits and landfill areas.
- Medical waste should be disinfected before disposal (but note 8.5.3).
- All staff handling medical waste should be properly trained and provided with and wear protective clothing at all times.
- At the source, medical waste should be segregated into pathological waste, sharps, etc., and transported and disposed of accordingly.
- Medical waste containers should be sealed and leak-proof.
- Medical waste storage places, collection areas, and transport modes should be regularly disinfected.
- At no time should medical waste be disposed of at general waste sites.
- Incinerators should be correctly designed, constructed and operated to minimise the pollution of the environment.
- All ashes from incinerators should be disposed of in deep pits.
- If medical waste cannot be incinerated correctly, it should be buried in plastic containers to minimise the contamination of soil and water.

★★Sustainability of facilities

The sustainability of facilities is a measure of how long they are likely to be able to be used and maintained in a safe and appropriate manner and without detrimental effect to the community or environment. This includes pit or incinerator life, as well as the ability and willingness of users to maintain facilities, appropriate funding, adequate equipment and staff skills. Facilities should be designed with these factors in mind. Design lives are divided into immediate (< one month), short-term (three-six months) and long-term (> one year).

†Capacity of incinerator

The capacity of the incinerator applies to the mass it is able to incinerate and the temperature at which it operates or the effectiveness of incineration. The minimum objectives have been divided into the following categories:

Very insufficient: Not properly incinerated – non-combusted solid waste clearly visible after attempted incineration, or the incinerator is unable to cope with the quantity of medical waste produced per day.

Insufficient: Incinerated at low temperature, some non-combusted waste after attempted incineration but most rendered inert; and able to cope with majority of medical waste produced each day.

Sufficient: All generated medical waste successfully incinerated each day to produce residual ash.

Ideal: All generated waste successfully incinerated each day at 1,000°C or above; and a uniform fine ash is produced.

It is estimated that an ideal incinerator should be able to incinerate 10kg of waste/ 10,000 people/day based on the total affected population.

It is important that medical waste is incinerated at the correct temperature. It is recommended that this should be a minimum temperature of 1,000°C. This will not be obtained by open burning in pits and will only be reached in a properly designed and operated incinerator.

5.5 Disposal of dead bodies

Table 5.4. Recommended minimum objectives for safe excreta disposa

Criteria	*Immediate*
Quality	• Technically basic* • Socially and culturally unacceptable** • Basic health protection measures in place★ • Technology sustainable for one month★★
Quantity	• Burial 500m² of land available per 10,000 people • Cremation basic supply of fuel† • Distance from nearest habitable building to burial or cremation site 100m • Minimum of 75% of bodies collected and buried/cremated before decomposition
Usage	• Transport, cremation and/or burial facilities accessible to 75% of the population

RECOMMENDED MINIMUM OBJECTIVES

	Short-term	*Long-term*
	• Technically appropriate* • Socially and culturally acceptable** • Minimal health hazard★ • Technology sustainable for six months★★	• Technically very appropriate* • Very socially and culturally acceptable** • No health hazard★ • Technology sustainable for three years★★
	• Burial, 1,000m² of land available per 10,000 people • Cremation, adequate supply of fuel† • Distance from nearest habitable building to burial or cremation site 300m • Minimum of 90% of bodies collected and buried/cremated before decomposition	• Burial: 1 500m² of land available per 10,000 people • Cremation: plentiful supply of fuel† • Distance from nearest habitable building to burial or cremation site 500m • Minimum of 100% of bodies collected and buried/cremated before decomposition
	• Transport, cremation and/or burial facilities accessible to 90% of the population	• Transport, cremation and/or burial facilities accessible to 100% of the population

Definitions of terminology for disposal of the dead
(see Chapter 9 for further information)

*Technical appropriateness
The different levels of technical appropriateness are defined as follows:

Inappropriate: The affected population has no access to land, resources or tools to bury or cremate dead bodies.

Technically basic: The affected population has some access to designated land/fuel, transport and tools. Dead bodies are buried in shallow graves or crudely cremated.

Appropriate: Most of affected population has access to designated sites, fuel, transport and tools to enable them to bury or cremate dead bodies. Bodies are buried at a depth of at least 1.5m or cremated. Some O&M structures in place.

Very appropriate: The whole of the affected population has access to designated sites, fuel, transport and tools to enable them to bury or cremate dead bodies. Bodies are buried at a depth of at least 2m or cremated at sufficient temperature. Well-managed O&M structures in place. A field morgue of 10 bodies capacity per 10,000 people is available.

**Social and cultural acceptability
In determining whether current provision is socially and culturally acceptable, the following factors should be taken into consideration:

- Religious or cultural factors affecting the disposal of the dead
- Traditional funeral practices
- Cultural taboos
- Special arrangements for different religious groups within the community
- Special arrangements for different social groups within the community

Very unacceptable: None of the above
Barely acceptable: Few of the above
Acceptable: Most of the above
Very acceptable: All of the above

★Potential hazard to health
The potential hazard to health of the disposal of dead bodies can be divided into the following categories of measurement:

Major hazard: No disposal system is in place, high population of vectors and no protection of bodies from animals; actual or potential water source (surface or ground) pollution from dead bodies; and likely contamination from infected corpses. Bodies not disposed of promptly. During a cholera or ebola epidemic dead bodies disposed of without disinfection.

Basic health protection measures in place. Technically basic measures in place, but still high population of vectors and only limited protection from animals. During a cholera or ebola epidemic some dead bodies disposed of without disinfection creating potential for contamination

Reduced hazard: Technically appropriate facilities in place; some measure of vector population control in place; no water source pollution; unlikely transmission of disease, O&M activities in place; all bodies from cholera or ebola epidemics disinfected before disposal and protective clothing provided for workers where appropriate.

Minimal hazard: Very technically appropriate facilities in place, minimum vector population, no water source pollution, and no contamination from infected corpses. Well-managed O&M activities are in place, all bodies from cholera or ebola epidemics are disinfected before disposal and protective clothing provided for workers where appropriate.

Measures that will increase the impact on disease transmission and minimise health hazards include:

- Workers handling dead bodies should be provided with and wear protective clothing to minimise contamination, especially those workers disposing of dead bodies from epidemics.
- All bodies should be collected and stored promptly.
- The burial activities should not pollute ground or surface water sources.
- Burial and cremation sites should not become breeding grounds for vectors or pests.

★★Sustainability of facilities

The sustainability of facilities is a measure of how long they are likely to be able to be used and maintained in a safe and appropriate manner, without detrimental effect to the community or environment. This includes cemetery life or fuel availability, as well as the ability and willingness of users to maintain facilities, appropriate funding, equipment and staff skills. Facilities should be designed with these factors in mind. Design lives are divided into immediate (< one month), short-term (three-six months) and long-term (> one year).

†Availability of fuel for cremation

It is difficult to determine the appropriate amount of fuel necessary for cremation, since this will depend upon cultural practice and type of fuel available. This will therefore have to be determined by observation of the current scenario, whereby fuel availability can be expressed in terms of none, basic, adequate and plentiful

5.6 Wastewater management

Table 5.5. Recommended minimum objectives for wastewater management

Criteria	*Immediate*
Quality	• 50% of systems are technically appropriate for current purpose* • Basic health protection measures in place★ • 50% of wastewater systems are adequately maintained and managed★★
Quantity	• At least 50% of facilities such as water points, bathing areas, laundry places, slaughter areas, medical facilities, kitchens and handwashing facilities installed with appropriate wastewater disposal system
Usage	• 50% of wastewater disposed to designated sites

RECOMMENDED MINIMUM OBJECTIVES

	Short-term	*Long-term*
	• 75% of systems are technically appropriate for current purpose* • Minimal health hazard★ • 75% of wastewater systems are adequately maintained and managed★★	• 95% of systems are technically appropriate for current purpose* • No health hazard★ • 95% of wastewater systems are adequately maintained and managed★★
	• At least 75% of facilities such as waterpoints, bathing areas, laundry places, slaughter areas, medical facilities, kitchens and handwashing facilities installed with appropriate waste water disposal system	• At least 95% of facilities such as waterpoints, bathing areas, laundry places, slaughter areas, medical facilities, kitchens and handwashing facilities installed with appropriate waste water disposal system
	• 75% of wastewater disposed to designated sites	• 95% of wastewater disposed to designated sites

Definitions of wastewater management terminology

(see Chapter 10 for further information)

*Technical appropriateness

Wastewater management systems can be said to be appropriate if:

- the system can cope with all wastewater produced without over-flowing;
- wherever necessary grease traps have been installed and are working effectively to prevent oil or grease entering wastewater systems;
- wherever appropriate screening is provided to trap food waste;
- water, shelter, storage and sanitation facilities are not flooded or eroded by wastewater, and
- there is no standing water around facilities.

★Potential hazard to health

The potential hazard to health of wastewater can be divided into the following categories of measurement:

Major hazard: No wastewater disposal systems are in place; no easy access to sanitary facilities, high population of water-related vectors; potential water source (surface or ground) pollution from wastewater; there is standing water around facilities and slippery surfaces.

Basic health protection measures in place: Immediate drainage measures are in place but these cannot cope with the wastewater produced, so standing water still present in places.

Reduced hazard: Appropriate facilities are in place, vector population under reasonable control; minimal standing water; and community mobilisation and O&M structures are in place

Minimal hazard: High quality facilities are in place, vector population under control; minimal standing water; and community mobilisation and well-managed O&M structures are in place.

Measures that will decrease potential hazards to health include:

- minimisation of breeding sites for vectors (e.g. mosquitoes) by ensuring that there is no standing wastewater around facilities or within the affected area.
- good drainage to ensure surfaces around sanitary facilities are not liable to erosion or slippery and dangerous; and
- appropriate drainage around shelters and latrines and other sanitation facilities to ensure that they are not in danger of flooding and to ensure constant access.

★★Maintenance and management of facilities

In order to ensure the sustainability of facilities it is necessary to ensure that they are maintained and managed correctly. Appropriate measures include the following:

- The affected population does not throw any items of solid waste that might block drainage or domestic wastewater systems.
- Grease and food traps are cleaned and emptied away from wastewater systems.
- Community members dispose of domestic wastewater in designated locations.
- O&M teams and activities exist and are properly managed to ensure that systems are working effectively.

5.7 Hygiene promotion

Table 5.6. Recommended minimum objectives for hygiene promotion

Criteria	*Immediate*
Quality	• 50% of facilitators are from the same social background as those with whom they work within the affected population and are able to communicate in the same language • 50% of facilitators (outreach workers) are trained • 50% of promotional messages are accurate, currently appropriate to the target audiences and completely cover the topic* • 50% of messages are delivered in a way that is compatible with socio-cultural aspects of affected population**
Quantity	• One facilitator per 1000 people • 50% of affected area covered by hygiene promotion programme • Appropriate use promoted for 50% of relevant sanitation sectors
Usage	• 30% of population receiving, understanding and remembering promotion messages★ • 30% of the affected population is putting programme messages into practice★★ • 30% of messages delivered are actually implemented by the population★★

RECOMMENDED MINIMUM OBJECTIVES

	Short-term	*Long-term*
	• 75% of facilitators are from the same social background as those with whom they work within the affected population and are able to communicate in the same language • 75% of facilitators (outreach workers) are trained • 75% of promotional messages are accurate, currently appropriate to the target audiences and completely cover the topic* • 75% of messages are delivered in a way that is compatible with socio-cultural aspects of affected population**	• All facilitators are from the same social background as those with whom they work within the affected population and are able to communicate in the same language • All facilitators (outreach workers) are trained • All promotional messages are accurate, currently appropriate to the target audiences and completely cover the topic* • All messages are delivered in a way that is compatible with socio-cultural aspects of affected population**
	• Two facilitators per 1000 people • 75% of affected area covered by hygiene promotion programme • Appropriate use promoted for 75% of relevant sanitation sectors	• Two or more facilitators per 1000 people • 100% of affected area covered by hygiene promotion programme • Appropriate use promoted for all sanitation sectors
	• 50% of population receiving, understanding and remembering promotion messages★ • 50% of the affected population is putting programme messages into practice★★ • 50% of messages delivered are actually implemented by the population★★	• 75% of population receiving, understanding and remembering promotion messages★ • 75% of the affected population is putting programme messages into practice★★ • 75% of messages delivered are actually implemented by the population★★

Definitions of hygiene promotion terminology
(see Chapter 11 for further information)

*Accuracy and appropriateness of messages
The accuracy and current appropriateness of messages can be determined by using the following checklist:

- Are messages factually correct?
- Are messages relevant to the current scenario?
- Are the messages simple and easy to understand?
- Are members of the affected population physically able to put messages into practice at the current time?
- Are vulnerable and gender groups (disabled, elderly, children, women and men) targeted by specific messages using appropriate media?

In addition, it is important to assess whether messages completely cover the topic tackled, and whether there are any major gaps in the information provided.

**Socio-cultural acceptability
The socio-cultural acceptability of the messages and materials adopted in any hygiene promotion campaign is a key factor in ensuring programme effectiveness. It is important that members of the affected community are recruited and trained to be involved in campaign activities, and that their inputs are incorporated into the programme

Through the consultation process, the facilities provided should be socio-culturally appropriate which in itself should promote their use by the population. However, an in-depth understanding of the existing social and cultural practices among the community is also essential in determining appropriate promotional methods and activities. Group discussions, poster campaigns and other media employed must be acceptable and comprehensible in order to have positive effects. For example, written messages will have little effect if many of the population are illiterate.

★Impact of messages
In order to determine whether community members are receiving, understanding and remembering hygiene promotion messages it is recommended that a series of interviews be conducted with individuals or small groups. This can be done by selecting people at random and asking a few questions.

These questions should be broad-ranging rather than specifically directed towards known hygiene promotion activities For example

- Are you aware of hygiene promotion activities in this area?
- Has a hygiene promoter visited you?
- Have you attended any community meetings on hygiene promotion?
- What messages have you received?
- What have you done as a result of these messages?
- Are there any problems concerning these messages?
- Do you think that the hygiene promotion activities are useful and/or important?

★★Hygiene practice

The interviews described above can also provide some measure of whether the affected population is putting hygiene promotion messages into practice. In order to determine this more accurately, however, their behaviour needs to be observed. This is by no means a straightforward task, as hygiene behaviour is difficult to observe and may be affected by the observers themselves, but this can be done by using various indicators to determine whether the hygiene promotion campaign is having its desired effect:

- Are sanitation facilities being used?
- Are the facilities appropriately maintained by the community?
- Are the facilities correctly used by the community?
- Are the actions of community members adversely affecting the operation and maintenance of facilities?
- Are any existing hygiene practices unsafe? Have these been addressed by the hygiene promotion programme?
- Are community members using the hygiene equipment and materials provided?
- Are there particular sections of the community in which hygiene practices and the use of facilities are presenting problems?

These indicators should be useful in determining both the proportion of the population putting messages into practice and the proportion of messages delivered that are actually implemented by community members.

References and further reading

Ferron, Suzanne, Morgan, Joy and O'Reilly, Marion (2000) *Hygiene Promotion. From relief to development.* CARE/Intermediate Technology UK

The Sphere Project (1999) *Humanitarian Charter and Minimum Standards in Disaster Response.* Standing Committee for Humanitarian Response (SCHR): Geneva.

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