

Shelter and site planning

Introduction

Refugees arriving in any specific area tend to settle down in different ways: often, they concentrate on an unoccupied site and create a 'camp'; at other times, they spread out over a wide area and establish rural settlements; and sometimes they are hosted by local communities (rural or urban). The latter two situations, also called 'open situations', occur less frequently than the first (see below and the Introduction to Part II).

A poorly planned refugee settlement is one of the most pathogenic environments possible. Overcrowding and poor hygiene are major factors in the transmission of diseases with epidemic potential (measles, meningitis, cholera, etc.). The lack of adequate shelter means that the population is deprived of all privacy and constantly exposed to the elements (rain, cold, wind, etc.). In addition, the surrounding environment may have a pronounced effect on refugee health, particularly if it is very different from the environment from which they have come (e.g. presence of vectors carrying diseases not previously encountered).

Camps usually present a higher risk than refugee settlements in open situations as there is more severe overcrowding, and less likelihood that basic facilities, such as water supply and health care services, will be available when refugees first arrive^{2,7}. Relief work is more difficult to organize for very large camp populations, such as some of the Rwandan refugee camps in Zaire (Goma, 1994) which contained more than 100,000 refugees.

In order to reduce health risks, it is essential that site planning and organization takes place as early as possible so that overcrowding is minimized and efficient relief services are provided. Shelters must be provided as rapidly as possible to protect refugees from the environment, and infrastructure installed for the necessary health and nutrition facilities, water supply installations, latrines, etc. All this must be initiated within the first week of intervention³.

Relief agencies are usually faced with one of two possible situations: either the camp is already established with a refugee population that has spontaneously settled on a site prior to the arrival of relief agencies, or site planning is possible prior to their arrival, for example, when they are being transferred to a new camp.

Whichever is the case, prompt action must be undertaken to improve the site and its-facilities; poor organization in the early stages may lead to a chaotic and potentially irreversible situation in regard to camp infrastructure, with consequent health risks. For example, lateral expansion of a site must be accounted for from the beginning in order to avoid overcrowding if refugee numbers increase.

Two possibilities: a refugee camp or integration into the host population

There is always a lot of discussion as to whether the formation of a refugee camp is acceptable, or whether resources would be better directed to supporting local communities who host refugees. The two main types of refugee settlement - camp or integration into the local population - each offer both advantages and disadvantages as laid out below:

Camp or integration into the local population: Advantages and disadvantages^{7,8}

CAMP ADVANTAGES:

- Provides asylum and protection

- More suitable for temporary situation
- Easier to estimate population numbers, to assess needs and monitor health status
- Some basic services are easier to organize (e.g. distributions, mass vaccinations)
- Allows visibility and advocacy
- Repatriation will be easier to plan

CAMP DISADVANTAGES:

- Overcrowding increases risk of outbreaks of communicable diseases
- Dependence on external aid, lack of autonomy
- Social isolation
- Little possibility of realizing farming initiatives
- Degradation of the surrounding environment
- Security problems within the camp
- Not a durable solution

INTEGRATION ADVANTAGES:

- Favors refugee mobility, easy access to alternative food, jobs, etc.
- Encourages refugee survival strategies
- Possibility of refugee access to existing facilities (water, health etc.)
- Enhances reconstruction of social/economic life and better integration in the future

INTEGRATION DISADVANTAGES:

- Population more difficult to reach, leading to difficulties in monitoring health needs
- Implementation of relief programs more complex, requires knowledge of local situation
- Risks destabilizing the local community, risk of tensions between local community and refugees

Health agencies are generally not involved in deciding between the two options. Every refugee situation is specific to itself. The main factors influencing the way in which they eventually settle are the number of refugees, the capacity for the local community to absorb them, the ethnic and

cultural links between the refugee and local communities and the political and military situation. In practice, the predominant factor is the relationship between refugees and the local population.

It should, however, be pointed out that relief programs, particularly food aid may well play a role in attracting refugees into a camp situation even when integration would probably be a better option for them.

It is camp situations that are dealt with more specifically here, because camp populations are exposed to greater health risks. However, most of the principles described below may also be applied to open situations.

Site planning

Site planning must ensure the most rational organization of space, shelters and the facilities required for the provision of essential goods and services. This requires supervision by experts (e.g. in sanitation, geology, construction, etc.) which must be integrated into the planning of other sectors, especially water and sanitation. It is therefore essential that there is coordination from the beginning between all the agencies involved and between the different sectors of activity, especially in an emergency situation when time is generally in short supply.

Site planning in refugee situations is normally the responsibility of UNHCR (or an agency delegated by UNHCR). As UNHCR is usually not present where there is an internally displaced settlement, another agency will have to take charge. Although health agencies will not always be involved in organizing a site, they should nevertheless make sure that this is undertaken correctly because of its direct influence on the subsequent health situation; it is therefore necessary to have an understanding of the basic principles of site planning.

As stated above, the possibilities in regard to site planning depend largely on which of the two refugee situations described will be encountered.

1. In most cases refugees have already settled on a site and planners may well be faced with chaotic conditions. The immediate priority must be to improve or reorganize the existing site, and in rare instances it may even be advisable to move the refugee population to another site (see below).
2. The ideal but far less frequently encountered situation is that where site planning can be carried out before the arrival of refugees on a new site. The most appropriate site layout may then be worked out in advance and in accordance with guidelines.

In both situations, the following principles must be respected as far as possible.

- Sufficient space must be provided for everybody: space for every family to settle with the provision of amenities (water and latrines) and other services, and access to every sector. High density camps should be avoided because they present a higher risk for disease transmission, fire and security problems².
- Short-term site planning should be avoided, as so-called temporary camps may well have to remain much longer than expected (e.g. some Palestinian refugee camps have been in existence since 1947)². This means that consideration must be given to the possibilities for expansion should the population increase¹.
- A few small camps (ideally circa 10,000 people) are preferable to one large camp because they are easier to manage and because they favor a return to self-sufficiency². Unfortunately,

this is rarely possible when there is a massive influx of refugees (e.g. the refugee movements in Rwanda and Burundi, 1993-94).

- Refugees should be involved and consulted. Their social organization and their opinions should be taken into account wherever possible.
- Local resources (human and material) and local standards should be employed whenever feasible. Seasonal changes (e.g. the rainy season) must also be taken into consideration.

SITE SELECTION

The ideal site, responding to all requirements, is rarely available. The choice is generally limited, as the most appropriate areas will already be inhabited by local communities or given over to farming. In any case, relief agencies are seldom on the spot to select a site before refugees arrive.

However, there are certain criteria in regard to site selection which must still be taken into account^{1,9}.

- Security and protection: the settlement must be in a safe area (e.g. free of mines), at a reasonable distance from the border, and from any war zones.
- Water: water must be available either on the site or close by.
- Space: the area must be large enough to ensure 30m² per person (see Table 5.2).
- Accessibility: access to the site must be possible during all the seasons (e.g. for trucks).
- Environmental health risks: the proximity of vector breeding sites transmitting killer diseases should be avoided as far as possible (e.g. tsetse fly for trypanosomiasis). Where such areas cannot be avoided, they must be treated.
- Local population: every effort should be made to avoid tensions arising between local and refugee communities; for instance, legal and traditional land rights must be respected.
- It is important that the terrain should slope in order to provide natural drainage for rainwater off the site⁴.

Energy sources should also be considered when selecting a site, particularly as deforestation resulting from using wood for cooking fuel entails politico-ecological problems.

SITE ORGANIZATION

Once the site has been secured, the planning and location of the required infrastructure must be worked out. A map should be used and the road network drawn onto it. The area should then be divided into sections and locations decided for the different facilities. Good access by road to every section and each installation is essential for the transport of staff and materials (e.g. food and drugs) in order to ensure the different services are able to function.

Several factors should be taken into account in deciding the spatial organization of facilities and shelters (location and layout):

- space required per person and for each installation
- accessibility of services
- minimum distance required between facilities and shelters (see table 5.2)
- cultural habits and social organization of the refugee population (clans and extended families)
- ethnic and security factors, relationships among different sections/ members of the community, etc.

Cultural and social traditions are a determining factor in ensuring refugee acceptance of the infrastructure and services provided, particularly in regard to housing, sanitation, burial places, etc. However, as the layout that might be preferred by the refugees is not always the one that would allow the most efficient delivery of aid, site planning generally requires compromise solutions that take into account the different points of view².

Table 5.2 Some quantified norms for site planning^{1,2}

Area available per person	30 m ²
Shelter space per person	3.5 m ²
Number of people per water point	250
Number of people per latrine	20
Distance to water-point	15 m max.
Distance to latrine	30 m
Distance between water-point and latrine	100 m
Firebreaks	75 m every 300 m
Distance between two shelters	2 m min.

ESSENTIAL INSTALLATIONS

Essential installations are described in Table 5.3. Some are likely to be centralized:

- reception center
- health center
- hospital
- meeting place for home-visitors, etc.

Other facilities, such as health posts, latrines, washing areas, etc., should be decentralized. Care must be taken to ensure that there is sufficient space for such decentralized services in all the camp sub-divisions.

Table 5.3 Main installations required on refugee sites

– Roads and firebreaks
– Water supply and sanitation facilities (defecation areas, latrines, waste disposal pits, washing places, etc.)
– Health facilities: health center, health posts, hospital, pharmacy and site for cholera camp.
– Meeting place for home-visitors
– Nutritional facilities: therapeutic and supplementary feeding centers
– Distribution site and storage facilities (in separate locations)
– Administrative center, reception area
– Other community facilities: market, schools, cemetery, meeting places, etc.

The location of health facilities must be carefully determined.

- The central health facility should be located in a safe and accessible place, preferably on the periphery of the site in order to avoid overcrowding and allow for future expansion. The space required depends on the type and desired capacity of the medical services to be provided.
- The hospital, if one is necessary, is usually an expansion of the in-patient service of the central facility. The criteria are thus similar but more space is required (in line with the number of beds). It is particularly important to plan space for water and sanitation facilities, as well as room for eventual expansion (e.g. outbreaks of disease).
- The peripheral health facilities should be centrally located within the areas they are to serve so as to ensure easy access. The number required depends mainly on the size of the population (e.g. 1 health post per 3,000-5,000 refugees).
- A site for a cholera camp must be identified in advance, separate from other health facilities. It must be large enough to ensure sufficient capacity for potential needs and be provided with adequate water and sanitation facilities⁶.

THE LAYOUT OF SHELTERS

The way shelters are grouped has an important influence on the re-establishment of social life, on the use of latrines and water-points, and on security.

In general, the site should be divided into smaller units for management purposes. For example, it could be divided into sectors of 5,000 and sections of 1,000 people. However, the formation of

such units must take into account the existence of any groups within the population which may be mutually hostile,

Two main ways of grouping shelters are described:

1. The preferred method is to organize the site into basic community units, constituted by a number of shelters and community facilities (latrines, water-points and washing areas)^{1,3}. These basic units should correspond in design as closely as possible to that with which the refugees are most familiar. Examples for designing such community units are available in several reference books^{2,4,9}.
2. Laying out shelters in lines and rows is another possibility, but is usually not recommended because this deprives families of personal space, and increases the distances to latrines and water-points. On the other hand, such a layout can be implemented quickly and is often preferred when there is a sudden and massive influx of refugees to cope with.

Since in most cases the population will have settled on a site before any site planning can be carried out, solutions will have to be sought for improving the situation.

- Usually, the site may be improved without moving all the shelters. A better organization of facilities, improving access to all sections of the camp, and carefully planning sections for new arrivals will decrease health risks and improve camp management,
- A thorough reorganization of the site (and most shelters) may sometimes be necessary, although radical change is usually not advised. Such reorganization should be considered when there is a real threat to refugee health from overcrowding or a danger of fire, etc. For example, it was decided to move and reorganize all shelters in the Rwandan camps for refugees from Burundi in 1993, in order to counter the high fire risk and to facilitate the management of relief assistance.
- Critical problems, such as a lack of water in the area, insecurity or potential danger resulting from the camp's proximity to the border, may present major obstacles to the camp remaining where it is. A move to a new site could then be considered, but the operational problems involved in a move and the social and psychological consequences for the population must be carefully weighed up in advance,

Shelter provision

The objectives of providing shelters are: protection against the elements and against vectors, provision of sufficient housing space for families, and restoring a sense of privacy and security. Shelters are required in every refugee emergency; but the type and design of shelter, who constructs it and how long it should last will vary in every situation².

However, some general principles may be concluded²:

- Shelters that have already been built by refugees or buildings occupied by them (e.g. schools) must be assessed. It is important that consideration is given to the amount of space available for each person, to ventilation (e.g. risk of respiratory infection) and for protection against rain, as these factors may entail significant health risks.
- Wherever possible, refugees should construct their own shelters and should receive material (including appropriate tools) and technical support to assist them in doing so.

- It is best to use suitable local materials where available. Special emergency shelters (e.g. tents) and pre-fabricated units have not yet proven practical because of their high cost and the problems of transporting them. It is also difficult to persuade refugees to accept something which is not within their cultural traditions. However, some types of prefabricated shelter are still being tested and may be suitable for use in the first weeks of an emergency.
- A minimum sheltering space of $3.5m^2$ per person is recommended in an emergency. However, different cultures have different needs. - Single-family shelters are preferable (unless multi-family units are traditional).

WHEN REFUGEES FIRST ARRIVE

The provision of shelter is a high priority. Immediate action should be taken to assess the arrangements already made and provide material for temporary shelters².

There are several common solutions for temporary shelters:

- Shelters built by the refugees themselves, with material found locally or distributed by agencies, are the most common solution.
- Tents may be useful when local material is not available and as very short term accommodation, but they are expensive and do not last long.
- Plastic sheeting may be used for constructing temporary shelters or to protect them. Methods for setting up plastic temporary shelters are described in guidelines⁵.
- Local public buildings, such as schools, may provide shelter initially but are not usually suitable for large numbers. They are a very temporary solution.

THE POST-EMERGENCY PHASE

Temporary shelters should no longer be used after the emergency stage has passed; an early start must be made to constructing shelters made of more permanent material.

However, it must be acknowledged that there are certain constraints involved in such shelter construction programs¹⁰.

- Any shelter building or rehabilitation program takes time.
- Such programs are costly (although they may produce savings in other sectors).
- As there is a vast range of options for building shelters and a wide range of criteria have to be taken into account, such programs are complex to manage. This is a specialized job and requires expertise.

This can often become a highly political issue with local authorities obstructing the building of (semi-) permanent housing when they want to prevent refugees settling for a long period of time. Longer-term housing should be similar to that with which refugees are already familiar, but should also reflect local conditions². The use of local material is preferable, but its availability may be problematic (e.g. degradation of the environment through deforestation).

In countries such as Afghanistan or the countries of Eastern Europe, where very low temperatures may be experienced in winter, shelter provision is essential for protection against the cold. Although a few solutions have been proposed (e.g. winter tents and the provision of heaters), this is a particularly difficult problem to deal with in an emergency situation.

Once time allows, traditional housing may be built, if the materials are available, and there are sufficient financial resources.

Principal recommendations regarding shelter and site planning

- Site planning and improvement should take place as early as possible in order to minimize overcrowding and make it possible to organize efficient relief services.
- A site should be selected with a view to security, access to water, the provision of adequate space, environmental health risks, and the local population.
- Site planning must ensure the most rational organization of the available space in regard to shelters and the necessary facilities and installations. Where refugees have already settled on a site before any planning could be envisaged, it is not usually advisable to institute radical changes, but improvements and reorganization should be carried out.
- Small sites are preferred. The cultural and social patterns should be taken into account.
- The provision of material for temporary shelters is a high priority when refugees first arrive. These should preferably be single-family shelters, constructed out of local material (when available) by the refugees themselves.