WEDC

MOBILE NOTE 43

# Planning for excreta disposal in emergencies

TECHNICAL NOTES ON DRINKING-WATER, SANITATION & HYGIENE IN EMERGENCIES

**Originally designed for print, this is one of the series of highly illustrated notes prepared by WEDC for WHO to assist those working immediately or shortly after an emergency to plan appropriate responses to the urgent and medium-term water, sanitation and hygiene needs of affected populations.**

TN 13

World Health Organization

Loughborough University

# Contents



## Introduction

**The pressure to help people immediately after a disaster often leads to actions starting before they have been properly planned. Experience shows that this results in a waste of resources and in poor service delivery; it seldom leaves long-term benefits for the affected community. Among other issues, this is the case for emergency disposal.**

**This mobile note is a guide to the planning process of excreta disposal during the first two phases of an emergency. Technical options are presented in Mobile Note 44.**

## Phases in an emergency

There are three phases in an emergency:

- Immediate emergency
- Stabilization
- Recovery

## Immediate emergency

In this phase, mortality rates can be high and there may be a risk of a major epidemic. The phase usually lasts for the emergency period and a few weeks beyond. The main objective for an excreta disposal programme is to minimize contamination related to high-risk practices and reduce exposure and faecal-oral disease transmission. Interventions are usually rapid and designed for the short-term.

## Stabilization

During this period more sustainable interventions can be implemented for longer-term use. Typically, community structures are re-established and death rates start to fall.

However, the risk of epidemics may still be high. This phase can last from several months to many years, depending on the complexity of the emergency.

## Stages in planning

Figure 1 shows the main stages for planning emergency excreta disposal. A common complaint about planning processes is that they take too long, but this is not necessarily the case as Figure 1 suggests. The figure shows the approximate time required for each stage for an affected population of about 10,000.

## Rapid assessment

Interventions are only necessary if there is an expressed and measurable real need for them. This stage aims to rapidly collect and analyse key information to assess if an intervention is indeed necessary.

### Data collection

The data required to assess the problems and needs of the affected population must be collected quickly but in sufficient detail to provide enough information for analysis.

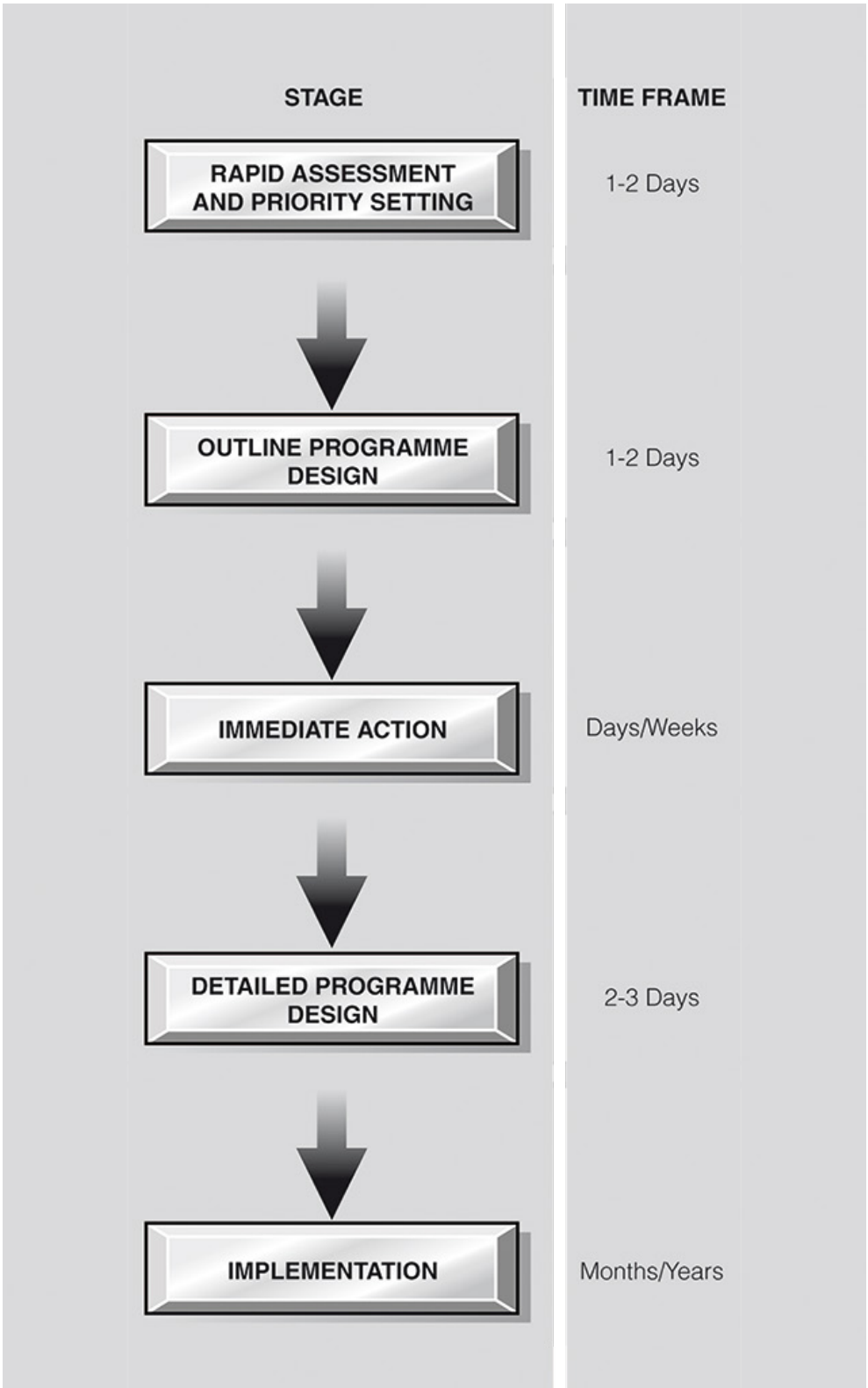


**Figure 1.** Stages in emergency sanitation programme design

In Box 1 a checklist of twenty key questions is presented, to be answered in order to complete the assessment procedure. Information thus collected will support informed decision-making on the further course of action. The usefulness of the information collected will depend as much on how it is collected as on the quality of the questions asked. Even under normal circumstances, the information presented cannot always be trusted. In the chaotic circumstances of an emergency there is even more reason to doubt the validity of information provided.

## Box 1. Twenty questions for rapid assessment

1. What is the estimated population and what is the population density?
2. What is the crude mortality rate (number of deaths per 10,000 people per day) and what are the main causes of mortality and morbidity?

3. What are the current beliefs and traditions concerning excreta disposal, especially regarding women and children's excreta? (Do men and women or all family members share latrines, can women be seen walking to a latrine, do children use potties, is children's excreta thought to be safe?)
4. What are the prevailing practices for anal cleansing? Are water or cleansing materials available?
5. Is soap available?
6. Are there any existing sanitation facilities? If so are they useable and used, are they sufficient and are they operating successfully? Can they be extended or adapted? Do all groups have equal access to these facilities?
7. Are the current defecation practices a threat to health? If so, how?
8. What is the current level of awareness of sanitation-related public health risks?
9. Are there any health promotion activities taking place?

10. What health promotion media are available/accessible to the affected population?
11. Are men, women and children prepared to use defecation fields, communal latrines or family latrines? Are disabled people and the elderly able to use these facilities?
12. Is there sufficient space for defecation fields or pit latrines?
13. What is the topography and drainage pattern of the area?
14. What is the depth and permeability of the soil, and can it be dug easily by hand?
15. What is the level of the groundwater table?
16. What local materials are available for constructing latrines?
17. Are there any people familiar with the construction of latrines?
18. How do women deal with menstruation? Are there materials or facilities they need for this?

19. When does the seasonal rainfall occur?
20. Whose role is it normally to construct, pay for, maintain and clean a latrine (men, women or both)?

Source: Adapted from Harvey et al., 2006

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Follow the principles listed in Box 2 to ensure that the data you produce are as accurate as possible.

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## Box 2. Data collection principles

The main things to remember when collecting data about an emergency are:

- Collect data from as many sources as possible to reduce bias and inaccuracies.
- Be aware of local political and social structures so as not to raise unrealistic expectations.
- Consider the effects of the data you collect on your decisions.
- Keep good records of what you have learned and from whom.

- Remember that situations change rapidly in an emergency and things may not be the same tomorrow as they are today.
- Hire a good interpreter if you are working with people who speak a different language to your own.

## Community participation

Like any other people, those affected by an emergency have views and opinions. There is no reason to treat them any differently than other communities – except to make allowances for the trauma they have experienced.

Involving communities in the planning and design process is beneficial to their recovery as it promotes self-respect and continued self-reliance. The affected community should be involved as soon as the decision to intervene has been made.

## Who should get involved?

External organizations should only get involved if the affected institutions and

population are unable to deal with the situation themselves and if the health of the population is getting (or is likely to get) worse (Figure 2). Tables 1 and 2 present health data that will assist in deciding whether or not to intervene.

**Figure 2.** The worsening health of the population is a reason for external organizations to get involved

**Table 1.** Suggested maximum infection rates for displaced people

| Disease | Incidence rate (in cases/10,000/week) |
|---|---|
| Diarrhoeal diseases total<br>Acute watery diarrhoea<br>Bloody diarrhoea<br>Cholera | 60<br>50<br>20<br>In some countries cholera is classified as 'acute watery diarrhoea' and if this is the case should be acted upon as if it were cholera |

Source: After de Veer (1998)

**Table 2.** Crude mortality rates in emergencies

| Crude mortality rate (CMR) Deaths/10,000/week | Severity of emergency |
|---|---|
| Up to 3.5<br><br>More than 3.5 and less than 7<br>7 to 14<br>15 to 35<br>More than 35 | 'Normal' or non-emergency rate<br>Stable and under control<br><br>Serious situation<br>Emergency / Out of control<br>Catastrophic |

Source: After Davis & Lambert (2002)

## Sphere Guidelines

Once a decision has been made to intervene the next step is to decide what to do. In emergencies, the normal methods of making decisions about which facilities to provide do not apply. Instead, a set of internationally-recognised standards are used to ensure that the services provided to people in distress are broadly the same around the world. Table 3 sets out indicators for emergency excreta disposal. A comparison of existing facilities with those presented in Table 3 will indicate whether any additional work needs to be done and whether it is urgent.

**Table 3.** Indicators for minimum service levels for excreta disposal

| Indicator | Immediate emergency | Stabilization phase |
|---|---|---|
| Coverage | 50 people per latrine cubicle | 20 people per cubicle |
| | The ratio of female to male cubicles should be 3:1 | |

| | | |
|---|---|---|
| Location | Less than 50m one way walking distance<br><br>At least 6m from a dwelling | Less than 25m one way walking distance<br><br>At least 6m from a dwelling |
| Privacy and security | Doors should be lockable from the inside<br>Latrines to be illuminated at night where necessary<br>Provision made for the washing and drying of menstruation cloths where necessary | |
| Hygiene | Handwashing facilities with soap to be supplied near to all toilets<br>Appropriate materials for anal cleansing to be provided | |
| Vulnerable groups | Adequate latrines should be accessible to disabled people, the elderly, the chronically sick and children | |

Source: Based on Sphere (2004)

## Outline design

This stage develops an outline plan for what should be done, when and how. The plan contains sufficient information for senior officials to decide whether action should be taken and to allocate resources. The design should include the following sections:

- **Goal**: The ultimate aim of all the interventions in the emergency (i.e. sustaining life and protecting health). This will usually be stated in an organization's charter.
- **Purpose**: What will be achieved by the proposed intervention (e.g. access to and use of hygienic latrines by the whole population).
- **Outputs**: What the actions will actually produce, such as a number of latrines constructed, the maintenance system established, or the changes in hygiene practices brought about.
- **Activities**: The actions carried out to achieve the outputs, such as purchasing materials, training staff, discussions with the community etc., with a timetable.
- **Inputs**: The resources needed to complete the work, namely: money, tools, equipment, materials and labour.

## Immediate action

At times, the health threat is so great that something must be done immediately to prevent widespread disease and death. Immediate actions will be targeted at providing a quick response to an urgent situation (Figure 3), while time is dedicated to consider, design and approve a more sustainable solution (the outline design).

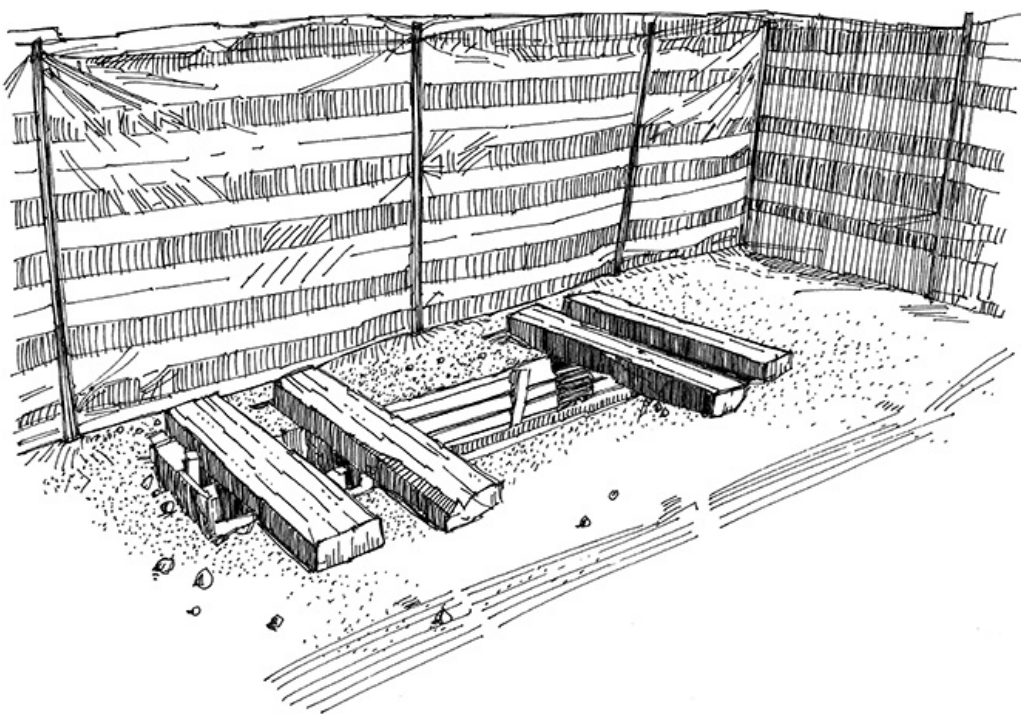

**Figure 3.** A simple trench latrine: an immediate action to an urgent situation

## Detailed plan

Once the outline design has been approved, a detailed activity plan must be drawn up prior to implementation.

This process is the same as for any other sanitation project except that it must remain flexible in case the emergency situation changes or worsens.

## Implementation

Following detailed design, the implementation of the longer-term programme can commence. This should include specifications, implementation and management for:

- construction;
- hygiene promotion;
- operation and maintenance;
- contingency planning (what to do if a major change happens); and
- monitoring and evaluation.

## Further information

HARVEY, P., BAGHRI, S. and REED, R.A., 2002. *Emergency Sanitation: Assessment and programme design*, Loughborough, UK: WEDC, Loughborough University.

SPHERE (2011) *Humanitarian Charter and Minimum Standards in Disaster Response*. The Sphere Project: Geneva, Switzerland (Distributed worldwide by Oxfam GB) http://www.sphereproject.org/

HARVEY, P., 2007. *Excreta disposal in emergencies – a field manual*. Loughborough, UK: WEDC, Loughborough University. [Also online] {viewed: 20/02/17] Available from: http://wedc.lu/excreta-disposal

FERRON, S., MORGAN, J. and O'REILY, M., 2007. *Hygiene Promotion: a practical guide for relief and development.* Rugby, UK: Practical Action Publishing.

Potable Water Hauler Guidelines http://wedc.lu/potable-water-hauler-guidelines

## About this note

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