



Chapter 4: Minimum Standards in Shelter, Settlement and Non-Food Items

How to use this chapter

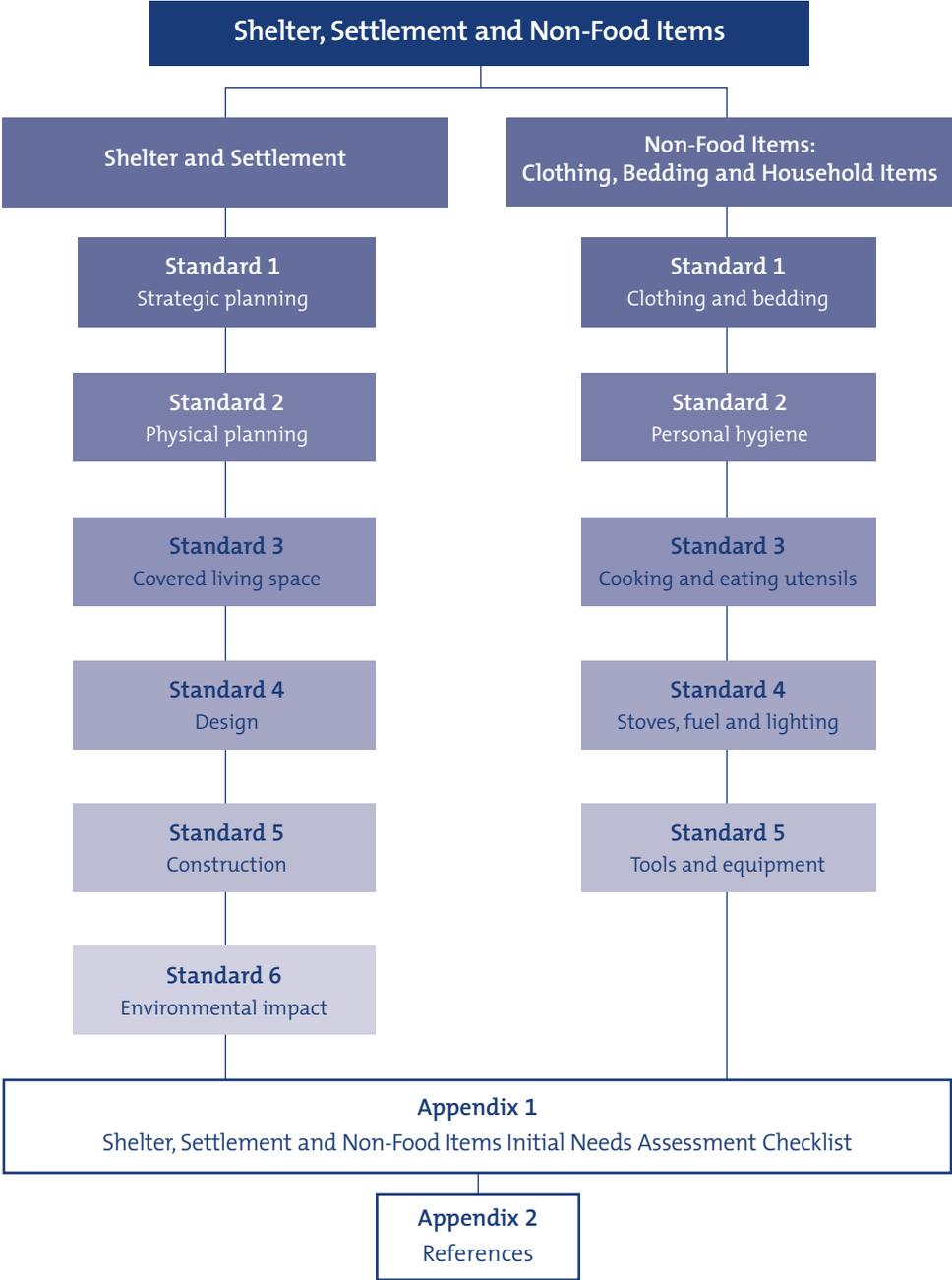
This chapter is divided into two sections, comprising 1) Shelter and Settlement and 2) Non-Food Items: Clothing, Bedding and Household Items. Both sections provide general standards for use in any of several response scenarios, such as the return to and repair of damaged dwellings, accommodation with host families, mass shelter in existing buildings and structures, and temporary planned or self-settled camps. Both sections contain the following:

- *the minimum standards*: these are qualitative in nature and specify the minimum levels to be attained in shelter, settlement and non-food item responses;
- *key indicators*: these are 'signals' that show whether the standard has been attained. They provide a way of measuring and communicating the impact, or result, of programmes as well as the process, or methods, used. The indicators may be qualitative or quantitative;
- *guidance notes*: these include specific points to consider when applying the standard and indicators in different situations, guidance on tackling practical difficulties, and advice on priority issues. They may also include critical issues relating to the standard or indicators, and describe dilemmas, controversies or gaps in current knowledge.

A needs assessment checklist is included as Appendix 1. A list of references, detailing further sources of information that offer select 'how to' guidance, is included as Appendix 2.

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Introduction

Links to international legal instruments

The Minimum Standards in Shelter, Settlement and Non-Food Items are a practical expression of the principles and rights embodied in the Humanitarian Charter. The Humanitarian Charter is concerned with the most basic requirements for sustaining the lives and dignity of those affected by calamity or conflict, as reflected in the body of international human rights, humanitarian and refugee law. In humanitarian response, shelter and settlement are familiar terms that fall within the scope of the right to housing, which is enshrined in human rights law.

Everyone has the right to adequate housing. This right is recognised in international legal instruments and includes the right to live in security, peace and dignity, and with security of tenure. Key aspects of the right to housing include the availability of services, facilities, materials and infrastructure; affordability; habitability; accessibility; location; and cultural appropriateness. The right to housing also extends to goods and services, such as sustainable access to natural and common resources; safe drinking water; energy for cooking, heating and lighting; sanitation and washing facilities; means of food storage; refuse disposal; site drainage; and emergency services. People should have adequate space and protection from cold, damp, heat, rain, wind or other threats to health, structural hazards and disease vectors. The appropriate siting of settlements and housing should provide access to health-care services, schools, child-care centres and other social facilities and to livelihood opportunities. The way housing is constructed, the building materials used and the policies supporting these must appropriately enable the expression of cultural identity and diversity of housing.

The right to housing is inextricably related to other human rights, including that of protection against forced eviction, harassment and other threats to physical safety and well-being, the right of everyone to be protected against arbitrary displacement from their home or place of habitual residence, and the prohibition of indiscriminate armed attacks on civilian objects.

The Minimum Standards in this chapter are not a full expression of the Right to Housing. However, the Sphere standards reflect the core content of the Right to Housing and contribute to the progressive realisation of this right globally.

The importance of shelter, settlement and non-food items in disasters

Shelter is a critical determinant for survival in the initial stages of a disaster. Beyond survival, shelter is necessary to provide security and personal safety, protection from the climate and enhanced resistance to ill health and disease. It is also important for human dignity and to sustain family and community life as far as possible in difficult circumstances.

Shelter and associated settlement and non-food item responses should support communal coping strategies, incorporating as much self-sufficiency and self-management into the process as possible. Any such responses should also minimise the long-term adverse impact on the environment, whilst maximising opportunities for the affected communities to maintain or establish livelihood support activities.

The most individual level of response to the need for shelter and the maintenance of health, privacy and dignity is the provision of clothing, blankets and bedding. People also require basic goods and supplies to meet their personal hygiene needs, to prepare and eat food, and to provide necessary levels of thermal comfort. Disaster-affected households and those displaced from their dwellings often possess only what they can salvage or carry, and the provision of appropriate non-food items may be required to meet essential needs.

The type of response required to meet the needs of people and households affected by a disaster is determined by key factors including the nature and scale of the disaster and the resulting loss of shelter, the climatic conditions and the local environment, the political and security situation, the context (rural or urban) and the ability of the community to cope. Consideration must also be given to the rights and needs of those who are secondarily affected by the disaster, such as any

host community. Any response should be informed by the steps taken by the affected households in the initial aftermath of the disaster, using their own skills and material resources to provide temporary shelter or to begin the construction of new, longer-term dwellings. Shelter responses should enable affected households to incrementally upgrade from emergency to durable shelter solutions within a reasonably short time and with regard to the constraints on acquiring the additional resources required.

Involving women in shelter and settlement programmes can help ensure that they and all members of the population affected by the disaster have equitable and safe access to shelter, clothing, construction materials, food production equipment and other essential supplies. Women should be consulted about a range of issues such as security and privacy, sources and means of collecting fuel for cooking and heating, and how to ensure that there is equitable access to housing and supplies. Particular attention will be needed to prevent and respond to gender-based violence and sexual exploitation. It is therefore important to encourage women's participation in the design and implementation of shelter and settlement programmes wherever possible.

Links to other chapters

Many of the standards in the other sector chapters are relevant to this chapter. Progress in achieving standards in one area often influences and sometimes even determines progress in other areas. For a response to be effective, close coordination and collaboration are required with other sectors. Coordination with local authorities and other responding agencies is also necessary to ensure that needs are met, that efforts are not duplicated, and that the quality of shelter, settlement and non-food item interventions is optimised.

For example, the complementary provision of adequate water supply and sanitation facilities in areas in which shelter assistance is being provided is necessary to ensure the health and dignity of the affected households. Similarly, the provision of adequate shelter contributes to the health and well-being of displaced households, while essential cooking and eating utensils are required to enable food assistance to be

utilised and nutritional needs met. Reference to specific standards or guidance notes in other technical chapters is made where relevant.

Links to the standards common to all sectors

The process by which an intervention is developed and implemented is critical to its effectiveness. This chapter should be utilised in conjunction with the standards common to all sectors, which cover participation, initial assessment, response, targeting, monitoring, evaluation, aid worker competencies and responsibilities, and the supervision, management and support of personnel (see chapter 1, page 21). In particular, in any response the participation of disaster-affected people – including the vulnerable groups outlined below – should be maximised to ensure its appropriateness and quality.

Vulnerabilities and capacities of disaster-affected populations

The groups most frequently at risk in disasters are women, children, older people, disabled people and people living with HIV/AIDS (PLWHA). In certain contexts, people may also become vulnerable by reason of ethnic origin, religious or political affiliation, or displacement. This is not an exhaustive list, but it includes those most frequently identified. Specific vulnerabilities influence people's ability to cope and survive in a disaster, and those most at risk should be identified in each context.

Throughout the handbook, the term 'vulnerable groups' refers to all these groups. When any one group is at risk, it is likely that others will also be threatened. Therefore, whenever vulnerable groups are mentioned, users are strongly urged to consider all those listed here. Special care must be taken to protect and provide for all affected groups in a non-discriminatory manner and according to their specific needs. However, it should also be remembered that disaster-affected populations possess, and acquire, skills and capacities of their own to cope, and that these should be recognised and supported.

The Minimum Standards

1 Shelter and Settlement

Shelter assistance is provided to individual households for the repair or construction of dwellings or the settlement of displaced households within existing accommodation or communities. When such dispersed settlement is not possible, shelter is provided collectively in suitable large public buildings or structures, e.g. warehouses, halls, barracks, etc. or in temporary planned or self-settled camps.

Individual household shelter solutions can be short- or long-term, subject to the level of assistance provided, land use rights or ownership, the availability of essential services and social infrastructure, and the opportunities for upgrading and expanding the dwellings.

Shelter and settlement standard 1: strategic planning

Existing shelter and settlement solutions are prioritised through the return or hosting of disaster-affected households, and the security, health, safety and well-being of the affected population are ensured.

Key indicators (to be read in conjunction with the guidance notes)

- Affected households return to the site of their original dwellings where possible (see guidance note 1).
- Affected households who cannot return to the site of their original dwellings settle independently within a host community or with host families where possible (see guidance note 2).
- Affected households who cannot return to the site of their original dwellings or who cannot settle independently within a host

community or with host families are accommodated in mass shelters or in temporary planned or self-settled camps (see guidance note 3).

- Actual or potential threats to the security of the affected population are assessed, and the dwellings or settlements are located at a safe distance from any such external threats (see guidance note 4).
- Risks from natural hazards including earthquakes, volcanic activity, landslides, flooding or high winds are minimised, and the area is not prone to diseases or significant vector risks (see guidance notes 4-5).
- Locations are free of potentially hazardous equipment or material, and existing hazards such as dangerous structures, debris or unstable ground are identified and made safe, or access is restricted and guarded (see guidance notes 4, 6 and 7).
- Land and property ownership and/or use rights for buildings or locations are established prior to occupation and permitted use is agreed as necessary (see guidance note 8).
- Water and sanitation services, and social facilities including health care, schools and places of worship, are available or can be satisfactorily provided (see guidance note 9).
- The transportation infrastructure provides access to the settlement for personal movement and the provision of services (see guidance note 10).
- Where possible, households can access land, markets or services for the continuation or development of livelihood support activities (see guidance note 11).

Guidance notes

1. **Return:** the opportunity to return to their own land and dwellings is a major goal for most disaster-affected people. The damaged dwelling and any surrounding land are major household assets for many disaster-affected households. However, return may not always be possible, due to security concerns such as occupation of property or land, continuing violent conflict, ethnic or religious tension, fear of persecution, or landmines and

unexploded ordnance. Shelter provision through the repair of damaged dwellings supports communal coping strategies, retains established settlement patterns and enables the use of existing infrastructure.

2. Hosting by families and communities: disaster-affected people often prefer to stay in a host community, with other family members or people who share historical, religious or other ties. In cases where this preference cannot be met, hosting by other groups within the community is also possible, with due consideration being given to potential security risks or social conflict. Shelter assistance may include support to expand or upgrade an existing host family shelter and facilities to better accommodate the displaced household, or the provision of an additional separate shelter adjacent to the host family. The resulting increase in population density and demand on social facilities and infrastructure provision should be appraised and addressed. Shelter provision through the construction of additional or extended dwellings in host communities also supports communal coping strategies.

3. Collective settlement: temporary planned camps should not become a default response. Such shelter solutions may be required in areas where security threats increase the risk to isolated households, or where essential services such as water and food are limited. The provision of mass shelter in large buildings or structures can provide rapid temporary protection from the climate, and may be preferable in cold climates when there are insufficient material resources to provide the required level of thermal comfort within individual dwellings. Although school buildings are often used to accommodate affected families, alternative structures should be sought wherever possible to enable schooling to continue for children from the host and potentially also the displaced community. Care must also be taken to ensure that collective settlements do not themselves become targets for attack or pose a security risk to the surrounding population.

4. Risk and vulnerability assessment: it is critical that a comprehensive risk and vulnerability assessment is undertaken, including actual or potential security threats and the particular social or economic vulnerabilities of differing social groupings within the affected and any host community (see Initial assessment standard on page 29).

5. Natural hazards: risks posed by the localised impact of natural hazards such as earthquakes, volcanic activity, landslides, flooding or high winds in any given location should also be assessed. Locations close to buildings or structures vulnerable to earthquake aftershocks, land formations vulnerable to landslides, low-lying sites prone to further lava flows or the build-up of exhaust gases, riverbanks and depressions at risk from further flooding and sites exposed to high winds should be avoided, until the assessed risks of returning to such locations have satisfactorily diminished.

6. Hazardous materials and goods: potentially hazardous materials and goods can be deposited or exposed following natural disasters such as earthquakes, floods and typhoons; mines and unexploded ordnance can be present due to previous or current conflicts. The presence of such items and the potential risks involved in their removal should be identified by appropriately experienced personnel. The time and expertise required for their safe removal may preclude the use of part or all of any locations affected.

7. Structural assessments: the stability of building structures in inhabited areas should be appraised by appropriately qualified personnel. Assessments should include the effects of further structural weakening from earthquake aftershocks, further flooding and high winds, etc. For mass shelters, the ability of existing building structures to accommodate any additional loading and the increased risk of the failure of building components such as floors, internal dividing walls, roofs, etc. should be assessed.

8. Land and building ownership and usage: such issues are often controversial, especially where records may not have been kept or where conflict may have affected possession. Ownership of the site or building(s) should be established and the holders of formal or customary use rights identified to the extent possible. The land or property rights of vulnerable groups should be identified and supported. This includes formal or understood rights of inheritance, particularly following a disaster in which the holder of the rights or title may have died or been displaced.

9. Availability of services and facilities: existing or repaired services or facilities should be identified and used, where there is sufficient capacity, before the construction of new facilities is considered (see Water Supply, Sanitation and Hygiene Promotion chapter on page 51).

- 10. Access to settlement locations:** access to the settlement, the condition of local road infrastructure and proximity to airstrips, railheads or ports for the supply of relief assistance should be assessed, taking into account seasonal constraints, hazards and security risks. For mass shelters and temporary planned or self-settled camps, the site itself and any primary storage and food distribution points should be accessible by heavy trucks from an all-weather road. Other facilities should be accessible by light vehicles.
- 11. Livelihood support:** an understanding of the pre-disaster economic activities of the affected population, and the opportunities within the post-disaster context, should guide the settling of affected populations. This should include land availability and access for cultivation and grazing; the location of and access to market areas; and the availability of and access to local services that may be essential to particular economic activities. The differing social and economic needs and constraints of particular vulnerable groups within the displaced or any host communities should also be assessed and accommodated accordingly (see Food security standards on page 119).

Shelter and settlement standard 2: physical planning

Local physical planning practices are used where possible, enabling safe and secure access to and use of shelters and essential services and facilities, as well as ensuring appropriate privacy and separation between individual household shelters.

Key indicators (to be read in conjunction with the guidance notes)

- Area or cluster planning by family, neighbourhood or village groups as appropriate supports existing social networks, contributes to security and enables self-management by the affected population (see guidance note 1).
- All members of the affected population have safe access to water, sanitary facilities, health care, solid waste disposal, graveyards and

social facilities, including schools, places of worship, meeting points and recreational areas (see guidance notes 2-4).

- Temporary planned or self-settled camps are based on a minimum surface area of 45m² for each person (see guidance note 5).
- The surface topography is used or augmented to facilitate water drainage, and the ground conditions are suitable for excavating toilet pits where this is the primary sanitation system (see guidance note 6).
- There are roads and pathways to provide safe, secure and all-weather access to the individual dwellings and facilities (see guidance note 7).
- Mass shelters have openings to enable required access and emergency evacuation, and these openings are positioned so that access is well supervised and does not pose a security threat to occupants (see guidance note 8).
- Vector risks are minimised (see guidance note 9).

Guidance notes

- 1. Cluster planning:** for collective settlements, the allocation of space within mass shelters and plots within temporary planned camps should be guided by existing social practices and the provision and maintenance of shared resources, including water and sanitation facilities, cooking, food distribution, etc. The plot layout in temporary planned camps should maintain the privacy and dignity of separate households by offsetting door openings and ensuring that each household shelter opens onto common space. Safe, integrated living areas should also be provided for vulnerable groups and displaced communities that comprise a significant number of single adults or unaccompanied children. For dispersed settlements, the principles of cluster planning also apply e.g. groups of households return to a defined geographical area or identify host families in close proximity to one another.
- 2. Access to services and facilities:** access to essential services, including water supply, toilets, and health and social facilities, should be planned to

maximise the use of existing or repaired facilities whilst minimising the adverse effect on any neighbouring or host communities. Additional facilities or access points should be provided as required to meet the needs of accommodating the target population, and planned to ensure safe access by all inhabitants. The social structure and gender roles of the affected population and the requirements of vulnerable groups should be reflected in the planning and provision of services. Safe play areas should be made available for children, and access to schools and other educational facilities provided where possible (see Water Supply, Sanitation and Hygiene Promotion chapter on page 51 and Health systems and infrastructure standard 5, guidance note 1 on page 267).

- 3. Handling the remains of the dead:** social customs for dealing with the remains of the dead should be respected. Where customs vary, separate areas should be available for each social group to exercise their own traditions with dignity. Where existing facilities such as graveyards or crematoria are inadequate, alternative locations or facilities should be provided. Graveyards should be at least 30 metres from groundwater sources used for drinking water, with the bottom of any grave at least 1.5m above the groundwater table. Surface water from graveyards must not enter inhabited areas. The affected community should also have access to materials to meet the needs for culturally acceptable funeral pyres and other funeral rites (see also Health systems and infrastructure standard 5, guidance note 8 on page 269).
- 4. Administrative facilities and quarantine areas:** as required, provision should be made for administrative offices, warehousing and staff accommodation to support disaster response activities, and for quarantine areas (see Control of communicable diseases standard 4 on page 279).
- 5. Surface area:** the planning guideline of 45m² per person includes household plots and the area necessary for roads, footpaths, educational facilities, sanitation, firebreaks, administration, water storage, distribution areas, markets and storage, plus limited kitchen gardens for individual households. Area planning should also consider evolution and growth of the population. If the minimum surface area cannot be provided, consideration should be given to mitigating the consequences of higher-density occupation e.g. separation and privacy between individual households, space for the required facilities, etc.

- 6. Topography and ground conditions:** for temporary planned camps the site gradient should not exceed 6%, unless extensive drainage and erosion control measures are taken, or be less than 1% to provide for adequate drainage. Drainage channels may still be required to minimise flooding or ponding. The lowest point of the site should be not less than 3 metres above the estimated level of the water table in the rainy season. Ground conditions should also inform the locations of toilets and other facilities and hence the planning of settlements e.g. fissured rock may disperse toilet waste widely; fine clays provide poor percolation and the early failure of toilet pits; volcanic rock makes the excavation of toilet pits difficult (see Excreta disposal standard 2 on page 73 and Drainage standard 1 on page 86).
- 7. Access to shelter locations:** existing or new access routes should avoid proximity to any hazards. Where possible, such routes should also avoid creating isolated or screened areas that could pose a threat to the personal safety of users. Erosion as a result of the regular use of access routes should be minimised where possible through considered planning (see Shelter and settlement standard 4, guidance note 4 on page 221).
- 8. Access and emergency escape:** mass shelters should ensure the free access of the occupants whilst enabling adequate supervision by the occupants themselves to minimise any potential security threat. Steps or changes of level close to exits to collective shelters should be avoided, and all stairways and ramps should be provided with handrails. Where possible, occupants with walking difficulties or those unable to walk without assistance should be allocated space on the ground floor, adjacent to exits or along access routes free from changes of level. All occupants of the building should be within an agreed reasonable distance of a minimum of two exits, providing a choice in the direction of escape in case of fire, and these exits should be clearly visible.
- 9. Vector risks:** low-lying areas, pits, vacant buildings and excavations (such as those resulting from adobe construction) can provide breeding grounds for pests which could pose a health risk to adjacent households (see Vector control standard 2 on page 79).

Shelter and settlement standard 3: covered living space

People have sufficient covered space to provide dignified accommodation. Essential household activities can be satisfactorily undertaken, and livelihood support activities can be pursued as required.

Key indicators (to be read in conjunction with the guidance notes)

- The initial covered floor area per person is at least 3.5m² (see guidance notes 1-3).
- The covered area enables safe separation and privacy between the sexes, between different age groups and between separate families within a given household as required (see guidance notes 4-5).
- Essential household activities can be carried out within the shelter (see guidance notes 6 and 8).
- Key livelihood support activities are accommodated where possible (see guidance notes 7-8).

Guidance notes

- 1. Climate and context:** in cold climates, household activities typically take place within the covered area and disaster-affected people may spend substantial time inside to ensure adequate thermal comfort. In urban settings, household activities typically occur within the covered area as there is usually less adjacent external space that can be used. In hot and humid climates, space to allow for additional air circulation is required to maintain a healthy environment. A covered floor area in excess of 3.5m² per person will often be required to meet these considerations. The floor to ceiling height is also a key factor, with greater height being preferable in hot and humid climates to aid air circulation, while a lower height is preferable in cold climates to minimise the internal volume that requires heating. In warmer climates, shaded external space adjacent to the shelter can be established for food preparation, cooking and sleeping.

2. Duration: in the immediate aftermath of a disaster, particularly in extreme climatic conditions where shelter materials are not readily available, a covered area of less than 3.5m² per person may be appropriate to save life and to provide adequate short-term shelter to the greatest number of people in need. In such instances, the shelter response should be designed to reach 3.5m² per person as soon as possible, as longer durations may begin to affect the health and well-being of the people accommodated. If 3.5m² per person cannot be achieved, or is in excess of the typical space used by the affected or neighbouring population, consideration should be given to the impact on dignity, health and privacy of a reduced covered area. A decision to provide less than 3.5m² per person should be highlighted, along with measures to mitigate against any adverse effects on the affected population.

3. Roof coverings: where materials for a complete shelter cannot be provided, the provision of roofing materials and the required structural support to provide the minimum covered area should be prioritised. The resulting enclosure, however, may not provide the necessary protection from the climate, or security, privacy and dignity, and steps should be taken to meet these needs as soon as possible.

4. Cultural practices: existing local practices in the use of covered living space, for example sleeping arrangements and the accommodation of extended family members, should inform the covered area required. Consultation should include members of vulnerable groups, as well as those caring for mobility-impaired individuals.

5. Safety and privacy: women, girls and boys are vulnerable to attack and care should be given to ensuring adequate separation from potential threats to their personal safety. Within individual household shelters, opportunities for internal subdivision should be provided for. In mass shelters, the grouping of related families, well-planned access routes through the building or structure, and materials to screen personal and household space can aid the provision of adequate personal privacy and safety.

6. Household activities: space should be provided for sleeping, washing and dressing; care of infants, children and the ill or infirm; the storage of food, water, household possessions and other key assets; cooking and eating indoors when required; and the common gathering of the household.

- 7. Design and space provision:** the flexible use of the covered space provided could potentially accommodate different activities at different times during the day or night. The design of the structure, the location of openings and the opportunities for alternative internal subdivisions should enable the internal and immediately adjacent external space to accommodate livelihood support activities where required.
- 8. Other functions of shelter:** it should be acknowledged that shelter, in addition to providing protection from the climate, security and privacy for individual households, etc., also serves other purposes. These include the establishing of territorial claims or rights, serving as a location at which to receive relief assistance, and the provision of post-disaster psychosocial support through the reconstruction process. It can also represent a major household financial asset.

Shelter and settlement standard 4: design

The design of the shelter is acceptable to the affected population and provides sufficient thermal comfort, fresh air and protection from the climate to ensure their dignity, health, safety and well-being.

Key indicators (to be read in conjunction with the guidance notes)

- The design of the shelter and the materials used are familiar where possible and culturally and socially acceptable (see guidance note 1).
- The repair of existing damaged shelters or the upgrading of initial shelter solutions constructed by the disaster-affected population is prioritised (see guidance note 2).
- Alternative materials required to provide temporary shelter are durable, practical and acceptable to the affected population (see guidance note 3).
- The type of construction, materials used and the sizing and positioning of openings provides optimal thermal comfort and ventilation (see guidance notes 4-7).

- Access to water supply sources and sanitation facilities, and the appropriate provision of rainwater harvesting, water storage, drainage and solid waste management, complement the construction of shelters (see guidance note 8).
- Vector control measures are incorporated into the design and materials are selected to minimise health hazards (see guidance note 9).

Guidance notes

- 1. Participatory design:** each affected household should be involved to the maximum extent possible in determining the final form and materials used. Priority should be given to the opinions of those groups or individuals who typically have to spend more time within the shelters. The orientation of the individual shelter or covered area, the sizing and layout of the space provided, the positioning of door and window openings for adequate access, lighting and ventilation, and any internal subdivisions should reflect local practices where these are known to be safe. This should be informed by assessments of existing typical housing forms accommodating the respective needs (see Participation standard on page 28).
- 2. Local shelter initiatives and the repair of damaged buildings:** disaster-affected populations often improvise shelter solutions using material salvaged from their damaged homes or otherwise locally sourced, using traditional or improvised building techniques. Material support and technical assistance to make one or more rooms habitable within a damaged house or to upgrade improvised shelters may be preferred to unfamiliar or collective shelter solutions. Risks from further natural disasters such as earthquake aftershocks and landslides, potential security threats and issues of reconciliation for households returning to areas affected by conflict, and the health and safety risks posed by damaged infrastructure or buildings, should be addressed.
- 3. Materials and construction:** where local or familiar materials are not readily available or advisable, designs and materials that are culturally acceptable should be identified through participatory consultation with the affected community. Reinforced plastic sheeting is typically supplied to households in the initial stage of a disaster response, occasionally with rope and support materials such as locally procured timber, plastic tubing or

galvanised steel sections. Such sheeting should meet specifications accepted by the international humanitarian community.

- 4. In warm, humid climates:** shelters must be oriented and designed to maximise ventilation and minimise entry of direct sunlight. Obstruction to openings, for example by neighbouring shelters, should be avoided to maximise air flow. The roof should have a reasonable slope for rainwater drainage and have large overhangs. The construction of the shelter should be lightweight, as low thermal capacity is required. Seasonal rains should be taken into account and consideration should be given to adequate surface water drainage around the shelter and to raised floors to minimise water ingress. Existing vegetation can increase water absorption into the soil.
- 5. In hot, dry climates:** construction should be heavy to ensure high thermal capacity, allowing changes in night and day temperatures to alternately cool and heat the interior, or lightweight with adequate insulation. Adequate care should be taken in the structural design of heavy construction in areas with seismic risks. If only plastic sheeting or tents are available, a double-skinned roof with ventilation between the layers to reduce radiant heat gain should be provided. Door and window openings positioned away from the direction of the prevailing wind will help to minimise heating by hot winds and radiation from the surrounding ground. Shade and protection from hot winds can also be gained from adjacent shelters and surrounding natural land forms or trees. Flooring contiguous with the external walling should be provided to minimise sand penetration.
- 6. In cold climates:** heavy construction with high thermal capacity is required for shelters that are occupied throughout the day. Lightweight construction with low thermal capacity and high insulation is more appropriate for shelters that are occupied only at night. Air flow through the shelter should be kept to the minimum necessary to ensure personal comfort whilst also providing adequate ventilation for space heaters or cooking stoves. Door and window openings should be designed to minimise draughts. Stoves or other forms of space heaters are essential and must be appropriate to the shelter. The loss of body heat through the floor should be minimised by ensuring that the floor is insulated and through the use of insulated sleeping mats, mattresses or raised beds (see Non-food items standard 1 on page 230 and standard 4 on page 234).

7. Ventilation: adequate ventilation should be provided within the shelter design to maintain a healthy internal environment and to limit the risk of transmission of diseases such as TB spread by droplet infection.

8. Local water acquisition, sanitation and waste management practices: pre-disaster practices in sourcing safe water and methods of defecation and waste management should be ascertained and the opportunities and constraints of such practices in the post-disaster situation identified. The location of toilets and solid waste management facilities must not compromise the cultural, environmental, security or social aspects of the design or layout of individual shelters or of the settlement (see Water Supply, Sanitation and Hygiene Promotion chapter on page 51).

9. Vector risk identification: an understanding of local building practices, the patterns of shelter use by displaced people and material selection should inform the shelter design and subsequent vector control measures. Typical risks are posed by mosquitoes, rats and flies and pests such as snakes, scorpions and termites (see Vector control standards 1-3 on pages 76-82).

Shelter and settlement standard 5: construction

The construction approach is in accordance with safe local building practices and maximises local livelihood opportunities.

Key indicators (to be read in conjunction with the guidance notes)

- Locally sourced materials and labour are used without adversely affecting the local economy or environment (see guidance notes 1-2).
- Locally derived standards of workmanship and materials are achieved (see guidance note 3).
- Construction and material specifications mitigate against future natural disasters (see guidance note 4).
- The type of construction and materials used enable the maintenance and upgrading of individual household shelters using locally available tools and resources (see guidance note 5).

- The procurement of materials and labour and the supervision of the construction process are transparent, accountable and in accordance with internationally accepted bidding, purchasing and construction administration practices (see guidance note 6).

Guidance notes

- 1. Sourcing of shelter materials and labour:** livelihood support should be promoted through the local procurement of building materials, specialist building skills and manual labour. Multiple sources, alternative materials and production processes, or the provision of regionally or internationally sourced materials or proprietary shelter systems are required if the local harvesting and supply of materials is likely to have a significant adverse impact on the local economy or the environment. The re-use of materials salvaged from damaged buildings should be promoted where feasible, either as primary construction materials (bricks or stone masonry, roof timber, roof tiles, etc.) or as secondary material (rubble for foundations or levelling roads, etc.). Ownership of or the rights to such material should be identified and agreed (see Shelter and settlement standard 6, guidance note 3 on page 228).
- 2. Participation of affected households:** skills training programmes and apprenticeship schemes can maximise opportunities for participation during construction, particularly for individuals lacking the required building skills or experience. Complementary contributions from those less able to undertake physically or technically demanding tasks can include site monitoring and inventory control, the provision of child care or temporary accommodation and catering for those engaged in construction works, and administrative support. Consideration should be given to the other demands on the time and labour resources of the affected population. The inclusion of food-for-work initiatives can provide the necessary food security to enable affected households to actively participate. Single women, female-headed households and women with disabilities are particularly at risk from sexual exploitation in seeking assistance for the construction of their shelter. The provision of assistance from volunteer community labour teams or contracted labour could complement any beneficiary contributions (see Participation standard on page 28).

- 3. Construction standards:** standards of good practice should be agreed with the relevant authorities to ensure that key safety and performance requirements are met. In locations where applicable local or national building codes have not been customarily adhered to or enforced, incremental compliance should be agreed.
- 4. Disaster prevention and mitigation:** the design should be consistent with known climatic conditions, be capable of withstanding appropriate wind-loading, and accommodate snow-loading in cold climates. Earthquake resistance and ground bearing conditions should be assessed. Recommended or actual changes to building standards or common building practices as a result of the disaster should be applied in consultation with local authorities and the disaster-affected population.
- 5. Upgrading and maintenance:** as emergency shelter responses typically provide only a minimum level of enclosed space and material assistance, affected families will need to seek alternative means of increasing the extent or quality of the enclosed space provided. The form of construction and the materials used should enable individual households to incrementally adapt or upgrade the shelter or aspects of the design to meet their longer-term needs and to undertake repairs using locally available tools and materials.
- 6. Procurement and construction management:** a responsive, efficient and accountable supply chain and construction management system for materials, labour and site supervision should be established that includes sourcing, procurement, transportation, handling and administration, from point of origin to the respective site as required.

Shelter and settlement standard 6: environmental impact

The adverse impact on the environment is minimised by the settling of the disaster-affected households, the material sourcing and construction techniques used.

Key indicators (to be read in conjunction with the guidance notes)

- The temporary or permanent settling of the affected population considers the extent of the natural resources available (see guidance notes 1-2).
- Natural resources are managed to meet the ongoing needs of the displaced and host populations (see guidance notes 1-2).
- The production and supply of construction material and the building process minimises the long-term depletion of natural resources (see guidance notes 2-3).
- Trees and other vegetation are retained where possible to increase water retention, minimise soil erosion and to provide shade (see guidance note 4).
- The locations of mass shelters or temporary planned camps are returned to their original condition, unless agreed otherwise, once they are no longer needed for emergency shelter use (see guidance note 5).

Guidance notes

1. **Sustainability and the management of environmental resources:** in environments where the natural resources to sustain a substantial increase in human habitation are limited, efforts should be made to contain non-sustainable demand on the environment. Sustainable external supplies of fuel and managed options for livestock grazing, agricultural production and natural resource-dependent livelihood support activities should be provided. In environments with extensive natural resources that could sustain a substantial increase in human habitation, the affected population

should be dispersed, if necessary, into a number of small settlements, since these are less likely to cause environmental damage than large settlements. Access rights to existing natural resources, such as fuel, water, timber for construction, stone and sand, etc., and the typical use and maintenance of existing land and wooded areas should be identified.

2. Mitigating long-term environmental impact: where the need to provide shelter for affected populations has a significant adverse impact on the environment, e.g. through the depletion of local natural resources, efforts should be made to minimise the long-term effects through complementary environmental management and rehabilitation activities.

3. Sourcing of construction materials: the environmental impact of pre-disaster sourcing practices and large-scale post-disaster demands on natural resources, such as water, construction timber, sand, soil and grasses, as well as fuel for the firing of bricks and roof tiles, should be assessed. Customary users, extraction and regeneration rates and the ownership or control of these resources should be identified. Alternative or complementary sources of supply may support the local economy and reduce any long-term adverse impact on the local environment. Multiple sources and the re-use of salvaged materials, alternative materials and production processes (such as the use of stabilised earth blocks) should be specified, together with the adoption of sustainable practices such as complementary replanting or regeneration programmes.

4. Erosion: an assessment of typical land usage, the distribution of existing vegetation and surface water drainage patterns should be undertaken to assess the impact of any ground clearance that may be required. The use of agricultural or grazing land should be planned to minimise any adverse impact on the local natural habitat. Shelter solutions should be planned to retain existing trees and other vegetation to maintain the soil stabilisation such growth provides and to maximise the opportunities for shade and protection from the climate. Roads, pathways and drainage networks should be planned to make use of natural contours in order to minimise erosion and flooding. Where this cannot be achieved, satisfactory measures to contain any likely erosion should be provided, such as the provision of excavated drainage culverts, piped drainage runs under roadways, or planted earth banks to minimise water run-off (see Drainage standard 1 on page 86).

5. Handover: the natural regeneration of the environment in and around mass shelters and temporary planned or self-settled camps should be enhanced through appropriate environmental rehabilitation measures during the life of the temporary settlement. The eventual discontinuation of any such temporary settlements should be managed to ensure the satisfactory removal of all material or waste that cannot be re-used or that could have an adverse effect on the environment.

2 Non-Food Items: *Clothing, Bedding and Household Items*

Clothing, blankets and bedding materials meet the most personal human needs for shelter from the climate and the maintenance of health, privacy and dignity. Basic goods and supplies are required to enable families to meet personal hygiene needs, prepare and eat food, provide thermal comfort and build, maintain or repair shelters.

Non-food items standard 1: clothing and bedding

The people affected by the disaster have sufficient clothing, blankets and bedding to ensure their dignity, safety and well-being.

Key indicators (to be read in conjunction with the guidance notes)

- Women, girls, men and boys have at least one full set of clothing in the correct size, appropriate to the culture, season and climate. Infants and children up to two years old also have a blanket of a minimum 100cmx70cm (see guidance notes 1-4).
- People have access to a combination of blankets, bedding or sleeping mats to provide thermal comfort and to enable separate sleeping arrangements as required (see guidance notes 2-4).
- Those individuals most at risk have additional clothing and bedding to meet their needs (see guidance note 5).
- Culturally appropriate burial cloth is available when needed.

Guidance notes

- 1. Changes of clothing:** individuals should have access to sufficient changes of clothing to ensure their thermal comfort, dignity and safety. This could entail the provision of more than one set of essential items, particularly underclothes, to enable laundering.
- 2. Appropriateness:** clothing should be appropriate to climatic conditions and cultural practices, separately suitable for men, women, girls and boys, and sized according to age. Bedding materials where possible should reflect cultural practices and be sufficient in quantity to enable separate sleeping arrangements as required amongst the members of individual households.
- 3. Thermal performance:** consideration should be given to the insulating properties of clothing and bedding and the effect of wet or damp climatic conditions on their thermal performance. An appropriate combination of clothing and bedding items should be provided to ensure a satisfactory level of thermal comfort is attained. Provision of insulated sleeping mats to combat heat loss through the ground may be more effective than providing additional blankets.
- 4. Durability:** clothing and bedding provided should be sufficiently durable to accommodate typical wear and likely prolonged usage due to the lack of alternative items.
- 5. Special needs:** additional changes of clothing should be provided where possible to people with incontinence problems, people with HIV/AIDS and associated diarrhoea, pregnant and lactating women, older people, disabled people and others with impaired mobility. Infants and children are more prone to heat loss than adults due to their ratio of body surface area to mass, and may require additional blankets, etc. to maintain appropriate levels of thermal comfort. Given their lack of mobility, older people and the ill or infirm, including individuals with HIV/AIDS, may also require particular attention, such as the provision of mattresses or raised beds.

Non-food items standard 2: personal hygiene

Each disaster-affected household has access to sufficient soap and other items to ensure personal hygiene, health, dignity and well-being.

Key indicators (to be read in conjunction with the guidance notes)

- Each person has access to 250g of bathing soap per month (see guidance notes 1-3).
- Each person has access to 200g of laundry soap per month (see guidance note 1-3).
- Women and girls have sanitary materials for menstruation (see guidance note 4).
- Infants and children up to two years old have 12 washable nappies or diapers where these are typically used.
- Additional items essential for ensuring personal hygiene, dignity and well-being can be accessed (see guidance note 5).

Guidance notes

- 1. Appropriateness:** existing cultural practices and familiar products should be assessed in specifying the items supplied. Care should be taken to avoid specifying products that would not be used due to lack of familiarity or that could be misused (e.g. being mistaken for foodstuffs). Where culturally appropriate or preferred, washing powder can be specified instead of laundry soap or the use of suitable alternatives such as ash or clean sand promoted.
- 2. Replacement:** consideration should be given for consumables to be replaced when necessary.
- 3. Special needs:** additional quantities of bathing and laundry soap should be provided where possible to people with incontinence problems, people with HIV/AIDS and associated diarrhoea, and older people, disabled people or others with impaired mobility.

4. Sanitary protection: women and girls should receive appropriate material for menstruation. It is important that these materials are appropriate and discreet and that women are involved in making decisions about what is provided.

5. Additional items: existing social and cultural practices may require that additional personal hygiene items can be accessed. Subject to availability, these items per person per month could include 75ml/100g of toothpaste; one toothbrush; 250ml of shampoo; 250ml of lotion for infants and children up to two years old; one disposable razor. Per household they could also include one hairbrush and/or comb, and nail clippers.

Non-food items standard 3: cooking and eating utensils

Each disaster-affected household has access to cooking and eating utensils.

Key indicators (to be read in conjunction with the guidance notes)

- Each household has access to a large-sized cooking pot with handle and a pan to act as a lid; a medium-sized cooking pot with handle and lid; a basin for food preparation or serving; a kitchen knife; and two wooden serving spoons (see guidance note 1).
- Each household has access to two 10- to 20-litre water collection vessels with a lid or cap (20-litre jerry can with a screw cap or 10-litre bucket with lid), plus additional water or food storage vessels (see guidance notes 1-2).
- Each person has access to a dished plate, a metal spoon and a mug or drinking vessel (see guidance notes 1-4).

Guidance notes

- 1. Appropriateness:** items provided should be culturally appropriate and enable safe practices to be followed. Women or those typically overseeing the preparation of food and the collection of water should be consulted when specifying items. Cooking and eating utensils and water collection vessels should be sized to suit older people, people with disabilities and children as required.
- 2. Plastic goods:** all plastic goods (buckets, bowls, jerry cans, water storage vessels, etc.) should be of food-grade plastic (see also Water supply standard 3, guidance note 1 on page 70).
- 3. Metallic goods:** all cutlery, bowls, plates and mugs should be of stainless steel or other non-ferrous metal.
- 4. Infant feeding:** infant feeding bottles should not be provided, unless exceptional circumstances require the provision of breast milk substitutes (see General nutrition support standard 2, guidance note 1 on page 141).

Non-food items standard 4: stoves, fuel and lighting

Each disaster-affected household has access to communal cooking facilities or a stove and an accessible supply of fuel for cooking needs and to provide thermal comfort. Each household also has access to appropriate means of providing sustainable artificial lighting to ensure personal security.

Key indicators (to be read in conjunction with the guidance notes)

- Where food is cooked on an individual household basis, each household has a stove and fuel to meet essential cooking and heating needs (see guidance notes 1-2).
- Environmentally and economically sustainable sources of fuel are identified and prioritised over fuel provided from external sources (see guidance note 3).

- Fuel is obtained in a safe and secure manner, and there are no reports of incidents of harm to people in the routine collection of fuel (see guidance note 4).
- Safe fuel storage space is available.
- Each household has access to sustainable means of providing artificial lighting, e.g. lanterns or candles.
- Each household has access to matches or a suitable alternative means of igniting fuel or candles, etc.

Guidance notes

- 1. Stoves:** existing local practices should be taken into account in the specification of stove and fuel solutions. Energy-efficient cooking practices should be promoted, including firewood preparation, fire management, food preparation, shared cooking, etc. This could include possible changes to the type of food to be prepared, such as any rations provided by food assistance programmes e.g. pulses require considerable cooking and hence fuel. Where displaced populations are accommodated in mass shelters, communal or centralised cooking and heating facilities are preferable to the provision of individual household stoves, to minimise fire risks and indoor smoke pollution.
- 2. Ventilation:** if used inside an enclosed area, stoves should be fitted with flues to vent exhaust gases or smoke to the exterior in a safe manner. Alternatively, the positioning of the stoves and weather-protected openings within the shelter enclosure should be utilised to ensure adequate ventilation and to minimise the risk of indoor pollution and respiratory problems. Stoves should be designed to minimise the risk of fire and of indoor and outdoor pollution.
- 3. Sustainable sources of fuel:** sources of fuel should be managed, and measures taken to replenish and regenerate resources to ensure sustainability of supply.
- 4. Collecting fuel:** women should be consulted about the location and means of collecting fuel for cooking and heating to address issues of personal safety. The demands of collecting fuel on particularly vulnerable

groups, such as female-headed households and households caring for PLWH/A, should be addressed. Special provisions should be made where possible e.g. the choice of less labour-intensive fuels, the use of fuel-efficient stoves and accessible fuel sources.

Non-food items standard 5: tools and equipment

Each disaster-affected household responsible for the construction or maintenance and safe use of their shelter has access to the necessary tools and equipment.

Key indicators (to be read in conjunction with the guidance notes)

- Where responsible for constructing part or all of their shelters or for carrying out essential maintenance, each household has access to tools and equipment to safely undertake each task (see guidance notes 1-2).
- Training or guidance in the use of the tools and in the shelter construction or maintenance tasks required is provided where necessary (see guidance note 3).
- Materials to reduce the spread of vector-borne disease, such as impregnated mosquito nets, are provided to protect each member of the household (see Vector control standards 1-3 on pages 76-82).

Guidance notes

1. **Typical tool sets:** subject to local practices, typical tool sets could include a hammer or mallet, an axe or machete, and a spade or shovel. The specification should be such that the tools can be easily repaired locally with available technologies. Displaced communities should also have access to sufficient tools to excavate surface water drainage channels and to handle the remains of the deceased as appropriate, through the construction of coffins, the excavation of graves and burial pits or the preparation of funeral pyres.

- 2. Livelihood activities:** where possible, the tools provided should also be appropriate for livelihood support activities.
- 3. Technical assistance:** female-headed households and other identified vulnerable groups may require assistance from extended family members, neighbours or contracted labour to undertake the designated construction or maintenance tasks.

Appendix 1

Shelter, Settlement and Non-Food Items Initial Needs Assessment Checklist

This list of questions serves as a guide and checklist to ensure that appropriate information is obtained that should influence post-disaster shelter response. The list of questions is not mandatory, and should be used and adapted as appropriate. It is assumed that information on the underlying causes of the disaster, the security situation, the basic demographics of the displaced and any host population and the key people to consult and contact, is separately obtained (see Initial assessment standard on page 29).

1 Shelter and Settlement

Demographics

- How many people comprise a typical household?
- Does the affected community comprise groups of individuals who do not form typical households, such as unaccompanied children, or particular minority groups with household sizes that are not typical?
- How many households are without any or with inadequate shelter and where are they?
- How many people who are not members of individual households are without any or with inadequate shelter and where are they?

Risks

- What is the immediate risk to life of the lack of shelter and inadequate shelter, and how many people are at risk?
- What are the potential risks to the lives, health and security of the affected population through the need for shelter?

- What are the potential risks to and impact on any host populations due to the presence of displaced households?
- What are the potential further risks to lives, health and security of the affected population as a result of the ongoing effects of the disaster on the provision of shelter?
- Who are the vulnerable people in the population, also considering those affected by HIV/AIDS?
- What are the particular risks for the vulnerable people and why?

Household activities

- What household and livelihood support activities typically take place in the shelters of the affected population, and how does the resulting space provision and design reflect these activities?
- What household and livelihood support activities typically take place in the external areas around the shelters of the affected population, and how does the resulting space provision and design reflect these activities?

Materials and design

- What initial shelter solutions or materials have been provided to date by the affected households or other actors?
- What existing materials can be salvaged from the damaged site (if applicable) for use in the reconstruction of shelters?
- What are the typical building practices of the displaced and host populations, and what are the different materials that are used to provide the structural frame and roof and external wall enclosures?
- What alternative design or materials solutions are potentially available and familiar or acceptable to the affected population?
- How can the potential shelter solutions identified accommodate appropriate single and multiple disaster prevention and mitigation concerns?
- How are shelters typically built and by whom?

- How are construction materials typically obtained and by whom?
- How can women, youths and older people be trained or assisted to participate in the building of their own shelters, and what are the constraints?

Local resources and constraints

- What are the current material, financial and human resources of the affected households and the community, and the constraints to meeting some or all of their urgent shelter needs?
- What are the opportunities and constraints of current patterns of land ownership, land usage and the availability of vacant land, in helping to meet urgent shelter needs?
- What are the opportunities and constraints of the host population in accommodating displaced households within their own dwellings or on adjacent land?
- What are the opportunities and constraints of utilising existing, available and unaffected buildings or structures to temporarily accommodate displaced households?
- What is the topographical and environmental suitability of using accessible vacant land to accommodate temporary settlements?
- What are the requirements and constraints of local authority regulations in developing shelter solutions?

Essential services and facilities

- What is the current availability of water for drinking and personal hygiene, and what are the possibilities and constraints in meeting the anticipated sanitation needs?
- What is the current provision of social facilities (health clinics, schools, places of worship, etc.) and what are the constraints and opportunities of accessing these facilities?

Host community and environmental impact

- What are the issues of concern for the host community?
- What are the organisational and planning issues of accommodating the displaced households within the host community or within temporary settlements?
- What are the environmental concerns in providing the necessary shelter assistance (construction materials and access) and in supporting the displaced households (fuel, sanitation, waste disposal, grazing for animals if appropriate)?
- What opportunities are present for building local shelter and settlement provision and management capacities?
- What livelihood support opportunities can be provided through the sourcing of materials and the construction of shelter and settlement solutions?

2 Non-Food Items: Clothing, Bedding and Household Items

Clothing and bedding

- What is the customary provision of clothing, blankets and bedding for women, men, children and infants, pregnant and lactating women and older people, and what are the particular social and cultural considerations?
- How many women and men of all ages, children and infants have inadequate or insufficient clothing, blankets or bedding to provide protection from the adverse effects of the climate and to maintain their health, dignity and well-being, and why?
- What is the immediate risk to life of the lack of adequate clothing, blankets or bedding, and how many people are at risk?
- What are the potential risks to the lives, health and personal safety of the affected population through the need for adequate clothing, blankets or bedding?

- Which social groups are most at risk, and why? How can these groups be best supported to empower themselves?

Personal hygiene

- What essential items to address personal hygiene issues did a typical household have access to before the disaster?
- What essential items do affected households no longer have access to?
- What are the particular needs of women, girls, children and infants?
- What additional items are considered socially or culturally important to maintain the health and dignity of the affected people?

Cooking and eating, stoves and fuel

- What cooking and eating utensils did a typical household have access to before the disaster?
- How many households do not have access to sufficient cooking and eating utensils, and why?
- What form of stove for cooking and heating did a typical household have access to, where did the cooking take place in relation to the existing shelter and the surrounding area, and what fuel was typically used?
- How many households do not have access to a stove for cooking and heating, and why?
- How many households do not have access to adequate supplies of fuel for cooking and heating, and why?
- What are the opportunities and constraints, in particular the environmental concerns, of sourcing adequate supplies of fuel for the displaced households and the host community as appropriate?
- What is the impact on the women in the displaced community of sourcing adequate supplies of fuel?
- What cultural and customary use and safe practice considerations should be taken into account?

Tools and equipment

- What basic tools to construct, maintain or repair a shelter do the households have access to?
- What livelihood support activities can also utilise the basic tools for shelter construction, maintenance and repair?
- Does the climate or natural environment require a ground covering to maintain appropriate standards of health and dignity, and what appropriate material solutions can be provided?
- What vector control measures, particularly the provision of mosquito nets, are required to ensure the health and well-being of households?

Appendix 2

References

Thanks to the Forced Migration Online programme of the Refugee Studies Centre at the University of Oxford, many of these documents have received copyright permission and are posted on a special Sphere link at: <http://www.forcedmigration.org>

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Notes

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