

1.

Introduction

It is generally accepted that excreta disposal is given less priority in emergencies than other humanitarian interventions such as health care, food and water supply. This is despite the fact that many of the most common diseases occurring in emergency situations are caused by inadequate sanitation facilities and poor hygiene practice. Many aid agencies are aware of these facts and wish to give a greater emphasis to excreta disposal. In the past, however, they have often been hampered by a lack of experience and resources to support their field staff.

1.1 About this manual

This manual is designed for use by field-based technicians, engineers and non-technical staff responsible for sanitation planning, management and intervention in emergencies. This may include international personnel sent to an emergency, local, national and regional staff.

The purpose of the manual is to provide practical guidance on how to select, design, construct and maintain appropriate excreta disposal systems to reduce faecal transmission risks and protect public health in emergency situations. Relevant situations include natural disasters, relief for refugees and Internally Displaced Persons (IDPs), and complex emergencies, focusing on rural and peri-urban areas.

The manual outlines the key issues to be considered when assessing excreta disposal needs and priorities, and provides guidance on how to plan, design and construct appropriate systems, and on how to maintain and promote appropriate use of those systems.

1.2 Excreta disposal, health and survival

Inadequate and unsafe disposal of human faeces can lead to the transmission of faeco-oral disease, can result in the contamination of the ground and water sources, and can provide breeding sites for flies and mosquitoes which may carry infection. In addition, faeces may attract domestic animals and vermin which spread the potential for disease. It can also create an unpleasant environment in terms of odour and sight.

While the provision of safe drinking water is also essential for the protection of public health, the importance of excreta disposal cannot be overestimated. Diarrhoeal diseases, transmitted via the faeco-oral route, account for 17 % of all deaths of children under five worldwide (WHO, 2006) and the risk of occurrence increase significantly in most emergency situations. In a refugee camp in Ethiopia in 1989, diarrhoeal disease was shown to account for 40% of all childhood deaths (Davis and Lambert, 2002), while among Rwandan refugees in Goma (Zaire) in 1994, more than 85% of all deaths in the initial emergency phase were associated with diarrhoeal diseases such as cholera and shigellosis (Médecins Sans Frontières, 1997). Studies (Fewtrell et al., 2005; Esrey, 1996) have shown that whilst improvements in water quality and quantity can produce limited reductions in childhood diarrhoea by 15 to 20%, greater reductions can be produced through safer excreta disposal (36%) and handwashing (35-42%).

Transmission of excreta-related diseases is largely faecal-oral or through skin penetration. Figure 1.1 illustrates the potential transmission routes for pathogens found in excreta.

The introduction of safe excreta disposal can reduce the incidence of intestinal infections and helminth infestations. Excreta-related communicable diseases include cholera, typhoid, dysentery (including shigellosis), diarrhoea, hookworm, schistosomiasis and filariasis (Franceys et al., 1992), as well as roundworms, poliomyelitis and hepatitis. The likelihood of all these diseases, and especially epidemics such as cholera, increases significantly when a population is displaced or affected by a disaster.

Poor hygiene practice, particularly involving food and hands, may be a major cause of disease transmission, even where appropriate excreta disposal facilities are in place. For this reason it is difficult to obtain a direct correlation between the incidence of excreta-related disease and the provision of appropriate facilities.

1. INTRODUCTION

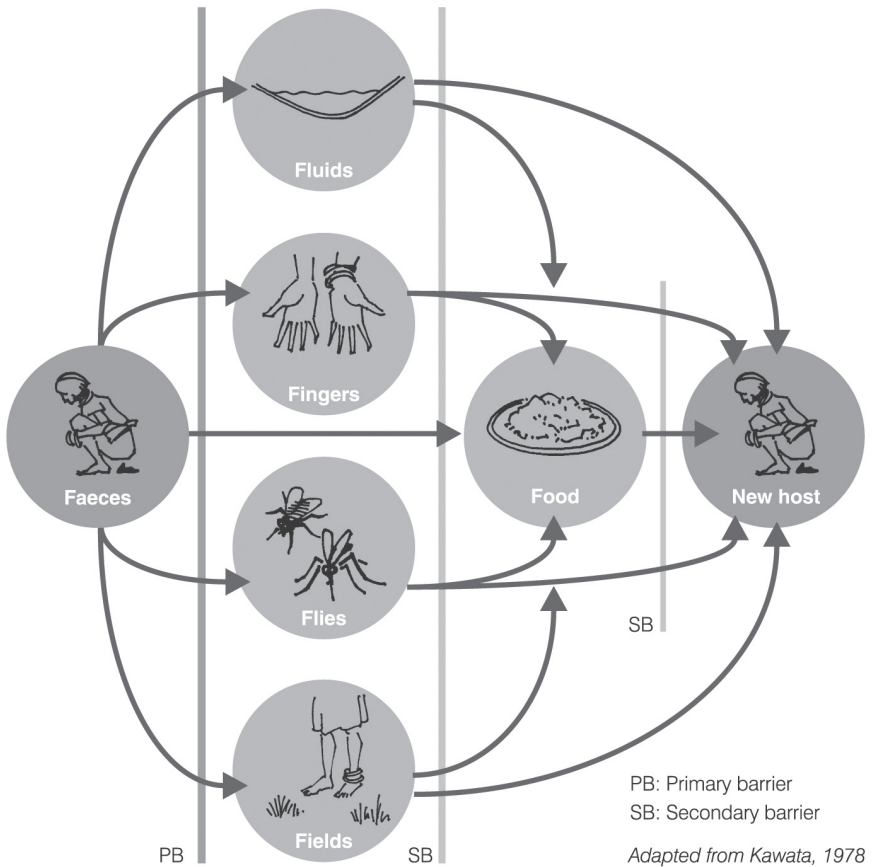


Figure 1.1. Faecal-oral transmission routes

Children under five years of age are most at risk from communicable diseases since their immune systems have not developed fully. Malnutrition resulting from food insecurity and chronic emergencies increases this risk further. Since young children are unaware of the health risks associated with contact with faeces, it is essential that faeces are safely contained. Severely malnourished children and adults are at increased risk from diarrhoeal disease, as are elderly people, especially if exhausted after travelling considerable distances.

1.3 Phases of an emergency

Davis and Lambert (2002) define three phases for an emergency:

- Immediate emergency
- Stabilization
- Recovery

For the purposes of excreta disposal applied to all types of emergency, these phases can be reduced to two: the 1st and 2nd phases. The 1st phase covers the immediate emergency phase and typically lasts from several weeks up to three months. The 2nd phase includes stabilization and recovery and may last several months or several years depending on the type and severity of the emergency.

1st Phase acute emergency

This is the immediate emergency phase where intervention is required to provide basic facilities to contain and separate excreta and to ensure survival. Response interventions are generally implemented rapidly and designed for short-term use. In this phase mortality rates are often high (over 1 per 10,000 per day) and the risk of major epidemics may also be high. In a large-scale population displacement (>20,000) the 1st phase typically lasts several weeks, though this may be more prolonged where response is slow or where the affected population increases rapidly.

The broad objective of an excreta disposal programme is to minimize high-risk practices and reduce faecal disease transmission rates. It should contribute to the health, dignity and general wellbeing of the affected community. Programmes should aim to achieve or surpass the Sphere minimum standards for excreta disposal (Sphere Project, 2004), but it is recognized that this may not be possible in the 1st phase of a large-scale emergency. The minimum standards should, however, be met during the 2nd phase.

2nd Phase stabilized emergency

The second emergency phase applies to all subsequent stages of an emergency, where the situation becomes stabilized and more sustainable interventions can be implemented for longer-term use. During this phase community structures may start to reassemble and morbidity and mortality rates should start to fall. However, the risk of epidemics may still

1. INTRODUCTION

be high. This typically lasts several months, though in complex emergencies it may stretch to several years.

The definition of these phases of an emergency is not fixed and many situations do not follow a linear progression. Some programmes may commence in the 2nd phase or become more acute and fall back to the 1st phase because the security situation deteriorates, the population increases, or an epidemic occurs.

1.4 Programme process

The overall programme process for excreta disposal in emergencies is summarized in Figure 1.2.

The process outlined is an expansion of the traditional project cycle that recognizes the unique conditions faced in many emergencies, that differ significantly from those encountered in more stable situations.

Rapid assessment is the initial assessment stage designed to gather key relevant information rapidly and analyze it quickly in order to prioritize intervention (see Checklist on page 11). This approach is designed to identify the need for immediate action as well as longer-term interventions.

Outline programme design follows on from the rapid assessment stage when a rapidly produced action plan is outlined. This identifies key actions that need to be implemented immediately to protect public health and stabilize the situation, as well as longer-term interventions, and is intended for submission to the donor for initial approval of the programme and budget.

Immediate action is the implementation of first-phase emergency measures to stabilize the current situation and minimize the spread of excreta-related disease. This may involve simple actions such as cleaning up after open defecation and providing basic separation and disposal facilities. It is important that the key longer-term actions have already been identified in the outline design to ensure that immediate actions do not have any negative effect on future interventions.

Follow-up assessment and consultation is a more detailed stage of data collection, analysis and consultation that should be carried out once the outline design has been approved. This should adopt a more par-

ticipative approach involving all affected groups in the decision-making process.

Detailed programme design is a comprehensive plan of action for longer-term intervention (if required) based on the follow-up assessment and consultation process.

Implementation of the 2nd phase longer-term excreta disposal programme can now be conducted. This should include management and implementation of construction, hygiene promotion, operation and maintenance activities.

Monitoring and evaluation is the final stage in the assessment and planning process and is an ongoing process. All programme activities and the overall situation should be monitored to identify future needs and priorities, and to assess performance. On the basis of monitoring results it may be necessary to repeat the outline and detailed programme design stages leading to future immediate and longer-term interventions as required.

Rapid assessment and in-depth assessment and consultation are addressed in Chapter 2; outline programme design and detailed programme design are addressed in Chapter 3; immediate action is addressed in Chapter 4; implementation is addressed in Chapters 5, 6, 7 and 8; and monitoring is addressed in Chapter 9.

1. INTRODUCTION

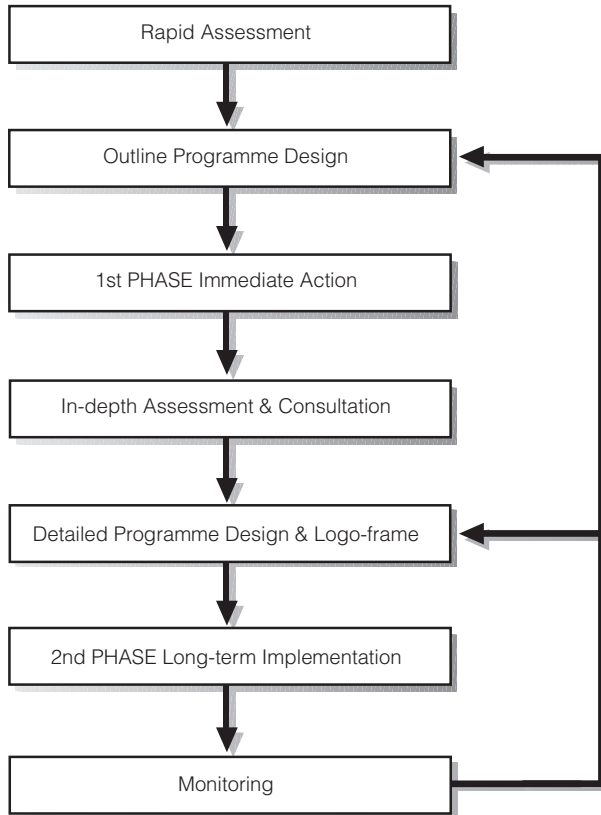


Figure 1.2. Programme process for emergencies