TRANSITIONAL SHELTER GUIDELINES

10 TRANSITIONAL SHELTER PRINCIPLES

1 **ASSESS SITUATION**
The appropriateness of a transitional shelter response should be comprehensively assessed for each situation and beneficiary group

2 **INVOLVE COMMUNITY**
The affected population should be partners in developing a transitional shelter strategy and leaders of local implementation

3 **DEVELOP STRATEGY**
Transitional shelter should be used as part of a comprehensive, inter-sectoral strategy, developed in consultation with all stakeholders, including the government and affected population

4 **REDUCE VULNERABILITY**
Transitional shelter programmes should reduce the vulnerability of the affected population

5 **AGREE STANDARDS**
Appropriate standards should be developed and agreed in consultation with each beneficiary group

6 **MAXIMISE CHOICE**
Shelters implemented as part of transitional shelter programmes should maximise the choice of shelter options for the affected population throughout the transition to a durable shelter solution

7 **BUY TIME**
Transitional shelter programmes should allow sufficient time for sustainable reconstruction

8 **INCREMENTAL PROCESS**
Transitional shelter is an incremental process which starts with the distribution of relief items and continues until durable solutions have been achieved

9 **PLAN SITE**
Site planning should be used to support communities as part of transitional shelter programmes

10 **RECONSTRUCTION**
Shelters implemented as part of a transitional shelter approach should complement and contribute to reconstruction programmes

review draft

TRANSITIONAL SHELTER GUIDELINES

TRANSITIONAL SHELTER GUIDELINES

This consensus publication:

- offers a definition and the 10 principles of transitional shelter
- indicates when a transitional shelter approach may be inappropriate
- informs how to design and implement a transitional shelter programme with communities

IOM - OIM

DFID Department for International Development

shelter centre

definition

1 Offers a clear definition of transitional shelter

Introduces 10 transitional shelter principles

Explains when transitional shelter is not an appropriate response approach

tool

2 Provides a decision making tree to identify if transitional shelter is an appropriate response

programme

3 Explains how to develop a transitional shelter programme plan as part of a coordinated response

Elaborates on programme assessment and beneficiary identification

Provides information on the use of the 18 assistance methods in the context of a transitonal shelter programme

site

4 Shows how to support a community through site selection and site planning

Presents key considerations for land tenure

Explains necessary steps for succesful handover procedures

design

5 Gives advice on how to design a transitional shelter together with the community, based on their daily activities

Presents commonly used building materials and basic construction principles

resources

Glossary of terms
Key references
Internet resources
Acronyms
Index

TRANSITIONAL SHELTER PROCESS

Resaleable
Recyclable
Relocatable
Upgradable
Reusable

is relocation necessary?

Materials are added incrementally to the transitional shelter.

PRE - DISASTER OPTIONS | **LAND TENURE** | **RECONSTRUCTION** | **POST - DISASTER OPTIONS**

Securing land tenure enables the implementation of the parallel reconstruction process.

- No legal status
- House tenant
- Apartment tenant
- Land tenant
- Apartment owner-occupier
- House owner-occupier

TRANSITIONAL SHELTER GUIDELINES

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- ► offers a definition and the 10 principles of transitional shelter
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Note

The opinions, figures and estimates set forth in this document are the responsibilty of the authors, and should not necessarily be considered as reflecting the views or carrying the endorsement of the International Organization for Migration (IOM).

To be completed.

Peer review

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To be completed.

Acknowledgements

To be completed.

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Chapter 3

INTRODUCTION

BACKGROUND

Transitional shelter as one response option

1. The transitional shelter approach adds to successful other response approaches, such as core housing and semi-permanent housing, to broaden the range of options for governments and humanitarian stakeholders to support populations affected by disasters and conflicts.

Recent use of transitional shelter

2. The transitional shelter approach has been adopted by numerous humanitarian agencies, including the International Organization for Migration (IOM), in sheltering many millions of people worldwide who faced similar challenges in achieving reconstruction and recovery.

Introduction of the approach

3. The approach was introduced by staff from Shelter Centre, seconded by DFID to UNHCR following the Indian Ocean tsunami of December 2004. 🕮 ALNAP, *Case Study No.5: Transitional Shelter*, 2010

Challenges in achieving adequate shelter over the reconstruction period

4. Governments supported by the international humanitarian and development communities rarely have sufficient resources to support the repair and reconstruction of all damaged homes. Whatever support is available, securing land tenure and completing reconstruction often takes many years for those who owned homes. For tenants, who are the majority in many urban situations, finding somewhere to live can also take many years.

Shelter response for the displaced

5. Over this period, families need to find shelter, while reconstruction proceeds in parallel. Some may find shelter for a period with host families, in camps, in collective centres, or self-settled in existing buildings. These transitional settlement options may not be suitable for all families for the duration of reconstruction. 🕮 UN, *SAD*, 2010, 🕮 Oxfam, *TSDP*, 2010

Shelter response for the non-displaced

6. Reconstruction can also take many years for those not displaced, or for those who have returned from displacement. Shelter is needed when buildings are damaged beyond habitability. Families living in apartments as tenants and occupants with no legal status often face the greatest challenges to transitional reconstruction. 🕮 UN, *SAD*, 2010, 🕮 The World Bank, *Safer Homes, Stronger Communities*, 2010

Shelter response before transitional shelter

7. The usual response by governments and the international humanitarian community has been the distribution of tents or kits of basic shelter materials and tools, such as plastic sheeting and hammers. The response has many advantages including speed and, for appropriate kits, flexibility in being useful also for repair and reconstruction. This response is not intended to offer shelter over many years. The usual lifespan of tents is between a few months and two years and good quality plastic sheeting is designed to last around 18 months.

Shelter impacts during reconstruction

8. The lack of adequate shelter over the entire period of reconstruction impacts negatively upon health and livelihoods, therefore also constraining reconstruction and recovery. Regardless of the level of support offered by government and humanitarian stakeholders, it is the affected population that invariably undertakes the greatest effort, for example through self-help programmes 🕮 UN, *SAD*, 2010, 🕮 The World Bank, *Safer Homes, Stronger Communities*, 2010. This becomes a major concern when support is insufficient to cover needs, when the affected population must achieve reconstruction at least in part through their own recovery.

The transitional shelter process

9. Transitional shelter is a process rather than a product. It is not another phase of response as it begins with the first assistance offered, such as the distribution of plastic sheeting. Recovered materials and further support, such as through cash or further material distributions, enable building and upgrading incrementally.

The transitional shelter

10. The transitional shelters built in this way are designed with the community in order to optimise protection from further hazards, health, livelihoods and maximum flexibility in recovery. Standards that the shelters must reach are usually agreed between the government and humanitarian stakeholders, especially over safety. Transitional shelters use mainly local materials, thereby contributing to the local and regional economies. The materials and construction methods are chosen to be familiar to those affected, requiring skills and tools that they have access to. The designs and materials are also chosen so that after reconstruction is complete, the transitional shelters can be upgraded, reused for another function, sold or recycled into the permanent home.

Land rights and relocation

11. Any form of durable shelter normally requires land tenure and obtaining building permission from local authorities. Central to the transitional approach is that the shelters are designed as an exception to this, because they can be relocated, like caravans or trailers. As the shelters are begun when land rights are usually unclear, it is essential that it is possible to move the shelters to permanent sites, should this be required. Usually, tri-partite contracts for each transitional shelter are drawn up between the affected household, the local government and the

agency supporting implementation. These contracts set out the conditions under which the occupants may occupy the land, prior to formally resolving the rights to it.

Transitional shelter cannot be completely pre-fabricated

12. Imported, prefabricated shelters are not appropriate because they do not respond to local contexts; their fabrication, importation and construction takes so long as to constitute another phase of response, delaying reconstruction and their overall cost is often comparable to that of reconstruction. In circumstances when tents would normally be used, when there are insufficient local alternatives and stockpiles can be airlifted, new transitional tents are under development, using a frame that can be upgraded with local materials.

Inappropriate transitional shelter

13. As with any innovative approach that is continually being refined operationally, transitional shelter has been used inappropriately. Further complications include the lack of a single common understanding of the aims and implementation of the approach, as well as the lack of any guidance on when and how to use transitional shelter and when to avoid it.

AIM OF THIS PUBLICATION

14. This publication is intended to:

- offer a definition and the 10 principles of transitional shelter;
- indicate when a transitional shelter approach may be inappropriate; and
- provide guidance on how to design and implement a transitional shelter programme.

15. It is intended to support the process of transitional shelter as part of a single coordinated strategy, plan or policy for shelter and reconstruction for a response. However it is not a technical construction manual.

16. The guidelines intend to support collaboration between stakeholders in the process of transitional shelter by determining whether or not the process might offer a useful contribution to the single strategy and, if so, defining the role each stakeholder should take in contributing to designing and implementing a transitional shelter programme.

17. To establish a successful transitional shelter process, a series of interests, priorities and capacities have to be understood, integrated and coordinated. The following paragraphs offer information on what these guidelines offer to specific stakeholders in transitional shelter programmes.

AUDIENCE

18. This publication aims to support the following stakeholders.

Affected population

19. The affected population needs to understand the process of transitional shelter in order that they may participate fully in the design and implementation process. This stakeholder group may include:

- community leaders, representatives and committees;
- vulnerable and marginalised groups within each community;
- those, within a community who are responsible or are users of communal infrastructure, such as roads and schools;
- those individuals, within each household who undertake the main activities, such as cooking and childcare;
- the groups who traditionally undertake each aspect of construction within each community; and
- construction industry professionals and trades, such as engineers and carpenters.

National and local governments

20. National and local governments need to understand the process of transitional shelter in order that they may support the process through their policies for the initial response and later recovery. Relevant stakeholders may include:

- the central government, with its task force or its department, ministry or agency responsible for coordinating the response;
- other government departments ministries and agencies, concerned with planning and surveying, housing and environmental issues; and
- local governments, including those responsible for communal infrastructure, land registration and housing.

Donors

21. Donors and funders, need to understand key factors of the transitional shelter process in order to decide if funding for submitted transitional shelter proposals are granted. These guidelines help to determine if a specific transitional shelter programme is appropriate.

Coordinating bodies

22. Coordination bodies need to understand the process of transitional shelter in order that they may support the process in its contribution to their single coordinated strategy. Relevant stakeholders are:

- the coordination body mandated for the response, i.e. government co-chairing with the IASC Humanitarian Country Team;

- the coordination body mandated for the sector, i.e. the response-level team of the IASC Emergency Global Shelter Cluster; and
- the coordination bodies mandated for other sectors and cross-cutting specialists, including WASH, recovery, protection, gender and environment.

Implementing agencies

23. Humanitarian agency staff needs to understand the process of transitional shelter in order that they may support the process in its contribution their single coordinated strategy. This stakeholder group may include:

- country-level managers and fundraisers;
- programme extension staff, including assessment teams;
- procurement officers and logisticians;
- sector and cross-cutting specialists, including WASH, recovery, protection, gender and environment; and
- programme and project staff with their technical advisors will need to coordinate and communicate construction clearly with all other stakeholders, supporting each to fulfil its role fully.

Private sector

24. The private sector, nationally, regionally and internationally need to understand the process of transitional shelter in order that they may support the process in its contribution their single coordinated strategy. Stakeholders to consider include:

- manufacturers of materials, such as timber and plastic sheeting;
- materials wholesalers and suppliers, including their logistics;
- materials distributors, including small shops;
- construction industry professional and trade bodies, such as institutes and guilds;
- construction industry professionals, such as surveyors, engineers and architects;
- construction industry companies and contractors, such as for site surveying and general works; and
- construction industry trades, such as carpenters, plumbers and masons.

WHAT IS NOT IN THESE GUIDELINES

25. These guidelines emphasise that transitional shelter is not appropriate for all shelter responses. It does not go into detail on alternative methods.

26. The guidelines also do not support or in any way lessen the need for specialist technical activities such as multi-hazard assessments, structural engineering calculations, or supporting cross-cutting issues such as protection and the environment.

27. Instead, it seeks to identify when alternatives and specialists may be required and, where possible, guides the audience to other appropriate publications.

EXPLANATION OF GRAPHICS

» 5.1

Refers to both the chapter number and section within the chapter where further information can be found on the subject in question.

Oxfam, *TSDP*, 2005

Refers to external resources, books, documents, publications, tools, and website resource that were used in the production of these guidelines.

Attention: careful observation is required.

Tip: *provides technical facts and information.*

Field experience: *provides lessons learned and good practice from field practitioners and crisis situations worldwide.*

Case study: *provides description and analysis of specific projects to illustrate the content of these guidelines.*

1 INTRODUCTION TO THE TRANSITIONAL SHELTER PROCESS

Chapter contents page

1.1 WHAT IS TRANSITIONAL SHELTER?

1. This section will give a clear definition of the transitional approach. It will address the common misconceptions of transitional shelter. At the end a common understanding of transitional shelter wil have been established laying the foundation for further elaborations on the transitional approach.

Introduction

2. Since the 2004 Indian Ocean tsunami, the term 'transitional shelter' has become an increasingly common term used by humanitarian actors to describe their response to post disaster emergency shelter and reconstruction projects. A variety of very different approaches are being encompassed by the term. This has included the provision of overseas procured prefabricated structures, the construction of semi-permanent shelters, core housing and the supply of tents, none of which are transitional shelter within the definition agreed through these guidelines.

1.1.1 THE DEFINITION

Definition

3. This publication defines the transitional shelter approach as:

"A process, not a product, that shelters families after a conflict or disaster over the period of securing land tenure and reconstruction, which may take a number of years, whether they rent or own their final home.

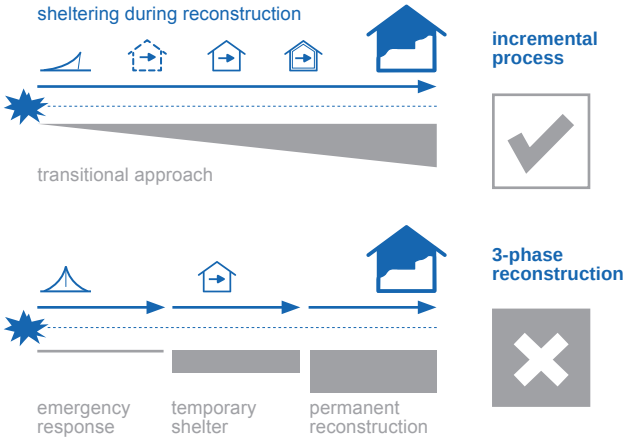
Transitional shelters support families in making their own decisions by being designed and constructed in cooperation with them, using materials for more than one purpose: shelters can be **upgraded** into part of a permanent house, **reused** for another purpose or **relocated** from a temporary site to a permanent location. The materials used in transitional shelters can be **resold** for capital or **recycled** into a permanent house.

If appropriate to a specific response, the approach should be used only as part of an integrated and comprehensive shelter, settlement and reconstruction strategy."

4. "Reconstruction [...] begins immediately after the disaster."
The World Bank, *Safer Homes, Stronger Communities*, 2010, p.7

5. Diagram 1.1 below shows an incremental transitional shelter process compared to a multi phased approach.

Diagram 1.1 Transitional shelter as an incremental process



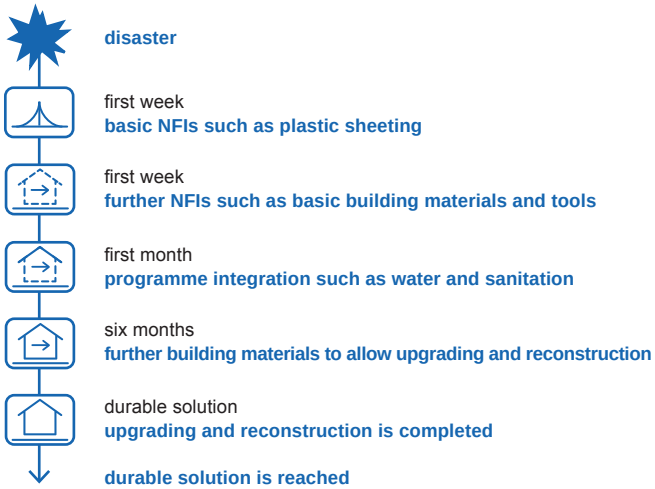
6. Reconstruction often takes several years. The transitional shelter approach aims to initiate and support a sustainable, beneficiary driven process of constructing culturally appropriate shelter at the beneficiaries individual pace.

Transitional shelter in the response cycle

7. As an incremental process of sheltering and reconstruction, transitional shelter commences with immediately distributing relief items post disaster. These relief items will be, wherever possible, reused in the future steps of a transitional shelter response.

8. Diagram 1.2 below shows transitional shelter in the response cycle.

Diagram 1.2 Transitional shelter in the response cycle



1.1.2 TRANSITIONAL SHELTER AS PART OF A COMPREHENSIVE STRATEGY

9. It is imperative that the humanitarian response targets the entire affected population, and is prioritised according to their level of vulnerability and the impact of the disaster.

Settlement options

10. Transitional shelter can support displaced populations as part of a transitional settlement programme or can support non-displaced populations as part of a transitional reconstruction programme.

Choice of settlement options

11. Whether displaced or non-displaced, people choose a variety of different options for their settlement, depending on circumstances. For example a displaced family may be able to stay with a host family, but if this option is not possible then they may settle in a planned camp.

Categorising settlement options

12. The settlement options for displaced and non-displaced populations can be categorised into six transitional settlement options and six transitional reconstruction options which outline the context in which the affected families are settled following a disaster.

13. Table 1.1 below shows the six settlement options for displaced populations.

Table 1.1 6 options for displaced populations

Table 1.1: The 6 settlement options for displaced populations

Option 1	**Host families**  **Definition:** local families shelter the displaced population within their households or on their properties.
Option 2	**Urban self-settlement**  **Definition:** urban unclaimed properties, or land unaffected by the disaster, are used informally by displaced populations.
Option 3	**Rural self-settlement**  **Definition:** displaced populations create a settlement on collectively owned rural land.
Option 4	**Collective centres settlement**  **Definition:** existing, large structures such as transit facilities can serve as collective shelters.
Option 5	**Self-settled camps**  **Definition:** independent from government or international organisation support, camps are formed by the displaced population.
Option 6	**Planned camps**  **Definition:** government or aid organisations plan camps, including infrastructure, to house displaced populations.

14. Table 1.2 below shows the six reconstruction options for non-displaced populations.

Table 1.2
6 options for non-displaced populations

Table 1.2: The 6 reconstruction options for non-displaced populations

Option 1 **Occupancy with no legal status**

Definition: the occupant informally lives on property without the explicit permission of the owner.

Option 2 **House tenant**

Definition: the occupant rents housing and land from the owner in a formal or informal arrangement.

Option 3 **Apartment tenant**

Definition: the apartment is rented by the occupant formally or informally.

Option 4 **Land tenant**

Definition: the occupant rents land but owns the house.

Option 5 **Apartment owner-occupier**

Definition: the occupants owns their apartment, a self-contained housing unit that occupies only part of a building, formally or informally.

Option 6 **House owner-occupier**

Definition: the occupant owns or partially owns the house and land. This includes a mortgage or a loan as well as formal and informal ownership agreements.

The World Bank, *Safer Homes, Stronger Communities*, 2010, UN, *SAD*, 2010, *The Sphere Project*, 2011

1.1.3 FREQUENTLY ASKED QUESTIONS

15. The debate on transitional shelter includes a number of significant misconceptions. In order to convey the given definition of transitional shelter, this section will answer the most common critical questions concerning the approach.

The transitional shelter debate

16. There are a wide range of views in the humanitarian sector on the effectiveness of transitional shelter, from those who promote it as an effective participatory process that assists beneficiaries in rebuilding their homes, to those who strongly oppose it believing it to be an expensive, damaging product that diverts funds away from permanent reconstruction efforts. These concerns over the effectiveness and impact of transitional shelter are however, founded more on a lack of understanding of the transitional shelter approach, its definition and how it differs from other reconstruction methods.

Q What are the misconceptions of the term 'transitional'?

A

Two common misconceptions of the transitional shelter approach are (A.) considering it as a product and (B.) using the term to describe another approach.

(A.) Transitional shelter is sometimes misunderstood as a product and not a process whereby a complete shelter is built at one time, rather than incrementally from the emergency phase using all of the shelter materials distributed. This misunderstanding introduces another phase, slowing down the response, and often wastes the materials distributed in the previous phase. » 1.1.1

(B.) Transitional shelter is sometimes used mistakenly to describe approaches to permanent reconstruction, such as core housing, sites and services, and one room shelter responses. » 1.4.1

Q Why is transitional shelter such a costly approach?

A

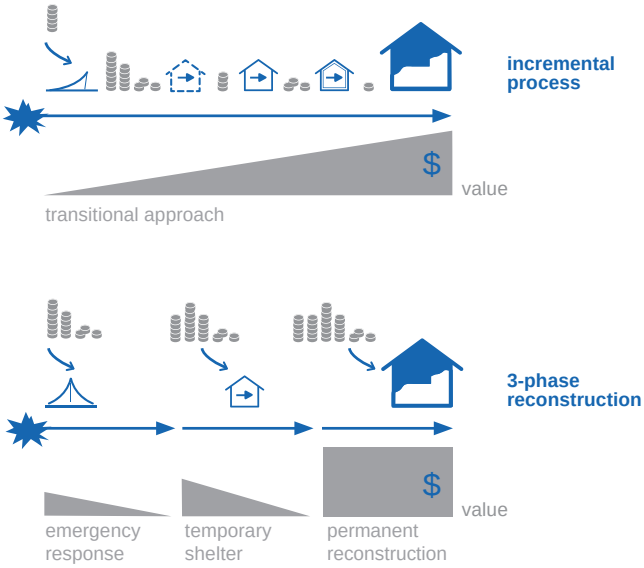
Transitional shelter is not a costly approach if implemented correctly.

It usually takes two to fifteen years to resolve land rights in order to reconstruct homes damaged by conflict or disaster. Transitional shelter offers a cost effective approach to accommodate falilies over this period of time. If tents were used as an alternative, two to fifteen tents would be required to accommodate a family over the same period of time. In addition living conditions in tents greatly affect the recovery of livelihoods leading to further indirect costs. Though the initial start up costs of a transitional shelter approach may appear high, the approach offers a beneficiary driven reconstruction process that quickly becomes self-supporting through direct investment into local economies. It often provides livelihood opportunities which are proven to speed up the recovery process and quickly reduces dependency on external assistance. When appropriately applied, the transitional approach becomes a more cost effective way to rebuild.

It is essential that transitional shelter is implemented as soon as it is deemed appropriate. Failure to establish the process quickly can add another costly phase to the response.

Diagram 1.3 below shows how a transitional shelter approach can be more cost effective over time.

Diagram 1.3 Transitional shelter and cost



Q Can transitional shelter help solve land tenure problems?

A

Yes, transitional shelter is a tool to help solve land tenure problems, in that once affected families are in safe and durable shelter, the appropriate time can be taken to resolve land tenure sustainably.

Land tenure needs to be secured through legal means using land tenure specialists who can liaise with government officials and host country legal teams. Transitional shelter can sometimes provide additional options for beneficiaries for example, it may enable them to physically relocate their shelters if threatened by eviction, but it cannot be used to solve this often very complex and political issue. » 4.4

Case study: **Sri Lanka Tsunami 2004**

Communities in Sri Lanka affected by the 2004 Indian Ocean tsunami, established a transitional shelter programme in cooperation with local and national authorities. Reconstruction began on the beneficiaries original plots even though clear proof of ownership could not be provided. The Government

ultimately provided land rights to each of the beneficiaries allowing them to finish the reconstruction but this achievement is an example of strong cooperation between government and land owners and not the transitional shelter approach itself. UN-HABITAT, *Shelter Projects 2008*, pp.67-68

Case study: **Haiti earthquake 2010**

In contrast to Sri Lanka, the situation in Haiti, where the Haitian government is weak and private landowners are strong has stalled the resolution of land rights and tenure. This has resulted in the eviction of transitional shelter beneficiaries as private landowners grow tired of the unresolved situation. This clearly shows the transitional shelter approach is unable to secure land tenure however it does allow the beneficiaries to relocate, and not lose their shelters. UN-HABITAT, *Strategic Citywide Spatial Planning,* 2010, p.21

Q **Are prefabricated shelters transitional shelters?**

A **No, prefabricated shelter units are not appropriate for a transitional shelter approach.**

Prefabricated shelter units are often sourced internationally and do not involve the community in the design of both the programme and the shelters themselves. Case studies have shown that some prefab programmes have exceeded the cost of a permanent reconstruction approach. Prefabricated shelter is often perceived as a transitional shelter approach and therefore skews the debate in regard to the cost of transitional shelter. Prefabrication of entire shelter units is not an incremental process of sheltering and is therefore not a transitional shelter approach. » 1.1.1

Q **What is the difference between transitional shelter and 'core housing'?**

A **Core housing, sometimes called one room shelter in Pakistan, starts with the complete construction of one room of the permanent house, offering shelter until the rest of the house is finished. In addition, certain complementary structures such as foundations or latrines may also be constructed.**

Although core housing eventually gets 'extended' into a permanent house, the approach does not offer the reuse for another purpose, the relocation to another site or recycling of components for permanent reconstruction. In addition it is also unlikely that specific parts of a core house can be resold. » 1.4.1

17. The common questions asked by the shelter community in this section reveal a general lack of understanding on the definition of transitional shelter. Through the answers to these questions, the misconceptions of what transitional shelter is and is not, have been clarified. The following section will further elaborate on the transitional shelter approach through the introduction of the 10 transitional shelter principles.

1.2 10 PRINCIPLES OF TRANSITIONAL SHELTER

10 transitional shelter principles

18. This section presents the 10 transitional shelter principles that will allow shelter practitioners to assess whether a transitional shelter approach is appropriate. These principles expand this publication's definition of transitional shelter as introduced in the previous section.

1 **ASSESS SITUATION**

2 **INVOLVE COMMUNITY**

3 **DEVELOP STRATEGY**

4 **REDUCE VULNERABILITY**

5 **AGREE STANDARDS**

6 **MAXIMISE CHOICE**

7 **BUY TIME**

8 **INCREMENTAL PROCESS**

9 **PLAN SITE**

10 **RECONSTRUCTION**

Transitional shelter will not be an appropriate shelter response in all situations, for all people affected in any situation. A number of different approaches exist for providing shelter in post disaster or post conflict situations and comprehensive assessments should be undertaken to understand the potential strengths, weaknesses, opportunities and threats of all shelter responses prior to selecting the most appropriate.

Invariably, the greatest effort in a response is made by those affected. They are also most aware of the most appropriate, sustainable and rapid routes to recovery. The greater the involvement of the community in implementation, the more efficient and cost effective the response will be.

Transitional shelter programmes should be used to support the appropriate groups within the affected population for a period of time, as part of a comprehensive inter-sector shelter strategy that considers CCCM, Early Recovery, Health, Protection and WASH issues, in addition to cross cutting issues, to support the entire population, both displaced and non-displaced, until durable shelter solutions are reached.

Transitional shelter programmes should reduce the vulnerability of the affected population and contribute to disaster risk reduction by using shelter design and construction, site selection and site preparation as a platform for communicating hazard resilient techniques and best practise and by building capacity within the affected population.

There is no standard transitional shelter design. Standards should be agreed upon, with participation from the affected population, which are appropriate for each beneficiary group. Standards should consider the implication of local hazards, climate, available labour and skills, available material, traditional building practises, cultural requirements and social and household activities.

Sri Lanka, tsunami 2004

► The transitional approach was demmed necessary as the UN and other organisations predicted the populations would be living in the provided shelters for some years to come, due to the scale of the disaster and due to the need to support livelihoods. Tents were not deemed durable enough to last over the estimated time span between emergency shelter and permanent housing.

UN-HABITAT, *Shelter Projects 2008*, pp.67-68

Jogyakarta Indonesia, earthquake 2004

► In Jogyakarta the local community was involved in the transitional shelter programme based on the Javanese self-help culture of 'gotong royong', or 'working bee', leading to material distribution at the community instead of individual level. In addition, the communities were also responsible for beneficiary selection.

UN-HABITAT, *Shelter Projects 2008*, pp.42-51

Haiti, earthquake 2010

► Some transitional shelter programmes implemented after the 2010 earthquake in Haiti successfully emphasised the preliminary assessment of WASH facilities and close cooperation with other organisations concerning this issue.

Cordaid/Caritas, *151 T-Shelters [...]*, 2010

Haiti, earthquake 2010

► In the case of the 2010 Haiti earthquake response, transitional shelters were especially designed to withstand possible hurricanes expected during the rainy season. Beneficiaries were trained in proper hurricane resilient roof construction using hurricane straps to hold down trusses and purlins, additionally introducing disaster risk reduction principles to support later reconstruction.

Cordaid/Caritas, *151 T-Shelters [...]*, 2010

Peru, earthquake 2007

► The transitional shelter design was agreed on by showcasing to beneficiaries three prototypes constructed by local carpenters.

► In a next step, the community adapted and implemented their chosen design in a pilot project which finally led to commonly agreed design and standards.

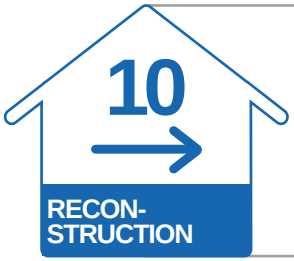
UN-HABITAT, *Shelter Projects 2008*, p.77

The combination of shelter and settlement options used by each household on the path to a durable shelter solution, and the rate of their recovery, will vary as a result of their different needs and resources. The design and construction of the shelters themselves should maximise the choice of shelter and settlement options for each household by allowing beneficiaries to recycle, upgrade, reuse, resell and relocate their shelters as required, and through the selection of assistance methods provided.

Sustainable reconstruction following a major conflict or disaster can take a number of years to complete; longer than the usual life-span of plastic sheeting and tents. Aspects of responses such as community participation, securing land tenure and the agreement of standards take time to initiate and complete, however if rushed may result in inequality, poor sustainability and greater vulnerability. Transitional shelter is one approach to supporting shelter needs while sustainable reconstruction is taking place.

The process of sheltering should start with the first distribution of relief items and offer opportunities for incremental upgrading, reusing, reselling or recycling by beneficiaries at their own pace until durable shelter solutions are achieved. Transitional shelter should not be viewed as an additional phase of a response: emergency shelter followed by transitional shelter succeeded by reconstruction is not a transitional shelter process. Transitional shelter begins as the initial response and in parallel to reconstruction.

Beneficiaries of transitional shelter programmes should be located on land that is safe, legal and appropriate. This may be achieved through site planning involving the integration of hazard risk reduction, zoning and service integration. Site planning should consider the whole community and its needs, and is important for both displaced and non-displaced populations in urban and rural settings.



Transitional shelter programmes should be implemented at the same time as permanent reconstruction programmes, from resolving tenure until accommodation is ready to be inhabited. The shelters themselves should be designed to complement and contribute to a reconstruction programme through the process of being upgraded, reused, recycled or resold.

Jogyakarta Indonesia, earthquake 2004

► Beneficiaries were recommended to apply the developed design, in order to optimize maintaining standards in safe building. However the programme did not insist on it, giving certain regional groups with elaborate construction skills and local construction resources the chance to modify the design according to their specific needs.

UN-HABITAT, *Shelter Projects 2008*, pp.42-51

Sri Lanka, tsunami 2004

► Immediately after the tsunami in Sri Lanka, temporary shelter was organised in public buildings such as temples or with host families. In the time that followed, many were able to make basic repairs to their homes, while others moved into transitional shelters while reconstruction progressed.

UN-HABITAT, *Shelter Projects 2008*, pp.64-66

Haiti, earthquake 2010

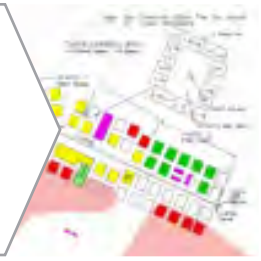
► After the earthquake in Haiti some transitional shelters started with simple methods of covering such as tarpaulins in order to shelter as many affected people as possible before the upcoming rainy season. In a next step of the incremental process further materials and training for upgrading were provided.

Cordaid/Caritas, *151 T-Shelters [...]*, 2010

Jogyakarta Indonesia, earthquake 2004

► A public outreach programme was organised to educate beneficiaries on issues regarding safe rubble clearance and siting of transitional shelters. In addition, reconstruction took into consideration safety issues such as handling of asbestos or building next to hazardous buildings.

UN-HABITAT, *Shelter Projects 2008*, pp.42-51



Aceh Indonesia, tsunami 2004

► The example of the transitional shelter programme implemented after the tsunami in Aceh, Indonesia shows that almost all beneficiaries still use their transitional shelters as businesses or additional living space after moving to permanent housing. In many cases materials were also recycled to contribute to permanent reconstruction.

Oxford Brookes, *Tarpaulins [...]*, 2011

1.3 THE 5 CHARACTERISTICS OF TRANSITIONAL SHELTER

The 5 characteristics of transitional shelter

19. This page introduces and explains the five characteristics of transitional shelter which enable shelter practitioners to outline the basic design of a transitional shelter supporting the incremental process of the approach.

20. Each of the five characteristics enables different paths

RECYCLABLE

Transitional shelter is inhabited while parallel reconstruction activities are taking place. The transitional shelter may be gradually dismantled during the reconstruction process and its materials are used in the construction of a durable solution.

UPGRADABLE

While being inhabited, transitional shelter may be improved over time to become a permanent shelter solution. This is achieved through maintenance, extension or by replacing original materials for more durable alternatives.

REUSABLE

Transitional shelter is inhabited while parallel reconstruction activities are taking place. Once reconstruction is complete, the transitional shelter may be used for an alternative function, for example as an external kitchen, barn or shop.

RESALEABLE

Transitional shelter is inhabited while parallel reconstruction activities are taking place. Once reconstruction is complete, the transitional shelter may be dismantled and its materials used as a resource to sell. Therefore, the materials and their fixings need to be selected so that they will be suitable for dismantling and resale.

RELOCATABLE

Relocation distinguishes transitional shelter from other shelter approaches. A relocatable shelter can be built on land where tenure is insecure or temporary. If land tenure issues are resolved on another site, the transitional shelter, or valuable parts of it, may be relocated to the permanent location.

to recovery, so that the transitional shelter programme offers the minimum constraints to the future choices of affected populations.

Characteristic choice

21. In some circumstances, one characteristic may appear more probable and the programme design and materials may be adapted accordingly. For example, in Yogyakarta, as land tenure was relatively clear it was probable that recycling would be the most valuable characteristic. Care should be taken, however, not to assume a single path to recovery, especially as the futures of various groups within the same affected community are likely to be different.

1.4 WHEN IS TRANSITIONAL SHELTER NOT APPROPRIATE?

Two possible scenarios

22. This section discusses two scenarios:

(A.) when transitional shelter is being considered as a possible approach, as part of an integrated and comprehensive strategy and response with the affected population; and

(B.) when transitional shelter has already been selected as part of the strategy, however this decision should be reviewed in the light of more detailed assessment, for all or part of the intended group to be supported.

A 3-step assessment

23. This section will enable shelter practitioners to assess when a transitional shelter approach is not appropriate. Three steps may be taken for this assessment for both scenarios (A.) and (B.).

Step 1

24. Step one, the decision making tool presented in chapter 2, should be used to determine whether or not transitional shelter is likely to be appropriate. » 2: Decision making tool

Step 2

25. Step two, the ten transitional shelter principles should be reviewed in the context of the programme intended. » 1.2: 10 principles of transitional shelter

Step 3

26. Step three, a Strengths Weaknesses Opportunities Threats (SWOT) analysis should be undertaken specific to the context where the transitional shelter programme is being considered or implemented, referring as general guidance only to the SWOT analysis in section » 1.5: Transitional shelter SWOT analysis.

27. If transitional shelter is not an appropriate approach to support the six options for displaced families or six options for families that have not been displaced, presented in section » 1.1.2, different approaches may be considered.

1.4.1 ALTERNATIVE SHELTER APPROACHES

Alternative approaches

28. For families that have not been displaced, or those which have returned, example alternative approaches for consideration may include the following.

‘Semi-permanent shelter’

29. ‘Building parts of some elements of a house, such as foundations and a roof, in order to offer shelter while the remainder of the house is completed. This approach may require to disassemble parts of the shelter in order to complete reconstruction.’

‘Sites and services’

30. ‘Preparing the site for the permanent house and all wet services and utilities, such as the bathroom, sewage and electrical supply, in order to: accelerate the process of reconstructing the remainder of the house; offset the costs payable by the owner; and increase the quality of planning as well as provision for common services and for maintaining hygiene.’

‘Core house’ or ‘One Room Shelter’ (ORS)

31. ‘Building at least one complete room of a final house, in order to offer shelter while the remainder of the house is completed. Beyond a single room, this approach may also build part of the rest of the house, such as the foundations, or all or parts of key services, such as the latrine or connection to utilities.’

Case study: **One room shelter response to the 2010 floods in Pakistan**

After the floods in 2010, the IASC Shelter Cluster in Pakistan recommended a core housing, or ‘one room shelter’, response for families who were able to return to their original locations. This represented approximately 80% of the total affected population. Social mobilisation and mass communication strategies were used to help beneficiaries to directly participate in the reconstruction of one habitable room. Selected materials, technical expertise and/or skilled labour were provided by implementing partners to assist the efforts of beneficiaries. IOM, *ORS - One Room Shelter Programme Manual,* 2011, pp.6-12

1.4.2 DETERMINING APPROPRIATENESS THROUGH SWOT ANALYSIS

32. Undertaking a SWOT analysis specific to the operational context is valuable at any time within a transitional shelter programme.

Involve main stakeholders in the SWOT

33. With proper consultation, a limited SWOT analysis can be completed very rapidly, even in a matter of hours. Better results will be achieved if there is greater participation and more detailed analysis. Ideally a SWOT analysis should involve the affected community, the government and project staff in a series of independent meetings.

34. Common weaknesses and threats for transitional shelter are summarised in the next section, however the following additional considerations may be important to consider also when undertaking a SWOT analysis specific to a context in order to determine when transitional shelter may not be appropriate.

1.5 TRANSITIONAL SHELTER SWOT ANALYSIS

Strengths of transitional shelter

- **Transitional shelter spans the entire reconstruction period,** from disaster until a permanent solution is achieved.
- **Transitional shelter offers a better living space than a tent,** including for activities such as childcare, cooking and home-based enterprises.
- **A secure, healthy living environment** that offers dignity and privacy can be provided through transitional shelter.
- **Shelter beneficiaries are involved** in the decision-making process, ensuring that structures are built at a speed which does not disrupt their livelihoods, using familiar materials and construction techniques.
- **Land rights issues can be negotiated** in parallel to transitional shelter construction, as land may be used on a temporary basis until disputes are resolved.
- **Transitional shelter materials are procured from the local economy,** creating livelihood opportunities and reducing dependency on external assistance.
- **Large numbers of transitional shelters can be built incrementally after large disasters,** because common local and regional materials are used, unlike tents.
- **Materials used may be recycled, upgraded, reused, resold or relocated** after construction.

Opportunities of transitional shelter

- **Materials may be salvaged** from damaged or destroyed homes and reused in transitional shelter construction.
- **Materials from the first distribution are part of the transitional shelter design,** rather than distributing materials in phases, such as a shelter kit followed by a tent.
- **A transitional shelter may be relocated** from a transitional settlement site to a transitional reconstruction site.
- **Transitional shelters may be innovatively reused** after reconstruction, such as a shop or livestock shelter.
- **Economic recovery may be accelerated** by using local business to supply building materials and labour.
- **Building back risk is prevented** by demonstrating simple construction techniques, such as cross-bracing and hurricane straps, that support building back more safely.

Weaknesses of transitional shelter

- **Later stages of building transitional shelters may be delayed by the availability of materials,** following the initial distribution of materials such as plastic sheeting and fixings.
- **Significant human resources are often required** to coordinate the acquisition of building materials, the required technical reconstruction skills, and community input.
- **Tents will be cheaper if shelter is needed for a short period,** however if shelter is required for longer than the lifespan of a tent, which is usually less than a year, transitional shelter may be cost more effective.

Threats of transitional shelter

- **There may not be sufficient resources to complete the reconstruction of the permanent house,** leaving affected families in transitional shelters, which may however be better than no shelter at all.
- **Transitional shelter may be poorly or unsafely implemented** if there is insufficient skill, technical capacity or cross-sector coordination.
- **The prices of key materials may be inflated** when demand outstrips supply, or as a result of profiteering practices, if there is no sufficient oversight by local authorities.
- **Transitional settlement sites may become slums** if an exit strategy is not developed, or if sites are not managed and decommissioned properly.
- **Local resources may be overexploited,** for example forests may be used to supply building materials.

2 DECISION MAKING TOOL

How to use this tool?

The questions and considerations in this tool are designed to assist programme managers and technical specialists in asking the relevant questions when deciding whether a transitional shelter programme may be an appropriate shelter response.

In situations where the cluster approach is in use, guidance from the cluster should be considered in conjunction with this tool, however shelter designs and specifications should be produced to meet the unique requirements of each beneficiary group.

This tool is a decision tree, divided into three steps, each of which reprensents a key decision. Start by asking the questions in "decision" A and follow the tool. The tool ensures that you have considered all of the issues surrounding transitional shelter programmes.

The following settlement options outline the context in which the affected families are settled following a disaster.

CONTEXT — UN, *SAD*, 2010

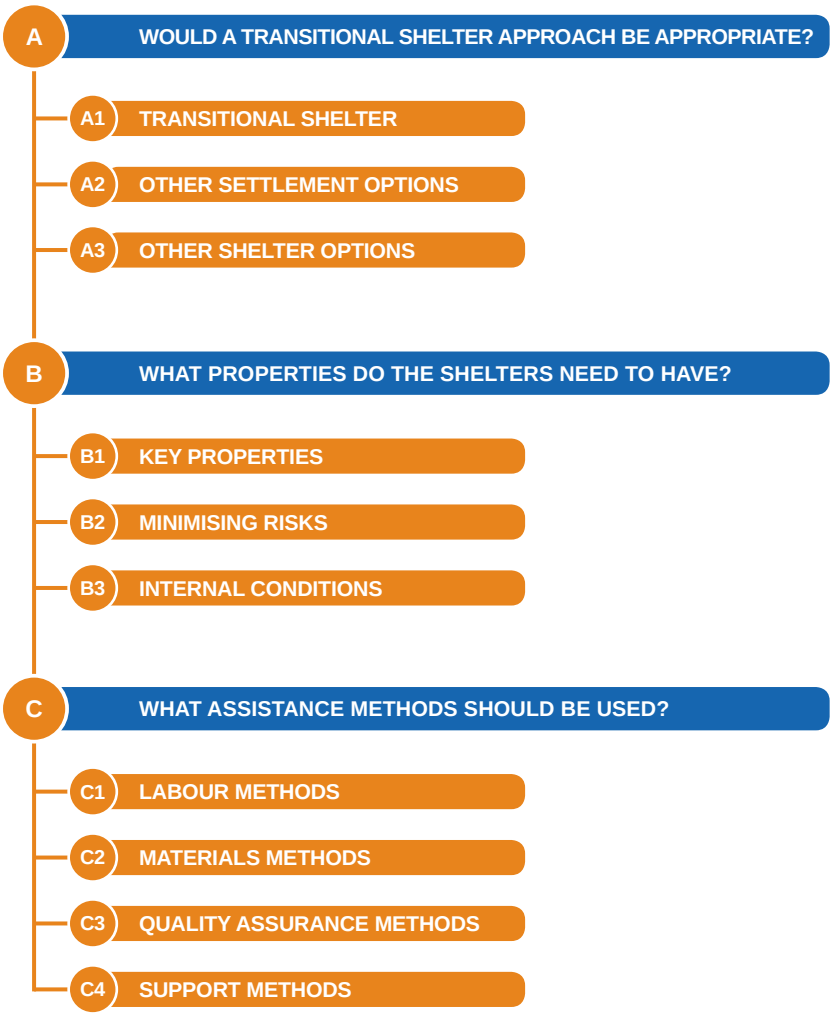
A transitional shelter approach can support the following settlement options

DISPLACED POPULATION

- Host families
- Urban self-settlement
- Rural self-settlement
- Collective centre
- Self-settled camps
- Planned camps

NON-DISPLACED POPULATION

- Occupancy with no legal status
- House tenant
- Apartment tenant
- Land tenant
- Apartment owner-occupier
- House owner-occupier


A
WOULD A TRANSITIONAL SHELTER APPROACH BE APPROPRIATE?
A1
TRANSITIONAL SHELTER
A2
OTHER SETTLEMENT OPTIONS
A3
OTHER SHELTER OPTIONS
B
WHAT PROPERTIES DO THE SHELTERS NEED TO HAVE?
B1
KEY PROPERTIES
B2
MINIMISING RISKS
B3
INTERNAL CONDITIONS
C
WHAT ASSISTANCE METHODS SHOULD BE USED?
C1
LABOUR METHODS
C2
MATERIALS METHODS
C3
QUALITY ASSURANCE METHODS
C4
SUPPORT METHODS

The questions asked in this step are based on the ten transitional shelter principles. » 1.2: 10 Transitional Shelter Principles.

A1 TRANSITIONAL SHELTER — Answer the following questions

A1.1	ASSESSMENT	Have assessments been undertaken on a household level to ascertain whether the transitional shelter approach is appropriate? » 3.4
A1.2	COMMUNITY	Is it possible to involve the affected population throughout the planning and implementation of the transitional shelter programme? » 4.2
A1.3	STRATEGY	Would a transitional shelter programme contribute to an inter-sectoral strategy? » 3.2
A1.4	VULNERABILITY	Would a transitional shelter programme reduce the vulnerability of the target population? » 3.4
A1.5	STANDARDS	Can appropriate standards and design parameters be developed to meet the needs of each beneficiary group? » 3.9.2
A1.6	MAXIMISE CHOICE	Would a transitional shelter programme support the shelter and settlement choices made by the affected population throughout the transition to a permanent solution? » 1.1.2
A1.7	BUY TIME	Is it possible to commence sustainable reconstruction rapidly? » 1.1
A1.8	INCREMENTAL PROCESS	Can transitional shelter begin with the distribution of relief items and be developed incrementally until durable solutions are reached? » 1.1.1
A1.9	SITE PLANNING	Would the site selection and planning of the transitional shelter programme support the recovery of the target communities? » 4.1
A1.10	RE-CONSTRUCTION	Would the shelters themselves contribute to the permanent reconstruction programme? » 1.1.1

YES If most of the answers to these questions are yes, then transtional shelter may be an appropriate response. Move on to decision B to determine the specifications for your shelter.

Go to decision B

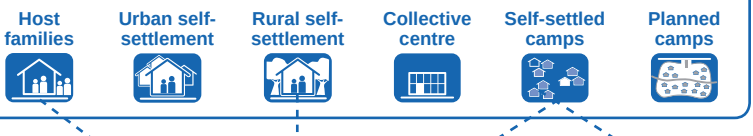
NO — If several of the answers to these questions are no, then transitional shelter is likely not the appropriate response. Consider other shelter responses from the options below.

A2 OTHER SETTLEMENT OPTIONS

UN, *SAD*, 2010

A2.1 DISPLACED POPULATION

Can a temporary site be located for the affected population until reconstruction is safe? » 1.1.2



A2.2 NON-DISPLACED POPULATION

Can the beneficiaries use their land throughout the reconstruction period until durable solution is reached? » 1.1.2

It may be possible for populations to move between a number of these settlement options in the process of reaching a durable solution.

A3 OTHER SHELTER OPTIONS

UN, *SAD*, 2010

A3.1 SEMI-PERMANENT SHELTER

Would it be possible to implement a 'semi-permanent' shelter response? » 1.4.1

A3.2 SITE AND SERVICES

Would it be possible to implement a 'site and services' response? » 1.4.1

A3.3 CORE

Would it be possible to implement a 'core' response? » 1.4.1

Now that transitional shelter has been identified as an appropriate response, this step aims to assist programme managers and technical specialists in producing specifications for shelters used in transitional shelter programmes.

This step should be revisited a number of times throughout a transitional shelter programme to update specifications as shelters are upgraded over the course of the transitional shelter programme.

These properties should be adhered to where possible in producing specifications for transitional shelter programmes.

B1 KEY PROPERTIES

Address the following points

B1.1	RELOCATION	Is the transitional shelter suitable for relocation? » 1.3
B1.2	LIFESPAN	Is it possible to commence sustainable reconstruction rapidly and plan future upgrades? » 5.4
B1.3	5 DESIGN PRINCIPLES	Is the transitional shelter suitable for relocation, recycling, reusing, reselling and/or upgrading? » 1.3
B1.4	COST	What is the cost estimate of your transitional shelter? » 3.2.4
B1.5	STANDARDS	Does the transitional shelter design and construction adhere to existing standards? » 3.9
B1.6	CULTURALLY APPROPRIATE	Is the transitional shelter culturally appropriate? » 5.1
B1.7	EQUITY OF RESPONSE	Does the transitional shelter response avoid creating tensions between beneficiaries and non-beneficiaries » 3.4

B2 MINIMISING RISKS — Consider the project's location

- **B2.1 HAZARD RESISTANCE** — **Is the transitional shelter resilient/resistant to hazards?** » 5.2
- **B2.2 CLIMATE AND WEATHER** — **Is the transitional shelter appropriate to climate and weather conditions?** » 5.3
- **B2.3 SAFETY AND SECURITY** — **Is the transitional shelter safe and secure?** » 5.2

B3 INTERNAL CONDITIONS — Consider the living environment

- **B3.1 TEMPERATURE** — **Is the transitional shelter designed to replicate the internal temperature of traditional structures?** » 5.3
- **B3.2 VENTILATION** — **Is the transitional shelter designed to replicate the ventilation properties of traditional structures?** » 5.3
- **B3.3 INTERNAL SPACE** — **Does the transitional shelter match traditional internal area (height/floor space)?** » 5.1
- **B3.4 PRIVACY** — **Does the transitional shelter offer privacy both within and between shelters?** » 5.1
- **B3.5 VECTOR CONTROL** — **Does the transitional shelter prevent the entry of pests, mosquitoes, and other disease vectors?** » 5.2

Go to decision C

Now that the properties have been considered, this step aims to assist programme managers in selecting appropriate labour, materials, support methods and quality control methods for transitional shelter programmes.

All options in this section can be considered in parallel when preparing an overall disaster response.

C1 LABOUR METHODS — Consider according to preference

- **C1.1 SELF-HELP** — Can transitional shelters be built by the beneficiaries themselves? » 3.5.1
- **C1.2 COMMUNITY** — Can transitional shelter be built through community mobilisation? » 3.5.2
- **C1.3 DIRECT** — Can transitional shelter be built by hiring local labour? » 3.5.3
- **C1.4 CONTRACT** — Should transitional shelter be built using contractors? » 3.5.4

C2 MATERIALS METHODS — Consider procurement options

- **C2.1 LOCAL** — Are appropriate materials readily available in local markets? » 3.6.3
- **C2.2 PRE-FABRICATED PARTS** — Should transitional shelters be built using locally prefabricated parts? » 3.6.5
- **C2.3 IMPORTED** — Should transitional shelters be built using imported building materials? » 3.6.4

C3 QUALITY ASSURANCE — Consider available capacities

- **C3.1 TECHNICAL EXPERTISE** — Can sufficient and adequate supervision and technical expertise be provided to ensure that shelters are constructed to appropriate standards? » 3.9.2
- **C3.2 CAPACITY BUILDING** — Would it be beneficial to invest in technical capacity building among the affected population? » 3.9.3

C4 SUPPORT METHODS

Consider the following options

C4.1	CASH	Is it appropriate for transitional shelters to be implemented using direct distribution of cash to beneficiaries? » 3.8.1
C4.2	VOUCHERS	Is it appropriate for transitional shelters to be implemented using vouchers? » 3.8.2
C4.3	LOANS	Is it appropriate for transitional shelters to be implemented using loans? » 3.8.3
C4.4	MARKET SUPPORT	Can the existing markets and local suppliers be supported to help them to provide sufficient materials for the programme? » 3.8.4
C4.5	LOCAL INFORMATION CENTRES	Would the establishment of local information centres be beneficial to offer advice on what assistance is available, opportunities for consultation and participation? » 3.8.5
C4.6	ADVOCACY	Would access to advocacy, legal or administrative assistance for beneficiaries be beneficial to the project? » 3.8.6
C4.7	RETURN AND TRANSIT ITEMS	Would the provision of transport for beneficiaries and or transitional shelters support the affected population? » 3.8.7
C4.8	INFRA-STRUCTURE	Would the inclusion of infrastructure and settlement planning as part of the transitional shelter programme be beneficial? » 3.8.8
C4.9	ENVIRONMENTAL MANAGEMENT	Is there a plan in place to deal with resources management and prevent negative environmental impacts? » 3.8.9

Ready to implement the programme

TRANSITIONAL SHELTER

3 PROGRAMME DESIGN AND IMPLEMENTATION

Chapter contents page

3.1 TRANSITIONAL SHELTER AS PART OF A COORDINATED RESPONSE

1. This section summarises coordination structures including the IASC 'cluster approach', common coordination tools and activities, as well as information management, so that transitional shelter programmes can be integrated into the wider sector strategy and its implementation.

3.1.1 COORDINATION STRUCTURES

Primary responsibility with national government

2. In all responses, the national government has the primary responsibility for the development and implementation of a sector strategy, including for transitional shelter. The international humanitarian community engages and supports governments through different coordination systems, depending upon the size of the response and national circumstances.

Coordination structure varies according to response needs

3. The structure of coordination varies with each response, to respond to national structures and circumstances. This may be confusing for non-humanitarian stakeholders including affected communities, governments, the development community, the private sector, and national and international security forces. Transitional shelter programmes should support these stakeholders in understanding and participating in the coordination structure because coordination helps achieve comprehensive, appropriate and accountable support.

Transitional shelter as part of the coordinating structure

4. Transitional shelter programmes are usually included in the coordinating structure responsible for shelter for the displaced, unless the transitional shelters are grouped into camps, which often have different structures.

5. As transitional shelter is intended to accommodate families while reconstruction is taking place, strong links must be maintained with the coordinating structure responsible for the reconstruction and recovery activities. Transitional shelter seeks to support both displaced and non-displaced persons, as well as the gradual movement between these groups.

6. As all transitional shelter programmes should consider both legal protection, such as land rights and gender, and WASH as determining factors in their design and implementation, links must be maintained also with their coordinating structures. Other cross-cutting issues benefit from coordinated activities, especially the removal of rubble and environmental protection, for example managing the sustainable use of resources such as timber.

Transitional shelter as part of a strategy

7. Whatever coordination structure is in place, transitional shelter programmes should always be planned and implemented as part of the single coordinated strategy for the response, understanding that the this may comprise a series of more specific sector strategies. Strategies are likely to contain a number of different approaches to support the shelter needs of the affected population and to support the six settlement and six reconstruction options, such as camps or land tenants.

8. If transitional shelter is identified as an appropriate shelter approach » Chapter 2: Decision making tool, programmes should participate actively in the coordination of the response. This includes ensuring that regular updates are communicated to coordinators about progress and changes in circumstances, as well as contributing through programmes to meet the aims of effective coordination.

Effective coordination

9. Effective coordination aims to:

- engage the international community;
- recognise national capabilities;
- ensure the affected population are included in the decision making process;
- create a realistic vision and expectations;
- distribute appropriate roles and responsibilities to all stakeholders;
- agree on methods of gathering and sharing information and ensure their consistent use throughout the response;
- eliminate possible gaps in participation, planning, funding and/or implementation;
- reduce duplications across the response;
- use resources efficiently; and
- produce records to ensure greater accountability and transparency.

UN, *SAD*, 2010, pp.7-8, 12

3.1.2 COORDINATION IN SMALLER RESPONSES

United National Resident Representative

10. In small responses and some large responses, the international humanitarian community supports governments in developing and implementing the strategy through coordination under the United National Resident Representative, either using structures that have evolved over time, or structures developing during the response.

11. Single agencies are usually appointed to lead different sectors, however there is often a different agency leading the coordination of support to the shelter of the displaced and to the reconstruction of homes for those not displaced. Coordinating

support to sectors such as camps and other options for grouped transitional settlement, protection and WASH may be integrated, or they may each have their own structures and lead agencies.

3.1.3 COORDINATION IN LARGER RESPONSES

In many large responses, the international humanitarian community supports governments through the 'cluster approach' under a Humanitarian Coordinator, reporting to the United Nations Office for the Coordination of Humanitarian Affairs (UN/OCHA), which itself represents the Inter-Agency Standing Committee. 🕮 IASC, *Homepage* [online]

Humanitarian reform process

12. The cluster approach was implemented as one element of the 'humanitarian reform process', which was initiated in response to the 2005 IASC 'Humanitarian Response Review' 🕮 UN/OCHA, *Humanitarian Response Review*, 2005. The review highlighted a number of shortfalls in humanitarian response and proposed that a more comprehensive, timely and needs based response could be achieved by improving predictability, accountability, partnership and capacity.

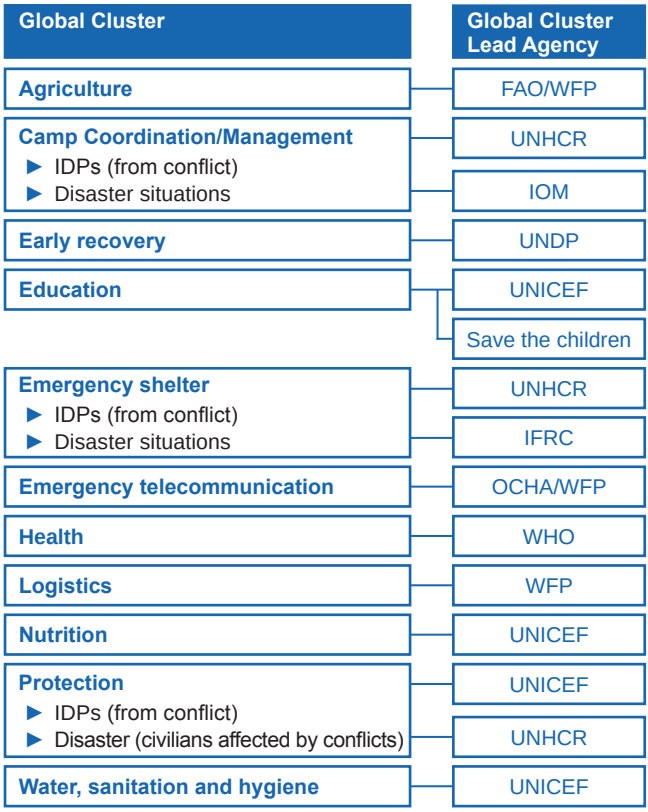
'Cluster approach'

13. A 'cluster' is a group of stakeholders, with a common focus on a sector or service provided during a humanitarian crisis. The aim is to improve upon previous humanitarian response methods by encouraging sharing of expertise and pooling of resources. Although many clusters have a similar scope to traditional humanitarian sectors, such as logistics and health, what used to be called the shelter sector is broken up into the Emergency Shelter Cluster (ESC), the Camp Coordination and Camp Management Cluster (CCCM) and, for reconstruction, the Early Recovery Cluster (ERC). Transitional shelter programmes involve each of these three clusters. 🕮 One Response, *Coordination* [online]

11 clusters and 5 cross-cutting issues

14. There are currently 11 global clusters, each led by a Global Cluster Lead Agency (GCLA). In addition, 5 cross-cutting issues have been identified. 🕮 One Response, *Coordination* [online]

Diagram 3.1
11 Global Clusters and Lead Agencies



Emergency Shelter Cluster

15. At the global level the Emergency Shelter Cluster is co-chaired by the United Nations High Commissioner for Refugees (UNHCR) and the International Federation of Red Cross and Red Crescent Societies (IFRC). UNHCR leads in areas of conflict which generate refugees and internally displaced persons. IFRC convenes the Emergency Shelter Cluster in disaster situations. 🕮 IASC, *ShelterCluster.org* [online]

Table 3.1
5 cross-cutting issues and associated Lead Agencies

Table 3.1: 5 cross-cutting issues and associated Lead Agencies

Cross-cutting issue	Global Cluster Lead Agency
Age	Help Age International
Environment	UNEP
Gender	IOM
HIV/AIDS	WFP/UNHCR
Mental health and psychosocial support	UNICEF

Clusters in a specific response

16. In each response, once the cluster approach is activated by the United Nations Resident Representative, the GCLAs appoint the lead agencies for active clusters. The GCLAs may appoint a lead agency other than themselves. Not all of the 11 clusters may be active in every response: it is rare for all 11 clusters to be active, except in large responses.

3.1.4 STAKEHOLDERS, ROLES AND RESPONSIBILITIES

Importance of identifying all stakeholders

17. "The contributions of nongovernmental organizations (NGOs), civil society organizations (CSOs), and the private sector to reconstruction are critical. Besides managing core programs, these entities provide technical assistance, advocacy, and financial resources of enormous value." The World Bank, *Safer Homes, Stronger Communities*, 2010, p.2

18. Key stakeholders roles and responsibilities are offered below. IOM, *Cluster Approach Guidelines*, 2012

Affected population

19. Affected populations are always the first responders and always undertake the majority of work in their transitional shelter, reconstruction and recovery, regardless of the way assistance is offered to them. In order to support the priorities, decisions and significant capacities of affected populations; the response should be accountable to them. Representatives from the affected community must be supported to lead or participate fully in planning and coordination activities. In addition to community leaders, groups within communities should be involved, including vulnerable and minority groups, while taking care not to politicise the process.

Government

20. The government is ultimately responsible for its citizens and the management of the response, however different governments have different capacities and each will require different support from humanitarian stakeholders. Many governments have contingency plans and national emergency management authorities in place, and these should be supported where possible. Where it is appropriate or necessary for a humanitarian stakeholder to lead all or part of the coordination, the government should be invited to chair or co-chair coordination meetings. Governments additionally have the right to approve or prevent humanitarian agencies from operating in their country, or in a particular response.

Coordinating structure and agencies

21. Led by the United Nations, humanitarian stakeholders will agree a single coordination structure. This structure is not a binding agreement however, and humanitarian agencies vary in their attitudes towards coordination, ranging from a strong commitment to consensus and collaborative action to a strong commitment to independent action. At sector level, the coordination structure is responsible for ensuring tools such as Strategic Advisory Groups (SAGs), Technical Working Groups

(TWiGs) and Information Management Working Groups (IMWiGs) are established and function effectively » 3.1.5. Under their lead, a strategy will be developed and agreed upon by all stakeholders. This coordination body will assign tasks to implementing agencies according to their skills base and resources.

Implementing agencies

22. Agencies implementing transitional shelter programmes should commit to developing their programme and project plans in line with the priorities and gaps identified by the overall sector response strategy. Implementing agencies should take an active role in the coordination meetings of the relevant sectors or clusters, sharing assessment, progress, technical knowledge, experience and resources to support the coordinated effort.

Donors

23. Bilateral and multilateral donors should be encouraged to attend the coordination meetings of the relevant sectors or clusters, to ensure that they fully understand the needs and priorities of the response.

Local authorities

24. Local authorities should be encouraged to attend the coordination meetings of the relevant sectors or clusters, participating fully in policy development and strategic planning, in order to strengthen in-country capacity and existing coordination structures.

Private sector

25. Local, regional and international private sector organisations should be involved wherever possible, understanding the constraints to their participating in coordination mechanisms due to profit motives, or as independent actors to provide capacity, expertise, training and supervision during implementation. » 3.6

3.1.5 COORDINATION FRAMEWORK

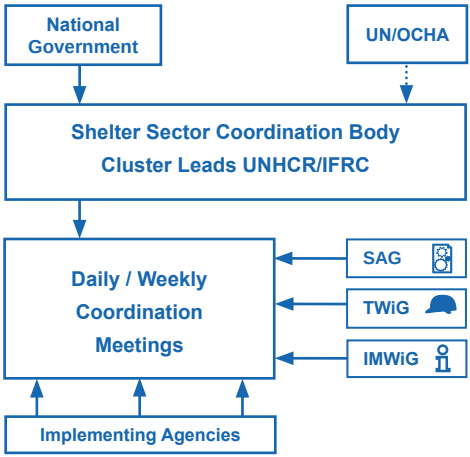
What is a coordination framework?

26. A coordination framework is a structure for collaboration that integrates and supports participation using a variety of methods such as committees, meetings, SAGs, TWiGs, and IMWiGs. The aim is to facilitate the decision making process in order to develop, continuously review and implement a strategy and provide opportunities to share information and technical guidance. *clustercoordination.org* [online]

27. The size and composition of a coordination team may vary and additional roles may be required depending upon the nature and scale of the response.

28. Diagram 3.2 below shows the different actors within a coordination framework.

Diagram 3.2 Coordination framework



Coordination at different levels

29. Typically, between responses the sector coordination bodies are based regionally while during responses they are based nationally. Additional hubs are located in the affected areas.

30. Sub-national coordination hubs may use coordination meetings, SAGs, TWIGs and IMWiGs to ensure a more grounded support in the decision making process and share information at the field operation level, informing the national response, regional and global levels. Each coordination body should cooperate with their counterparts in the inter-sector coordination bodies, and in the central lead IASC/OCHA coordination bodies.

Transitional shelter and coordination at different levels

31. Transitional shelter programme and project managers should seek to attend or ensure representation at coordination meetings and activities at levels which are relevant to their programmes. They should additionally encourage other stakeholders to participate as appropriate. Representation at regional and global levels will be a policy-level decision by each humanitarian agency.

32. Table 3.2 provides three key mechanisms to be used by the cluster coordinator, offering considerations for a transitional shelter programme.

Table 3.2 Coordination mechanisms and considerations for a transitional shelter programme

Table 3.2: Coordination mechanisms

Coordination mechanism	Considerations for a transitional shelter programme or project manager
Strategic Advisory Group (SAG) The role of a SAG is to support the government with the development, implementation and maintenance of a shelter strategy. The SAG is not a decision-making body, but instead the team is typically composed of no more than 10-15 people ideally including representatives from all stakeholders including the government and affected population. » 3.1.4	► Transitional shelter programmes should be designed and implemented in support of the overall sector and response strategies. ► Transitional shelter programme and project managers should ensure that they are represented at SAG meetings and follow agreed SAG outputs. ► Consider identifying the most relevant SAG members with respect to the nature of work undertaken to ensure views and experiences are shared.
Technical Working Group (TWiG) TWiGs may be formed to offer consultation on technical issues, such as the development of appropriate building codes, or to agree the minimum hazard resistance required for transitional shelters. In larger responses, the team is typically composed of one or more sector technical advisors, government and appropriate humanitarian representatives. » 3.1.4	► A transitional shelter TWiG may be formed where transitional shelter has been identified as a part of the overall strategy. ► Transitional shelter programme and project managers should ensure that they are represented at these meetings and follow the TWiG outputs. ► Consider identifying and attending other TWiGs relevant to the transitional shelter programme. These may include TWiGs for site selection and physical planning, legal assistance on land tenure and/or compensation schemes, provision of plastic sheeting and non-food items and/or environment.

Coordination mechanism	Considerations for a transitional shelter programme or project manager
Information Management Working Group (IMWiG) Information Management Working Groups have two main functions: ► informing the on-going response through the gathering, collation, analysis and dissemination of reliable and relevant data; and ► communicating with the affected population, offering participation and accountability, and informing the on-going response through developing and maintaining a series of communication routes with representative and marginalised groups. In larger responses, the team is typically composed of a sector information manager, at least one data manager and GIS manager, supporting government and humanitarian representatives. » 3.1.4	► Coordinate regularly with IMWiGs in order to share collected information, and ensure that assessments do not duplicate information already gathered by other stakeholders. ► Check whether standard formats and methodologies for information collection have been developed. These should be adhered to in order to improve the compatibility of information collected by various different stakeholders. ► Coordinate with IMWiGs in order to make use of existing methods of communicating with the affected population. ► Ensure that the IMWiGs and sector coordinators are informed immediately should a significant development occur.

clustercoordination.org [online]

Case study: **Haiti earthquake displaced, 2010 - transitional shelter TWiG**

In January 2010 an earthquake of magnitude 7.0 struck Haiti south of the capital Port-au-Prince, resulting in approximately 2.1million IDPs. During the early response in Haiti, implementing agencies expressed the urgent need to procure longer term shelter items such as timber poles, frames and CGI sheets, in parallel with the emergency shelter and NFIs distribution.

A transitional shelter TWiG was established in February 2010, to agree on minimum standards for transitional shelters suitable for urban and rural settings. An online library of transitional shelter designs and best practices, compliant with the agreed standards in terms of size, construction process and materials

employed, was finalised by the end of July 2010 and widely shared among implementing agencies. 🕮 IASC, *Haiti Shelter Cluster* [online]

3.1.6 INFORMATION MANAGEMENT

33. Information Management Working Groups have two main functions, as elaborated in » 3.1.5:

- informing the response; and
- communicating with the affected population, using a communications strategy.

Informing the response

34. IMWiGs inform the on-going response through the gathering, collation, analysis and dissemination of reliable and relevant data. The IMWiG collates available government information with up-to-date information both supporting and about humanitarian response, to ensure all stakeholders, including those implementing transitional shelter programmes work with the same baseline throughout planning and implementation. The information is disseminated online, for example through the response sector pages on www.humanitarianresponse.info, via email, through maps and in meetings.

Information relevant to sector stakeholders

35. Sector and transitional shelter stakeholders require such information as:

- number and location of the communities affected;
- hazard maps;
- building damage assessments;
- land use surveys;
- strategies, zoning and building codes, standards and cultural norms; and
- availability of materials, logistics and supply updates.

36. A more complete list, with a focus on information required for transitional shelter projects, is available in the assessment section » 3.4

Communicating with the affected population

37. Two-way communication routes are developed with representatives and marginalised groups within the affected population, offering participation and accountability, as well as informing the on-going response. Efforts must be made to engage the community in such reviews to ensure affected populations drive their own planning processes.

Developing and implementing a communication strategy

38. A communication strategy may include outreach programmes and public information campaigns. The objectives of the strategy should be agreed by the coordination body. Strategies can be implemented using national and sub-national media such as radio, newspapers and television or other community-based information sharing methods such as

committees, workshops and training, suggestion boxes, call centres and Short Message Service (SMS). The distribution of information packs, posters and leaflets are also highly useful tools.

Information relevant to the affected population

39. A communication strategy should be developed for disseminating information in local or national languages to both the affected population and host communities. Successful communication with the affected population is integral to ensure that the assistance offered is appropriate, and to limit the possibility of misunderstandings which may lead to false expectations.

40. In terms of transitional shelter, the affected population may require guidance on topics such as:

- what transitional shelter is;
- how to participate in planning and implementation of the response;
- a summary of the approach to transitional shelter in the response and how this impacts reconstruction;
- how to access transitional shelter assistance;
- technical assistance on safe transitional shelter construction;
- related economic opportunities such as in the construction industry;
- the potential for recycling, reusing, reselling and upgrading transitional shelters;
- the incorporation of disaster risk reduction measures into permanent reconstruction;
- the use of grievance redress systems; and
- how to represent themselves to stakeholders and understand the level of accountability of such stakeholders.

» 3.4, » 3.8.5

Importance and sensitivity of information communicated

41. Information can be extremely sensitive, such as the number of families affected, the level of damage in a particular area, or where the next focus will be for transitional shelter programmes. Firstly care should be taken not to unintentionally contradict government figures and information; and secondly, not to unintentionally incite civil unrest. The communications strategy should include protocols for engaging with government, as well a contingency plan in the event of information creating problems within communities, including when inaccurate or incomplete information is disseminated inadvertently.

42. Diagram 3.3 shows various communication methods in order to engage the community.

Diagram 3.3 Communication methods

Case study: **Haiti earthquake displaced, 2010 - communication methods**

In early 2010 an earthquake struck Haiti south of the capital Port-au-Prince. At the end of May 2011 over 630,000 of the initial 2.1million IDPs were still living in informal settlements and camps, with around 130,000 threatened with forced eviction.

The Tanbou Project was set up by IOM to give the affected population the opportunity to communicate their views by letter, telephone and email. 140 suggestion boxes were set up next to information booths, in camps and communities throughout Port-au-Prince. Over 4,000 handwritten letters were received within a year, each catalogued and responded to by IOM.

The letters, calls and emails were then visualised and mapped using specialist initiatives and organisations such as 'openstreetmap Haiti', then stored on a database developed by crowd-sourcing specialist Noula.ht. This revealed trends over time in an effort to represent the real needs of the affected population. UNHCR, *Haiti* [online], IOM, *Haiti's Earthquake Survivors Voice Their Hopes And Fears* [online]

43. Maintaining strong coordination mechanisms is key to developing an appropriate, practical and robust programme with stakeholders, which is presented in the next section

3.2 DEVELOPING A TRANSITIONAL SHELTER PROGRAMME PLAN

44. This section provides guidance on the development and maintenance of a transitional shelter programme plan. Each agency will have its own format and standard operating procedures for programme plans: this guidance is intended to support these to ensure consistency, in support of broader shelter sector and response level strategies.

3.2.1 DEVELOPING A PROGRAMME PLAN

Response, sector, programme and project levels

45. Transitional shelter responses should be planned at response, sector, programme and project levels. Each plan should inform the others, in order to achieve a coordinated, consistent and comprehensive response.

The content and revision of strategies

46. All plans at all levels should maintain a complete record of decisions and agreements including needs analysis, objectives, indicators, sectoral monitoring plans, roles and responsibilities.

47. Continual monitoring and revision of the plans is integral to ensure changing needs are met. With all strategies, it is important to review and revise them on a regular basis, as new information becomes available, and as progress is made.

Response strategy

48. The response strategy integrates the strategies of each sector into a single common plan, for example ensuring that transitional shelters are supported with water and sanitation. The UN/OCHA is the typical lead coordinator of this strategy within the humanitarian community however, the responsibility ultimately lies with the government which may publish a policy or master plan.

Sector strategy

49. The sector strategy deals with the shelter needs of the entire affected population and is typically developed by the strategic advisory group of a coordination body, itself supported by a lead agency such as IFRC or UNHCR » 3.1.4. The emergency shelter sector strategy is part of the common humanitarian response linking all other sector strategies such as protection and logistics.

Programme plan

50. The programme plan deals with the needs of particular groups within the affected population. The transitional shelter response will be defined according to location and specific requirements. The design of the transitional shelter programme will be agreed by all stakeholders. It should be consistent with the sector strategy and integrate a number of project plans.

Project plan

51. The project plan deals with the activities required to undertake each project within a programme. It is based on agreed standards at the sector level. Each transitional shelter project should be designed as part of the wider shelter programme, using a number of shelter response methods to meet the particular needs of identified beneficiaries. UN, *SAD*, 2010, pp.42-43

Content of a programme plan

52. Although programmes are designed to respond to specific needs a number of key considerations can be identified. The following table provides possible template headings.

Table 3.3 Strategy template

Table 3.3: Strategy template

1. Needs analysis	
Assessment	undertaking continuous assessment, monitoring and evaluation to inform the sector strategy
Options	deciding which transitional settlement and reconstruction options will be supported and how
Resources	determining means to obtain the required resources
2. Objectives	
Objectives	achieving consensus over the desired end state of the response
3. Indicators	
Scenarios	establishing possible scenarios, from best to worst case, and the likeliness of their occurence
Opportunities/ challenges	summarising resolved, existing and predicted opportunities and barriers
Legal	understanding the existing and relevant legal framework within which the strategy will be implemented
4. Sectoral monitoring plan	
Schedule	defining how to overcome the main bottlenecks in implementation, when activities and strategic reviews will take place, and which indicators will be used
5. Roles and responsibilities	
Coordination	establishing integrated coordination mechanisms, information management and tools
Participation	agreeing how affected and host populations will be engaged
Handover	a series of handovers occur throughout the response between responsible agencies

Adapted from UN, *SAD*, 2010, p.44

Additional uses of a programme plan

53. Programme plans should serve the following key purposes:

- to ensure that the programme and its projects remain in line with the sector strategy;
- as a tool for conveying needs and appropriate response methods to donors;
- as a baseline for monitoring project progress and effectiveness, shelter quality, and project assumptions; and
- as a tool for managing expectations regarding quality and timeliness of delivery.

Forming a programme plan

54. Programme plans should be developed in consultation with all stakeholders. Participation and engagement may be difficult to achieve in the first few days following a disaster. Initial strategies may be based on contingency plans, damage and needs assessments, and preliminary community consultation. Attendance at coordination meetings is important to ensure that initial programme plans are developed in line with sectoral and governmental advice.

Programme strategy as a live document

55. A programme plan should be a live document, to be updated and adjusted as more information becomes available. Each draft of the plan should be agreed and disseminated to all stakeholders to ensure that the programme remains relevant to the changing needs of the affected population, to manage expectations and encourage participation.

Tip: **Consider national contingency plans**

If suitable contingency plans or national policies exist, they should be used and integrated into the development of the transitional shelter programme strategy.

3.2.2 SETTING THE OBJECTIVES

Objectives

56. Once the needs of the affected population are understood, a series of programme objectives should be established, covering both short term emergency needs and those for longer term recovery. Objectives should consider:

- the needs of the beneficiaries and affected population;
- overall strategic objectives of the shelter sector;
- government strategies and policies;
- donor requirements; and
- agency or organisation mandates.

Consulting all stakeholders

57. Effort should be made to ensure all stakeholders are involved and kept up to date on objectives as they evolve throughout the process. A system of analysis, consultation and feedback is essential to ensure inclusion of all bodies.

Agreement at all levels

58. The continuous process of consultation, feedback and drafting should reflect the consensus achieved at all levels (sector, programme and project). 🕮 UN, *SAD*, 2010, pp.34-35

Transition to what?

59. In most responses, the international humanitarian and development communities will not have sufficient resources to support the repair or full reconstruction of every damaged building. In these circumstances, careful consideration must be given to the role of transitional shelter in supporting affected populations in the later reconstruction of their own home.

3.2.3 PLANNING TOOLS

What are planning tools?

60. Planning tools can be used to inform and assist the development of sector, programme and project plans. Various types of tools, such as a logical framework approach and Gantt chart, are available to support the planning of a transitional shelter response.

Logical framework approach

What is a logical framework approach?

61. A logical framework approach (LFA) provides a structure for describing and communicating a project or programme as a causally linked series of components: activities, outputs, objectives and goals. These components should form a logical sequence such that activities can be seen to contribute to the overall goal. Measurable indicators, means of verification and assumptions are identified at each stage.

Use of a logical framework approach

62. A logical framework approach can be used by programme managers as a tool to analyse and communicate the logic of the planned activities and how they will contribute to the transitional shelter programme objectives and overall goal. A logical framework approach template is shown in the following table.

Table 3.4 Logical framework approach template

Table 3.4: Logical framework approach template

Hierarchy of objectives	Performance indicators	Means of verification for monitoring and coordination	Assumptions and risks
GOAL: a statement of the overall goal the operation/ project is to achieve	Quantitative ways of measuring or qualitative ways of judging progress towards or achievement of the overall goal	Description of the means for gathering data on and assessing performance against indicators	External factors, conditions or events, which are necessary in order for the goal to be met
OBJECTIVE: a statement of the specific objective in terms of change or benefit to be achieved by the project	Quantitative ways of measuring or qualitative ways of judging progress towards or achievement of the objective	Description of the means for gathering data on and assessing performance against indicators	External factors, conditions or events, which are necessary for the objective to be met
OUTPUT: the specific deliverables/ results expected from the project	Quantitative ways of measuring or qualitative ways of judging progress towards or achievement of the outputs	Description of the means for gathering data on and assessing performance against indicators	External factors, conditions or events, which are necessary for the outputs to be achieved
ACTIVITIES: the activities that must be carried out in order to produce the outputs	INPUTS: a description of the resources required to produce the outputs	A description of cash flow requirements over the duration of the project	External factors, conditions or events, which are necessary in order for the activities to be carried out

UN, *SAD*, 2010, p.193

Monitoring and evaluation

63. The identification of indicators for the programme goal, objectives and outputs also provides a useful tool for monitoring and evaluation.

Critical path analysis

Critical path analysis

64. Critical path analysis (CPA) such as a Gantt chart, identifies which activities must be completed as scheduled to ensure that a project or programme is completed on time, and which activities may be delayed if it becomes necessary to reallocate resources.

65. CPA and the duration of each activity required to complete a programme should be defined. The dependencies between activities should be assessed. Inter-activity dependencies include cases where one activity cannot be undertaken until

previous activities have been completed, and activities which can be undertaken simultaneously or in parallel.

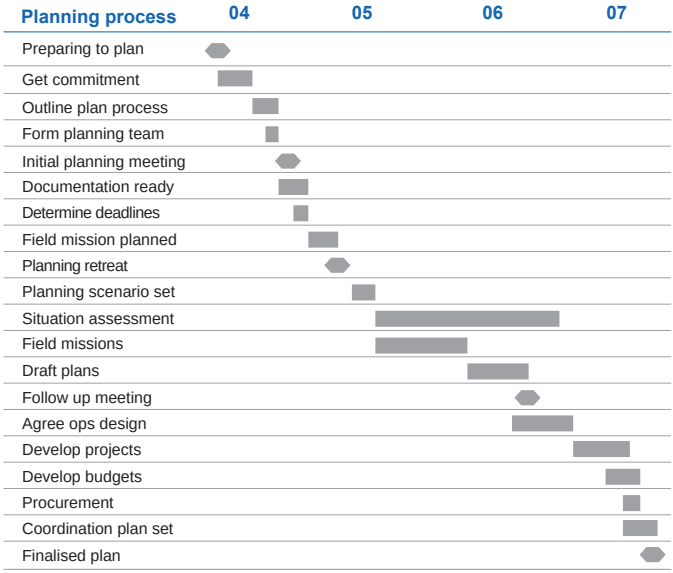
66. This information can be used to calculate the minimum possible length of a programme, and the earliest and latest possible start and end times for each activity which will not affect the proposed completion date.

Use of a Gantt chart

67. A Gantt chart can be used by programme managers to identify planning indicators which can enable the early identification of scenarios affecting the schedule of operations. A Gantt chart can also be used to pre-plan appropriate schedules of operations for a number of possible scenarios. If the situation changes, rendering the original schedule of operations inappropriate, a more suitable response can be implemented quickly. An example of a Gantt chart is shown below.

Chart 3.1 Gantt chart example

Chart 3.1: Gantt chart example



UN, *SAD*, 2010, p.194

3.2.4 EXIT STRATEGY

Exit strategy

68. The process of moving from emergency to rehabilitation and development can be referred to as the exit strategy. It involves a change in role of the implementing agencies and organisations and their respective staff within the government structure.

69. Exit strategies should be designed from the inception of the programme and project and readdressed as situations change and the response evolves. 🕮 IASC, *Exit Strategy For Humanitarian Actors In The Context Of Complex Emergencies*, 2007, p.1

Financial considerations

70. In many cases, as projects come to an end, resources and financial means are limited. It is therefore crucial that the exit strategy is incorporated in the budget from the outset. Key issues for consideration include:

- adequate resources to ensure an appropriate handover;
- financial means for successful demobilisation;
- guaranteed funding for payments; and
- defects liability periods in contracts.

Appropriate timing

71. Implementation of an exit strategy too early in the process may result in continuation of conflict, insecure conditions with respect to the future of the affected population and/or the opportunity to entertain political objectives. Similar consequences may also occur if the exit strategy is implemented too late. If the beneficiaries become dependent upon humanitarian assistance, expectations may exceed government capacities.

72. In order to determine the appropriate time for implementation of an exit strategy, an inter-agency forum under the leadership of the coordinating structure should undertake extensive evaluation of the situation. Key issues for consideration include:

- reduction in the significant number of the affected population;
- success of negotiations within conflict areas;
- return to social, political and economic norms;
- government capacity to achieve and maintain objectives; and
- implementation of a resource mobilisation strategy.

🕮 IASC, *Exit Strategy For Humanitarian Actors In The Context Of Complex Emergencies*, 2007, p.2

Responsible exit

73. Various planning tools such as those previously mentioned can be used to address the exit strategy on a continuous basis. To ensure a responsible exit, appropriate handover procedures should be implemented » 4.5. The intention should be to ensure a smooth departure of implementing agencies handing over to local government in a transparent manner. All stakeholders, agencies and the affected population should be included in the process and updated at regular intervals.

74. This section provides a basic introduction on implementation and maintenance of a programme strategy

with a particular focus on the development of a transitional shelter programme. It provides information on the importance of coordination between strategic planning levels as well as maintaining the strategy as a live document able to reflect the ever changing requirements of the affected population.

3.3 PROGRAMME ASSESSMENT

The aim of assessment

75. Each agency will have its own format and standard operating procedures for assessment: this guidance is intended to ensure they are consistent, in support of broader shelter sector and response level assessments. Assessment must be undertaken first to determine whether or not transitional shelter may be an appropriate response. If a transitional shelter is to be implemented, further assessment must be undertaken to ensure the specific design of the shelter is appropriate, and what assistance methods may be used. Subsequently, monitoring and evaluation procedures should be used to determine whether changing circumstances require a review of the assessment, to inform the revision of strategies and plans.

For more details on assessment in emergencies including sample assessment forms, please refer to UN, *SAD*, 2010, UNHCR, *Handbook For Emergencies*, 2007, *The Sphere Project*, 2011, ICRC/IFRC, *Guidelines For Assessment In Emergencies*, 2008

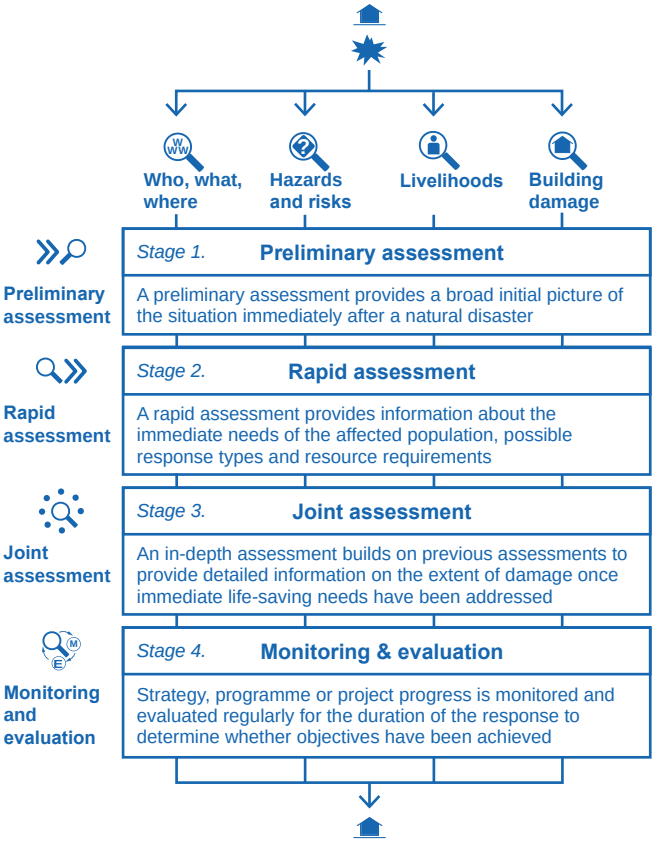
3.3.1 STAGES OF ASSESSMENT

Stages of assessment

76. Assessment should start during or immediately following a disaster, and continue throughout a response. Regular assessment is vital to ensure that project, programme and sector strategies can be adapted to changing circumstances and remain relevant to the changing needs of the affected population.

77. The assessment process is commonly structured in four stages: preliminary, rapid, joint/detailed and monitoring and evaluation. These stages are shown in the following diagram.

Diagram 3.4
The four stages of assessment



Preliminary assessment

78. A preliminary assessment provides a broad initial picture of the situation to serve as a basis for deciding on the type and amount of support agencies may offer.

79. Preliminary assessments are undertaken in the first 24-72 hours following a disaster or crisis. Information may be gathered through coordination meetings, interviews, observation, and published information such as news reports, satellite imagery, census information, and accounts from search and rescue teams.

Rapid assessment

80. A rapid assessment provides information on the immediate needs of the affected population, the extent of the damage, possible response types and resource requirements and availability.

Joint/detailed assessment

81. Joint assessments build on previous assessments to provide further, in-depth information on the extent of damage once immediate lifesaving needs have been addressed.

82. Joint assessments are usually conducted within a few days to a few weeks following a disaster. They should ideally be formally coordinated between agencies or sectors to enable efficient usage of resources and sharing of information.

Monitoring and evaluation

83. Monitoring and evaluation is a systematic and continuous activity. Results and findings are used to refine and update sector, programme and project strategies according to changing scenarios and regular feedback from the beneficiaries, and to assess progress towards defined objectives. » 3.9

Tip: **Sharing the results from surveys and assessments**

Before carrying out an assessment, check that such assessments have not been previously undertaken, and share the surveys with the information manager (e.g. land use surveys, damage assessments, hazard and risk mapping etc.).

Importance of participation in assessment

84. The participation of the affected population in assessments is essential to ensure that accurate information about the physical and social conditions of the affected population is attained, and that local construction methods and materials are fully understood.

Further information on participation in assessment, including the UNHCR Tool for Participatory Assessment in Operations is available in 🕮 UNHCR, *The UNHCR Tool For Participatory Assessment In Operations*, 2006

3.3.2 WHO, WHAT, WHERE?

Who, what, where assessment

85. The mapping of damage, needs and hazards allows stakeholders to understand the scale of the disaster, and how best to address the immediate, and predict the long term shelter capacities and needs of the population.

Factors to be assessed

86. The following information may be required when considering the implementation of a transitional shelter response.

- numbers and locations of the affected population (e.g. the estimated percentage displaced and non-displaced);
- who within the affected population has selected which option for settlement and reconstruction? (Would transitional shelter complement or assist these choices?);

- the property and land rights of the affected population prior to the conflict or disaster; and
- availability of land for displaced populations.

87. The 'who, what, where' factors should be continually monitored and reviewed, as displaced and non-displaced populations may move between transitional settlement and reconstruction options over time, requiring the selected transitional settlement and reconstruction responses to be adapted to remain relevant to the affected population.

Geopolitical

88. The understanding of geopolitical, social and cultural issues allows stakeholders to be aware of different behavioural patterns happening after disaster. Understanding the different geographical variables, such as climate, topography, demography and available natural resources allows stakeholders to analyse and forecast the impacts of political power decisions over a certain territory.

Social and cultural context

89. An understanding of the social and cultural context informs the technical decision making process. This understanding may avoid decisions that may compromise social and cultural behaviour. It is possible that there will be post disaster behavioural changes and as a result these changes should be noted and analysed. They may have further impact on the decision making process.

3.3.3 IDENTIFYING HAZARDS AND RISKS

Hazards and risk assessment

90. The primary responsibility of any humanitarian intervention is the safety of the affected population. Hazard and risk assessments provide information on the initial cause of damage, and the potential for additional damage caused by future disturbances. Populations may be at risk from a number of hazards at the same time, for example earthquakes may cause tsunami or fires. Primary and secondary sources of vulnerability should be identified, including exposure to natural and man-made hazards, extreme climatic conditions, and environmental and health issues.

91. Hazard and risk assessments should inform disaster risk reduction strategies in the site selection and preparation process and in shelter design and construction. » 5.2

Factors to be assessed

92. The following hazard and risk factors may be assessed when considering the implementation of transitional shelter programmes.

- hazards for which DRR techniques should be included in the shelter design to ensure the safety of inhabitants;
- hazards for which DRR techniques may be included in shelter design to encourage dissemination into permanent reconstruction (including long term hazards

which may represent only minimal short term risks);

- hazards which may require immediate evacuation or permanent relocation; and
- hazards which will impact on site selection and preparation.

Hazard mapping

93. Preliminary hazard mapping such as topographic models, photographic maps and satellite imagery may be used when selecting sites for temporary shelter and permanent reconstruction.

94. Multi-hazard maps may be used to communicate the dangers of settling in specific locations to the affected population. Maps should be presented in a way that is clear for the affected population to understand.

3.3.4 BUILDING DAMAGE

95. Damage assessments inform reconstruction but also transitional shelter. Damage assessments involve surveys and inspections of housing, public buildings and infrastructure, and should ideally be carried out by experts with specific technical knowledge such as structural engineers.

Damage assessment

96. Damage assessment can be used to identify the type and extent of damage to buildings and infrastructure, identify causes of structural failure, and identify construction methods and techniques which may be used to ensure that repair and reconstruction is sufficiently hazard resilient.

Factors to be assessed

97. The following factors may be assessed when considering the implementation of a transitional shelter programme:

- hazards from the damaged building;
- identification of construction materials which may be salvaged from damaged or destroyed buildings for use in transitional shelter;
- traditional building techniques which should be integrated into a transitional shelter programme;
- traditional building materials which should be prioritised in transitional shelter design;
- causes of failure in buildings, to ensure that DRR techniques can be integrated into transitional shelter and reconstruction; and
- assessment of the length of time that may be needed for reconstruction and how best transitional shelter may support this process, which is important also for ascertaining how long transitional shelter may need to last for.

3.3.5 IMPACT ON LIVELIHOODS AND MARKET ASSESSMENT

98. The assessment of livelihoods may inform the development of transitional shelter designs by determining what capacities or capitals the affected population may draw upon, and where these capacities or capitals may be supported by transitional shelter programmes. Programmes should support affected communities by improving their living conditions in order to support them in regaining sustainable livelihoods, on their paths to recovery.

Livelihoods capitals

99. When considering the functions of a transitional shelter programme - the following five livelihoods capitals should be considered: financial, physical, human, social and natural.

Financial capital

100. Financial capital recognises the means of income before and after the conflict or disaster. The following issues should be considered:

- required financial assistance for beneficiaries in order to be able to relocate, recycle, reuse, resell or upgrade their shelters;
- financial savings of the beneficiaries;
- availability of financial support for beneficiaries;
- required financial assistance for beneficiaries in order to be able to relocate, recycle, reuse, resell or upgrade their shelters;
- financial savings of the beneficiaries; and
- availability of financial support for beneficiaries.

Physical capital

101. Assessing physical capital means evaluating the state of the surrounding built environment and infrastructure. Important factors are:

- level of damage to and availability of infrastructure, including water and sanitation, energy and communications facilities; and
- availability of relevant technologies.

Human capital

102. Human capital consists of the available knowledge, skills and health of the population. These may include:

- construction and management skills contributing to both, the initial shelter construction, as well as to relocating, recycling, reusing, reselling and upgrading shelters and shelter components; and
- knowledge of languages which facilitates communication between displaced and host populations.

Social capital

103. Social capital involves community trust, rules and networks that people can draw upon to work together. The following factors should be assessed:

- existing mechanisms for decision making;
- cultural and official networks and support methods;
- local leadership; and
- existence and strength of markets for obtaining materials.

Natural capital

104. Natural capital refers to the condition of the local ecosystem, available resources, opportunities and constraints. Factors to be assessed:

- availability of material, land, food and water resources throughout the programme;
- potential for agriculture and animal husbandry;
- amount of fuel and energy resources available as well as their rate of accessibility; and
- short-term and long-term environmental impact.

105. The availability of appropriate construction skills and labour within the affected population, and within implementing partners, should be assessed. This information can be used to ascertain what shelter design and construction techniques may be appropriate, and what training and capacity building may be required.

- information gathered from capacity assessments may help to determine the most appropriate combination of assistance methods (labour, materials, support and quality assurance methods);
- environmental assessments should identify the extent of environmental damage, whether due to natural disaster or conflict, and potential challenges and/or opportunities for improvement during the response;
- availability of and access to natural resources should be assessed. For transitional shelter programmes, this may include materials such as timber or cladding, and sand and aggregates from riverbeds. Results from these assessments will affect the shelter design and selection of building materials;
- further information on undertaking environmental assessments, including assessment tools, can be found in 📖 The World Bank, *Safer Homes, Stronger Communities,* 2010;
- the availability of materials and tools in local, national and international markets should be assessed. Where possible, transitional shelter programmes should support local markets by procuring materials locally.

Market assessment

106. Tools such as the Emergency Market Mapping and Analysis (EMMA) may be used to gather information about the conditions of local markets and access to resources. The

tool can also be used to help establish a rapid and efficient procurement process for shelter programmes. EMMA can be used to identify opportunities for rehabilitating markets which can be vital to ensure continued access to items for transitional shelter projects.

107. More information on the Emergency Market Mapping and Analysis tool can be found in Oxfam, *EMMA Toolkit*, 2010.

3.4 BENEFICIARY IDENTIFICATION

108. This section gives information regarding the beneficiary identification process, covering the three main steps, starting with the selection criteria agreement. It follows on to describe the beneficiary selection procedure, the final balance between the number of selected beneficiaries and the level of assistance. This will then inform and support the decision making process regarding the choice of the support methods.

3.4.1 AGREEING CRITERIA FOR IDENTIFYING BENEFICIARIES

109. Each agency will have its own format and standard operating procedures for identifying beneficiaries: this guidance is intended to support these to be consistent, in order to promote broader shelter sector and response level beneficiary identification.

Purpose of beneficiary identification

110. The purpose of beneficiary identification is to determine who within the affected population should receive what assistance, by understanding:

- who has been impacted, to determine the scale of response;
- how they have been impacted, to determine the priorities of response;
- their needs and vulnerability, to determine the nature of response; and
- their legal rights, such as land tenure, to determine how they may be assisted.

111. When establishing a beneficiary identification process for transitional shelter programmes, care should be taken to consider the individual circumstances of the affected population, as there is no ‘one size fit all’ approach. In order to establish selection criteria a range of eligibility issues considering the different groups of affected population and levels of damage must be recognised.

The role of government

112. The local government should develop the assistance strategy and entitlement policies on the basis of national disaster laws; however, a selection committee should be established to allow broader stakeholder consultation, including representatives of the affected communities to identify the most vulnerable households.

The role of the shelter sector

113. The following points are to be considered:

- existing government policies regarding post disaster housing assistance; and
- ensure that agencies collaborate on selection criteria, in order to avoid conflict.

114. Existing data which could be used to inform the qualification and beneficiary process, such as families who have received assistance in the past in the form of low interest loans or assistance in any down payments, should be checked.

Case study: **Haiti earthquake 2010 - IOM transitional shelter programme**

For its transitional shelter programme in Haiti, IOM worked in coordination with local government representatives and considered the following eligibility criteria:

- the level of damage to the original house;
- the current temporary living situation (e.g. with host family or in an IDP site); and
- priority to vulnerable IDP families (disabled persons, elderly, single-headed households etc).

IOM, *IOM Haiti*, 2010

Considerations for displaced beneficiaries

115. For the dispersed transitional settlement options, such as urban self-settlement:

- beneficiaries may be indistinguishable from the host population or even from combatants; and
- self-settlers may have different rights from existing informal settlers, without legal status.

Considerations for non-displaced beneficiaries

116. In responding to transitional reconstruction, the rights of beneficiaries must be identified before assistance may be given. In numerous circumstances, tenants and occupants with no legal status:

- are omitted from beneficiary lists;
- are included as beneficiaries in transitional settlement but not transitional reconstruction; and
- are often the most vulnerable and least able to return to sustainable livelihoods.

117. A good transitional shelter programme with suitable project planning should fulfil the primary objective of involving the affected population during the consultation, planning and implementation process.

3.4.2 BENEFICIARY SELECTION

118. Regarding the beneficiary selection process, the following actions should be incorporated:

1st action

119. Beneficiaries are identified through a selection committee consisting of representatives from stakeholders including the affected community and local government.

2nd action

120. Local governments and humanitarian organisations cooperate to agree on criteria based on need, poverty and vulnerability, which reflect governmental objectives and social values.

3rd action

121. The selection strategy, preliminarily formed as part of the transitional shelter programme plan, should be agreed upon and communicated to the affected population.

4th action

122. The beneficiary selection details should be circulated to the community. Members of the affected population may then be interviewed to gain their feedback.

5th action

123. Having communicated the preliminary beneficiary list to the affected population, support may be given to set up a grievance redress system/mechanism over an agreed period of time.

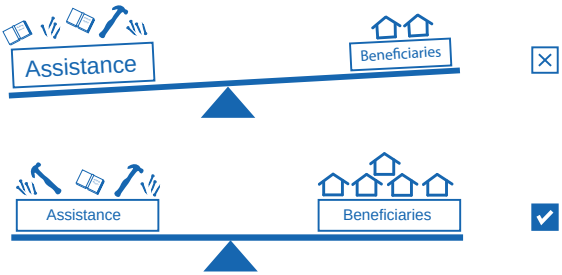
6th action

124. Having supported a complaints procedure, the final beneficiary list may be circulated to the beneficiaries and other stakeholders.

3.4.3 BALANCING BENEFICIARY NUMBERS TO LEVEL OF ASSISTANCE

125. Humanitarian responses are based on limited resources. In order to put these resources to use most efficiently it is necessary to concentrate on a specific balance between the level of assistance provided and the actual number of supported beneficiaries.

Diagram 3.5 Balancing the number of beneficiaries to the level of assistance



126. In order to establish balanced assistance, as both funding and resources are limited, the most vulnerable beneficiaries need to be clearly identified. In this process of identification, the following factors should be considered:

- equity: make sure that the given assistance does not lead to tensions or conflicts in the chosen community;
- vulnerability: the presence of highly vulnerable groups such as minorities, children, women or elderly;
- geographic location: proximity to natural resources, especially clean water;
- presence of other aid organisations: it may be reasonable to choose an area where no other organisation already addresses the needs of the population. However in some situations the availability of partners may be necessary;
- communities still living in camps, who will need additional camp management support; and
- communities without access to basic services, such as water or education.

127. This section provides information about beneficiary identification in order to determine who within the affected population should receive what assistance, in order to understand and establish possible support methods.

Assistance methods

128. The ways of supporting all shelter, settlement and reconstruction activities, including transitional shelter, have been categorised in 18 assistance methods. In each transitional shelter project, a combination of these 18 methods should be selected and implemented, depending upon the context and beneficiaries identified.

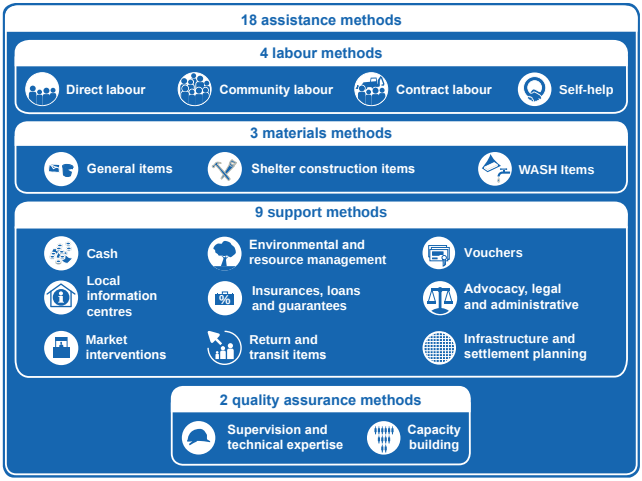
The 18 common assistance methods

129. The following 18 common assistance methods can be met either from external sources such as international donors, from within the capacity of the affected communities or from gifts received from friends and relatives working outside the area who are able to inject personal or private means.

130. The advantages of describing assistance include increasing the level of common understanding of programmes between stakeholders, as well as the possibility of coordinating assistance across programmes. For example, if both transitional shelter and WASH programmes use contracted labour for some activities, it might be possible to develop a single contract or use the same contractor.

131. The 18 common assistance methods shown in the diagram below should be combined in order to design and implement appropriate, equitable and consistent transitional shelter programmes in order to achieve the humanitarian objective.

Diagram 3.6 18 assistance methods



132. The assistance methods concerning labour are presented in the following section. The methods regarding materials and materials sourcing are presented in » 3.6, procurement and logistics issues in » 3.7, the nine support methods in » 3.8 and quality assurance methods in » 3.9.

3.5 LABOUR METHODS

133. The four different labour assistance methods are self-help, community, direct and contract labour. This section describes the appropriateness, challenges and benefits of each one of them, in order to help practitioners select appropriate approaches to labour. » Chapter 2, Decision making tool, C1 Labour methods

Combination of labour methods

134. In most shelter responses a combination of the four different labour methods may be necessary and may involve owners, contractors and communities at the same time.

135. Various factors may influence the choice of labour type and the degree of participation of the affected population in implementation. These include:

- the availability of local skills and resources;
- the presence of national technical capacity to provide support to transitional shelter self-help projects; and
- beneficiaries' seasonal livelihood priorities.

136. Diagram 3.7 below shows the four different labour methods.

Diagram 3.7 Labour methods

3.5.1 SELF-HELP LABOUR

When it is appropriate

137. Self-help labour is the most participatory labour type and most appropriate when affected communities have a strong tradition of self-building. Transitional shelters can be built by the beneficiaries themselves, when sufficient construction skills are available and disaster risk reduction measures are

understood and integrated into traditional building techniques. » Chapter 2, Decision making tool, C1.1 Self-help

The challenges

138. Livelihood priorities and climate constraints should be taken into consideration as they may slow down or interrupt the construction process. Beneficiaries may have prior livelihood/ household commitments, such as seasonal harvesting and fishing, and may need to employ a combination of local labourers, for example local contractors, unskilled labourers or family members to speed up the construction process.

What to consider

139. In order to minimise risk of recreating pre-existing vulnerabilities, self-help methods should be supported with adequate technical skills training, construction supervision and quality assurance on behalf of the implementing agency.

Key considerations

140. Possible considerations to be addressed include:

- assessment of local building traditions and beneficiaries construction skills » 3.3;
- provision of technical assistance through field supervision, quality control and skills training; and
- consider livelihood priorities that may slow down or interrupt the construction process.

3.5.2 COMMUNITY LABOUR

When appropriate

141. Community labour may be organised as a collective effort where different groups within the affected population and the host community may be willing to undertake construction activities together on a voluntary basis. » Chapter 2, Decision making tool, C1.2 Community

The challenges

142. Social cohesion, distribution and location of the affected population may directly influence the effectiveness of a construction programme based on community labour.

What to consider

143. Implementing agencies should initiate community mobilisation and outreach campaigns for dissemination of good construction practices, in order to ensure that these are further communicated and replicated. » 3.1.6

Key considerations

144. Possible considerations to be addressed include:

- assessment of local building traditions and construction skills » 3.3;
- consideration of social cohesion and distribution of communities over the affected territory; and
- dissemination of good construction practices and technical guidance through community mobilisation and outreach programmes. » 3.1.6

3.5.3 DIRECT LABOUR

When appropriate

145. Aid agencies may hire and manage labour directly to undertake construction activities, where distribution of remuneration, incentives and/or NFIs for the work done is functional to help those affected to recover. » Chapter 2, Decision making tool, C1.3 Direct

146. This approach is most appropriate when the implementing agency is able to provide adequate support through its technical staff, such as architects, civil engineers, site planners and water and sanitation experts, in addition to experienced consultants.

The challenges

147. The availability of skilled and unskilled labour force within the affected population may be limited in complex or large scale emergencies. Agencies may need to engage with national and international contractors for additional capacity in terms of workforce and technical expertise and supervision.

148. Coordination and management of direct labour should be carried out through continuous technical support and site supervision. People with competency and knowledge of local construction practices should be identified and considered for supervising construction units.

What to consider

149. In order to maximise capacity building within communities, community representatives should be involved in construction management activities, such as the recruitment process, arrangement of work schedules, monitoring of attendance, payroll, and dismissals.

Key considerations

150. Key considerations may include:

- direct labour may help the local economy to recover and provide additional means of livelihood to those directly and indirectly affected;
- the availability of local workforce may be limited depending on the gravity and scale of the emergency, where the aid agency may need to engage with national and international private contractors for extra labour; and
- construction management should involve community representatives and master craftspeople to maximise capacity building.

3.5.4 CONTRACT LABOUR

When appropriate

151. Contractors may be hired to provide additional capacity in complex situations. This may happen in cases of large scale projects that need to be implemented in short periods of time, where construction activities require specialist skills for implementing hazard resistant measures and when communities have no tradition of self-building. » Chapter 2, Decision making tool, C1.4 Contract

The challenges

152. Private contractors may set up construction workshops in situ, bringing the company workforce and importing raw materials or pre-assembled parts. This process should only be considered if there are no other possible options as it may severely damage the local economy and does not contribute to transitional shelter. » 1.2: Principle 2, Involve community

What to consider

153. Local building materials and designs should be used when possible, and involvement of the affected communities in the construction activities should be encouraged. Implementing agencies should engage with contractors and monitor constructions works, in order to ensure that in addition to contractual specifications, national and international codes and standards are met, along with local cultural needs. This should be done by technical specialists aware of these constraints and requirements.

Key considerations

154. The following key considerations should be addressed:

- contract labour may provide additional capacity and specific technical expertise in complex emergencies and/or large scale projects;
- participation of affected communities and use of local designs, materials and tools should be encouraged; and
- implementing agencies should identify technical specialists for engaging with contractors and supervise construction works.

Tendering methods

155. A tendering process is required to choose a suitable contractor or firm. Candidates can be selected on the basis of a public tender open to any firm, an invited tender where firms are pre-selected and invited to submit their pilot study and offer, or invited competition where a jury will select the best proposal. 🕮 Oxfam, *TSDP*, 2005

Accountability and transparency

156. Tendering represents an opportunity for contractors to be selected on the basis of an equal and transparent process, and allows donors and aid agencies to ensure reliability of service providers by formally specifying costs, time and quality conditions on the basis of national and international standards.

Appointment of contractors

157. It may be possible to directly appoint a contractor on the basis of reputation or established experience in providing a specific service or in a specific context. However contractors should be approved by and registered with local authorities in order to work within the affected country. 🕮 Oxfam, *TSDP*, 2005

Contract documents

158. Terms of the contract should legally define the mutual responsibilities between the aid agency and contractors, subcontractors, external consultants and other stakeholders. All relevant documents forming the contract should clearly explain the relations between the parties, including:

- conditions of the contract;
- copy of the bid form;
- contract drawings and specifications;
- bill of quantities; and
- a detailed working plan with schedule of payments, expected completion date/period, penalty clauses and requirements for labour and/or specific equipment.

159. The bid form is submitted to the agency by each contractor participating in the tender and includes an estimate of quantities, in terms of volume of works and materials required, with rates and costs expected. During the construction process, the implementing agency should identify a technical coordinator/ specialist in charge of engaging with contractors and verify the quality of work. 🕮 Oxfam, *TSDP*, 2005

160. Each transitional shelter programme should assess the combination of labour methods appropriate for the specific situation. Using this section practitioners should be able to identify the key considerations that will inform an adequate decision.

3.6 MATERIALS METHODS AND SOURCING

161. In this section, guidance is offered on the sourcing of shelter construction items. The sourcing of materials plays a significant role in the transitional shelter process. The following chapter helps practitioners to make adequate decisions concerning this topic. » Chapter 2, Decision making tool, C2 Materials methods

3.6.1 MATERIALS METHODS

162. The following three assistance methods relate to distribution of materials: general items, shelter construction items and WASH items.

General items

163. General items may be defined as those that can be distributed without additional instruction, promotion or education. These are usually distributed in both emergency and recovery phases. They are mainly distributed in the form of packs that differ in content according to the specific context in which they are needed. 🕮 UN, *SAD*, 2010, p.118

Shelter construction items

164. Shelter construction items may be defined as those that need additional instruction, promotion, or awareness-raising. These can include toolkits, shelters or construction materials.

165. Shelter construction items are distributed immediately after the disaster, once the decision to retrofit, repair, or rebuild has been made, and subsequently throughout the response until recovery objectives have been achieved. 🕮 UN, *SAD*, 2010, p.119

WASH items

166. Water, Sanitation, and Hygiene (WASH) items are typically those that need additional instruction, promotion, or education. These can include, for example, mosquito nets and household water treatment. These items are usually distributed immediately following a disaster and throughout the response. They are distributed in the form of packs that differ in content according to the specific context in which they are needed. 🕮 UN, *SAD*, 2010, p.119

3.6.2 SOURCING MATERIALS

Introduction

167. Humanitarian responses are based on donor funding and should lead to the improvement of quality of life of beneficiaries. Certain principles should be applied to guarantee transparency and efficiency. For further information please refer to 🕮 Logistics Cluster, *Homepage* [online]

Material identification

168. In the first stage of the procurement process it is crucial to identify which non-food items (NFIs) will be necessary for the construction of transitional shelters. This decision has to be taken in cooperation with the beneficiaries in order to ensure their support, enhancing the sustainability of the decision. » 1.2, Principle 2: Involve community

Key considerations

169. The following key factors should be considered when identifying materials:

- what materials the beneficiaries are familiar with, and if they know how to use them;
- if the beneficiaries have the necessary skills to repair and maintain the commodity and its parts and tools;
- if the material can be replaced when necessary;
- if the material is appropriate within the beneficiaries' cultural values and standards; and
- if all risk factors of possible materials have been assessed.

General sourcing considerations

170. Apart from the specific considerations regarding materials' identification, the following general key factors should be included within the identification process:

- ethical concerns such as the use of child labour or other human rights violations;
- environmental concerns such as the use of hazardous chemicals in material processing; and

- positive and negative economic impacts such as negotiation of trade arrangements or distortion of the local economy.

3.6.3 LOCAL SOURCING

Definition

171. Materials can be procured from local sources through existing markets » Chapter 2, Decision making tool, C2.1 Local. This option is preferable for transitional shelter approaches since it generally complies with the 10 transitional shelter principles » 1.2. One should be aware that demand for materials increases significantly after disasters, and that the most damaged local sources may rarely be able to meet these emergency needs.

Benefits

172. As mentioned above local sourcing should be encouraged wherever possible due to a number of benefits:

- support of local economy;
- possible creation of livelihood opportunities;
- can build local capacities;
- possible reduction in tensions between displaced and local communities by spreading the benefits of aid beyond the displaced population;
- reduction in delivery and lead times; and
- less transport problems.

Risks

173. Local sourcing can also have a variety of negative effects on a transitional shelter programme:

- lack or sudden disruptions of local material supply;
- sudden price increases on local markets due to unusual high demand;
- severe environmental impacts such as deforestation; and
- conflicts within the population may arise due to a lack of available materials.

Key considerations

174. Key considerations to be addressed include:

- consider arrangements such as phased procurement schemes between responding organisations to avoid sudden price increases due to uncoordinated local purchase;
- assess market support possibilities to strengthen supply;
- consider carbon footprint caused by sourcing of materials;
- choose materials with less environmental impact in case multiple suppliers meet given requirements; and
- develop policies to ensure equal access to natural resources.

3.6.4 INTERNATIONAL SOURCING

Definition

175. Certain items will have to be procured from international sources due to a lack of national availability. These are normally items which have long lead times and are intended to be stockpiled. » Chapter 2, Decision making tool, C2.2 International

Benefits

176. International sourcing may offer some of the following benefits in post disaster environments:

- availability of needed materials;
- better and more stable prices; and
- materials comply with international quality standards.

Risks

177. International sourcing should generally be a secondary option due to the following disadvantages:

- long distance transport poses a serious threat to the environment;
- long lead and delivery times;
- materials may get damaged during long distance transport;
- no input to the local economy;
- transport to the affected area may not be possible due to destruction of infrastructure; and
- costs for transport and customs may be significant making international procurement costly.

Key considerations

178. These key considerations should be addressed:

- assess if materials can be procured through an existing international framework;
- make sure environmental impacts of long distance transport have been considered;
- assess if procured materials can actually be delivered to the affected area; and
- calculate costs for transport and customs.

3.6.5 PREFABRICATED PARTS

Definition

179. Although the international import of completely prefabricated shelter units cannot be an option for a transitional shelter approach, the local prefabrication of components might be beneficial. Nonetheless, prefabrication has to be considered carefully, when implemented as part of a transitional shelter approach » Chapter 2, Decision making tool, C2.3 Prefabricated parts

Benefits

180. Local prefabrication can offer following considerable benefits:

- prefabricated components may be easier to disassemble and relocate;
- prefabrication can be conducted in workshops ensuring technical standards and principles are adhered to; and
- beneficiaries may receive training in prefabrication workshops.

Risks

181. Depending on the specific situation prefabs may pose a variety of risks:

- the local building culture may not be used to prefabricated components and therefore is unable to repair damaged parts;
- culturally appropriate materials may not be suitable for prefabrication; and
- approach may lead to provision of completely prefabricated shelter units.

Key considerations

182. The following considerations should be addressed:

- assess if prefabrication is part of the local building tradition;
- try to involve beneficiaries in the prefabrication to disseminate technical training;
- ensure prefabricated components are constructed of materials beneficiaries are used to; and
- involve communities in assembling prefabricated parts to enable them to replace and repair components.

Attention

The international procurement and import of complete, prefabricated shelter units cannot be an option for a transitional shelter approach, since it contradicts numerous principles of transitional shelter. » 1.2: The 10 transitional shelter principles

183. This section provided guidance on the sourcing of shelter construction items. The sourcing of materials plays a significant role in the transitional shelter process. The following chapter provides guidance on procurement bearing in mind that adequate material sourcing is fundamental to ensure an efficient procurement process.

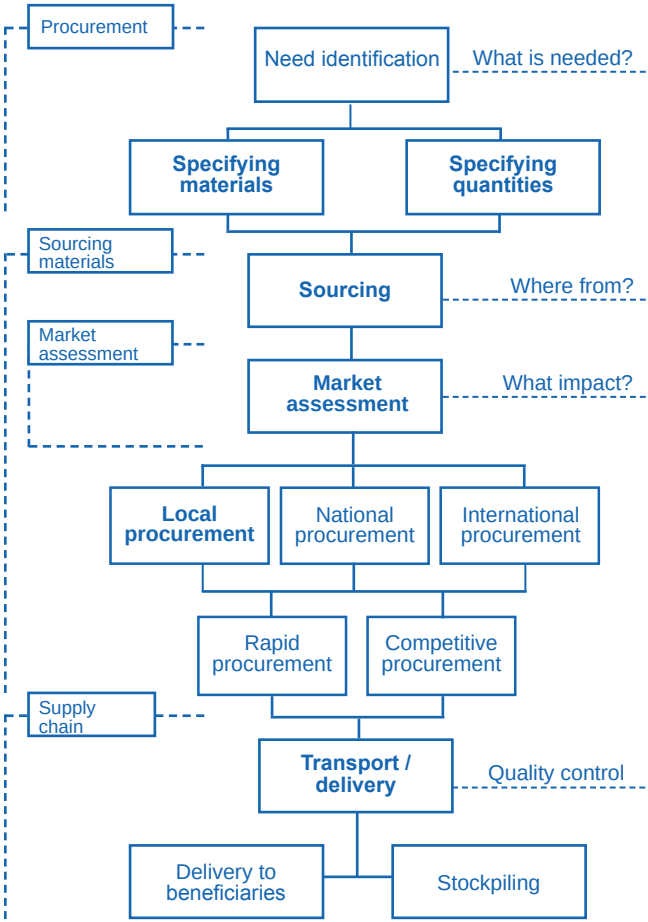
3.7 PROCUREMENT AND LOGISTICS

184. This section goes through procurement and logistics issues, with specific reference to their importance regarding a transitional shelter approach.

3.7.1 INTRODUCTION TO PROCUREMENT AND LOGISTICS

185. The different stages of the procurement process are shown in the diagram below.

Diagram 3.8 The procurement process



The procurement process

186. Appropriate materials are the basis of every transitional shelter. This makes procurement and logistics the most essential step within the transitional shelter approach. The process includes several stages from the identification and availability of NFIs to the distribution to beneficiaries.

Principles of humanitarian procurement

187. Humanitarian responses are based on donor funding and should lead to the improvement of quality of life of beneficiaries. The objective of properly conducted procurement in the humanitarian context is to meet six basic goals generally referred to as the six 'rights' of procurement:

- right quality;
- right source;
- right cost;
- right quantity;
- right place; and
- right time.

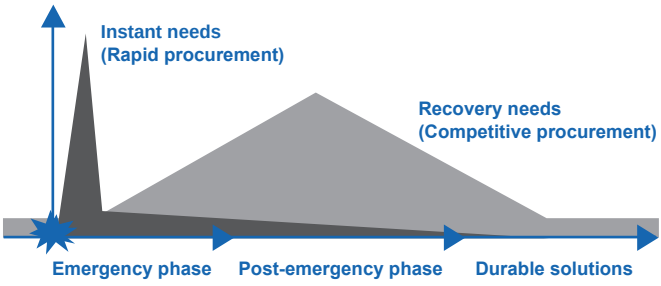
188. In order to meet these goals the following three basic principles have to be applied:

- transparency: fair and accurate documentation;
- accountability to donors; and
- efficiency and cost effectiveness.

189. Demand for materials increases significantly following disasters. Local sources take a significant time to recover and again reach their original capacities. As a result they are rarely able to provide sustainable supply for emergency needs.

190. Diagram 3.9 shows the evolution in post-disaster supply capacities.

Diagram 3.9 Post-disaster supply capacities



Disruptions in production

191. Decreases in supply can commonly be traced back to disruptions in production. These disruptions may include:

- workforce is no longer available;
- shortages of raw materials;
- damages to production plants or power supplies; and

- specific materials are not available in the season.

📖 The World Bank, *Safer Homes, Stronger Communities*, 2010

Logistics disruptions

192. Additionally the following logistics breakdowns and transportation interruptions may influence the availability of necessary materials:

- damage to access route;
- reduction of transport capacities, e.g. damaged trains or high demand for trucks;
- security issues; and
- barriers such as border crossings.

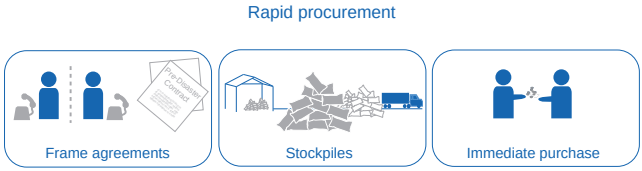
📖 The World Bank, *Safer Homes, Stronger Communities*, 2010

Rapid procurement

193. Transitional shelter should be implemented in the first phase of the humanitarian response so it is vital to rapidly procure certain NFIs. Plastic sheeting, with some basic structural elements and tools, which can later be integrated into a locally produced transitional shelter, or stockpiled into transitional shelter kits, would commonly be the first material procured for a transitional shelter project. There are three major ways in which rapid procurement can be conducted to cope with supply shortages in the early stages of the response.

194. Diagram 3.10 shows rapid procurement.

Diagram 3.10 Rapid procurement



Rules and regulations

195. In the beginning it is important to check whether procurement policies are held by the implementing agency, donors, or local authorities, as these will need to be addressed.

Stockpile

196. The use of national or international government or agency stockpiles is one possible solution during the early stages of transitional shelter programmes to accelerate the distribution of basic items such as plastic sheeting. Furthermore it should be explored if stockpiled transitional shelter kits are available.

Frame agreements

197. If it is necessary to procure urgently needed items from international sources it should be made clear whether the implementing agency is holding frame agreements with international suppliers. Frame agreements are formal standing contracts with manufacturers to deliver items at a fixed price. This option can significantly reduce lead times while

guaranteeing desired qualities and prices. Sometimes the terms “open contract” or “pre-qualified supplier” are also used in this context.

Immediate purchase

198. NFIs can be purchased directly from a selected supplier with sufficient capacity, which can be of local, national or international origin. Though this option may be quicker and less complicated than competitive procedures it also introduces the risk of purchasing at an exaggerated price and therefore exceeding budget limits and distorting local market structures.

Competitive procurement

199. When immediate needs have been covered by the above mentioned options, further procurement should be conducted in a competitive way in order to ensure reasonable prices and transparent purchasing. Competitive procurement is generally conducted through one of the following two options:

- requesting and receiving quotations: a limited number of vendors are invited to submit bids; or
- requesting and receiving tenders: a request for bids for NFIs is advertised openly on the local and/or international market. All interested suppliers can submit bids until the end of the set deadline.

3.7.2 MARKET ASSESSMENT

Market assessment

200. It is important to understand the role of local market systems before deciding where to source materials since the procurement of large quantities of goods and services can have a variety of effects on local markets, both positive and negative. The Emergency Market Mapping and Analysis (EMMA) assessment tool can be used to assess the suitability of procuring materials locally, and to identify opportunities and actions needed to restore and support critical market systems.

The EMMA tool

201. The EMMA tool can be used to assess the three vital strands of local market systems: people, market and response. By assessing these three aspects of a market system it is possible to determine the most affected groups, capabilities and constraints of the market and feasible response options. It is designed to be used by generalists as well as shelter specialists. 🕮 Oxfam, *EMMA Toolkit*, 2010

Market support

202. For information on support possibilities of local markets through a market intervention, please refer to » 3.8.4.

3.7.3 SUPPLY CHAIN

Definition

203. Supply chain management is defined as: “The ability to deliver the right supplies to the right place at the right time and in the right quantities.” 🕮 UNHCR, *Handbook for Emergencies*, 2007

Transport

204. Transportation is a key factor in the supply chain. The aim of the supply chain management is to conduct the delivery of purchased items in the most time and cost efficient manner, while ensuring that losses due to damage caused by transport are kept to a minimum.

International transport

205. When NFIs are procured internationally, a wide variety of means of transportation will be involved. These may include air, sea, rail and/or road shipment. Various transport means may pose a serious threat to the environment and should be avoided whenever possible.

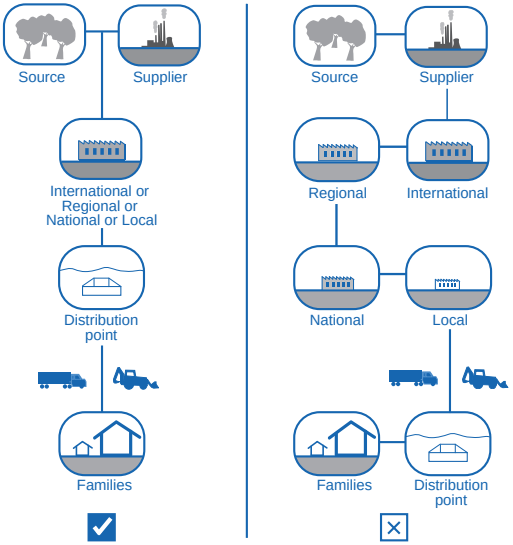
Local transport

206. Locally procured goods are mainly shipped by road and less often by rail, since affected countries often lack an established railway system. Therefore a number of factors should be considered:

- losses in transit of materials damaged during transportation should be factored into project planning, as this can commonly be over 10%, and additional materials should be ordered to compensate;
- losses in transit may be reduced by minimising double handling and by improving packing; and
- for final distribution, bicycles, hand carts or animals may be necessary, and is it important to assess how supplies are normally transported locally.

207. The number of stages in the distribution chain should be kept to a minimum to reduce the amount of double handling and loss in transit as shown in diagram 3.11.

Diagram 3.11 Planning an efficient distribution chain



Tracking system

208. Ensure that a proper tracking system is established. At each distribution point waybills must be signed in order to track distributions from start to finish. It is vital that involved personnel can be held accountable at any stage of the distribution process.

Stockpiling

209. Procured materials can also be stockpiled in order to be able to respond to future major emergencies. Stockpiles must be:

- protected from bad handling, improper stacking and climatic effects;
- accessible in all weathers;
- organised so that handling and distribution are kept to a minimum; and
- protected from theft and pests.

Selecting the distribution site

210. Sites selected for distribution of NFIs to beneficiaries must meet certain standards. Distribution should not be conducted on the actual site of transitional shelter, but in established places such as community centres. When choosing a site, consider the following factors:

- provision of shade, water and latrines for beneficiaries while queuing;
- long-distance beneficiaries have to travel to reach the distribution site;
- local transport and road systems - whether access for vehicles carrying goods is likely to be blocked by beneficiaries travelling to the distribution point;
- secure location for the beneficiaries;
- evacuation route for staff, in case of security problems; and
- proximity to military or security establishments, or other sensitive areas.

Logistics Cluster, *Homepage* [online]

Managing the distribution site

211. When planning the layout of the distribution site attention should be paid to the following factors, with special care given to security and the protection of vulnerable individuals:

- consider how vulnerable groups within the population will be able to receive distributed shelter construction items, possibly including more localised deliveries and delivery to certain groups through community leaders;
- consider how beneficiaries will transport materials to their homes, as they will not be able to take many trips securely after leaving the distribution area, so the overall weight of materials and distance of travel are important;
- consider security and whether police involvement would be helpful and, where possible, have the labour force

that unloaded the trucks to double as security, to prevent unauthorised access and possible looting of goods;

- ensure that the quantity of goods available on the day is enough to supply the needs of all those eligible, as shortages of goods could cause tension or disturbance;
- try to minimise the amount of time spent queuing and provide water and shade if it is hot, possibly using the opportunity for consultation;
- a distribution site should be divided into a registration area, where beneficiaries report and are checked against names on a list;
- the actual distribution area should be adjacent to the registration site but with controlled access, so that only registered people queue for distribution, ideally enabling the storage area to be resupplied via a truck while distributions are on-going;
- spend time organising the site, for example to optimise the flow of people and ensure there is sufficient space for waiting, dividing groups so that crowds do not exert pressure on those at the front; and
- spend time days in advance to streamline and verify the beneficiary list.

212. Further information on distribution systems and planning of distribution sites is available in 🕮 Oxfam, *TSDP*, 2005, p.300.

3.8 SUPPORT METHODS

213. The choice of the appropriate type of support should be made according to the transitional settlement and reconstruction options chosen by the affected population. These options should be considered only if they are safe and appropriate to support.

3.8.1 CASH

Definition

214. This support method consists of the direct distribution of cash to the affected population.

When appropriate

215. Cash payment stands as the most flexible and immediate resource for beneficiaries' support. This option is advisable when the cash distribution is ensured by reliable banking facilities during the entire duration of the project, and in the

specific times and stages of payment. One should prevent the exposure to security risks of both the beneficiaries and distribution staff.

Risk of inflation of prices

216. If the availability of construction materials and tools is not enough to satisfy needs, the direct distribution of cash may generate inflation of prices.

Cash distribution

217. The distribution of cash should be done in sections, according to the different stages of construction, and in order to ensure that the cash is used for the intended purposes. This distribution should be combined with a monitoring and supervision process of the construction work, done by building inspectors, making sure that all standards of safety and quality of construction are met.

Case study: **Ingushetia conflict displaced, 1999 - cash for shelter**

Following the second conflict in Chechnya up to 150,000 people were accommodated by host families in neighbouring Ingushetia. Cash grants provided by an international donor and the leading international agency for shelter assistance were given to every host family to ensure displaced people were not evicted during winter. The success of these one-off grants in 2000/01, equivalent to one month's income, led to a second phase implementation. UN-HABITAT/IFRC, *Shelter Projects 2009*, p.19

3.8.2 VOUCHERS

Definition

218. Vouchers can be an alternative method to cash distribution. These are given in exchange of materials and services provided by selected local suppliers.

When appropriate

219. Vouchers are often used if there are security concerns surrounding cash distribution. These are also used as a way to control inflation.

220. This method may be an opportunity for encouraging sourcing of materials locally, rather than using imported materials.

Selection of local suppliers for voucher scheme

221. In order to avoid generating corruption and/or unfair competition which may undermine local businesses, the process of selecting the suppliers should be completely transparent.

3.8.3 INSURANCES, LOANS AND GUARANTEES

222. During lack of direct access to credit, insurance, loans and guarantees may be provided by the government, aid agencies,

national banks and donors. This solution is appropriate when later repayment and collection of materials and services are feasible.

When appropriate

223. Insurance, loans and guarantees may be considered when:

- financial and hazard risks are well understood;
- risk management and quality assurance can be achieved;
- later repayment and collection are feasible; and
- access exists to relatively stable supplies of materials and services.

Loan access

224. Use of soft loans may ensure more financial independence for the recipients and even avoid beneficiaries being concerned with the social stigma of receiving charity.

Potential rise of social insecurity

225. However, repayment of a loan may represent an unaffordable financial burden for the beneficiaries, for example due to the inability to cover the initial down payment or due to unclear government regulations for lenders, and may contribute to increasing social insecurity and vulnerability, where the land or property of affected households may be required as a guarantee.

3.8.4 MARKET INTERVENTIONS

Definition

226. Market intervention is the continuous and comprehensive assessment and involvement of the construction industry, from material resources to contractors and professional bodies. It identifies and responds to capacities, opportunities, linkages, and interruptions, and ensures that the private sector better serves the affected population, for example in supporting existing suppliers by providing thatch for roofing.

When appropriate

227. Market mapping and analysis should be undertaken as early as possible. This is done in order to provide a better understanding of capacities, bottlenecks and gaps in the market and discrepancies between supply and demand. Interventions should only be the result of mapping and analysis.

Interruptions and disruptions in local supplies

228. Local markets and suppliers may require additional support to ensure that sufficient materials and tools are provided throughout the duration of the shelter programme. Some sectors may have been seriously impacted by the conflict or disaster, for example locally manufactured building components and materials may be scarcely available, or essential services may need to be restored or improved to better respond to the emergency.

Use of the EMMA tool

229. Emergency Market Mapping and Analysis » 3.7.2 should be undertaken to understand where the main interruptions and disruptions have occurred in the market system due to the emergency.

Involvement of the private construction industry

230. Market interventions should be implemented as a result of assessment of needs and availability of materials, technical specialists and contract labour. Identified gaps may be filled through community or humanitarian capacities. If specialist skills, equipment or capacity is required, the construction industry should be involved. There is no reason why the construction industry may not contribute productively to humanitarian objectives, as long as they are managed by experienced and technically competent humanitarian stakeholders.

3.8.5 LOCAL INFORMATION CENTRES

Definition

231. A network of information centres at local and regional levels can help to provide necessary information to the affected population on what assistance is available and how it can be accessed. Information centres may be located in or near existing communal facilities, such as schools or clinics, or may be mobile, arriving in each community at certain times during the week.

When appropriate

232. Local information centres offer opportunities for consultation and assistance to the affected population. These should be established as early as possible during the emergency phase.

233. Their activity should be integrated within the monitoring and evaluation process. It provides feedback both to the agency IM, assessment teams and the beneficiaries.

What information may be offered to the affected population?

234. Information centres should be used to make community groups aware of what assistance is available and how it can be accessed. Relevant information may include:

- explanation of what the shelter strategy means and details of the transitional shelter programme;
- how to get access to the shelter assistance offered, including special support programmes for the most vulnerable groups;
- access to complementary services offered by the government and implementers, such as counselling and legal assistance over land right issues and land allocation issues;
- livelihood opportunities, such as cash for work programmes and contracting labour;
- indication of safe areas for return and relocation, through simplified hazard risk mapping;
- early warning systems and preparedness measures;
- technical advice about how to incorporate disaster risk reduction measures into self-help building techniques; and
- complaint systems, including legal aid.

3.8.6 ADVOCACY, LEGAL AND ADMINISTRATIVE

Definition

235. To offer complimentary support to beneficiaries of transitional shelter programmes, free or low cost legal and administrative assistance especially concerning property rights and tenure issues should be provided.

When appropriate

236. Structures for advocacy, legal and administrative assistance should be established for counselling and advice at reduced costs or free of charge. A solid legal framework is needed to ensure that the affected population, especially the most vulnerable groups, and host communities are aware of their rights.

Assistance in tenure

237. The appropriate assistance should be given to the affected population in a range of issues related to land and property rights, land and housing agreements, land allocation issues, rental laws, property restitutions, state requisition and land registers.

238. National legislation should be taken as the official legal framework. Eventual gaps and inconsistencies within the existing legal framework should be identified and agencies should advocate/encourage public authorities to solve those issues, using international principles and standards as reference.

3.8.7 RETURN AND TRANSIT ITEMS

Definition

239. For those within the affected populations who have lost their land, properties and important means of livelihood as a consequence of disaster, and wish to return to their land or relocate to new and safer areas, support should be provided, in the form of return and transit packages.

When appropriate

240. Transit package items may include a wide range of services such as transport, transport fares or vouchers and tools for dismantling transitional shelters. Beneficiaries of a transitional shelter programme willing to return or relocate may be unable to carry with them the most valuable parts and materials of their transitional shelters (e.g. timber beams and CGI roof sheeting) due to a lack of appropriate means of transportation for their weight and volume, or because they may not be able to afford transportation costs.

3.8.8 INFRASTRUCTURE AND SETTLEMENT PLANNING SUPPORT

Definition

241. Infrastructure and settlement planning support should be provided to improve the services offered to the community, in terms of safety of the transitional settlement and accessibility to essential communal facilities (such as health clinics/hospitals, schools, religious buildings, markets etc.). » 4.2

When appropriate

242. To speed up the recovery process, support for infrastructure and settlement planning will be required time during the response and be integrated into the shelter programme plan/ strategy.

243. Repair and construction of major infrastructure such as roads, bridges, transportation systems, water supply, treatment and distribution systems, telecommunications etc. will require an inter-sectoral coordination (e.g. with the WASH, telecommunications, logistics sectors) and integrated programming.

3.8.9 ENVIRONMENTAL AND RESOURCE MANAGEMENT

Definition

244. Environmental damages resulting from disasters, whether caused by natural hazards or conflicts, may have serious impacts on human health and the local availability of natural resources. Disasters can lead to significant environmental risks and damages. In addition, material demand after disasters may cause severe environmental degradation. Acknowledgement of these issues should made within the transitional shelter programme.

When appropriate

245. In order to reverse damages to the environment following the disaster and minimise the environmental impact of transitional shelter interventions, rapid environmental assessments should be conducted as soon as possible to identify and evaluate the main environmental impacts generated by the disaster and provide guidance on the major environmental concerns to be included in the programme plan.

246. This section presented the nine support methods that may be used according to the needs of the affected population. These options have to be continously evaluated and monitored as described in the next section.

3.9 QUALITY ASSURANCE

247. A transitional shelter approach supports displaced populations over the period of securing land tenure and reconstruction. This process may take a number of years and therefore it is essential that transitional shelters are both fit for purpose and compliant with government policy. The design solution should:

- be structurally sound;

- provide adequate protection from the environment;
- offer a level of safety and security;
- provide access to water and sanitation needs;
- support livelihoods; and
- achieve agreed standards.

UNHCR, *Transitional Shelter Quality, Standards And Upgrading Guidelines*, 2009, p.1

248. The following section offers guidance on quality assurance through quality control processes, supervision and technical expertise, capacity building, monitoring and evaluation, community considerations and technical evaluation.

3.9.1 QUALITY CONTROL

Quality control in the humanitarian context

249. In the humanitarian context quality control is primarily necessary to ensure the durability of the support to beneficiaries. Secondly, but no less importantly, it is vital to demonstrate to donors the ability to maintain high quality standards in order to ensure funding.

Standard quality control processes

250. Many organisations have specific quality control procedures. Transitional shelter programmes and projects managers should be fully aware of such procedures and implement them systematically.

Identification of crucial factors

251. It is important to identify crucial factors influencing quality in order to avoid quality control becoming a burden for the transitional shelter project.

Quality control of material specifications

252. One of the main issues concerning quality control in the context of transitional shelter is to ensure the accuracy of material specifications used to source NFIs. It is necessary to verify all specifications before the procurement process starts in order to ensure that appropriate NFIs are distributed.

Quality control of delivered goods

253. Deliveries should be closely inspected, with damages and defects to goods documented before the shipment is formally accepted. Photos of the goods should be taken for documentation purposes and delivered goods should only be accepted when specifications are assured.

Tip: **Assess value**

Assessment of the monetary value of damages and/or losses should be undertaken alongside documentation of associated transport costs.

Quality control of contractors

254. Before issuing a contract to a supplier, capacities and skill levels should be matched to the specifications indicated. It may be appropriate to ask for references in tendering documents

which can be checked later. It is also common to include the material specifications in the Annex of the purchase contract.

3.9.2 SUPERVISION AND TECHNICAL EXPERTISE

Technical support for appropriate standards and inclusion of DRR measures

255. The success of a transitional shelter programme is influenced by the level and timeliness of technical support and quality assurance provided during the implementation process. Especially in large responses and where self-help and community labour are selected, the implementing agency should have enough technical surge capacity to ensure that shelters are constructed in compliance with minimum standards including hazard-proof measures.

Range of expertise

256. Technical experts, provided by national and/or international humanitarian agencies or the private sector, may be required to:

- supervise construction works;
- conduct technical inspections, building damage and risk assessments, monitoring and evaluation of transitional shelter programmes; and
- provide technical training of skilled and unskilled labour (beneficiaries, masons, master craftspeople, small/local contractors), small scale construction companies and local implementing partners.

3.9.3 CAPACITY BUILDING

The aim of capacity building

257. Capacity building encourages long-term investment. It offers opportunities for stakeholders to increase their ability to respond individually and collectively, but also to interact and consider common challenges and tools, such as developing and implementing building standards and codes. An integrated capacity building programme should be included wherever possible and deemed necessary, involving workshops, training, skills development, secondments and resource and information services.

Capacity building target groups

258. Appropriate supervision and quality control should be promoted by capacity building activities with the support and contribution of construction industries and institutions. A capacity building programme should be planned on the basis of the outcomes of needs and capacity assessments conducted in collaboration with the affected population, local authorities, national aid agencies and grassroots organisations. » 3.4

When to use capacity building?

259. Capacity building should be considered whenever assessments indicate that the affected population does not itself have the capacity to implement transitional settlement or reconstruction projects. For example, leaflets and posters can be distributed to teach good practice in risk management.

Community awareness of 'building back better' is essential to cope with and prepare for the effects of a future disaster.

Capacity building as a continous process

260. Training and workshops should not be considered as isolated events to impart knowledge, but rather as continuous processes to identify and tackle common challenges and to enable collaboration among participating stakeholders. Clear objectives and indicators should be agreed that define and measure the impact of reconstruction, rather than the number of persons trained.

Capacity building activities

261. Capacity building activities may include one or more of the following:

- training regarding hazard-proof construction techniques, project management, site supervision and quality control;
- consultation and information-sharing workshops, which use participatory techniques and involve representatives of different community groups within the affected population and public authorities; and
- volunteer teams, secondments, resource and information services to support with additional capacity.

Case study: **Earthquake Aceh, 2004 - Safe housing programme (DEC Member Agency),**

Following the earthquake in 2004 and the resulting tsunami a training program was implemented to raise awareness of the risk of earthquakes in order to offer insight to the community. 12 key principles of safe building practices were presented using graphical posters, each supported by additional information provided in further training modules. A pilot project using local materials was implemented in each village to demonstrate safe building construction techniques, processes and offer skills training to local labourers and craftsmen and women. Along with this workshops were set up to involve and engage the entire community. DEC, *Lessons from Aceh*, p.64

3.9.4 MONITORING AND EVALUATION

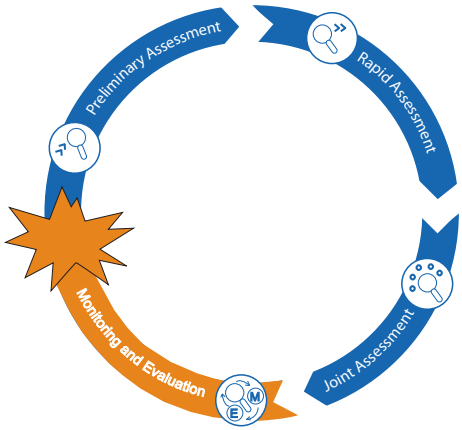
Introduction

262. Maintaining an accurate understanding of the progress and impacts of a transitional shelter programme is required to support beneficiary and donor accountability, correcting possible deficiencies and drawing conclusions with regard to how future responses may be informed by good practice. Developing a successful monitoring and evaluation process supports these objectives. The following information presents an overview of monitoring and evaluation and explains how they correlate with other aspects of programme design.

Monitoring and evaluation as part of the assessment cycle

263. Monitoring and evaluation are closely connected to the programme assessment which should be a continuous process » 3.4. This is particularly relevant when situations are unstable or rapidly changing such as in conflict-affected areas subject to a natural disaster. After detailed information has been gathered through in-depth assessments it can be used to monitor selected indicators. Plans can then be revised in order to make sure project objectives are achieved. At the end of the programme, information gathered can be used to evaluate the overall programme performance and improve future transitional shelter responses.

Diagram 3.12 Monitoring and evaluation as part of the assessment cycle



Case study: **Kenya conflict displaced, 2008 - The need for a continual process**

Following the Kenyan election crisis, between 125,000-250,000 people were accommodated in camps and associated settlements. By the end of 2008 the Kenyan government stated this number had reduced to 10,000, despite media and civil society sources claiming 80,000-100,000 to be more accurate numbers. As a result, an alleged $2.5million has been diverted away from 'Operation Return Home'. This has had a number of consequences, for example in order to meet reduced operations targets for monthly returns water supplies in a number of camps were cut off. The need for a continual monitoring and assessment process alongside the importance of independent evaluation is clear. The programme has thus been criticised for violating the 'Guiding Principles on Internal Displacement'. UN-HABITAT, *Shelter Projects 2009*, p.20

Goals of monitoring and evaluation

264. The process of humanitarian monitoring and evaluation should combine a series of indicators and methods, in order to verify through comparison, or triangulate, the results and conclusions. Seven considerations and criteria set out by the Development Assistance Committee (DAC) are included as an example in the table below.

Table 3.5 DAC criteria for monitoring and evaluation of humanitarian action

Table 3.5: DAC criteria for monitoring and evaluation

Criterion	Questions for a transitional shelter programme or project manager
Relevance / appropriateness	Does the project address the needs and priorities of the affected population? Are the activities tailored to increased ownership, cost-effectiveness and accountability?
Connectedness	Are the short-term activities undertaken in a context that ensures long-term issues are taken into account?
Coherence	Are the monitoring and evaluation strategies in line with the larger-scale evaluation? Are security, developmental, trade and military policies considered alongside humanitarian policies?
Coverage	Does the programme address major groups within the affected population?
Efficiency	Are appropriate capacities and relevant resources being utilised? Has the most efficient programme approach been designed to achieve both quantitative and qualitative outputs?
Effectiveness	Are the projected outputs being met?
Impact	Are the common goals being achieved? What are the wider effects of the programme with regard to social, economic, technical and environmental concerns? Will the impact last?

📖 ALNAP, *Evaluating Humanitarian Action Using The OECD-DAC Criteria*, 2006, pp.21-22

Purpose of monitoring

265. By monitoring benchmarked indicators it is possible to assess if activities are producing desired results, if these results are meeting the projected purpose and if projected risks affect the programme. The purpose of monitoring is to track:

- physical and financial progress;
- ongoing priorities and allocation of resources;

- equitable distribution of benefits among affected groups;
- acceptance of the project and relevance to the affected population; and
- implementation problems and constraints.

How monitoring is carried out

266. Monitoring plans should be linked to the logical framework approach (LFA) in which crucial indicators for project success are identified » 3.2.3. Monitoring plans should set benchmarks for these indicators and record whether or not they occur according to the given timeframe.

267. In a transitional shelter response, monitoring should be carried out by all individuals working on the project. Information on all activities should be processed and compiled in reports. Minor changes by project staff should be documented for monitoring purposes. Since it is important to keep the process transparent, information should be shared and discussed with all implementing agencies, donors and beneficiaries.

Purpose of evaluation

268. The purpose of evaluation is to:

- create ongoing hazard mitigation risk management procedures;
- assess an on-going or completed programme, project or policy;
- determine the relevance and fulfilment of objectives by evaluating monitored indicators;
- establish efficiency, effectiveness, impact and sustainability;
- improve the design of future transitional shelter programmes; and
- be accountable to beneficiaries of the programme as well as donors.

📖 UN, *SAD*, pp.76-77

How evaluation is carried out

269. Evaluations should be conducted at the end of the project and at intervals along an agreed timescale. Evaluations should assess the information gathered through the monitoring process. When monitoring shows that certain indicators have not been met as intended, the evaluation should indicate possible revisions to the programme plans.

3.9.5 COMMUNITY CONSIDERATIONS

Qualitative and quantitative approach

270. All too often monitoring and evaluation strategies deal with base facts and figures. Successful strategies select methods suited to a specific context combining both quantitative and qualitative data as appropriate. The affected population are the most suitable group to give an in-depth commentary on how the humanitarian response has affected their lives. Monitoring and evaluation strategies should therefore include

such qualitative approaches as open-ended listening and individual feedback opportunities. *The Sphere Project*, 2011, pp.69-70

Level of community participation in the process

271. The entire monitoring and evaluation process should be as inclusive as possible, particularly with regard to community participation. Monitoring and evaluation strategies undertaken by the affected population contribute to effective communication, increased accountability, enhanced transparency and ownership of information. *The Sphere Project*, 2011, p.70

Local cultural practices

272. It is important to consider local cultural practices at an early stage in monitoring and evaluation. For example, minority groups or women may need to be consulted separately and it is therefore useful to involve both men and women in the process of collecting information from the affected population. Appropriate individuals can do so in a culturally acceptable manner and can use local language and dialect to gather accurate feedback. UN, *SAD*, 2010, p.69

Culturally appropriate materials

273. Consideration should be made to prioritise culturally sensitive materials and technologies. Materials should be chosen to allow for local tools and skills, whilst achieving a level of sustainability and longevity. The monitoring and evaluation process should assess whether this has been achieved and whether this issue should be readdressed in light of an ever-changing situation.

3.9.6 TECHNICAL EVALUATION

Independent evaluation

274. Typically evaluations should be undertaken by independent, external bodies to avoid bias. In some circumstances it may be permissible for internal, associated professionals to evaluate a programme if objectivity can be preserved. Such individuals or groups should not be directly related to the programme.

Relevant expertise

275. Early attention must be given to engage relevant professionals in order to address the specific nature of transitional shelters. A multi-disciplinary team should be formed to undertake the monitoring and evaluation process. This should involve people of different genders and ethnicities as well as local expertise and capacities from different disciplines. Those with previous experience of disasters within the region and with local knowledge will be invaluable to the process. Safety, health, livelihoods and recovery expertise is as important as planning, design, engineering and construction.

Disaster risk reduction

276. Disaster risk reduction is a continuous process which assesses the vulnerability of people, buildings and infrastructure and aims to ensure risks are not restored.

277. In terms of the built environment for example, disaster risk reduction measures include:

- managing and maintaining assets;
- strengthening vulnerable structures;
- preventing or re-examining building activity in high-risk areas; and
- ensuring building regulations are enforced.

RICS, *Built Environment Professions In Disaster Risk Reduction and Response*, 2009, p.18

278. Changes to building codes or standards as a result of the disaster should be applied in consultation with the affected population and all relevant authorities.

279. It is not always possible to eliminate all risks and the progress of various activities such as assessment of needs, capacities and vulnerability may not happen at the same pace. It is important therefore to achieve a high level of coordination among all stakeholders to ensure an effective disaster risk reduction strategy.

Case study: **Haiti earthquake displaced, 2010 - Disaster risk reduction**

Following the earthquake in January 2010 the Shelter Sector Response Plan was implemented to support the Haitian government in meeting the transitional shelter and emergency needs of the affected population. Disaster risk reduction in particular was well integrated into the strategy. Anticipation of the hurricane season included such measures as early warning systems, improvements to latrines and adaptation of drainage, evacuation routes and basic first aid training for the community.
UN, *SAD*, 2010, pp.61-62

280. This section offered guidance on quality assurance through quality control processes, supervision and technical expertise, capacity building, monitoring and evaluation, community considerations and technical evaluation, in order to support beneficiaries and achieve donor expectations. These quality control processes should be considered regarding site selection and planning, to ensure an appropriate response. These two issues are addressed in the next chapter, along with supporting a community, land tenure, and hand over issues.

281. To summarise chapter 3, the following table 3.6 offers an overview of common problems and issues for consideration for transitional shelter project managers.

Table 3.6 Key considerations for transitional shelter

Table 3.6: Key considerations for transitional shelter

Potential problem	Solutions/mitigating activities
Planning Stage	
Donors and funding	
Risk of donor-driven rather than demand-driven responses.	Communicate with donors regularly and in detail to provide technical evidence as to why a particular project type would be appropriate.
Some donors may be used to supplying funds in three 'phases': emergency, early recovery and reconstruction. This may not be applicable for a transitional shelter programme.	Consider targeting different donors for different stages of the project - 'emergency relief' donors for the initial stages and 'reconstruction' donors for the later stages. Ensure that the transitional shelter concept is fully explained to donors so that the reasons behind funding requests are understood.
Donor requirements may not appear feasible as more detailed information becomes available. For example, a funding plan may specify that money be spent by certain dates, which are later revealed to be unreasonable due to harvest times or adverse climatic conditions.	Communicate with donors regularly and in detail to provide up to date information on progress and constraints.
Very limited funding.	Decide between providing an equal, low level assistance to the entire affected population, or identifying only the most vulnerable households for direct assistance and indirectly assisting the wider population through the dissemination of DRR, best practice, site selection and preparation, and design and construction.

	Potential problem	Solutions/mitigating activities
	Planning Stage *(continued)*	
Setting up	Agency registration in-country can be time consuming.	Meet with the relevant authorities as soon as possible on arrival in-country, and follow up progress as necessary. The UN is registered in all countries. Consider co-opting them to help if necessary.
	Setting up national bank accounts to enable the transfer of money into the country can take time and delay project start up.	
	The process of locating, securing, and finalising contracts for a new office can cause delays in project start up.	Consider transferring staff from other agency offices who are already familiar with agency operation (e.g. the regional office/central hub).
Personnel	Accurate estimation of personnel requirements can be difficult in the early stages when information is limited or incomplete.	Use planning tools such as a logical framework approach and Scope of Works to make initial assumptions of personnel requirements and modify estimates as more information becomes available.
	High competition for local staff with appropriate skills and experience, for example, those with skills in: construction management, financial management or community mobilisation.	A fair and transparent recruitment process is important for attracting good staff. International recruitment may be appropriate, especially in the early stages. A selection of national/local staff may increase and replace international staff over time. Ensure that particular skills are genuinely required. For example, it may be appropriate to hire site managers and builders to carry out quality control checks in the place of engineers, if appropriately supervised.
Local partners	Rapid identification of credible local implementing partners can be difficult.	Check potential implementing partners thoroughly. Checks may include: review of financial records; validation of stated number of staff members and their qualifications and site visits to other projects undertaken by the agency. Be aware of the capacity of local partners, and the MoUs that they hold with other organisations. It should be ensured that implementing partners are selected on the basis of a transparent bidding procedure.

	Potential problem	Solutions/mitigating activities
	Planning Stage *(continued)*	
Strategic planning	Circumstances of the beneficiaries change before construction has been completed. For example, beneficiaries may want or need to relocate earlier than anticipated.	Contingency planning should be built into programme and project plans so that a pre-defined strategy can be put into action in the case of a change of circumstances. For the example where beneficiaries may wish to relocate sooner than anticipated, it should be possible for them to take shelter materials with them to their new location.
	The identification of critical path activities can be difficult in projects which are new in type or scale to the implementing agency.	A pilot programme may help to identify key activities.
	Natural hazards or problematic weather conditions delay construction.	Predictable weather patterns should be factored into the schedule of operations. Contingency planning should consider the effects of adverse climate and weather conditions on project progress. Risk assessments should be undertaken to identify potential natural hazards and adverse weather conditions, and contingency plans should be defined during the planning stage.
Site selection/ preparation and shelter design/ construction	Mitigating risks requires highly engineered structures with associated higher costs.	It may be appropriate to design shelters to be hazard resilient, rather than completely hazard proof. At a minimum, transitional shelters should remain structurally sound for long enough for the inhabitants to evacuate the shelter without risk of injury or death due to elements of the shelter falling or collapsing.
	Appropriate standards should be formed rapidly so that they can be used to inform shelter design.	Consider using the transitional shelter decision making tool as an aide memoir to cover all points. Identify any existing local or national building standards which may need to be included.
Holistic response	Water and sanitation, social, health and education facilities are not included in programme plans due to lack of budget or expertise.	Coordinate with other agencies and sectors whose mandates cover these issues directly.

	Potential problem	Solutions/mitigating activities
	Implementation	
Donors and funding	Inflation, changing exchange rates, and fluctuating materials costs can make accurate cost estimates difficult.	Contingency planning should be built into donor proposals, to ensure that programmes can be adapted to actual inflation and exchange rates. Plans may include additional or fewer beneficiaries, or alterations to shelter designs.
	Financial tracking in a large scale project over a wide geographical area can be difficult.	Use standard templates for recording transactions. Consider splitting financial tracking responsibilities into smaller areas to make accurate tracking more feasible.
	Time consuming reporting and accountability frameworks cause delays in decision making.	Use simple standard templates for reporting.
Personnel	High turnover of staff makes accountability difficult, and can put stress on longer term staff	ToRs for positions with high turnover rates should be well defined, including details of all roles and responsibilities, to ensure that the position is well understood by incoming staff. Ensure that records are well kept, ideally on standard templates. Where possible, allow a handover period between incoming and outgoing staff. Ensure that new team members are given full orientation and induction to the job.
Local partners	Local partners are new to working with humanitarian agencies or on this type of shelter project.	Communicate regularly and clearly with implementing partners to ensure that they fully understand what is required of them and the consequences of not completing work on time or to quality are known. Monitoring and reporting systems should also be clearly communicated. Capacity building and training sessions for local partners may be appropriate. Ensure that budget is allocated for capacity building, monitoring and quality control of implementing partners.
	Monitoring local partners, and ensuring the work of local partners is of sufficient quality can take time and resources.	Use a clearly defined system to monitor the work of the implementing partners, for example, organise field teams to regularly report back to the hub. Consider undertaking random spot checks. Identify the most crucial site selection/ preparation and building design/construction indicators to reduce time required for quality control checks. Ensure that local partners have appropriate tools, materials, knowledge and skills prior to commencing work.

	Potential problem	Solutions/mitigating activities
	Implementation *(continued)*	
Procurement	Damaged infrastructure makes transport of materials and personnel to site difficult.	Procure materials locally where possible to reduce transportation requirements. Where materials need to be transported to site, materials should be selected and packs designed such that they can be transported by hand, or by other suitable transport means. Coordinate with the government and with other sectors where major repair work is required.
	Materials arrive on site damaged or not as advertised/ requested.	Check materials as early as possible, ideally at ports or airports where they have been sourced internationally, to avoid unnecessary transport costs if they are damaged or not as requested. Take care when specifying materials.
Beneficiaries	Beneficiaries unwilling to accept advice on new designs or building techniques.	Prioritise the use of local and traditional building techniques where possible. Implement a strong social mobilisation programme, ideally hiring staff from within the affected communities.
	Handover	
Handover	Beneficiaries have unrealistic expectations about the shelters or project timescale. Beneficiaries unhappy with design or build quality.	Implement a coordinated strategy for communication with the affected community. Establish a grievance redress system and humanitarian helpline to assist beneficiaries in dealing with land/human rights issues and ensure that realistic expectations are met. Implement a strong social mobilisation programme, ideally hiring staff from within the affected communities.

4 COMMUNITY SITE SELECTION AND PLANNING

Chapter contents page

Introduction

1. Transitional shelter programmes influence the way in which communities rebuild and recover. Programmes must avoid supporting only individual shelters and instead should work with each community in the affected population, as well as groups within each community, in order to uphold their collective priorities. The selection, planning and development of sites, communal infrastructure and services, as well as the shelters themselves each impact upon livelihoods, reconstruction and early recovery. Such support empowers communities and builds capacities and self-sufficiency.

2. In chapter 4, guidance is offered on supporting the community and community groups in site selection, site planning and communal infrastructure, such as schools and roads.

3. In chapter 5, guidance is offered on supporting the community and community groups in designing and implementing the transitional shelter process, including selecting materials.

Engaging the participation of the community

4. Many of the methods of engaging the participation of the community and community groups are the same for site selection, planning and infrastructure as they are for the transitional shelter process. For example, a committee may be formed to undertake hazard mapping and plan the site which later goes on to consider the positioning of surface water drainage around the shelters.

The importance of community consultation

5. Throughout these guidelines, it is recognised that a balance must be achieved between action and consultation, especially in the life-saving period immediately following a conflict or disaster. Consultation based upon sample or profiles should be undertaken even in a pressingly urgent situation, for example when an agreement is reached at sector coordination level to undertake a common course of action, such as to distribute plastic sheeting to each affected family to ensure immediate maximum coverage before a rainy season. As with transitional shelter, consultation is an incremental process, and initial community events and structures should be invested in and built upon throughout the response.

4.1 SUPPORTING A COMMUNITY

Community recovery through engagement and support

6. In order to offer support, governments and humanitarian stakeholders must develop and maintain an understanding of the priorities, capacities and challenges of each community. This involves undertaking projects for communal infrastructure and services such as WASH and schools; and select, plan and develop sites for transitional shelters. Livelihoods and reconstruction must also be taken into consideration, within the context of early recovery.

4.1.1 IDENTIFYING COMMUNITY PRIORITIES, CAPACITIES AND CHALLENGES

Engaging community leaders and committees

7. From the first assistance offered in the transitional shelter process, whether it is cash or material distribution, community leaders and representative members of groups within each community should be engaged in agreeing the type of assistance and its delivery.

Representation structures

8. This relationship is built upon over the duration of the transitional shelter programme, supporting also parallel reconstruction and other sector and cross-cutting interventions. The traditional representation structures for each community should be respected, however communities should be encouraged to review these structures in their current context, to see if they should be adapted. For example, new community committees and consultation groups may be formed to consider new opportunities and challenges in moving rubble or siting a school.

Community participation through workshops and charrettes

9. Holding workshops and charrettes with community groups may offer a valuable way of engaging different viewpoints. They may be helpful to support community leaders and committees in making decisions about detailed activities that require broad debate or consensus.

The aim of workshops

10. Workshops may be single events, held in a single group, however a number of workshops may be held with different groups and the results compared. Workshops can be valuable in building consensus and understanding of common opportunities and challenges, as well as offering monitoring and accountability. For example, workshops may be used to plan and implement community risk mapping.

The aim of charettes

11. Charrettes often take place in a series of sessions, in which the group breaks into sub-groups. Each sub-group then presents its conclusions to the full group, to inform

future discussions. Charrettes can be valuable in discussing opportunities and challenges in detail, whilst integrating the skills and interests of a diverse group of people. For example, a charrette might be used to plan the layout of transitional shelters with a community, with sub-groups taking into account aspects such as hazards, surface water drainage communal services, livelihoods and parallel reconstruction.

Livelihoods support

12. Effort should be made to support the livelihoods of the affected population, again to increase the self-sufficiency and capacity for early recovery. Consultation, workshops and charrettes may be used to identify the range of livelihood activities traditionally undertaken by the affected population, as well as appropriate assistance methods » 3.8. The transitional shelter approach should support and create opportunities for livelihoods, based on assessments: for example, if the displaced population comprises predominantly farmers, the site-selection process should concentrate on identifying appropriate low-density, dispersed, small sites, in areas close to their agricultural land. A community project may also be initiated to repair a road connecting the community to local markets.

The influence of seasons

13. The season influences the ability of both the displaced and local populations to provide for their own needs, but also their availability to participate in self-help transitional shelter activities » 3.5.1. The climate may also affect the capacity, decisions and actions taken, with an impact on protection, security, and health. For example, displaced farmers may not want to move too far from their land before the harvest. This would affect their protection, as well as the choice of transitional shelter options supported by local governments and aid organisations. 🕮 Oxfam, *TSDP*, 2010

Cultural sensitivity

14. The culture of the community must be reflected throughout transitional shelter programmes, such as when planning a transitional shelter site. Cultural beliefs and activities are not homogenous and cultures are not static; they are continually being renewed and reshaped. Cultural change is shaped by many factors, particularly by conflict, disasters and displacement 🕮 UNHCR, *Handbook for Emergencies*, 2007. Change also results from deliberate efforts to influence values through revisions of law or government policy, for example in attitudes towards hazards and introducing safer construction practices.

Cultural sensitivity in site planning

15. Cultural sensitivity should be central to site planning, integrating local habits and traditions, for example maintaining pre-existing planning and building patterns, in order to help preserve the cultural identity and sense of ownership of the affected community.

Protection and gender considerations

16. Following a conflict or disaster, normal community structures may be disrupted and the changes in demographic proportions may alter daily routines of the affected population. This could also have a negative effect on traditional mechanisms for the protection and assistance of persons with specific needs.

Changes in social composition

17. Change in social composition of an affected population requires attention when planning and implementing a transitional shelter programme and may include:

- increased numbers of male or female-headed households;
- large numbers of unaccompanied children;
- reduced number of able-bodied men; and
- disruption of the extended family, with its role as social carer.

Considering specific needs

18. The specific needs of persons must be taken into account in site planning. It may be difficult to reach these people if they do not form part of the traditional leadership structure of the community. In such cases, the needs and resource assessment should obtain a complete overview of all concerned through age, gender and diversity mainstreaming.

Vulnerable individuals within a community

19. Similarly, vulnerable individuals and those with special needs may be difficult to reach and are likely to require more attention. Conflicts and disasters result in injury and disability, however the community will already have members who are disabled and elderly who require different support, both in programme design and implementation. For example, someone using a wheelchair may require paving to their door and a wider doorway; and they will also require labour assistance to build their shelter. Adapted from 🕮 UNHCR, *Handbook for Emergencies*, 2007

4.2 SITE SELECTION

The importance of site selection in all responses

20. Site selection is relevant to both displaced and non-displaced populations in both urban and rural settings. Even when a single transitional shelter is sited on the land of an affected family, it can still be vulnerable to further hazards and can impact reconstruction and recovery.

21. Transitional shelters for community groups are often found near original homes but not on the land itself, due to considerations such as rubble clearance and reconstructing multi-family dwellings such as apartments. Site selection in

this context must be understood as a process and not a single event, as families may relocate their transitional shelter to their land, once they are able to do so.

22. Site selection is an important activity that can result in the success or failure of a transitional shelter programme. Poor site selection can threaten the safety of the beneficiaries, the sustainability of livelihoods and essential environmental resources. In contrast, good site selection may encourage social integration and enhance sustainability.

Including all relevant stakeholders

23. Site selection requires broad consultations with all stakeholders concerned with the selection, planning, development and use of the site. It should include representatives from the displaced and host populations, government and humanitarian stakeholders, as well as the advice of local and international sector specialists, such as civil and water engineers, seismologists, geologists, hydrologists and cadastral surveyors. In terms of coordination, site selection is an inter-sector or inter-cluster activity, also requiring cross-cutting input.

4.2.1 SITE APPROPRIATENESS

Selection criteria

24. Sites should be assessed using criteria specific to the response, but ensuring that they are:

- safe, considering multiple probable hazards such as flooding;
- appropriate to the displaced community with respect to local culture and livelihoods;
- capable of providing key sustainable resources, such as a water supply; and
- legal, in terms of zoning and planning as well as regarding the land owner and customary users.

Site safety

25. Site safety is the primary concern and is considered in detail in the next section » 4.2.2. When developing the criteria for the selection of an appropriate site, the following additional factors should be considered.

Early recovery objective

26. When selecting a site, the final objective of the transitional shelter programme should be considered. If a resettlement site turns into permanent settlements, social, physical, political and legal appropriateness will need to be taken into account. The possibility of resettlement should be carefully assessed. Beneficiaries may not want to be relocated if they are not involved in the consultation and site selection process. This may force them to occupy informal and illegal sites, or to move back to their previous location where they may be further exposed to risks and hazards.

Social and cultural appropriateness

27. The location should be agreed upon in consultation with the beneficiaries through a participatory process. A bottom-up approach, considering the characteristics and needs of the individuals from the beginning, will ensure that the selected sites are appropriate in terms of cultural and social acceptability. Consideration should also be given as to whether ethnic tensions between neighbouring settlements may arise.

Local livelihood support

28. Transitional shelters should be constructed as close as safely possible to the beneficiaries' place of origin or, where beneficiaries are to be permanently relocated, as close as possible to the location of the permanent reconstruction. Minimising the duration of their displacement and the physical distance from their place of origin enables people to recover social connections and livelihoods as quickly as possible. If sited too far from local markets and the livelihoods of the displaced community, the transitional shelter support may be rejected and the sites abandoned.

Accessibility

29. The proximity to main roads and accessibility of essential communal services, facilities and natural resources for daily use should be considered when selecting the site. There should be appropriate access to and from the site for emergency services to get sufficiently close to shelters, as well as for the supply of building materials for incremental upgrading and any distributions.

Topography

30. When assessing sites, several topographical features should be considered:

- the site gradient must be sufficiently steep to allow good drainage and prevent standing water, whilst at the same time not compromising the safety or ease of erecting structures;
- the ground should be stable enough to build safe foundations, roads and infrastructure;
- the type of ground will determine appropriate foundation, drainage and sanitation options; and
- the topography may increase the effects of strong winds by funnelling them, or can alternatively provide shelter from the prevailing winds.

📖 *The Sphere Handbook*, 2011

Water resources and sanitation facilities

31. The site should have access to a clean water supply in order to ensure good health, sanitation and cooking needs, in both the short and long term. Trucking should not be assumed as a sustainable solution, unless it was in use previously and the service remains functional. Water, sanitation and hygiene activities are interdependent and should therefore be assessed simultaneously.

Space for reconstruction

32. The area of land available should be sufficient for transitional shelter, as well as any planned infrastructure and reconstruction which may take place on the same site. Be aware that in the case of non-displaced populations, properties may not be large enough for both a transitional shelter programme and reconstruction activities on the same site. In addition, the population on the site may vary, due to further returns to the area, or families moving back from the site to their own land.

Tip: **Non-displaced population**

If safe and possible, non-displaced beneficiaries of transitional shelter programmes should stay on the site where reconstruction/major repairs are taking place or as close as possible to their original plot of land.

4.2.2 SITE SAFETY

Limited access

33. Safety and security issues can place lives, health and early recovery at risk, as well as potentially limiting access to beneficiaries and construction sites.

Risk assessment

34. The objective of assessing security and hazards is to determine whether a site is safe or vulnerability to hazards can be reduced through mitigation measures. A careful risk assessment of the site should be undertaken to determine the risks associated with hazards such as:

- natural and man-made hazards (earthquakes, flooding, volcanic activity, high winds) and their secondary effects (fires, tsunamis, epidemics, landslides);
- environmental and health issues (industrial pollution, water contamination, vectors and diseases);
- extreme climatic conditions; and
- proximity to potentially sensitive areas such as current or former conflict areas, international borders and military camps.

35. Once a site is selected, an assessment can be used to inform of hazard mitigation and security measures required to protect the affected population, for example increasing surface water drainage or constructing a police post.

Natural Hazards

Flood-prone areas

36. Unsafe flood-prone areas are often selected by affected populations because they are the only available sites where land owners do not object to transitional shelters being sited. Alternative sites must be found or engineering works undertaken to mitigate the hazard. The risk of flooding should be identified during site-selection, as well as surface water

drainage capacity and the likelihood of ponding, which leads to hygiene problems and the spread of vectors. River banks should be avoided as building sites. The choice of sites with appropriate ground conditions and gradients reduces the risk of exposure to flooding and landslides. The ground type should be suitable to support digging for light foundations and drainage systems, as well as for water infiltration. 🕮 *The Sphere Handbook*, 2011

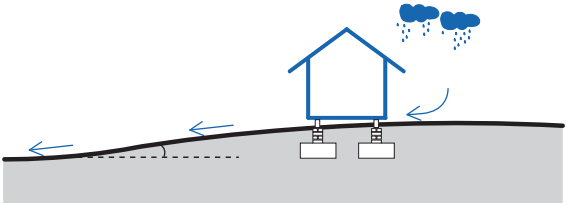
Flood-prone area key consideration

37. Key points to consider in flood-prone areas include:

- fine clay soils should be avoided as they do not allow water infiltration and can become muddy and waterlogged;
- sandy soils are good for infiltration but may become unstable; and
- site gradient should not be less than 1 per cent as this increases the risk of flash flooding and may require extensive drainage of storm waters.

38. Diagram 4.1 shows the necessary site gradient considerations for flood-prone sites.

Diagram 4.1 Flood-prone area site considerations



Landslide-prone areas

39. Looking for key indicators during site selection determines whether a site is prone to landslides. Key indicators include local knowledge, slip patterns in soil or bands of young vegetation. Vegetation-free areas on slopes, fallen rocks and debris may also be regarded as signs of previous landslides.

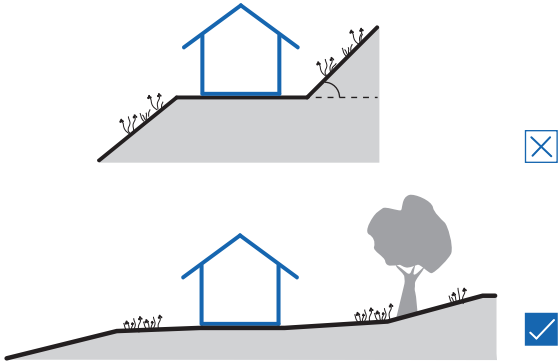
Landslide-prone area key considerations

40. Key points for consideration in landslide-prone sites include:

- the site gradient should not exceed 5%, unless extensive drainage and erosion control measures are taken;
- slopes with little vegetation or a high degree of deforestation should be avoided as vegetation stabilises the soil and reduces the risk of mud slides; and
- areas recently affected by wildfire are particularly prone to landslides.

41. Diagram 4.2 shows key considerations for landslide-prone sites.

Diagram 4.2 Landslide-prone area site considerations



Earthquake-prone areas

42. Earthquakes pose a severe risk to shelters. Generally earthquake zones are well mapped but the position of actual fault lines may be unknown locally.

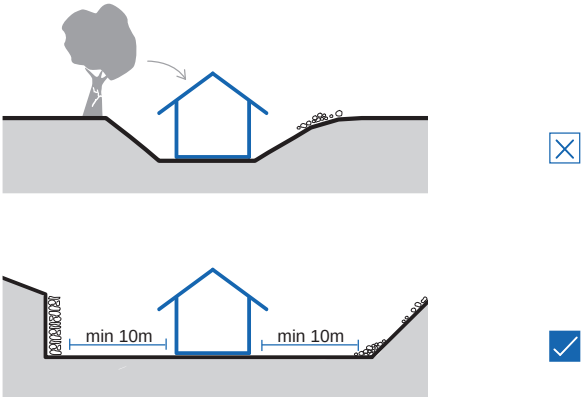
Earthquake-prone area key considerations

43. Key guidelines to follow when designing in earthquake-prone sites include:

- building shelters further than 10m away from steep slopes to reduce danger during rock falls;
- observing a minimum safety distance from rock faces and/or retaining walls as rocks may break off during an earthquake;
- constructing buildings next to visible fault lines, or areas damaged by previous earthquakes, should be avoided;
- constructing buildings with adequate spacing between them to avoid the danger from other collapsing buildings; and
- avoiding construction on alluvial plains, unstable slopes, unstable soils, or reclaimed areas where the ground has not been properly engineered.

44. Diagram 4.3 shows key considerations for earthquake-prone sites.

Diagram 4.3 Earthquake-prone area site considerations



Hurricane/ cyclone-prone areas

45. The impact of wind on settlements significantly correlates with their orientation, sitting and layout. When choosing a site, local topography has to be considered in order to prevent settlements from being damaged by storms or heavy winds, and possible floods resulting from these events.

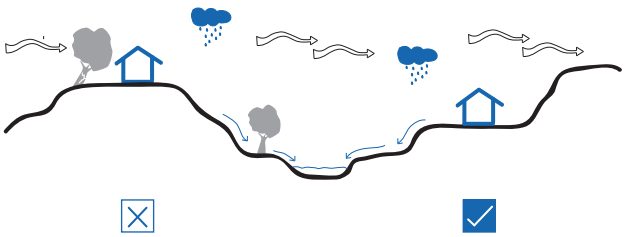
Hurricane/ cyclone-prone area key considerations

46. Key points for consideration in storm-prone sites include:

- the complexity of wind patterns correlate with the complexity of the topography;
- gaps in mountain ranges and valleys can funnel wind;
- mountain peaks may be areas of high rainfall;
- surrounding vegetation can provide a natural wind barrier;
- a minimum distance should be considered from trees or vegetation with thick branches or trunks to prevent damage from falling trees or branches during windy periods; and
- considering the direction of prevailing winds in hilly sites and locating buildings either on the far side of the hill or below the peak.

47. Diagram 4.4 shows key considerations for hurricane/ cyclone-prone sites.

Diagram 4.4 Hurricane/ cyclone-prone area site considerations



Tsunami-prone areas

48. If there is a risk of tsunami, a danger zone, exclusion zone, or setback should be determined by specialists, in order to set a minimum distance from the shore when implementing a transitional shelter programme. The establishment and implementation of the danger zone has to be addressed by the national authorities. The enforcement of this zone without an accompanying building policy may lead to livelihood disruptions.

49. Early warning mechanisms may be set in place, as alternative methods to the danger zone, allowing people to build closer to the shore and helping to secure livelihoods. Early warning is only valuable if the population can receive and understand the warning, there are adequate routes available for evacuation, and provision is made for vulnerable persons and institutions such as hospitals and schools.

Volcano-prone areas

50. In volcano-prone areas, a danger zone has to be determined by specialists in order to set a minimum distance from the danger. This zone has to be agreed in collaboration with national authorities and the communities involved. If avoiding construction is not possible within this risk area, continuous monitoring and evaluation of the volcanic activity should be implemented in order to predict possible dangerous levels of activity. Along with this a volcano emergency plan has to be set up, establishing the identification of major hazard areas, clear identification of population, refuge zones, evacuation routes and public warning procedures.

Environmental and health issues

Vector control

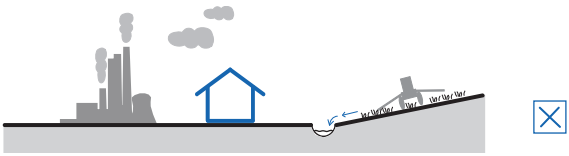
51. Site selection plays a fundamental role in reducing or increasing the impact of vector-borne diseases on a population. Whenever possible, transitional shelters should not be located close to stagnant water, as this is a prime breeding location for mosquitoes and other insects that spread diseases such as malaria, dengue fever, yellow fever and encephalitis. Consider whether there may be seasonal sources of stagnant water, for example wadis, and whether engineering works can achieve drainage or diversions.

Toxic threats

52. Local knowledge is critical for understanding toxic threats and sources of dangerous pollution. Toxic threats may represent sources of illness for beneficiaries and livestock. Surface or groundwater contamination may include saltwater, debris left by floods, sewage, fertilisers and pesticides. Specialist input is required in considering industrial air pollution. Abandoned toxic waste is also a source of toxic contamination, including radioactivity from events involving nuclear power plants.

53. Diagram 4.5 indicates certain toxic threats.

Diagram 4.5 Examples of toxic threats



Case study: **Groundwater contamination, Bangladesh**

"Bangladesh is grappling with the largest mass poisoning of a population in history because groundwater used for drinking has been contaminated with naturally occurring arsenic. Estimated 35 to 77 million inhabitants are at risk of drinking contaminated water." WHO, *Bulletin Of The World Health Organisation*, 2000, p.1093

Disease and illness

54. Endemic diseases, pests, and risk of disease require special attention when selecting and planning a site. Assessments of such threats have to be conducted, in order to realise whether measures to prevent and control communicable diseases have to be implemented, mainly related to water and sanitation issues. Special care should be given to the evaluation of water resources. This evaluation is necessary to ensure that the provision of water and sanitation is sufficient to sustain good health. Water resources should be assessed to ensure that the quality is high enough to prevent illness. Reliance on a single water source should be avoided, and water collecting areas should be located upstream of the camp, and fenced.

Sensitive areas

Conflict affected areas

55. Conflict affected areas may present direct threats from armed incursion, or from targeted or stray impacts from weaponry such as small arms. Displacing civilian populations is a routine military tactic in some regions. Information should be gathered about former conflict areas or military camps from locals, government sources, mine clearing organisations

and especially the mandated coordinating body. Mines and unexploded ordnance (UXO) can also be present. Sites should be considered in terms of their military value and their use in any recent conflict, for example an artillery position may contain UXO and may be surrounded by a mine field. Abandoned or overgrown areas may be dangerous. Mines may move during heavy rain or landslides.

Social and ethnic factors

56. When selecting a site,social and ethnic factors should be considered. The following indicators should be assessed:

- proximity to border and/or conflict zone;
- demographic compatibility, as cultural and ethnic differences can lead to conflicts between displaced and host populations;
- the demographic composition of the beneficiary group, as the beneficiary population may be composed of subgroups with different religious or ethnic backgrounds;
- the availability of social networks, as host populations can offer help to aid organisations and beneficiaries through established networks; and
- whether the beneficiary population is urban or rural, as urban populations displaced to rural locations may encounter unfamiliar challenges, and vice versa.

4.3 SITE PLANNING AND COMMUNAL INFRASTRUCTURE

Physical organisation of a settlement

57. The physical organisation of a settlement will significantly affect the protection, health and well-being of a community, as well as their livelihoods and early recovery. Good site planning will facilitate access to the site, as well as an equitable and efficient provision of communal services, such as a water supply, schools and clinics.

4.3.1 COMMUNITY INVOLVEMENT IN PLANNING SITES AND INFRASTRUCTURE

Importance of community participation in site planning

58. The affected community and any host population must participate fully in the planning of sites and infrastructure, in order that community efforts, which inevitably are greater than any external support, are not undermined. Community planning may involve workshops or charrettes » 4.1, but should be a continual process, led by a representative committee or directly by the community leaders.

Influence of hazards on site planning

59. Planning should begin with an understanding of any hazards present and continue to consider topography, access and the location of key communal services and infrastructure. The location of individual transitional shelters therefore becomes the final planning consideration, however it may then prompt the review of earlier considerations.

4.3.2 SITE MULTI-HAZARD RISK MAPPING AND MITIGATION

Importance of risk mapping and mitigation

60. During the process of selecting a site, an understanding of potential hazards should be formed » 4.2. The site should only be selected if these hazards can be mitigated to ensure safety. However, this may involve engineering works, such as development of surface water drainage, as well as planning to avoid certain areas of the site. These may include areas prone to landslip, erosion, flash flooding, high winds and the potential collapse of damaged buildings.

61. Multi-hazard risk mapping should be undertaken over the whole site, with the affected community, in order to identify existing and potential, natural and man-made hazards that may increase vulnerability and impact safety and livelihoods. For more guidance, consult 🕮 Oxfam, *TSDP*, 2005, p.205

Relevant information for a mitigation plan

62. Localised hazard mapping for the site may be used to inform the mitigation plan by identifying:

- areas of the site at risk from hazards;
- the effect the hazard may have on the lives and livelihoods of the population, or example restrictions on the access to services and land use due to temporary flooding;
- areas with requirements relating to infrastructure and shelter, for example the requirement for additional reinforcement in shelters to protect them from large wind loads; and
- specific responses, such as restrictions on the use of timber in areas at risk of landslides.

Relevant information on hazards

63. A hazard mapping should include information on:

- the types of hazards;
- the specific locations of the hazards;
- the severity of the hazards;
- when the hazard is likely to occur; and,
- the likely duration of the hazard.

Extending the area of hazard mapping

64. Care should be taken to consider not only the area of the site, but also the area immediately around it, as well as probable local factors such as flood plains and areas prone to seismic activity.

4.3.3 TRADITIONAL SHELTER SETTLEMENT LAYOUTS AND CONTOUR PLANNING

Fitting in to the existing local settlement

65. The site is unlikely to be isolated, but to be within a broader pre-existing settlement and community. There are likely to be existing zoning and planning codes provided by local authorities. In addition, the site will have routes through it, connections to other routes and a pattern or context for settlement, in terms of density and the type of buildings locally.

Transitional shelter and leaving space for reconstruction

66. The transitional shelter programme is intended to offer shelter over the period of transitional reconstruction. In doing this, the planning of the final settlement must be assisted and not compromised by the transitional shelter programme. Consideration should be given to the final probable location of communal services and infrastructure, as well as houses and apartments. Space should be left for construction sites and access by vehicles and heavy plant, such as for materials storage, concrete mixers, trucks and cranes.

Understanding topography and settlement layouts

67. Topography is often the key factor in the physical layout of a site. Local traditional settlement layouts should be studied to understand why they have evolved in that manner. Further consultation, workshops and charrettes may be used to identify reasons relating to culture, livelihoods and climate, which should all be reflected as much as possible in the community planning process.

Contour planning and surface water drainage

68. In most cultures, shelters are traditionally set out perpendicular to the slope, following the contour of the land. This is so that there is minimal drop across each site, and so that roads and paths do not run directly down a slope, to reduce the velocity of surface water in drainage. This contour planning approach should be noted as a method of considering the planning of the overall site, as well as the infrastructure, services and sections for transitional shelter within it.

4.3.4 SITE ACCESS

Opening and maintaining access roads

69. It is likely that access routes to resources, nearby towns, villages and land on which livelihoods are supported will already have been established. Upgrading and relocating these access routes may be required to:

- minimise erosion and environmental degradation;
- respond to land ownership and use;
- control access to the site;
- control access to protected natural resources and areas of high risk; and
- allow access of both the emergency services and large vehicles for distributions.

Priorities for upgrading and relocationg access roads

70. When upgrading and relocating access roads, the following should be addressed:

- identify areas regularly visited by the affected population;
- avoid taking main access routes through existing settlements;
- avoid steep inclines;
- ensure separate vehicle and pedestrian access; and
- maximise the visibility of vehicles by keeping roadsides clear.

71. Seek specialist advice for the construction and maintenance of roads, particularly if the area is to be used by heavy goods vehicles.

4.3.5 COMMUNAL INFRASTRUCTURE AND SERVICES

Re-establishing and developing infrastructure and services

72. Before the conflict or disaster, each community will have had communal services and infrastructure, such as a water supply, schools, clinics, roads, bridges and market places. Community planning should consider the location of these and prioritise and agree the assistance required for each. The space left by the destruction caused may additionally offer the opportunity in early recovery activities to improve upon previous provisions, for example if there was no sewerage system.

Permanent and transitional infrastructure and services

73. The transitional shelter programme may require different communal infrastructure and services than final reconstruction and, in addition, the priorities of the community may be to accept different provisions while focusing capacity and resources upon final reconstruction. In undertaking work, priority is often given to repairing or reconstructing existing infrastructure and services, so that they can be used sustainably following final reconstruction. In some circumstances, however, transitional measures may be needed, for example a transitional school or learning space might be constructed so that lessons might continue while the school was being rebuilt.

Coordination with WASH

74. It is important to ensure that the site plan supports the activities of the water, sanitation and hygiene sector (WASH). The transitional shelter programme should ensure that WASH priorities are integrated fully into the programme and that WASH specialists participate in community planning activities.

Water supply considerations

75. Water supply and sanitation facilities should ensure that:

- internationally agreed standards are met where appropriate;
- maximum sustainable use is being made of local natural resources, water supply and sanitation facilities;
- needs are being met in relation to livelihood support and

requirements for construction as well as survival needs, including drinking, washing and cooking;

- the health of the population is not at risk;
- all members of the affected population, including vulnerable groups, have equitable access to water;
- security issues are taken into account when planning sanitation facilities; and
- water supply and sanitation are located appropriately.

Leaving space for upgrading and extending sanitation facilities

76. When planning the upgrade and extension of sanitation facilities and infrastructure it is important to leave space for subsequent upgrading of sanitation. For example, some transitional settlement programmes start with communal defecation fields which are then upgraded to family or communal latrines. Agreement must be reached with the community and the sanitation specialist to identify the end state and transitional stages, and set aside areas of land to accommodate these stages.

77. The following points should be considered:

- the standard of existing facilities;
- possible locations of additional latrines;
- direction of the prevailing wind; and
- risk of gender-based violence and the need for privacy.

Upgrading and extending sanitation facilities

78. When planning the upgrade and extension of water sources and infrastructure, the following points should be considered:

- the size of the population and the possibility of future population growth and influxes;
- site topography;
- the quantity of water required for construction and livelihood support;
- internationally agreed standards; and
- the quality of water available locally.

Supporting education networks

79. Education is important for social cohesion and child welfare. Infrastructural support must be made with the full participation of sector specialists and all stakeholders, based on an understanding of the educational systems and traditions of the affected population. Such support mechanisms should be implemented taking into account existing capacities. The use of existing school infrastructure may be possible, in which case support should be provided to local schools through the supply of staff and teaching materials, such as desks, chairs, and blackboards. If constructing a school building, choose a structure that could be used for a variety of purposes, and collaborate with the local authorities to make it possible to convert it to a different use when the camp closes.

Key considerations for school buildings

80. Specific considerations when planning school buildings include the following:

- provide indoor and outdoor spaces protected from the elements;
- make sure the space is sufficiently ventilated and heated in cold climates;
- provide a sufficient number of latrines; and
- provide a source of water for washing and drinking.

Adapted from Oxfam, *TSDP*, 2010, p.398

Supporting health networks or structures

81. Health services will be required in order to support the affected population. These should also be set in place considering previous assessment of the existing facilities. Health infrastructures should be planned in order to respond to:

- survival needs;
- long-term health needs; and
- risks from disease.

Supporting existing local facilities

82. When local facilities are available, the local authorities may allow the displaced population to use them. If the infrastructure is inadequate, support should be provided, in the form of medical staff, clinical materials and pharmaceuticals.

Requirements for a transitional shelter programme

83. If there are suitable hospitals within easy reach, only minor infrastructure will be required as part of the transitional shelter programme, such as:

- screening facilities within reception centres;
- outreach clinics within blocks or sectors of the camp, with or without small surgery facilities; and
- dispensaries.

Adapted from Oxfam, *TSDP*, 2010, 395

84. The following section dicusses land tenure which is a major issue regarding site planning and communal support.

4.4 LAND TENURE

85. This section introduces key concepts in regard to land issues in a humanitarian context and the benefits and limits of a transitional shelter approach. It then addresses legal frameworks and incremental approaches to increasing tenure security, before presenting methods of land identification, key stakeholders, and key considerations in forming multi-party contracts.

4.4.1 THE IMPORTANCE OF LAND AND LAND TENURE

What is land tenure?

86. Land tenure refers to the set of rules or the relationship between people as regards ownership and access to land. Rules of tenure define how rights to land are allocated, i.e. how access is granted, to which land, for how long, for what purposes and under what conditions.

The dynamic nature of land tenure

87. Land tenure systems are dynamic and vary from place to place, both between and within countries, according to the socio-economic, political, cultural and institutional context. Tenure systems can be well-defined and enforced, whether formal (recognised in law) or informal, or full of ambiguities and open to exploitation.

The vital role of land

88. Issues of access to land are recognised as a central concern in post-disaster response. Access to land is necessary to provide a basis for shelter and is often the primary means for restoring social and economic activities.

Impacts of tenure type

89. Tenure type can directly affect the likelihood of displacement after a disaster and the chances of a rapid return. Security of tenure is vital to facilitate shelter reconstruction, social and economic recovery and restoration of livelihoods, particularly home-based enterprises.

4.4.2 TENURE SECURITY

The importance of tenure security

90. Security of tenure refers to the certainty a person has that their rights to land will be recognised by others and protected in the case of a specific challenge. Tenure security is not simply about legality, but also about rights and perceptions. Without tenure security, households are hindered from starting to rebuild their lives.

Formal and informal tenure

91. Security of tenure does not mean having formally registered, legally recognised ownership. Many informal

systems are well-accepted and understood, and short and medium-term ways of securing tenure can provide protection from eviction and a basis for rebuilding livelihoods.

4.4.3 THE IMPACT OF A DISASTER ON LAND

Impact of a disaster

92. Land tenure issues that are apparent after a disaster are often not new, but the disaster may have exacerbated weaknesses in land tenure systems. Disaster can increase land related insecurity and conflicts due to the breakdown of traditional tenure arrangements and the social relations on which society is based.

Land issues affect the response

93. Land tenure arrangements will affect the possibility of being displaced, the likelihood of a rapid return, the chance of accessing and installing a transitional shelter kit, and the possibility of reconstruction. Often efforts to provide shelter assistance or basic services are hindered by insecure tenure, disputes over land or lack of ability to identify land on which to accommodate the displaced.

Land assessments

94. Early identification of land issues and tenure systems can provide the key to early and sustainable recovery, facilitate post-disaster reconstruction and reduce unanticipated consequences. A land assessment can provide vital information on tenure regimes and institutional arrangements to determine or enforce rights. A comprehensive land assessment should be carried out as soon as possible by a team of specialists. Information should be shared and responses coordinated with other agencies. For more information on land assessments see
UN-HABITAT, *Land And Natural Disasters*, 2010, Chapter 3.

4.4.4 LAND AND THE TRANSITIONAL SHELTER APPROACH

The role of transitional shelter

95. Transitional shelter as an approach includes an inherent flexibility that can overcome some of the common problems associated with the provision of shelter after a disaster. The possibility to relocate, recycle, reuse, resell or upgrade the transitional shelter provides households with dignity and improved security across a range of tenure situations.

Common problems

96. The disaster may result in:

- land being irretrievably lost to landslides or flooding;
- boundaries which are no longer identifiable;
- lost or destroyed title documents
- termination of the conditions under which the tenure existed;
- ownership of the land being difficult to prove if it was inherited or no documents existed; and

- tenants being unable to return to their original plot of land or engage in reconstruction.

Flexibility over time

97. Land conflicts often take a considerable amount of time to be resolved. Transitional shelter allows a household facing such problems to be accommodated before issues of land reach a legal resolution.

Flexibility in relocation

98. Where tenure is insecure or can only be established for a limited period of time, the transitional shelter approach allows the household to relocate the shelter when necessary. Where it has been ascertained, the shelter can be upgraded or recycled.

4.4.5 LIMITS OF TRANSITIONAL SHELTER

What transitional shelter cannot do

99. Shelter as an approach will never be able to solve land tenure issues itself, as these are rooted in legal and social relations. It also cannot address inherent inequality in tenure systems, such as gender bias, although measures should be taken within the programme to address these issues. 🕮 FAO, *Gender And Access To Land*, 2002

Risk of unresolved land issues

100. Short term solutions can become long term settlement if displaced persons face barriers to return or relocation. Particular measures must be taken to ensure that sites which are regarded as temporary do not become long term.

Risk of government complacency

101. As many land issues arise because of weakness in the pre-disaster system, there must be recognition that certain issues will require long term reform to resolve. There is a danger that governments use the provision of transitional shelter as a justification for a lack of action in the long term.

Risk of land-owner bias

102. As households require access to land in order to construct a transitional shelter, there is a tendency to favour owners over tenants and squatters. Steps must be taken to ensure that the most vulnerable, such as the landless, tenants or female-headed households, are supported. This additional support may require alternative assistance methods such as cash to rent land or legal advice.

4.4.6 LEGAL FRAMEWORKS AND INFORMAL PROCESSES

Legal frameworks

103. Transitional shelter programmes must always take place in recognition and respect of the laws, land use plans and building codes governing the country of operation. Responsibility for land tends to be fragmented between various ministries, agencies and authorities at different levels of government. This can result in weak land administration and high levels of informality.

Need for specialist teams

104. Specialist teams should be employed to analyse policy, institutional frameworks, overlaps and gaps, and provide recommendations for response 🕮 The World Bank, *Safer Homes, Stronger Communities*, 2010, Chapter 7, Annex 2. Specialists will be able to advise on where international human rights laws or humanitarian principles fit where national laws are insufficient. 🕮 COHRE, *The Pinheiro Principles*, 2005

Situations with high levels of informality

105. In situations where there is a high level of informality, widely acknowledged extra-legal systems (i.e. those neither explicitly in or against the law) may provide adequate tenure security. Shelter interventions should aim to understand and build on the tenure system that was in place prior to the disaster. Addressing the complex issue of tenure informality and incremental tenure security will enable quicker recovery. 🕮 ODI, *Coordination And The Tenure Puzzle In Haiti*, 2010

4.4.7 USING AN INCREMENTAL APPROACH TO INCREASE SECURITY

Using a flexible tenure approach to obtain security

106. Promoting a range of tenure options, such as short-term use rights or statements of permission can reduce the risk of eviction and promote recovery 🕮 The Overseas Development Agency, *Urban Land Tenure And Property Rights In Developing Countries*, 1996. Flexible hierarchies of evidence and state-issued permits (i.e. certificates of use, written authorisation to occupy, sworn statements, community verification) can ensure that people without legal documentation can participate in shelter programmes.

Establishing transitional shelter as the property of the beneficiary

107. Informal mechanisms can never fully eliminate the risk of eviction. Whatever the tenure situation, in all cases the shelter should remain the property of the beneficiary. This may not be consistent with local practices (e.g. where buildings on leased land revert to the owner of the land) and special reference should be made in agreements so that households retain physical possession if relocated.

4.4.8 LAND OWNERSHIP IDENTIFICATION METHODS

Issues in land identification

108. Identifying land ownership can often be a difficult task. In many countries significant amounts of land are not covered by official records. Information may be contradictory or scattered across departments, while databases may be incomplete or out-of-date. A disaster often results in added confusion through the loss of both records and key personnel. There is a need to be wary of parties that may seek personal gain in the resultant chaos and uncertainty.

Formal methods of land identification

109. Formal means of identifying land are based on searching official land registers. Where these are incomplete it may be possible to use tax records to trace ownership, or utility bills to confirm occupancy. Notaries or surveyors may also be able to provide insight on land boundaries and ownership.

Informal methods of land identification

110. Where such formal methods are unattainable, a community or locality may hold the greatest knowledge of land use and ownership. Triangulate information between local leaders, individual households and the public to generate community maps. Consultation with local community members and officials can also provide important information on land which appears vacant, which may for example be used seasonally or under dispute.

Urban areas and enumeration

111. In urban areas, due to increased complexity of tenure arrangements, community mapping or enumeration procedures combined with action planning can be employed to identify and negotiate access to land for shelter and priorities for reconstruction. 🕮 UN-HABITAT, *Count Me In*, 2010

Important stakeholders

112. Key stakeholders as regards transitional shelter programmes include:

- national government;
- local municipality;
- affected household;
- local community;
- private landowners; and
- implementing agencies.

113. For a more detailed list of other potential stakeholders see 🕮 UN-HABITAT, *Land And Natural Disasters*, 2010, p.11

4.4.9 MULTI-PARTY AGREEMENTS

Tri-partite contracts

114. Contracts between the affected household, local government and implementing agency can be used to obtain permission and establish tenure security for transitional shelter. Contracts should define the roles and responsibilities of each party and the time-frame of occupation, while longer-term rights of access are resolved or upgraded.

Quadri-partite contracts

115. NGOs may also advocate on the behalf of a community with a private landowner, or with the support of the local municipality to form a quadri-partite agreement. Land owners may be more likely to agree to allow the use of their land for a specified time period if such use has the political backing of the local government.

Key considerations

116. As a summary, all transitional shelter programmes should aim to:

- recognise and support a range of tenure options;
- use and build on local knowledge and systems;
- seek to increase security;
- advocate long term recognition of rights;
- consider budgeting to include legal fees or land costs;
- promote coordination between agencies; and
- ascertain steps for transition to long term security.

Additional information

117. This section addresses some key considerations but is by no means an attempt to fully cover the issues raised. Further reading is highly recommended for those engaged in transitional shelter programmes, in particular 🕮 UN-HABITAT, *Land And Natural Disasters*, 2010.

4.5 HANDOVER

118. A transitional shelter approach is a process, not a product. Many stakeholders and agencies are therefore involved in a transitional programme over a long period of time at different stages of the response. To ensure that support for beneficiaries is continuous, proper handover procedures should be implemented. The following section gives a brief overview of the key considerations with regard to handover.

Handover as a process

119. Handover should be regarded as a process on its own. Communities or individuals within a programme may have their shelters handed over at different times. The same applies for the inter-organisational level. Therefore handover should be regarded as a continuous process throughout the programme.

Transition to what?

120. Transitional shelter programmes are often open to the question of 'Transition to what?'. This question should be responded to within the programme strategy in order to clarify who takes over support for beneficiaries at the point when the implementing organisation ends its contribution.

121. In addition, it is vital to agree who will continue the support of different sector components such as Water and Sanitation or Health. » 3.1.3

Continuous responsibilities

122. If the implementing organisation continues to have a presence in the country, but does not continue to have a shelter department, then it may still have some legal responsibility for the state of the shelters, post-occupancy. This question needs to be clarified for each specific situation. If this is the case, a

partner organisation should be ensured in order to continue support to the programme beneficiaries.

Preparation of handover

123. Handover strategies should ideally be prepared during the first meetings between the communities and local authorities before the implementation of the project in order to manage expectations. Planned handover dates, the residually retained responsibilities of the organisation after the end of the project, and the beneficiary and government expectations regarding the maintenance, upgrading or replacement of the shelters should be agreed on. In addition it has to be clearly stated which components, i.e. tools or machines, will not be handed over.

Recording of agreements

124. The above mentioned expectations should be recorded in writing in the initial 'Memorandum of Understanding' and the tripartite agreement with the community and the local authorities » 4.4.9. Multi-party agreements, as well as on the eventual certificate of handover of ownership for each beneficiary.

Setting up a certificate of handover

125. For the actual handover of a single shelter to an individual beneficiary household, it is recommended to use prepared certificates of handover. The wording of the certificate should be agreed upon by the 'Shelter Cluster', the government authorities and beneficiary communities. It should clearly state the following points:

- name of organisation;
- name of beneficiary;
- date of handover of the transitional shelter;
- number of shelters, in case of extended families;
- that the shelter and its components are property of the beneficiary; and
- references to any multi-partite agreements concerning land rights. » 4.4.9

Handing over the certificate

126. Where possible, the certificate should be handed over and signed by all parties by a representative of the humanitarian organisation, in public at the location of the shelter itself.

127. Through this chapter shelter practitioners should have been enabled to support beneficiaries with site selection and planning as well as communal infrastructures. In addition an understanding has been established of how to deal with land tenure issues and handover procedures in the course of a transitional shelter programme. In the following chapter further information will be given on how to design the actual shelters bearing the main socio-cultural considerations in mind. Elaborations on climatic and risk minimising design as well as materials and construction principles will be presented.

5 COMMUNITY SHELTER DESIGN

Chapter contents page

5.1 DESIGNING WITH THE COMMUNITY

Introduction

1. Designing a transitional shelter requires many culturally-specific considerations to be identified and reflected, so that the shelter can support daily activities such as religious observances, sleeping, cooking and eating, washing and cleaning, child care, and home based enterprises linked to livelihoods. Appropriate design for these activities is possible only with the full participation of the affected community. Additional and specific support must be given to vulnerable people within the community, such as the aged, as well as those with special needs, such as the disabled.

5.1.1 DESIGNING FOR DAILY LIFE

Customs and traditions

2. Customs and traditions, cultural habits, as well as normal activities of daily life should be reflected when designing a transitional shelter whilst also informing the design of the entire programme » Chapter 4. Daily life changes with seasons and so does the role of shelter, for example in storing some crops after a harvest or in undertaking craft-based activities during a long monsoon or winter. Daily life also depends on the household, which may include the elderly and young children, and the composition of the household may change over the period of use of the shelter.

3. The community itself may not have considered how these customs and activities impact upon the design of their transitional shelter. Committees, meetings, workshops and charrettes can all be used to reflect customs and activities in design, contributing also national legal requirements such as building codes, and humanitarian standards agreed for the response.

Important questions

4. Questions to consider with the community over customs and activities may include:

- what role does religion play within the community and daily life?
- what property rights and/or land tenure issues were in place prior to the disaster?
- what is the nature of internal spaces within traditional dwelling types, such as divisions between activities, ambience, lighting, ventilation, heating and cooling? and
- what are the everyday household activities, such as sleeping, washing, cooking and cleaning, and where in their previous homes were they undertaken?

5. With physical safety from hazards, the protection of family members must be central to the humanitarian contribution of transitional shelter. With careful consideration of cultural norms, involving protection specialists where appropriate, both direct and indirect consultation methods may be used to form an understanding of:

- what is the typical division of labour in household and community activities?
- do any discriminatory practices exist within the community that may impact men, women or children? and
- what actions will be undertaken to prevent exploitation?

Questions adapted from 🕮 IASC, *Women, Girls, Boys And Men*, 2006, pp.99-100

Status

6. Cultural status and the different livelihoods of community members, including different levels of financial income, must be considered when designing a transitional shelter and implementing a programme. Also in many societies, different cultural groups coexist. Contention over politics, economic power and inequality within the community may already be present 🕮 CRISE, *Cultural Status Inequalities*, 2006, p.2. Care must be taken through site and shelter design, material choice and allocation of resources to support the livelihoods activities of each group equitably, whilst not undermining cultural status or increasing such tensions.

7. Status differences will exist within a specific group or household. Engaging the participation of representatives within the affected population with different ages, ethnicities, religions and languages is therefore necessary for successful transitional shelter design.

Questions concerning cultural status

8. Again, with a careful consideration of cultural norms, and involving protection specialists where appropriate, questions regarding the cultural status within the community may include:

- does the affected population include groups with differing religions or ethnicities and may this contribute to conflict?
- what are the specific roles and influences of men, women and children with regard to decision-making and construction? and
- typically who works in the home and who works outside the home?

Questions adapted from 🕮 IASC, *Women, Girls, Boys And Men*, 2006, pp.99-100

Field experience: **The importance of understanding social structure**

"Many in Sri Lanka perceive ideas about participation to be counter-cultural. Relations between people in different social groups and categories tend to be both prescriptive and hierarchical. Very few civilians are accustomed to exercising choice, or to being involved in decision-making. Even the notion of consultation is foreign.

The situation is very different in Eastern DRC, where civil society is extremely active, as evidenced by the strong network of local NGOs that play a key role in humanitarian and development initiatives. International organisations, however, often fail to recognise the value of local NGOs and appear to work directly with civil society, which is a source of frustration for local NGOs". 🕮 ALNAP, *Participation By Crisis-Affected Populations In Humanitarian Action*, 2003, p.50

Family composition

9. An understanding of family compositions within a community is integral to achieving a successful transitional shelter programme. The shelter response should not only aim to preserve family structure but identify families, children or unaccompanied women with non-typical family structures.

10. Analysis should be undertaken with regard to how the community currently offers support to such vulnerable groups, in order to inform the transitional shelter design strategy accordingly.

Questions concerning family structure

11. Questions regarding typical family structures within the community may include:

- what are the total number of households and average number of family members categorised by age and gender? and
- is it a patriarchal or matriarchal social system?

Questions adapted from 🕮 IASC, *Women, Girls, Boys And Men*, 2006, pp.99-100

Gender issues

12. Gender issues are important to consider throughout a transitional shelter approach. These do not only include the specific needs of women, their roles within the community and identified vulnerabilities, but also those of men. It should not be assumed that women and children are at greatest risk. Men and women have different capacities and coping strategies and therefore should be assessed with equal importance.

13. Traditional gender roles are important not only in daily life of a transitional shelter, but also in its incremental construction. In most cultures women and men undertake different activities, which need to be reflected in the transitional shelter process.

14. The transitional shelters and programmes should be designed not to pose any additional risks to individuals or groups within the affected population. Successful gender analysis can ensure no further marginalisation occurs and may also highlight the potential for positive change in gender relations. BRIDGE, *Gender, Emergencies And Humanitarian Assistance*, 1995, p.i

Questions concerning gender

15. Questions regarding gender issues within the community may include:

- what vulnerabilities can be identified, that are associated specifically with men or women?
- how can women meaningfully participate in the decision-making process?
- what actions will be undertaken to prevent exploitation of women? and
- is it culturally acceptable to accommodate single women in separate shelters or should they be accompanied by a male relative?

Questions adapted from IASC, *Women, Girls, Boys And Men*, 2006, pp.99-100

Field experience: **El Salvador earthquake displaced, 2001 - Gender related issues**

In early 2001, El Salvador experienced two earthquakes resulting in 1,260 people killed and extensive damage to buildings, including 113 health care facilities. In terms of the emergency shelter response, single women within the community insisted that the sheeting provided for temporary shelters be strong and opaque. Previous translucent materials made it easy to identify isolated women and could be cut, resulting in possible abuse. The World Bank, *El Salvador* [online], ALNAP, *Participation By Crisis-Affected Populations In Humanitarian Action*, 2003, p.299

Privacy and security

16. Privacy and security within a home and throughout a community vary from place to place and from culture to culture. An analysis of traditional measures in place will provide an insight and possible solutions to the specific nature of each response.

17. Privacy is particularly challenging in communal shelter programmes. The risk of abuse to individuals and vulnerable groups due to lack of privacy and security is typically higher at night. IASC, *Women, Girls, Boys And Men*, 2006, p.2

Questions concerning privacy

18. Questions regarding privacy issues within the community may include:

- traditionally what privacy and security measures are in place between dwellings?
- are rooms partitioned to achieve a level of privacy between ages or genders? and
- are room types such as sleeping facilities secured with locks?

Questions adapted from IASC, *Women, Girls, Boys And Men*, 2006, pp.99-100

Culture and materials selection

19. Material choice » 5.4 may be related with cultural status within the community. Care must be taken to ensure that dissatisfaction and embarrassment does not lead to the rejection of the support, or even to possible social conflict. UNEP/SKAT, *After The Tsunami*, 2007, p.3

20. Culturally appropriate material choice is also likely to reflect local best practice gained over a considerable period in natural resource management. Selecting materials can aid protection of natural resources » 5.4 both in the affected region and further afield as well as reduce energy consumption, pollution and therefore the carbon footprint of the response. Alongside environmental benefits, sustainable construction management can offer financial benefits and may provide a number of safety advantages.

21. Cultural norms will be based upon the maintenance of traditional homes, however, rather than the immediate sheltering of a considerable proportion of a community within a context where the environment may also have been impacted by the conflict or disaster.

Questions concerning culture and materials selection

22. Questions regarding appropriate material choices may include:

- what types of transitional shelter materials will be appropriate to the specific culture and context?
- have agreements been made with regard to the use of local materials and the subsequent affect to biodiversity and available natural resources?
- has sustainability and longevity of materials been considered? and
- how are the materials to be allocated and how will this affect minority groups and women?

Questions adapted from IASC, *Women, Girls, Boys And Men*, 2006, pp.99-100

5.1.2 ACCESSIBILITY

Accessibility in shelter design

23. Following a disaster it is important to provide additional support to the most vulnerable people including pregnant women, children, the elderly, sick and those with disabilities. Such groups may become increasingly marginalised without adequate assistance. Consideration of accessibility issues in both site and shelter design is key to ensuring basic needs are met and accessibility is achieved for all.

Questions concerning accessibility

24. Questions regarding accessibility within the community may include:

- what systems are in place to assist the elderly or those with disabilities?
- are there any individuals or groups who may need additional shelter support? and
- how can the specific design of the transitional shelter offer ease of access?

Questions adapted from 🕮 IASC, *Women, Girls, Boys And Men*, 2006, pp.99-100

Field experience: **Haiti earthquake displaced, 2010 - Accessibility for all**

Following the earthquake which struck Haiti in January 2010, Handicap International rolled out a humanitarian response, the largest in its history. Among other things the association aims to ensure the most vulnerable people including amputees, quadriplegics and paraplegics are given access to a complete range of services. In terms of transitional shelter support, a database of 'particularly vulnerable persons' has been set up in Port-au-Prince in order to meet the specific needs of families with disabled members for example. By August, in addition to the distribution of tents, 45 temporary shelters were constructed each designed to cater for people with reduced mobility featuring ramped access. 🕮 Handicap International, *Haiti Situation Update*, 2010 [online]

25. This section provided an overview of the importance of socio-cultural awareness when implementing a transitional shelter approach, offering possible questions for consideration to ensure a culturally appropriate response. The following section continues with key considerations for shelter design in order to minimise risk to the affected population.

5.2 DESIGNING TO MINIMISE RISK

Introduction

26. This section offers basic guidance on risk reduction techniques which may be integrated when designing transitional shelters with communities. Information is divided according to natural hazards, health considerations, safety and security. Details on minimising risk through site planning and preparation is included in » 4.2.

Learning from local construction techniques

27. Local construction techniques and typologies will provide further insights into safe and appropriate shelter design for the specific nature of the affected area. Local builders will have many valuable insights into designing to minimise risk.

5.2.1 NATURAL HAZARDS

Introduction

28. The following text provides information on techniques which may be used to ensure transitional shelters are more resilient to natural hazards. Information is divided into sections on floods, landslides, earthquakes, hurricanes, tsunamis and volcanoes.

Hazard resistance versus hazard resilience

29. Ideally, shelters should resist all hazards. As with all construction worldwide, resistance to hazards must be based upon an assessment of the probable level of risk, as building 'hazard proof' shelters is both impractical and costly. The hazards to be designed for and the level of risk shelters should withstand are agreed by government and the mandated humanitarian coordinating body. Meeting these locally-agreed standards must involve specialist input, especially from structural engineers.

Disseminating DRR techniques

30. Whenever possible, transitional shelter design should be used as a platform for communicating disaster risk reduction techniques. Hazard resilient transitional shelters may have an impact beyond the direct beneficiaries if they are accepted as examples of good building practice in the community. As an example, in an area prone to high winds a transitional shelter design will include fixing roofing securely to trusses and trusses securely to walls. If such fixings are not part of traditional construction and if the value of this is observed by occupants during storms, it may inform parallel reconstruction » 1.2, Principle 2, Involve Community. Transitional shelter programmes should reduce the vulnerability of the affected population.

Multi-hazard assessment

31. Risks often occur as a consequence of a combination of hazards, such as earthquakes causing tsunami, landslides or

fires. Multi-hazard resilient techniques should be considered when designing transitional shelters.

Location and mitigation

32. The primary way to reduce risk from any hazard is to locate all transitional shelters away from the hazard. The following mitigation measures should only be considered if the risk is of a level that can be adequately managed using those measures.

Alarms, evacuation and access

33. For all hazards, site planning should take into account the location of alarms, such as a bell or siren, as well as muster points, routes for evacuation and evacuation areas. Access should be possible for emergency services and critical infrastructure, such as bridges, should be strengthened.

Further information

34. The guidance provided in this section is not comprehensive, nor are the examples provided suitable for every situation. They are intended as a basic introduction to principles. Again, structures must be designed by a qualified professional.

Flood-resilience measures

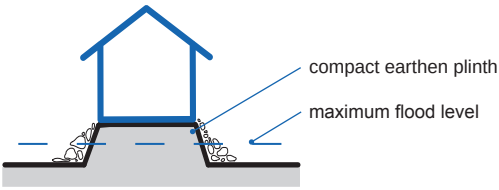
Introduction

35. Transitional shelters are light structures and are therefore particularly susceptible to damage from floods. Flash floods, storm surges and/or rise in groundwater can cause severe damage to buildings and infrastructure particularly with the addition of debris, increase risk of drowning and promote a breeding ground for insects such as mosquitoes. Contact with flood water should be avoided due to typical contaminants such as sewage. 🕮 Oxfam, *TSDP*, 2005, p.237

Foundations and plinths

36. Elevated foundations, or plinths, may be used to raise the living area above the level of potential flood water. Basic plinths may consist of simple platforms created with of a mix of compacted sand, clay and cement, with cement stabilised sides to help prevent scouring undermining the plinth and foundations. The plinth level should exceed the maximum flood level, as shown in diagram 5.1. » 5.5.1

Diagram 5.1 Elevated plinth



Adapted from 🕮 Practical Action, *Document Library* [online]

Designing the shelter to flood

37. As an alternative to raising the entire structure, in slow-onset floods the shelter may be designed to allow flood water to run through. This approach ensures that expensive parts of the shelter - the foundations, structure and roof - are

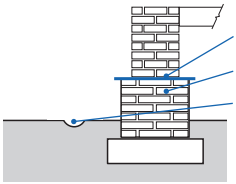
saved. This approach is not appropriate if the flood is likely to be fast moving, or if it is likely to carry with it a significant amount of water-borne debris, as the shelter is more likely to be destroyed by the water or debris. It should also not be used if the floodwater is likely to be close to the eaves: water pressure against the roof will result in the failure of the structure. Foundations should be designed to withstand the water pressure and impacts from debris, understanding that the pressure exerts greater leverage the deeper the floodwater is. Sacrificial wall panels may be designed to wash away, which requires them to be fixed in panels between columns, rather than spanning columns. Storage areas may be created in the roof space between the truss ties and rafters so that, as the flooding starts, occupants may save possessions that they are unable to carry with them.

Designing masonry shelters to flood

38. If masonry construction is used during the transitional shelter process, walls may be waterproofed to the height of predicted flood levels. Basic construction materials may include stone or fired brick with cement mortar, ideally plastered from ground level to the predicted maximum flood level. Above the predicted water level other, non flood resistant materials may be used. To prevent moisture rising through the structure, the structure may need to incorporate a damp proof membrane (DPM) under the floor and a damp proof course (DPC) within the wall at the upper limit of flood resistant material use.

39. Diagram 5.2 shows the use of a fired brick plinth to protect the lower part of a wall from flood water and moisture seep.

Diagram 5.2 Reinforced fired brick plinth



Fired brick plinth with mud bricks above. Insertion of plastic sheeting between plinth and wall to prevent moisture infiltration.

Designing raised shelters on stilts

40. If flooding is regular and the waters are high but slow and are unlikely to carry debris that may cause major damage, consideration should be given to developing shelters raised up onto long columns or stilts. Challenges with this approach may include:

- major implications to the use of the shelter culturally and in daily life;
- affected population may not be familiar with the required method of construction;
- increased complexity and cost of construction, also requiring careful structural engineering and quality assurance; and

- difficulties in upgrading and extending the structure, as an incremental process.

41. One opportunity would be the introduction of a new approach to reducing risk which may be adopted more widely in reconstruction.

Landslide-resilience measures

Introduction

42. Landslides including rock falls, tree slides, mud slides and avalanches are often the result of deforestation or overgrazing or in areas prone to wildfire. Heavy rainfall may trigger these events on steep slopes. Such 'mass movements' can cause extensive building damage and/or loss of life. 🕮 Oxfam, *TSDP*, 2005, pp.230-231

Retaining walls and engineering

43. If relocation is not feasible, it may be possible to mitigate the risk through building walls and other engineering works. This is usually at high cost and specialist engineering input is required, as not all landslide risks can be managed sufficiently.

Adequate drainage

44. Landslides are likely to occur where the soil is saturated. Adequate drainage measures surrounding the shelter can help to mitigate this. » 4.2

Foundations and plinths

45. Foundations which extend below the region of soil movement may assist building stability. However these may not be appropriate or possible within a transitional shelter approach. » 5.5.1

Openings

46. When only small landslides are likely, openings should be minimised within walls, which should be reinforced, orientated towards the potential source of landslides. However openings away from the slope may extend pre-disaster warning times to allow safe evacuation. » 5.5.3

Multi-hazard resistance

47. Landslides can occur as a consequence of other major hazards such as earthquakes, storms and flooding, therefore multi-hazard resistance techniques should be considered when designing transitional shelters.

Earthquake-resilience measures

Introduction

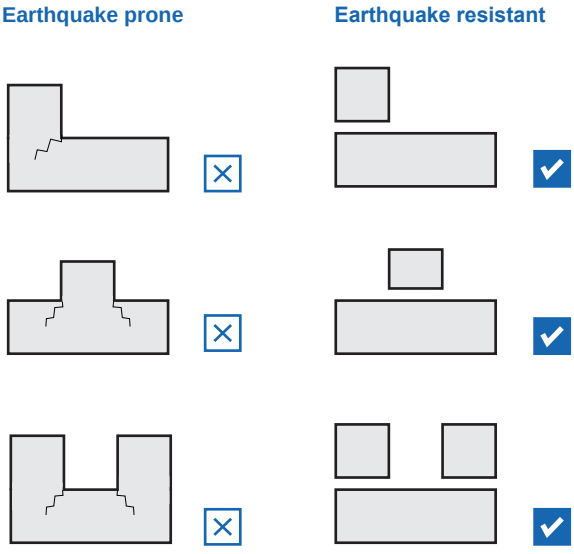
48. Earthquakes can cause acute ground shaking resulting in liquefaction, formation of cracks and/or significant rise and fall of land. Significant damage to buildings and infrastructure may occur which, at worst, may be irreparable and result in fatalities. 🕮 Oxfam, *TSDP*, 2005, p.226

Simple building plans

49. Simple plans are recommended for future upgrades and extensions. Asymmetrical, L-shaped, H-shaped or T-shaped designs are more vulnerable and should be avoided.

50. Diagram 5.3 shows the use of simple building plans to improve earthquake resilience.

Diagram 5.3 Earthquake resilient building plans



Adapted from Oxfam, *TSDP*, 2005, p.228

51. If more complex building plans are required, the elements should be structurally independent to reduce the risk of earthquake damage.

Foundations

52. If possible, foundations should be deep, carefully constructed and well connected to the rest of the structure. » 5.5.1

Reinforce walls

53. Thin, high or long masonry walls should be reinforced with buttresses at regular intervals. » 5.5.3

Diagonal bracing

54. Diagonal bracing in non load bearing walls will help to resist lateral earthquake loads. However the bracing should be well connected to the main structure in order to be effective. » 5.5.3

Ring beams

55. If possible, ring beams should be placed above the floor level, at lintel level, and below the eaves to increase structural integrity.

Position openings away from corners

56. Doors and windows should be positioned away from corners, and large openings (over approximately 100cm) should be avoided.

Avoid heavy roofs

57. Heavy roofs should be avoided as they can cause injury on collapse. Heavy loads on rooftops should also be avoided, for example multiple layers of mud or soil for insulation over a flat roof, and equipment such as water tanks. » 5.5.4

Light roofs

58. Light roofs such as CGI sheeting over a timber frame, are less likely to cause injury on collapse. This type of roof

construction lacks thermal insulation however, and so additional materials may be required depending on the climate. » 5.3, » 5.5.4

Connections

59. All connections should be reinforced. This can be done by using straps, braces or gussets. More in depth construction principles including local materials, NFIs and building techniques can be found in » 5.4, » 5.5

60. Beam connections should be well secured, for example with a long lap or scarf joint in the case of timber. » 5.4.2

Storm-resilience measures

Introduction

61. Storms involving such phenomena as wind, tropical cyclones, tornadoes, lighting, precipitation, dust clouds and extreme temperatures can cause extensive building damage particularly without the presence of early warning systems. 🕮 Oxfam, *TSDP*, 2005, p.232

Site layout and vegetation

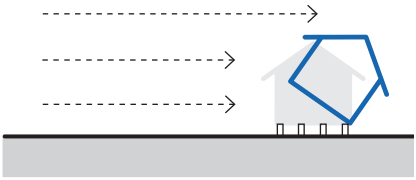
62. Shelters arranged in clusters may dissipate wind forces more effectively than when arranged in rows, which can amplify the wind's strength. Vegetation may be used to provide a buffer against high winds, however the danger of falling trees should be considered. 🕮 UNEP, *After The Tsunami*, 2007, p.22

Foundations to withstand uplift

63. Foundations should be sufficient to ensure that shelters are able to withstand uplift forces in strong winds. Shelters which are not properly attached to their foundations may be lifted off the ground. Shelters should be designed with windows which can be closed tightly, to prevent wind entering the shelters and adding to uplift. » 5.5.1

64. Diagram 5.4 shows the purpose of anchoring to withstand possible uplift.

Diagram 5.4 Anchoring to foundations to prevent uplift



Foundations should be appropriately dimensioned and the shelter anchored accordingly to withstand uplift forces in strong winds.

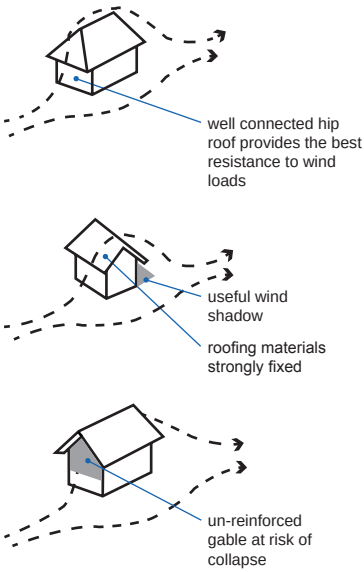
Adapted from 🕮 Oxfam, *TSDP*, 2005, p.236

Pitch and orientation of roofs

65. Roofs should be appropriately pitched, oriented and fastened in order to reduce the opportunity for detachment during strong winds. Roof pitches in cyclone prone areas should be at least 30°, ideally 30°- 45°. In areas at severe risk of storms, hipped roofs may be considered, however in most cases, hipped roofs are likely to be too expensive and/or complicated for use in transitional shelters. » 5.5.4, 🕮 Oxfam, *TSDP*, 2005, pp.234-235

66. Diagram 5.5 shows considerations for the orientation of pitched and hipped roofs.

Diagram 5.5 Roof shape and orientation



Adapted from Oxfam, *TSDP*, 2005, p.233

Reduce overhangs to limit uplift

67. Excessive roof overhangs should be avoided in areas at risk of high winds, as a large overhang can increase the risk of roof detachment. Short or detachable overhangs may be used to reduce the risk of damaging the shelter's primary structure. » 5.5.4

Hurricane fixings, strapping and cross bracing

68. Roof covering materials must be fixed to trusses, and trusses to walls with fixings such as bolts, screws and straps. Metal strapping and extra bracing is important in high winds, and is particularly important at the roof-wall connections and roof edges to resist uplift forces. » 5.5.4

69. The edges of the roof are subject to much higher wind forces, therefore the connections of roofing material need to be able to withstand stress, such as by increasing the number of screws and straps used. Failure at any of these locations may lead to complete roof failure.

Vents

70. Wind vents positioned close to the ridge of a roof will help to balance the internal and external pressures and facilitate natural ventilation.

Glazing

71. Shutters should be considered to provide protection for glazed windows.

Tsunami-resilience measures

Introduction

72. Tsunamis are in effect waves caused by the displacement of large bodies of water often as a result of other natural events such as earthquakes. They can cause extensive damage to building and infrastructure particularly with the addition of debris.

Relocation

73. No transitional shelter design can offer sufficient protection from a large tsunami. Wherever possible, the community should be relocated away from the hazard.

Vegetation

74. Trees and bushes can be used to reduce the speed of tidal waves. Mangroves, swamps and other vegetation which provides a natural barrier to coastal areas should be protected.

Raised shelters and suspended floors

75. In the absence of naturally high ground, inland or where tsunami are likely to be small, shelters may be elevated and/or utilise suspended floors to ensure structures are more likely to resist the water pressures of a tidal wave. Shelters raised on stilts are vulnerable to being damaged by floating debris. » 5.5.2

Orientation of openings

76. Major openings should be incorporated in elevations facing the sea/ocean to allow water to flow through the shelter reducing high pressure on walls.

Design for multiple hazards

77. Locations which are at risk of tsunamis are also likely to be prone to earthquakes and floods. Multi-hazard design is therefore advisable when designing transitional shelters.

Volcano-resilience measures

Technical expertise

78. Professionals such as geologists and volcanologists may need to be consulted when building in volcanic areas. Consultation with local geological authorities is also recommended. » 4.3

Relocation

79. No transitional shelter design can offer any meaningful protection from a volcanic eruption. Wherever possible, the community should be relocated away from the hazard.

Openings and escape routes

80. Openings, especially doors, should be placed on elevations orientated away from the volcano so that they can be used as escape routes. Large openings on the elevations facing the volcano should be avoided and walls and roofs strengthened, in order to offer a level of protection from blasts and ballistics such as rocks and fragments of petrified lava.

Roofs and volcanic ash

81. Roofs may need to be designed to withstand the load of heavy layers of ash. Ash becomes considerably heavier after rainfall, due to saturation.

Design for multiple hazards

82. Volcanic eruptions can cause other hazards such as earthquakes, landslides, fire, floods and tsunamis. Multi hazard resilience should therefore be considered when designing transitional shelters.

5.2.2 HEALTH CONSIDERATIONS

Vector control

83. The term 'vector' is used to describe any organism which can carry disease from one place to another. Two main categories of vector need to be considered when designing transitional shelters:

- insects such as mosquitoes, fleas, ticks, and sand flies; and
- small animals such as rats, birds and monkeys.

Appropriate design measures

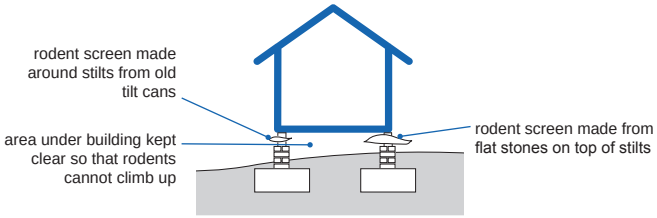
84. As a minimum, shelters should be resistant to vectors, especially mosquitos in malarial regions, over an area large enough for the inhabitants to sleep. This may be achieved through the provision of treated mosquito nets. Alternatively, netting or fine wire mesh may be used to reduce the entry of insects through window openings and/or doors. Surrounding vegetation, standing water and walls or roof spaces may be sprayed with insecticide. Care should be taken when using insecticides to ensure appropriate use, involving specialist guidance. 🕮 Oxfam, *TSDP*, 2005, p.222

85. The design of transitional shelters should impede the entry of crawling insects, for example with the use of baseboards at floor to wall connections 🕮 Shelter Centre, *TSS*, 2010, p.17. Holes within shelter materials and at poor connections points can be filled with mortar or other such materials.

Rodent-resistant 'screens'

86. Where raised floors are to be used, particularly in flood-prone areas, 'screens' can be used to further prevent the entry of rodents and large insects. This is illustrated in diagram 5.6.

Diagram 5.6 Rodent-proof measures



Adapted from 🕮 Oxfam, *TSDP*, 2005, p.223

Air quality for cooking and heating

87. Basic stoves and three-stone fires are used by approximately half of the population of the world, resulting in increased indoor air pollution through the burning of biomass fuel. An estimated 1.5 million deaths a year are contributed to such cooking practices and therefore it is an extremely important consideration when designing transitional shelters. 🕮 Practical Action, *Chimney Stoves And Smoke Hoods*, 2007, p.1

88. Successful shelter design can reduce the risk of smoke inhalation by:

- improving rudimentary systems though the introduction of flues and chimneys, smoke hoods, or chimney stoves;
- improving shelter ventilation strategies;
- encouraging improved maintenance of cooking facilities and appropriate practices such as ensuring fuel wood is dry;
- using 'cleaner' fuel in order to reduce carbon emissions;
- reducing the need for fire through various techniques such as 'hay boxes'; and
- removing or reducing the need for such stoves by better utilising natural sources of heat such as solar water heaters and cookers, in combination with improved insulation and efficient use of thermal mass.

Adapted from 🕮 ITDG, *Smoke - The Killer In The Kitchen*, 2004, pp.13-20

Toxic environments and substances

89. Materials such as asbestos, some paints and formaldehyde, should be avoided. Any asbestos already on site would be contained or removed. Asbestos poses the greatest risk to health when it is brittle, breaking into small pieces due to extended wear or degradation. 🕮 Oxfam, *TSDP*, 2005, p.221, 🕮 ProAct network, *Asbestos In Emergencies*, 2009

5.2.3 FIRE PREVENTION

Fire prevention in site planning

90. In areas prone to forest fires or in particularly hot climates, prevention methods should be considered during site planning, for example with the use of firebreaks and the integration of escape routes.

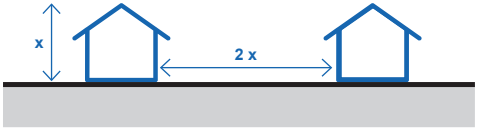
Field experience: **Somalia conflict, 2008 - The potential risk of fire**

Somalia has remained without a central government since 1991. Civil war and factional fighting alongside weather events such as periods of drought have led to approximately 560,000 refugees and an estimated 1.5 million internally displaced people. Different shelter programmes have been implemented across Somalia. A range of potential risks can be identified with regard to the specific nature of the region. For example settlements in Bosaso have seen outbreaks of fire due to an exceptionally hot climate, low levels of rainfall and overcrowding. Design to minimise risk of fire has included site layout considerations, improvements to sanitation, the use of firebreaks, shelter material selection and specific construction techniques. 🕮 UN-HABITAT, *Shelter Projects*, 2009, p.20

Fire safety distance

91. If possible distance between shelters should be at least twice the height of the structure in order to reduce the risk of fire spreading. In locations where there is limited space, an emphasis should be placed on the selection of non-flammable materials. The impact of wind and prevailing wind direction may also affect fire safety distances. UNHCR, *Handbook For Emergencies*, 2007, p.219

Diagram 5.7 Fire safety distance



To prevent fire from spreading to nearby shelters, distance between buildings should be twice their height.

Adapted from Oxfam, *TSDP*, 2005, p.224

Material considerations

92. If shelters are built with potentially flammable materials such as straw thatch and timber the distance between shelters should be three to four times the height of the structure, if possible. UNHCR, *Handbook For Emergencies*, 2007, p.219

93. Special attention must be paid to fire and heat-proofing the floor and walls under and around stoves and heaters.

Alarms, evacuation and fire fighting

94. Site planning should take into account the location of alarms, such as a bell or siren, as well as evacuation routes and provision for the accommodation and access of fire fighting equipment and teams.

5.2.4 SECURITY

Household security

95. The security of a transitional shelter impacts the protection of the occupants, as well as their dignity and privacy.

Locks

96. It may be necessary to provide locks for doors and windows, or to design shelters such that locks can be added. However the entire design should be considered with regard to security for example, locks on windows and doors may be ineffective on shelters with plastic sheeting or fabric walls, as these can be easily cut.

Exits

97. Shelter design should include more than one exit route in order to provide an escape route in case one exit becomes blocked. Where locks are installed, care should be taken to ensure that the doors are easy to unlock from the inside.

Visual privacy

98. Shelter walls should prevent people outside from being able to observe whether or not the shelter is occupied. It must therefore be possible to cover doors and windows, as well as light the shelter at night without creating silhouettes. » 5.1.1

Conflict

99. If a transitional shelter programme must be located in an area at risk of further conflict, care should be taken with regard

to adjacent conflict-damaged buildings or abandoned posts which may include unexploded munitions.

Dialogue with community

100. Dialogue with the local community regarding the possible risks and hazards of the specific nature of the site is advisable. All sources of information should be investigated. 🕮 Oxfam, *TSDP*, 2005, pp.217-219

101. This section offered basic principles to consider when designing a transitional shelter programme, giving specific attention to issues related with minimising risk. The following section offers guidance of climatic design.

5.3 CLIMATIC DESIGN

102. Designing transitional shelters in response to the local climate increases the performance of the building in keeping the occupants comfortable and minimises environmental impacts over the lifespan of the shelter, by reducing the need for cooling or heating, if fans or stoves are used. Passive design techniques are integrated into the transitional shelter programme in order to respond to the specific nature of the climate without increasing energy demand.

103. The outdoor climate throughout the year is generally regarded as the 'given condition', however the effect of climate change should be considered if significant. 🕮 Lund University, *Climatic Design Of Buildings Using Passive Techniques*, 2000, p.5

104. As with other technical chapters in this guideline, the following section does not give comprehensive advice and is intended to promote the involvement of specialists through an awareness of the importance of the topic, rather than enabling non-specialists to undertake the tasks involved.

105. The section presents an overview of key considerations for temperature, humidity and ventilation within three typical climate types: warm-humid, hot-dry and cold.

5.3.1 INTERNAL CONDITIONS

Temperature

Introduction

106. The effect of both daily and annual temperature variation on the internal conditions of a transitional shelter should be considered. Diurnal temperature variations are typically greatest in hot-dry areas such as deserts at high altitude in

comparison to low-lying humid areas. Extreme temperature differences can also be experienced from season to season. As the period of securing land tenure and reconstruction may take a number of years it is therefore essential to assess available meteorological data to ensure shelter design is suitably appropriate.

Comfort factor

107. Comfort is subjective and it is therefore difficult to specify 'optimal comfort'. Instead, 'comfort zones' can be defined for specific climates using a range of indices such as the corrected effective temperature (CET) and operative temperature (OT). Factors affecting thermal comfort are included table 5.1 below.

Table 5.1 Factors affecting thermal comfort

Table 5.1: Factors affecting thermal comfort

Environmental	Personal	Contributing factors
▶ Air temperature	▶ Metabolic rate	▶ Body shape
▶ Radiation	▶ Clothing	▶ Fat
▶ Humidity		▶ Age
▶ Air movement		▶ Gender
		▶ Health
		▶ Food and drink
		▶ Acclimatisation

PLEA, *Thermal Comfort*, 2007, p.8

108. It is worth noting that local populations are typically acclimatised to the specific nature of the climate, resulting in 'comfort zone' parameters that may vary from those for non-local populations. PLEA, *Thermal Comfort*, 2007, p.8

Factors affecting temperature

109. The temperature within a transitional shelter will be affected by the:

- outside temperature;
- level of insulation;
- thermal mass of shelter materials;
- ventilation strategies;
- number of building occupants; and
- use of heat emitting sources such as stoves and heaters within the shelter.

Humidity

Introduction

110. Relative humidity is the amount of water vapour in the air, with 100% saturation classified as 'absolute'. Hotter air is able to contain more water than colder air. When the dew point is reached, the excess water condenses.

111. In both hot and cold climates, moisture creates conditions for fungi, mould and mildew, which impact health, building

materials, bedding and clothing. It is also necessary to control humidity in hot climates to improve comfort using ventilation; while in cold climates humidity, causes condensation, which may additionally reduce the impact of insulation.

Sources of humidity

112. Sources of humidity inside a shelter include:

- the ambient relative humidity;
- water brought into the shelter, for example as rain or snow on wet clothes;
- building occupants, emitting moisture through breathing; and
- the use of heaters and stoves in the shelter, producing water vapour as a product of combustion.

113. The humidity in a shelter will also be affected by the external climatic conditions, the ventilation strategies employed within the shelter and the 'breathability' of construction materials.

Ventilation

Introduction

114. Ventilation, both active and passive, is the process of replacing air within a space through exchange with the external environment and circulation within the shelter itself. Successful ventilation strategies can improve air quality.

115. Ventilation directly affects the temperature and humidity within the shelter, as well as the level of comfort through noticeable air movement.

Air movement

116. Air movement increases cooling through convective heat loss, where warm air next to the body is displaced by cool air from the environment. It follows that ventilation should generally be maximised in warm climates and minimised in cold climates. However, it is important to consider 'comfort levels' to ensure high ventilation rates do not result in the perception of discomfort, for example for populations acclimatised to higher temperatures.

Air exchange rate

117. A minimum level of ventilation should be achieved at all times, to ensure sufficient air exchange in a shelter. If shelters are completely sealed, the inhabitants may be at risk of asphyxiation from the lack of oxygen or high levels of carbon monoxide, resulting from their own breath or from heaters or cookers.

5.3.2 DESIGN CONSIDERATIONS FOR WARM-HUMID CLIMATES

Temperature

Shading to minimise exposure

118. Direct solar gain should be minimised particularly during the hottest period of the day through the use of shading techniques such as overhangs, external shading devices and use of vegetation.

Thin walls

119. Lightweight walls are preferable, minimising thermal mass of the shelter. » 5.4, » 5.5

Humidity

Reducing water in the shelter

120. Moisture can be prevented from entering the shelter by capillary action, soaking through the floor and walls: this may involve a damp proof membrane, usually a sheet of plastic under the floor, and damp proof courses a short distance from the base of walls, usually a strip of plastic sheeting. In flood-prone areas and areas subject to heavy rain, design measures should be considered alongside design techniques to prevent water entering the shelter, for example by raising it on a plinth or on stilts. » 5.2.1

Transpiring materials

121. Natural 'breathable' material choices should be considered to facilitate heat and moisture removal from inside the shelter. For example, walls of lapped timber planks can prevent driving rain from entering the shelter, while the gaps between the laps enable ventilation.

Measures to prevent condensation

122. Shelters are at risk of condensation both in warm-humid climates when saturated air trapped inside the shelter during the day condenses at night, as it becomes colder and in cold climates, when the hot humid air in a shelter meets the colder surrounding air. Possible methods of reducing condensation are listed below:

- increase ventilation in a way that does not cause a draught, but cannot be blocked, for example around a flue hole in the roof;
- provide a covered external area for wet items such as clothes and shoes;
- consider damp proof membranes and courses, or raised floors to better protect from rising moisture and direct contact with damp ground;
- prevent rain water being driven by winds onto outside walls, which saturates wall materials, for example by increasing roof overhangs; and
- use pitched roofs with appropriate slope gradient to allow water runoff and drainage.

Interstitial condensation

123. Interstitial condensation is condensation which occurs within the wall structure. This can occur when warm, moist air diffuses through a vapour-permeable material to cooler air on the opposite side. If the 'dew point' is reached in the material, or if the air reaches a less permeable layer, condensation may form.

124. Interstitial condensation is particularly dangerous as it can progress for some time before being detected. It can lead to mould growth which over time can cause serious structural

damage through mould damage to timber and thatch or rust to metal reinforcement and sheeting.

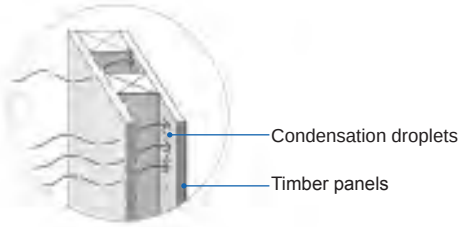
Methods to avoid interstitial condensation

125. Methods to avoid interstitial condensation may include the use of:

- damp proof membranes and courses within floors and at the base of walls, as well as vapour checks in walls and roofs;
- 'breathable' materials that are airtight but vapour permeable; and
- 'warm' roof construction, which is insulation located at roof deck, directly below waterproof layer.

126. Diagram 5.8 shows the process of interstitial condensation.

Diagram 5.8 Interstitial condensation



Ventilation

Elevation of shelters

127. Elevating shelters may encourage air flow due to positive and negative pressures.

Prevailing wind

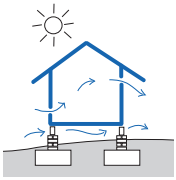
128. Prevailing wind direction should be considered to maximise the potential for cross ventilation.

Opening considerations

129. In order to maximise air flow, outlet windows can be positioned higher than inlet windows. Natural convection currents result in warm air rising. Air will be warmed inside the shelter, causing it to rise, escaping the shelter at high level. Large openings are encouraged.

130. Diagram 5.9 shows the principle of cross ventilation and the opportunity to elevate shelters to encourage air movement.

Diagram 5.9 Ventilation principles



High level and low level ventilation gaps on opposite walls encourage airflow. Shelter on stilts allows airflow underneath thus cooling.

High ceilings

131. High ceilings increase the volume of air within the shelter encouraging movement of air through convection and buoyancy effects.

Other considerations

Rainwater management

132. Pitched roofs facilitate rainwater drainage. » 5.5.4, Oxfam, *TSDP*, 2005, p.241

Roof overhangs

133. Large roof overhangs may provide shading to walls and protection from heavy rains. Extensive roof overhangs however should be avoided in areas at risk of high wind, due to the potential for uplift. » 5.2.1

5.3.3 DESIGN CONSIDERATIONS FOR HOT-DRY CLIMATES

Temperature

Orientation

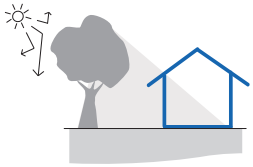
134. Successful orientation of shelters with regard to the suns path across the course of the day and over the period of a year may reduce the impact of direct solar gain. A north-south orientation is recommended.

The use of vegetation to minimise exposure

135. Vegetation may be used to minimise the heat gain of walls during the hottest part of the day. Vegetation also creates a more comfortable microclimate by lowering temperatures through the natural process of evaporative cooling.

136. Diagram 5.10 shows the opportunity to use existing vegetation for shading.

Diagram 5.10 Shading opportunities



Situating a shelter in the shade of trees or other foliage will result in no direct sunlight hitting and being absorbed by the shelters thermal mass. In colder conditions, it is beneficial to remove the shelter out of shaded areas to maximise solar gain.

Double-skin roofs

137. Radiant heat gain can be minimised through double-skinned techniques, encouraging ventilation through the roof. *The Sphere Project*, 2011, p.261

Shade nets

138. To achieve a similar impact to a double-skinned roof, plastic shade nets may be suspended over the shelter which allow air to pass through, but greatly reduce the thermal gain by reducing the amount of sunlight that reaches the shelter. MSF, *Shade Nets*, 2006

Thermal mass

139. Thermal mass acts to even out daily temperature variations within a shelter. Materials with high thermal mass can absorb heat from the sun or from internal heat sources such as heaters and stoves, and release it slowly over time. Materials with high thermal mass are often not easily transportable and should therefore only to be used in transitional shelter designs where temperature variations are extreme, or where they are used traditionally and can be sourced locally.

Insulation

140. Insulation can be used to maintain differences in temperature between internal and external conditions. Care should be taken in design, as some hot dry climates become cold at night and when air of different humidity and temperature meet, interstitial condensation occurs. The use of local techniques and natural materials such as thatch, straw, mud, timber panels or fibre board may be suitable, as well as insulation such as glass wool and polystyrene. » 5.4

Ventilation

Elevated site

141. Elevated sites may facilitate air movement in and around shelters.

Compact form

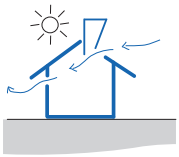
142. Narrow streets and minimum affordable spacing between shelters maximises shading opportunities to offer protection from intense sun, as well as minimising dust blown by wind. Care should be taken to protect against the spread of fire. 🕮 Oxfam, *TSDP*, 2005, p.242

Opening considerations

143. Ventilation of eaves is recommended to encourage high level cross ventilation and facilitate the release of hot air. Small windows and quality connections between construction elements will minimise dust and vector entry. 🕮 Oxfam, *TSDP*, 2005, p.241

144. Diagram 5.11 shows basic ventilation principles.

Diagram 5.11 Ventilation strategy



High level ventilation allows adequate air change in the shelter whilst minimising entry of dust.

High ceilings

145. High ceilings increase the volume of air within the shelter encouraging movement of air through convection and buoyancy effects.

5.3.4 DESIGN CONSIDERATIONS FOR COLD CLIMATES

People burn more calories in cold conditions by using more energy. For example, at temperatures below 20°C an additional 100 kilocalories per day are required per 5°C reduction in temperature. 🕮 Oxfam, *TSDP*, 2005, p.239

Temperature

Orientation

146. Successful orientation of shelters with regard to the suns path across the course of the day and over the period of a year may provide an opportunity to maximise the use of solar gain to reduce energy demand.

'Warm rooms'

147. The use of 'warm rooms' where it is not necessary to heat the whole shelter can help to reduce fuel use. Provision of stoves and heaters should be considered and fire safety measures implemented accordingly. » 5.2.3

Thermal mass and insulation

148. High thermal mass and/or substantial insulation are important for maintaining suitable temperatures, and to reduce the shelters energy demand. Plastic sheeting is often used to limit the infiltration of cold air by stopping draughts. Insulation can also be used to sub-divide the indoor space and create thermal buffer zones, such as a vestibule in front of the door. The use of local techniques and natural materials such as thatch, straw, mud, wool, timber panels or fibre board may be suitable, as well as insulation such as glass wool and polystyrene. 🕮 Oxfam, *TSDP*, 2005, p.240

149. Diagram 5.12 show insulation measures that may be adopted.

Diagram 5.12 Cold climate building principles

Insulation such as animal hides, foliage or timber added to exterior walls and roof insulate and prevent heat loss.

An exterior layer of plastic sheeting insulates the shelter. Shelter elevated on solid concrete plinth or similar material to improve floor insulation.

Compact form

150. A compact form is functional to reduce heat loss in cold climates. Square plans are ideal, however for transitional shelters, appropriately insulated shapes with a maximum ratio of length to width of a maximum of 3:1 may be more feasible.

Humidity

Reducing water in the shelter

151. In cold and temperate climates where insulation is used, vapour checks should be added in walls and roofs, usually made from tarred paper or a 'breathable' but waterproof spun polymer. Plastic sheeting may also be used, if the design is appropriate.

Condensation due to occupant activity

152. Occupants breathe almost a litre of water per person per day into a shelter. Cooking and washing create additional sources of humidity. Again, care should be taken in design, as when air of different humidity and temperature meet, interstitial condensation occurs. » 5.3.2

Ventilation

Minimise ventilation

153. Ventilation should be minimised as air entering the shelter from outside will act to cool the internal space. A degree of ventilation should be ensured at all times to allow sufficient air exchange for the inhabitants. This is particularly important in cold climates where stoves and heaters are commonly used. Shelters which are completely sealed can put inhabitants at risk of asphyxiation, carbon monoxide poisoning and respiratory diseases. » 5.2

Other considerations

Snow loads

154. Roof structures should be designed with adequate resistance to sustain potential snow loading. Adequate drainage or raised floor construction may be required to reduce the risk of water from snow melt entering the shelter. » 5.5.4, *The Sphere Project*, 2011, p.261

155. Diagram 5.13 shows the use of a framed roof construction to withstand snow loads.

Diagram 5.13 Framed roof construction

A-frame roof to withstand snow loads. Overhanging eaves to protect walls from damp from falling snow and rain.

156. The content provided presents basic principles of climatic design. The aim is to create an understanding of appropriate material choices and construction techniques, which are presented in greater detail in the following sections.

5.4 BUILDING MATERIALS

157. This section provides basic information on common materials that may be suitable for use in transitional shelter construction, emphasising the importance of local traditional building techniques and materials.

158. Developing transitional shelter programmes around local traditional building techniques and materials will increase its appropriateness, efficiency in terms of cost and speed of construction, and durability. Changes introduced through

programmes, such as increasing risk reduction, will be more likely to be adopted sustainably as local traditional construction techniques.

5.4.1 LOCAL CONSTRUCTION TECHNIQUES AND MATERIALS

The importance of understanding traditional techniques and materials

159. Local construction techniques and uses of materials are indicators to understand local cultures and their adaptation to their environment and available resources. These techniques evolved over a long period, establishing balanced relationships between how the community lives, the process of construction and the surrounding environment.

Adaptation features

160. Local construction techniques adapt to factors such as climatic features, topography, access to water, access to materials, constantly adjusting to changes in circumstances. Through assessing these local construction methods, it is possible also to form an understanding of how a community perceives hazards and vulnerability; its relationship with resources and the environment; but also cultural factors, such as ways of using public space and social interaction patterns.

161. In most parts of the world, local construction techniques and uses of materials have changed significantly during the last century, with the introduction of materials such as corrugated galvanised steel sheeting.

Poor construction techniques

162. The rapidity of these changes has often led, however, to poor construction techniques using the new materials. For example, concrete blocks often use poor materials and are often cured badly; concrete is often used without engineering calculations and insufficient reinforcement; linkages and joints such as column heads may be built with little understanding of structural continuity with floor slabs; and roofing sheets may be used without sufficient fixing to secure them against high winds.

Understanding local attitudes

163. These recent changes are also very valuable to learn from, rather than trying to refer only to a particular tradition from another period. Recent changes also reflect the aspirations of some cultures to exhibit modernity and wealth. Equally, some cultures may use older techniques and materials to exhibit their traditional aspirations. In learning from both older and more recent construction and materials, the lessons from each will form a profile of a community that will range from their risk reduction techniques to their attitudes to vulnerable groups.

164. An understanding of local construction techniques and materials must therefore be formed in order to inform the transitional shelter and parallel reconstruction processes. Transitional shelter construction and material use should be as similar as possible to local construction techniques and

materials. Differences should occur only either if sufficient local materials cannot be sourced locally or regionally, requiring the importation of materials such as plastic sheeting; or if risk reduction measures require new techniques, such as the introduction of cross-bracing and hurricane straps.

Case study: **Uganda, 2007 - Slow onset floods**

Houses were damaged and crops destroyed due to slow onset floods, following heavy rains in the East of Uganda. In order to rebuild more flood resistant shelters, communal and individual tool kits were distributed. A fundamental aspect of this approach was community mobilisation. Regarding construction techniques a simple solution was adopted, based on simple improvements to traditional construction. The main approach to construction was to refer to traditional techniques as a strong point, improving them over time in order to build more flood resistant shelters. 🕮 UN-HABITAT, *Shelter Projects 2009*, p.79

5.4.2 COMMON CONSTRUCTION MATERIALS

165. The following content gives an overview of some common building materials. It is important to clarify that some of these may be included as part of packages of shelter non-food items (NFIs) that are distributed in the early emergency stage, and may be used as part of the construction of a transitional shelter. 🕮 IASC, *Selecting NFIs For Shelters*, 2008

Plastic sheeting

Plastic sheeting as part of NFI package

166. Plastic sheeting is usually distributed in the early stages of an emergency, mainly as part of a shelter NFI package. These packages include materials and tools that allow people to build and cover a structural frame for a shelter. 🕮 IASC, *Selecting NFIs For Shelters*, 2008

Basic types of plastic sheeting

167. There are three basic types of plastic sheeting:

- plastic sheeting made to the UNHCR/MSF specification (white, or white with reinforced coloured stripes); 🕮 UNHCR, *Handbook for Emergencies*, 2007, p.440
- heavyweight sheeting, used for roofing and sometimes as a damp proof course (sometimes orange and grey); and
- window sheeting (translucent, usually reinforced with a net of polyester filaments).

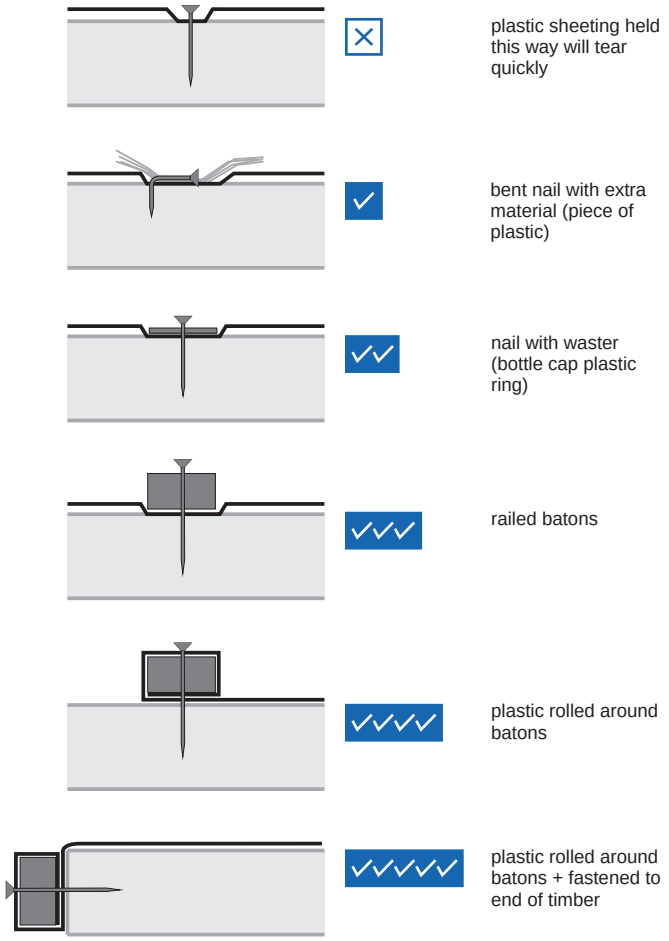
Sub-standard plastic sheeting

168. Care should be taken not to procure and distribute sub-standard sheeting. Although such sheeting may be easier to procure and cheaper, its durability is considerably reduced, as is its flexibility of use: it will be difficult to fix without tearing and may need further materials to be effective, for example by

sandwiching it between mats to reduce UV degradation and tearing.

169. Diagram 5.14 shows connection options for plastic sheeting.

Diagram 5.14 Plastic sheeting connection details



The size and number of sheets

170. The size and number of the plastic sheets distributed to each household should be agreed at local or response level through technical working groups of the coordination body, so that distributions are appropriate and equitable. Plastic sheeting is a common material in the first distribution supporting transitional shelter, however depending upon circumstances, distributing a 4m x 7m sheet may be more useful to the household for both their immediate shelter and later as part

the transitional shelter design agreed than distributing a 4m x 5m sheet. For this reason plastic sheeting should be imported, to the UNHCR/MSF specification, in rolls which are normally 4m x 50m. Sheets should then be cut from the roll in-country or on site.

Cutting and fixing

171. When cutting and fixing plastic sheeting, special care has to be taken, in order to optimise its durability and minimise tearing. Cutting tools may be included in the distributed NFI pack.

172. When fixing plastic sheeting, the following should be considered:

- prevent tearing from the fixing points;
- stop the sheeting flapping about and degrading, by fixing it so that it is tight like a drum-skin;
- prevent tearing by ensuring a minimum number of wear points under the plastic; and
- prevent the accumulation of rainwater on roofs, that could lead to pooling and the increase of weight over the roof structure.

Adapted from 🕮 Oxfam, *TSDP*, 2005, p.320

Corrugated galvanised iron (CGI)

173. Corrugated galvanised iron (CGI) sheets are in fact Corrugated galvanised steels sheets, however CGI is the common term used. The main advantages of CGI are that they are lightweight, cheap, and fast to build with, and easily transportable. They are made from galvanised steel that has been cold-rolled through a machine in order to give it a corrugated profile. This process increases their bending strength perpendicular to the corrugations.

174. However this material also presents some disadvantages, mainly regarding the fact that it doesn't insulate from heat or cold. Regular replacement is also necessary due to its tendency to rust, however this is in part determined by the quality of sheeting and its fixing. Adapted from 🕮 MSF Spain, *Small Constructions Manual*, 2011, p.44

Application of CGI

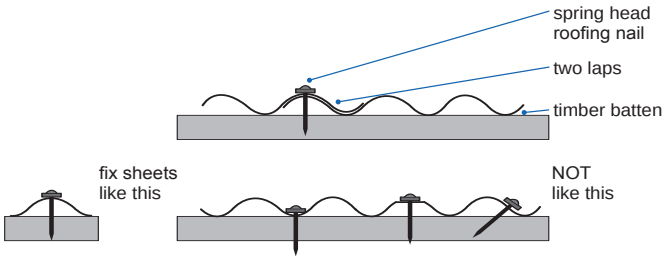
175. The application of the corrugated iron sheets is done by bolting, screwing or nailing them, to a supporting structure. In areas with high winds, additional fixing as needed throughout the roof, and especially on edges.

176. CGI is used on pitched roofs and in order to achieve waterproofing it is necessary to place them overlapping by two corrugations in the lateral direction and a minimum of 15cm in the longitudinal direction for a pitch of 35 degrees, however this overlap will need to be increased for lower pitched roofs or in areas of driving rain. It is advisable to consider the use of extra

insulation against heat and cold, such as a suspended ceiling fixed under the trusses with a ventilated roof space. Adapted from MSF Spain, *Small Constructions Manual*, 2011, p.44

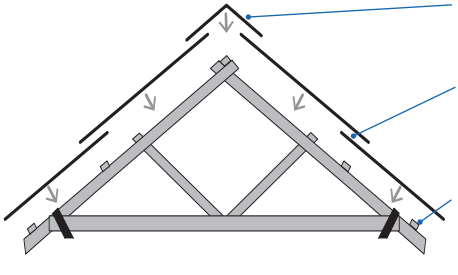
177. Diagram 5.15 shows common connection of fixing CGI.

Diagram 5.15 Fixing CGI sheeting



178. Diagram 5.16 shows common roof construction details with CGI.

Diagram 5.16 CGI sheeting details



Timber

179. Sawn timber, round poles, bamboo and composite materials using wood or bamboo, such as panels, are used frequently in transitional shelter designs, given their common use on local construction techniques, availability, lightness to transport, ease of use in construction, suitability for use in frame structures, and suitability to be later reused, resold and recycled. Specialist guidelines exist on the sourcing, treatment, transport, storage and use of timber in humanitarian response. UN/OCHA, *Timber*, 2009

Environmental concerns

180. Environmental concerns should be central to decisions over how timber and bamboo products are used, for example avoiding deforestation creating landslide hazards. UN/OCHA, *Timber*, 2009

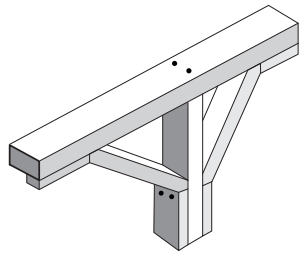
Sawn timber

181. Sawn timber can be used for frames, roof trusses and, in lapped planks, as a walling. Timber is sawn in saw mills or locally with hand saws or chainsaws into standard sizes and

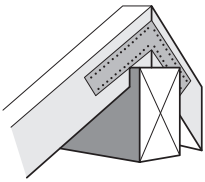
lengths. The timber should ideally be pressure treated with preservatives and dried to control moisture content, reducing cracks or shakes, as well as reducing twisting after it has been used, which reduces its structural value. Un-dried “green timber” can also be used, if it is detailed and fixed appropriately. Adapted from MSF Spain, *Small Constructions Manual*, 2011, p.41

182. Diagram 5.17 shows common connection for timber.

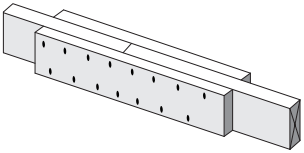
Diagram 5.17 Cut timber connection types



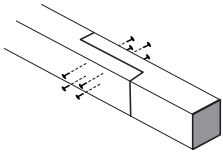
braced joint



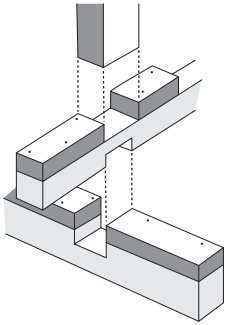
joint reinforced with gusset plate



butt joint with reinforcement (fish plates)



lap joint



corner joint with added blocking

Poles

183. Poles can be used for frames and roof structures. Poles can be harvested as young trees or from the trimming of larger trees. It is not necessary to reduce the bark, which can provide a useful protection. Poles can be cheaper than sawn wood and can, if used correctly, be stronger. Adapted from MSF Spain, *Small Constructions Manual*, 2011, p.41

Timber composites

184. Timber and bamboo products are often used in panels for walls. They are manufactured in a different ways, composed of layers of fine timber that are glued together to form boards. Plywood, medium density fiber board (MDF), and oriented strand board (OSB), are some examples of this kind of timber product. Locally-made mats may also be made from bamboo, or timber frames in-filled with woven grasses, reeds or leaves. The main advantages of using these products are that they are light-weight, strong, and low cost. Adapted from MSF Spain, *Small Constructions Manual*, 2011, p.41

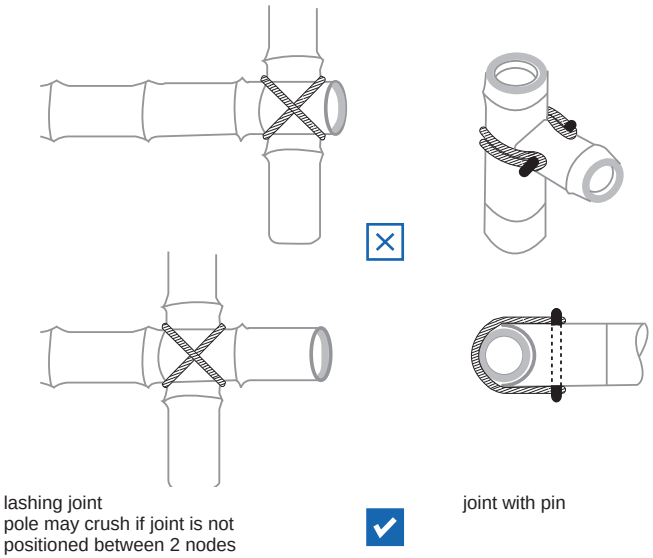
Bamboo

185. Bamboo can be used for frames and roof structures, as well as when split for roof covering and walls. Bamboo is a useful construction material due in part to its fast rate of growth. It can grow up to 30m long, depending on its type. Of the 1200 existing botanical species of bamboo, over 250 varieties are suitable for construction. Bamboo poles are flexible and strong, being hollow tubes. Curing and treatment add to durability. Humanitarian Bamboo, *Homepage* [online]

186. When building with bamboo, special techniques for connections are necessary, in order to prevent the material from splitting or being crushed. If bamboo is not one of the local construction techniques understood by the community, training and additional quality assurance will be required. Adapted from MSF Spain, *Small Constructions Manual*, 2011, p.42

187. Diagram 5.18 shows common connection for bamboo.

Diagram 5.18 Bamboo connection types



Concrete

188. Concrete is mainly used in transitional shelter in foundations, often unreinforced, or in blocks as walling, sometimes fixed with a light mortar to enable their reuse, resale or recycling.

189. Concrete results from the mixture of cement, sand, gravel and water. The gravel and sand aggregates are held together by cement, which is cured through a chemical reaction with water, achieving 80% strength within 30 days.

190. Following table 5.2 shows commonly concrete mix ratios by volume.

Table 5.2 Concrete mix ratios

Table 5.2: Concrete mix ratios

	Cement	Sand	Aggregate
Standard mix	1	3	6
Economy mix for mass concrete such as foundations	1	4	8

Adapted from 🕮 Oxfam, *TSDP*, 2005

Reinforced concrete

191. Concrete has an excellent capacity to withstand compression forces, such as those which occur in columns, however it cannot withstand tension forces. Tension forces occur in the lower part of a beam or a slab, and these may lead to severe complications, which could cause the concrete to crack or even break. Due to this, it is necessary to reinforce the concrete, such as by using steel bars or meshes. The steel is placed inside the concrete, where the tension forces occur. After hardening, the reinforced concrete forms one composite material, and the presence of the steel reinforcement absorbs the tension forces.

Prefabricated concrete building elements

192. The main use of prefabricated concrete in transitional shelter is in columns as part of a frame structure, used in areas when timber is difficult to source sustainably. Concrete building elements can also be prefabricated, rather than being cast in situ. These are faster to use and may be cheaper, however considerable care must be taken with jointing. Pre-fabricated concrete is rarely appropriate in seismic areas. Adapted from 🕮 MSF Spain, *Small Constructions Manual*, 2011, p.39

Earth and stabilised earth

Suitability

193. Earth is used in many traditional construction techniques worldwide to build walls. The earth may be used as air dried bricks, in lumps (cob), rammed into a formwork (pise), applied to a panel of woven timber (lath and plaster). Earth walls can be used for upgrading a transitional shelter. They are simple to construct, incombustible, thermally massive and use readily available, inexpensive materials. They are however very time

consuming to construct. Stabilisers such as cement or lime can be added to make the earth more durable, when it should be carefully covered while it cures. Finished walls should be protected by large overhangs, to prevent erosion damage from rainwater.

Mortars

Suitability

194. Mortars are used for bonding bricks and blocks. Mortars are a mixture of sand, lime or cement and water, in different proportions depending upon the use. Cement works as the binding material. Sand gives strength to the mixture, and avoids cracks that might occur if only the binding agent is used. Water is added to hydrate the cement or lime, creating the chemical reaction that results in the curing of the mortar. Water also gives the mixture has sufficient plasticity to be worked with by the mason, in laying the bricks and blocks. This process can be done manually or mechanically with a concrete mixer. Adapted from MSF Spain, *Small Constructions Manual*, 2011, p.34

195. Following table 5.3 shows common mortar mix ratios by volume.

Table 5.3 Mortar mix ratios

Table 5.3: Mortar mix ratios

	Cement	Sand	Aggregate
Standard cement mortar	1	3-4	0
Cement mortar with lime	1	4-6	1

Adapted from Oxfam, *TSDP*, 2005

Thatching

Suitability

196. Thatching of grasses, reeds or leaves is commonly used to waterproof transitional shelter roofs. The same materials may be used as lightweight and inexpensive walling, flooring and doors when woven into screens. Local knowledge is important for harvesting, procurement, design and use in construction. When used on its own as a roofing material, thatch is commonly laid in thick bundles. Care should be taken to ensure that the roof be pitched enough to prevent rain-water from soaking into the thatch. Thatch roofs can increase the weight load on the structure, which should be considered when designing the walls and foundations.

197. This section provided basic information on common materials that may be suitable for use in transitional shelter construction, also stating the importance of local traditional building techniques, when implementing a transitional shelter programme.

5.5 CONSTRUCTION PRINCIPLES

198. This section provides an overview of common construction techniques suitable for transitional shelter programmes. It does not offer comprehensive guidance on construction, however references are made to appropriate publications.

Intention of this overview of construction

199. The intention of offering this overview is to support the collaboration of the stakeholders in transitional shelter projects, including the priorities and capacities of the affected population and government. If humanitarian agencies are involved, stakeholders will include also country-level managers and fundraisers. These roles require a more technical understanding of the transitional shelter programme, in order to support the process and also parallel reconstruction. Programme extension staff, including assessment teams, along with procurement officers and logisticians will need to understand approaches to construction if they are to inform and resource the programme. Finally, programme and project staff, including their technical advisors, will need to coordinate with these other stakeholders, communicating construction clearly and supporting each to fully fulfil its role.

Involving the affected community

200. Construction methods and techniques should be selected in consultation with the affected population. The affected population will begin to recover and to construct shelters immediately following the disaster. These efforts should be supported through the choice of construction methods and materials.

Attention: **Using a professional**

This overview cannot be used as a substitute for the advice of a trained professional. Designs should be made involving the community but must be approved by either a local or external professional qualified in structural or civil engineering.

Section structure

201. The guidance is structured into sub-sections on foundations, floors, walls, openings, roofs, and maintenance.

Learning from local construction principles

202. Local construction techniques and typologies will provide further insights into the principles locally developed for constructing safe and appropriate shelter. The stakeholders involved in construction will also have many valuable insights and should be involved. They will be able to explain why local traditions, or principles, exist and how they might be relevant to transitional shelter.

Case study: **Sri Lanka, 2005**

Following the Indian Ocean tsunami in 2004, transitional shelters were constructed rapidly around the 800 km affected coastal area of Sri Lanka. The transitional shelters varied significantly in the materials used and how they were constructed, responding to variations in local traditions. This demonstrated clearly that humanitarian agencies involved the affected community in shelter design and thereby improved appropriateness to culture and local incremental upgrading.
UN, *SAD*, 2010, p.91

Building on local construction techniques

203. Building transitional shelters should involve only minimal changes to local traditional construction techniques, with any changes made only to ensure safety and ensure the shelter is transitional, in order to maximise both the quality of the construction and sustainable positive impacts upon parallel reconstruction. » 5.4

5.5.1 FOUNDATIONS

Function

204. The function of building foundations is to transfer the load of the building to the ground. They also prevent a building from overturning, sliding or being lifted up by high winds. Improper foundations may compromise the safety and utility of the structure, as illustrated in diagram 5.19.

Diagram 5.19 Types of damage that may occur with improper foundations

Excessive settlement
May occur if the soil on site is soft

Differential settlement
Unequal settling caused by poor soil conditions and/or poor foundation construction

Frost heave
Seasonal freeze–thaw cycles may cause the foundation to shift if it is not buried below the frost line and adequately insulated

Hazard
Foundations should take into consideration the likelihood of future natural hazards and attempt to mitigate their effects through design

Wind uplift
May occur if the shelter is not adequately anchored to the foundation

Key properties

205. In most situations, the foundations of transitional shelters should:

- be quick to construct;
- use minimal and inexpensive materials; and
- be removable, especially in cases where land rights preclude permanent construction.

206. "A foundation works as a footprint of the building. It supports it and functions as a tie between the construction and the soil. Depending on the type of soil on the construction site, there are different types of foundation techniques and issues to consider within its construction process." 🕮 MSF Spain, *Small Constructions Manual*, 2011, p.53

Factors to be considered

207. The loads of a building are carried by the foundation. It distributes the loads over the ground. Different types of foundation are used, depending on the following factors.

- **building load**: it is advisable to calculate the load of the building in order to use the appropriate type of foundation according to the calculated needs. *Example: the number of floors of the building, and specific materials have a direct influence on the type and dimensions of the foundation;*
- **structural form of building**: certain structural elements of a building might influence the use and appropriateness of certain foundations. *Example: if over hanging structural elements are part of the building this may influence the type, and dimension of the foundation. Special care should be taken in these situations;*
- **soil condition and types**: the appropriateness of a specific type of foundation is directly related to the type of existing soil in the construction site; and
- **climate and geophysical factors** (such as cyclones, earthquakes, etc.): the appropriateness of a specific type of foundation is directly related to the type of existing climate or risks and hazards that might be characteristic for the same climate and its geophysical factors.

208. Foundations should be built on solid soils. Adapted from 🕮 Oxfam, *TSDP*, 2005, p.280

Types of foundations

209. There are four main types of foundations:

- pad foundations;
- anchor foundations;
- strip foundations; and
- slab foundations.

Pad foundations

When to use pad foundations

210. When it is necessary to support high loads over a limited area pad foundations should be used. A hole is dug in the soil directly under the place where the column is located. This hole is filled with concrete, and the column itself is then attached securely to the concrete. To attach the column to the concrete base one may use the following methods:

- hold-down bolts and column base plates for timber and steel columns;
- L-shaped reinforcement bars inside poured-concrete columns and linked with horizontal bars in pads; and
- concrete grout, used to hold pre-cast columns inside a pocket in the pad to receive the bottom end of the column.

Adapted from Oxfam, *TSDP*, 2005, p.282

Suitability

211. Pad foundations can be valuable in transitional shelter because they require the minimum intervention when land rights are not secured. Small pads can also be precast and even moved along with the shelter. This type of foundation is suitable when building with lightweight structures of steel, masonry, or timber, and when columns are used. Adapted from Oxfam, *TSDP*, 2005, p.282

Diagram 5.20 Post on stone pad foundation details

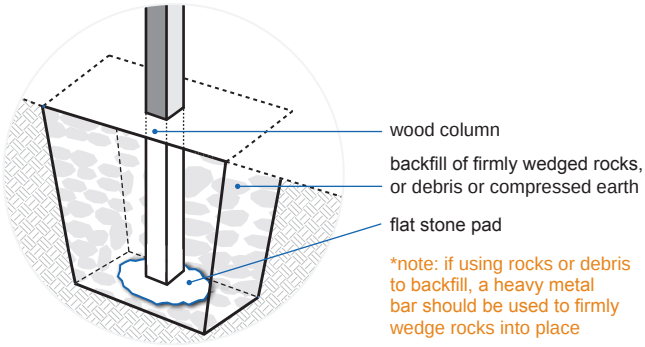
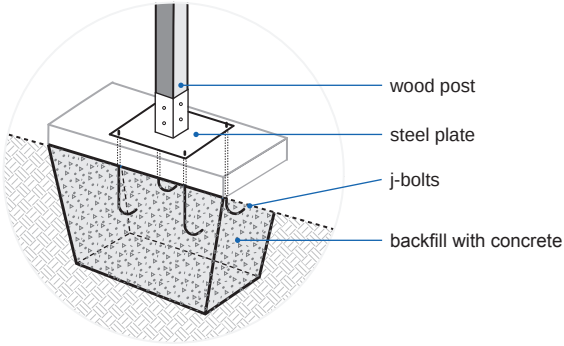


Diagram 5.21 Metal base plate on pad foundation details



Anchor foundations

When to use anchor foundations

212. Anchor foundations are primarily of use to ‘anchor’ light structures to the ground to prevent them from being blown away in high winds. Backfill for anchor foundations can make use of any available heavy substance such as, compacted soil, debris or concrete.

Suitability

213. Anchor foundations are simple to construct but should be used only for very light structures such as those made of a lightweight frame and plastic sheeting. This type of foundation offers very little additional support to spread the load of the structure in the ground so it should only be used in firm soils containing little organic material.

Diagram 5.22 Debris anchor foundation details

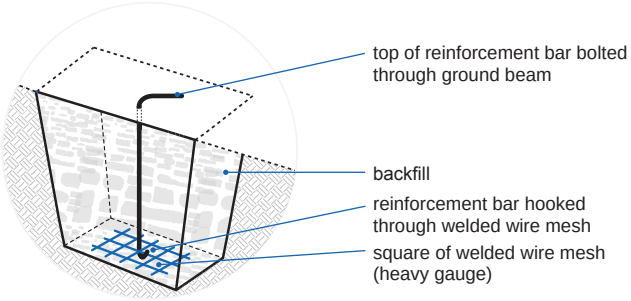


Diagram 5.23 Wooden anchor foundation details

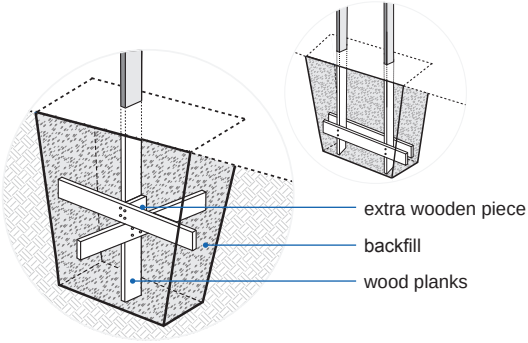
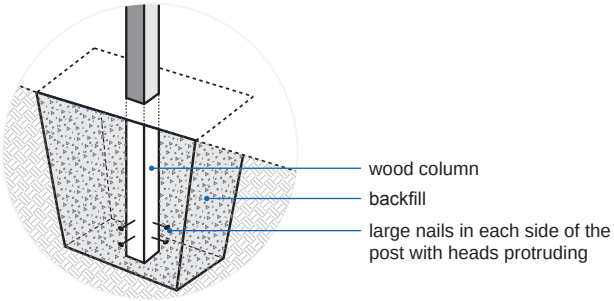


Diagram 5.24 Post anchor foundation details



Strip foundations

When to use strip foundations

214. The bed of a strip foundation should include materials such as concrete or compacted stones, depending on the soil conditions. This type of foundation consists out of long continuous footings along the whole length of the main load bearing walls. When concrete is used a minimum thickness of 15cm is needed, and steel bars reinforcement should be placed before pouring the concrete. This increases strength and flexibility in the foundation. Formwork should be done and placed in order to pour the concrete. Adapted from Oxfam, *TSDP*, 2005, p.281

Suitability

215. Strip foundations should be used when building with lightweight masonry and other structures. Trench fill foundation is a variation of a strip footing. They are deeper than the strip foundations, and enable the support of loads through frictional resistance at the side from the surrounding soil. Concrete, with or without reinforcement, is poured in the trench. This may be poured up to a level of 15cm below ground level. Adapted from Oxfam, *TSDP*, 2005, p.281

Diagram 5.25 Ground beam foundation details

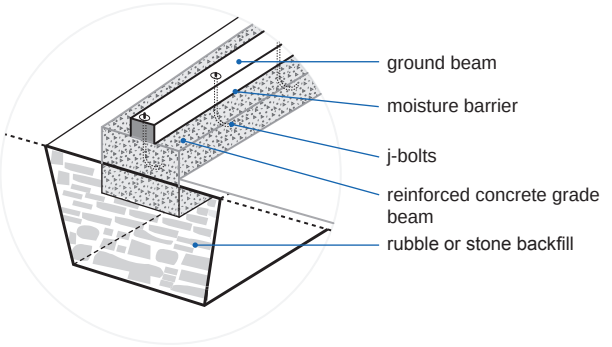
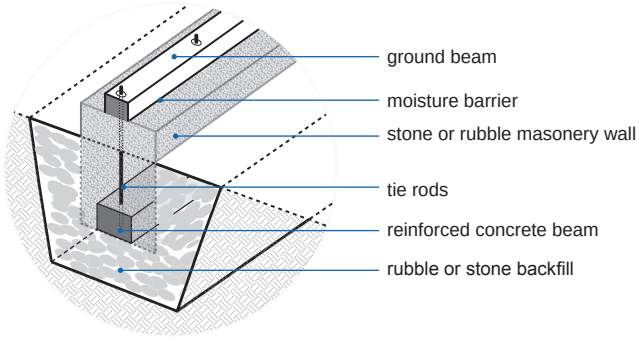


Diagram 5.26 Stem wall foundation details



Slab Foundations

When to use slab foundations

216. This type of foundation consists of a concrete slab. The concrete is poured over the slab area, and steel reinforced over a thickened edge that goes around the building perimeter. The slab is also reinforced using a steel mesh. Adapted from Oxfam, *TSDP*, 2005, p.283

Suitability

217. Slab foundations should be used when in the presence of soft soil types. This helps to spread the building loads over a wider area, avoiding possible structural complications that might arise from the presence of soft soils, mainly the ones related with building settling. Due to a more complex construction process, all foundations should be designed and calculated by an structural engineer. For their construction, advanced building skills and additional materials are needed. The use of slabs in transitional shelter must only be considered if essential, as if the building is moved, the slab will need to be broken up, whereas other foundations can be backfilled. Adapted from Oxfam, *TSDP*, 2005, p.284

5.5.2 FLOORS

Floor types and materials

218. Floors can be divided into two types, solid or suspended. In the case of the solid type, the ground itself helps to support floor. Suspended floor are the ones that span between supporting beams. Materials used for floors include the following:

- earth;
- concrete;
- timber beams or joists, covered with decking or sheet materials; and
- concrete beams and infill blocks with a floor screed.

Adapted from Oxfam, *TSDP*, 2005, p.284

Earth floors

Site preparedness

219. In order to build an earth floor one has to carefully prepare the site, removing all organic materials. Only after this procedure the construction of an earth floor is possible by placing several layers of compacted earth.

Moisture considerations

220. In order to avoid possible complications related with moisture and humidity, a waterproof barrier has to be included. There are different possibilities to create this barrier. The fastest and easiest way is to use plastic sheeting (polythene), resting over a layer of dry sand.

Drainage

221. It is of major importance to create drainage around the entire perimeter of the floor, and it is advisable that the final layer of the compacted earth is raised 15 cm above the surrounding ground level. This will avoid complications regarding rainwater

infiltration. An overhanging roof should also be placed to help to keep the floor dry.

Stabilising agents

222. One has to be aware that possible complications regarding the durability of these floors may arise. In order to avoid problems, and improve the durability of these floors it is advisable the addition of stabilising agents, such as clay, lime, or oil to the upper layers of the floor. Adapted from Oxfam, *TSDP*, 2005, p.284

Suspended floors

223. Suspended floors should be used for raised or stilt houses, or with very irregular ground conditions. They consist of timber joists, which are covered with wood boards or plywood. The joists are supported by blocks or beams placed under them. Suspended floors are elevated from the ground level, and due to the existing space underneath this area could become a place for rodents or other small animals. Having this in mind, and the fact that these areas still need air circulation in order to prevent wood rot, one should seal off these gaps without obstructing the air flow. Steel mosquito nets, are probably the most appropriate solution. Adapted from Oxfam, *TSDP*, 2005, p.285

Diagram 5.27 Hanging joist floor

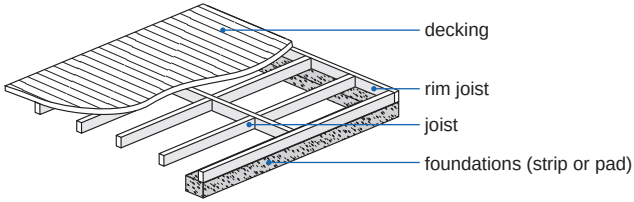
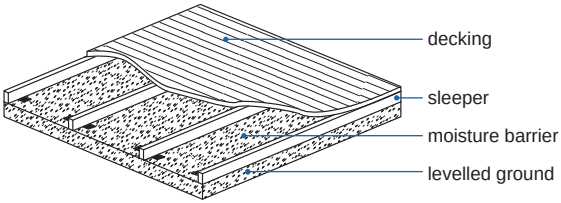


Diagram 5.28 Block and joist floor



Concrete floors

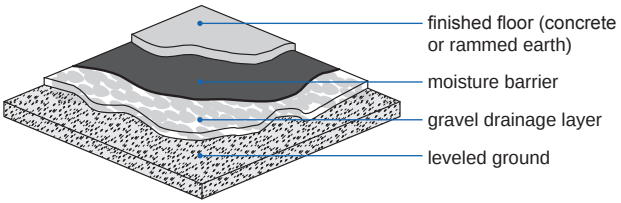
How to construct concrete floors

224. Concrete floor are the most durable solution in floors, however their use in transitional shelter should be carefully considered if shelters are likely to be relocated. Concrete paving slabs can be used instead, lose laid on a compacted blinding of sand, to create a flat surface. If full concrete slabs

are considered, these are often steel reinforced at least around edges of each slab area, in order to ensure stability. The common construction procedure consists of pouring the concrete over a 15cm bed of gravel. Beneath the gravel layer a damp-proof membrane such as polythene sheeting is placed, in order to avoid complications regarding humidity and moisture that might infiltrate the slab.

225. To increase the durability of the floor mesh is placed before pouring the concrete. Large or irregular slabs should be cast in sections, with an expansion joint between them, which will improve the flexibility of the slab, minimising possible complications regarding settlement and expansion cracks. Adapted from 🕮 Oxfam, *TSDP*, 2005, p.284

Diagram 5.29 Solid floors



5.5.3 WALLS

Structural purpose of walls

226. Walls provide protection from the elements, security, and privacy for the building's occupants. Walls may also serve to transfer building loads to the foundation, which then are transferred safely to the ground.

227. Transitional shelters often use frame structures of timber, bamboo or, rarely, steel. By doing so they can be incrementally added to, starting with a simple walls of mats woven from grasses, reeds or bamboo, or of plastic sheeting, some of which may have been distributed earlier in the response.

Non-load-bearing walls

228. Internal walls do not suffer the same degree of stresses as exterior and load bearing walls, although interior diving walls may also provide support to load bearing walls, in the form of lateral support, and also supporting the ceiling joists.

Key considerations

229. Care should be taken in understanding that frame structures and non-load bearing walls may move differently under stresses and hazards such as high winds, floods or earthquake can easily collapse these walls, potentially causing injury. All non-load bearing walls should be tied to the frame using ties of adequate strength at regular intervals.

230. When using non-load bearing walls with a frame structure, unless special measures are taken and it is essential to the local design, they should ideally not be placed between the

columns of the frame, but instead inside or outside the frame, tied back to the frame at regular intervals with straps or heavy gauge wire. This is because infill walls are very unstable, even if fixed between frames, and stresses and hazards cause collapse. Instead, a continuous wall has the inherent strength of a continuous structure, such as through courses of blocks, increased by the bracing offered by connection to the frame.

231. Special care must be taken also when placing interior masonry walls. These produce high loads, that have to be supported by the foundation. Adapted from Oxfam, *TSDP*, 2005, p.288

Load-bearing walls

232. Building loads produce two main types of stress on walls:

- compressive stress, produced when walls are being compressed by dead and live loads acting upon them; and
- tensile stress, when the wall is being stretched by loads acting upon them.

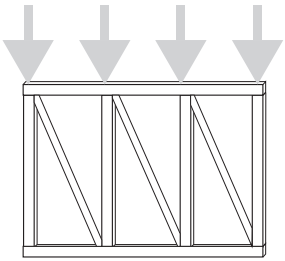
233. To resist these loads, structural wall components must be stiff, dense, and stable. Oxfam, *TSDP*, 2005, p.286

Timber, bamboo or steel frames

234. The use of timber, bamboo or steel frames is common in transitional shelter designs. These materials tend to be cheaper to purchase, easier to transport, faster to build with, and more suited for relocation than masonry walls.

235. Corners and columns in timber framed walls should be built using thicker pieces, which helps the transferring of loads over a wider area. Intermediate vertical supports should be placed, although these may be narrower. Adapted from Oxfam, *TSDP*, 2005, p.286

Diagram 5.30 Framed wall



Framed wall

Masonry and earth walls

236. Masonry and earth walls must cope with the stresses created by the building loads, considering either dead or live loads.

237. Earth walls may be soil stabilised with cement, air-dried mud bricks, cob or lumps of mud, or rammed earth. Each type of earth wall has its own technique and composition, for example where clay is mixed with straw or animal dung, in order

to improve its strength and elasticity. Local traditions in earth construction should be studied, along with local soil types.

Distribution of loads

238. The distribution of loads in a masonry wall is usually made through the bond between bricks or blocks. Alternating each course helps to transfer the loads along the walls, directly into the foundations, and from the foundations to the ground. This refers to compressive stresses.

239. In the case of tensile stresses, which might occur as the length of a wall increases between corners or support columns, it is advisable to place piers and/or buttresses, in order to improve the wall lateral stability. Adapted from Oxfam, *TSDP*, 2005, p.286

Structural reinforcements: connections

240. Load bearing walls should have solid connections to roof structures, foundations and adjoining walls, so that these different structural elements can work and function as an entire structure. In the case of timber framed walls, nails, bolts, wire and rope can be used as connector elements. In the case of steel columns and beams, bolts and/or welded connections are advisable. With concrete columns these should be integrated with horizontal supports in beams and foundations. This is done through wire ties that connect the steel bars in the columns and beams, and then by the casting in place. Special care is needed where high winds, heavy rainfall, and seismic activity are existing, and additional connectors should be used. Adapted from Oxfam, *TSDP*, 2005, p.287

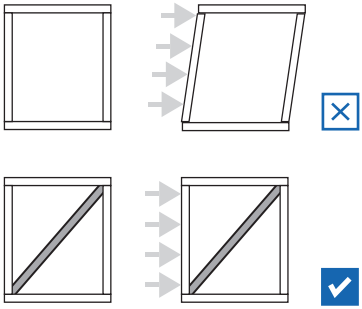
Structural reinforcements: horizontal ties

241. Horizontal ties are often needed as horizontal reinforcement. In order to reduce the effects of dead loads, a horizontal ring should be placed along the entire perimeter of the building. Adapted from Oxfam, *TSDP*, 2005, p.287

Structural reinforcements: bracing

242. In order to improve a wall resistance to tensile forces diagonal bracing is placed in walls. This is especially appropriate for the case of timber framed walls. 45 degrees braces provide the structural rigidity and flexibility to the timber or steel frame. Adapted from Oxfam, *TSDP*, 2005, p.287

Diagram 5.31 Function of bracing in framed walls

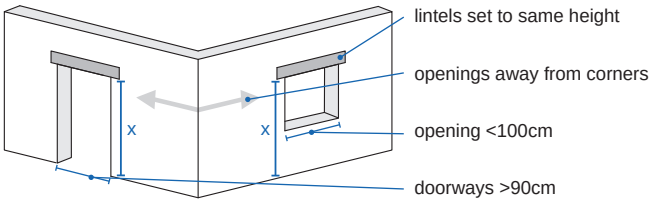


Diagonal bracing for walls and roofs resists in plane tensions and lateral tilt, making the structure more resistant to damage from seismic events and wind.

Openings: windows and doors

243. Window and door openings can weaken the structural integrity of walls, unless care is taken to ensure that the load above the openings is adequately transferred to other structural components. Lintels are horizontal beams set above wall openings to support the wall above. They are supported by columns/posts on the immediate sides of the openings, which transfer the loads to the foundation. Materials used for lintels include wood, concrete, stone, or brick. Wall opening should never be placed under an adequate distance (60cm) from the building corners. This is done in order to preserve the transferring of loads through walls. Adapted from Oxfam, *TSDP*, 2005, p.287

Diagram 5.32 Rules of thumb for placement and dimensions of openings



5.5.4 ROOFS

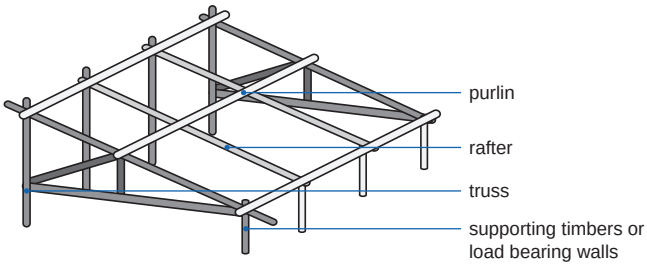
244. Roofs work as a protection against the weather, such as rain and snow, helping also to control heat loss and condensation. Roofs consist of a structure, such as rafters or trusses, and a covering, such as plastic sheeting or thatch. The choice of which type of roof to build as to consider issues related with climate, culture and design. Adapted from Oxfam, *TSDP*, 2005, p.289

Pitched roofs

245. Pitched roofs are mainly found in temperate and tropical climates, due to their ability to drain water. The pitch of the roof depends on the covering material used, the rainfall, and the likeliness of high winds and storms. Plastic sheeting roofs may be pitched as low as 20°, however if they are to be upgraded incrementally using other materials, the pitch should already be designed for the other materials. Tile roofs may be pitched between 30° and 60°. Thatch roofs of grass, straw, leaves or reeds should follow the local tradition but should certainly exceed 35 degrees. Corrugated galvanised steel roofs may be used from 15°, if the overlap is sufficient and there are no high winds, to over 45°. Roofs made from masonry are usually in arches or parabola, to transfer the heavy load to the ground without requiring extensive buttressing.

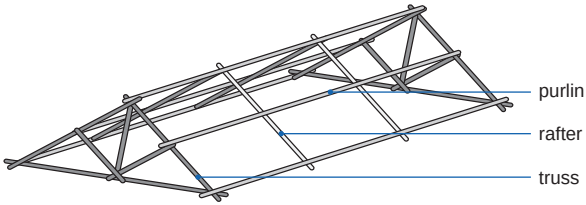
246. Diagram 5.33 shows the structural details for single pitched roofs.

Diagram 5.33 Single pitched roof details



247. Diagram 5.34 shows the structural details for double pitched roofs.

Diagram 5.34 Double pitched roof details



Pitched roofs types

248. There are different types of pitched roof:

- gable roof (two slopes);
- hip roof; and
- vaulted roof.

Gable roofs

249. In a gable roof, rafters extend at a certain angle between 30° and 45° from the walls to the centre where they meet a ridge board. The lower ends of the rafters usually extend 30 to 40 cm from the walls as eaves, in order to protect walls and foundations from rain and direct sun exposure. Adapted from 🕮 Oxfam, *TSDP*, 2005, p.290

Hip roofs

250. Hip roofs with their four slopes offer better protection against winds. These roofs expose a smaller surface to the wind, so the effects of wind loads and uplift are limited. Adapted from 🕮 Oxfam, *TSDP*, 2005, p.290

Vaulted roofs

251. Vaulted roof structures are used rarely in transitional shelters, but can be in the shape of a barrel. They are usually build on earth and masonry buildings. They are suitable to dry climates, and should not be used in rainy regions due to the danger of water infiltration. Water infiltration problems may be avoided through the use of damp proof rendering finishes, which have to be regularly maintained. Adapted from 🕮 Oxfam, *TSDP*, 2005, p.290

Flat roofs

252. Flat roofs are also rarely used in transitional shelters, mainly in hot and dry regions. They are less suitable for tropical climates, or cyclone/hurricane prone areas. They represent the simplest roof structure, although it is advisable to include a slight gradient (3 cm per metre), allowing water to be drained.

Commonly used roofing materials

253. Common materials used in flat roofs include a structure of timber or steel; a bearing layer of timber, bamboo or matting steel; and a covering layer of puddled mud. Alternatively, if rainfall is extremely rare, a lightweight roof of timber, bamboo, matting, thatch or plastic sheeting may be considered. Different coverings can be used from organic to cement based products, earth, tiles, or metal coverings. Adapted from 🕮 Oxfam, *TSDP*, 2005, p.289

Roof overhangs

254. Extended roof overhangs can protect walls and foundations from direct exposure to heavy rains. However care should be taken in areas of strong wind, as large overhangs are susceptible to uplift.

Roof drainage

255. Drainage has to be included in the construction of a roof. Drainage channels (gutters) are attached to the eave edges of roofs in order to collect rain water, and to carry it to downspouts and away from foundations. This water may be collected in storage tanks, or butts, and used for household needs. Adapted from 🕮 Oxfam, *TSDP*, 2005, p.290

5.5.5 MAINTENANCE

256. After a building is finished regular maintenance has to be done, in order to prevent the degradation of the shelter, prolonging its life. This will also prevent costly and time consuming rehabilitation work.

Specific maintenance work

257. Regarding specific maintenance work, special attention needs to be paid to the roof, and gutters should be cleaned regularly, especially before the rainy season.

258. When a building pathology appears, it should be immediately addressed and treated, preventing further deterioration off the building.

Appropriate construction techniques and materials

259. If the choices regarding the type of building, construction techniques, and materials, were appropriate, maintenance should not represent a time consuming activity, although it should be done regularly, following continuous monitoring of all the building elements.

260. For further information please consult 🕮 Shelter Publications Inc., *The Barefoot Architect*, 2008.

RESOURCES

Glossary

Terms	Definition
Accountability	The quality or state of being accountable. An obligation or willingness to accept responsibility for one's actions.
Apartment owner-occupier	The transitional reconstruction option where the occupant owns their apartment, a self-contained housing unit that occupies only part of a building, formally or informally.
Apartment tenant	The transitional reconstruction option where the apartment is rented by the occupant, formally or informally.
Assessment	The survey of a real or potential disaster to estimate the actual or expected damages and to make recommendations for prevention, preparedness, response, and reconstruction.
Assistance methods	The variety of material or service contributions that are combined and offered to beneficiaries in implementing a transitional shelter programme.
'Build Back Better'	Approach to reconstruction that aims to reduce vulnerability and improve living conditions, whilst promoting a more effective reconstruction process.
Building code	A set of ordinances or regulations and associated standards intended to control aspects of the design, construction, materials, alteration, and occupancy of structures necessary to ensure human safety and welfare, including resistance to collapse, damage, and fire.
Capacity	The combination of all physical, institutional, social, and/or economic strengths, attributes, and resources available within a community, society, or organisation that can be used to achieve agreed-upon goals. Also includes collective attributes such as leadership and management.
Capacity building	The process by which the capacities of people, organisations, and society are strengthened to achieve social and economic goals, through improvement of knowledge, skills, systems, and institutions.

Civil society organisation	National and local non-governmental and not-for-profit organisations that express the interests and values of their members and/or others based on ethical, cultural, political, scientific, religious, or philanthropic considerations.
Climate change	Meteorological changes attributed directly or indirectly to human activity or to natural climate variability, that alter the composition of the global atmosphere.
Collective centre	Collective centres are usually transit facilities located in pre-existing structures, such as community centres, town halls, gymnasiums, hotels, warehouses, disused factories and unfinished buildings. They are often used when displacement occurs inside a city, or when there are significant flows of displaced people to a city or town.
Community	A group of households that identify themselves in some way as having a common interest, bond, values, resources, or needs as well as physical space. A social group of any size whose members reside in a specific locality, share government, and often have a common cultural and historical heritage.
Community participation	A process whereby the affected population can influence development by contributing to project design, influencing public choices, and holding public institutions accountable for the goods and services they provide.
Community-driven reconstruction	Approach to reconstruction that entails varying degrees of organised community involvement in the project cycle, generally complemented by the assistance of the agency that provides construction materials, financial assistance, and/or training.
Complaint mechanism	Mechanism that allows the affected population, including public employees, to offer feedback and report issues such as corruption in a confidential manner.
Construction guidelines or standards	A document prepared by a recognised standard-setting organisation that prescribes methods and materials for the safe use and consistent performance of specific technologies; sometimes developed by consensus of users.
Contour planning	An approach to the layout and development of settlement options that follows or reflects the topography of the site.
Damage assessment	The process utilised to determine the magnitude of damage caused by a disaster or emergency.
Debris	Waste items such as trees, sand, silt, gravel, building components and contents, wreckage, vehicles, and/or personal property as a result of a disaster.
Disaster	Any natural or man-made event causing distress or loss, e.g. earthquake, drought, flood, fire, epidemic and/or armed conflict.

Disaster contingency planning	A process that results in an organised, planned and coordinated course of action to be followed in case of an accident or disaster that threatens society or the environment. Such plans clearly identify the institutional and organisational arrangements that come into play in the event of a disaster that disrupts the coping mechanisms of communities and societies.
Disaster response	Process to address the immediate conditions that threaten the lives, economy, and welfare of a community.
Disaster risk management	The systematic process of using administrative decisions, organisation, operational skills and capacities to apply strategies, policies and coping capacities of the society and communities to lessen the impacts of natural hazards and related environmental and technological disasters. This comprises all forms of activities, including structural and non-structural measures to avoid or limit adverse effects of hazards.
Disaster risk reduction	A systematic approach to identifying, assessing and reducing the risks of disaster.
Displaced populations	Persons who, for different reasons or circumstances, have been compelled to leave their homes. They may or may not reside in their country of origin, but are not legally regarded as refugees.
Durable solutions	The point at which permanent settlement and shelter for both displaced and non-displaced populations have been rebuilt and established, sufficient for communities to support their own livelihoods.
Early recovery	A process which seeks to catalyse sustainable development opportunities by generating self- sustaining processes for post-crisis recovery. It encompasses livelihoods, shelter, governance, environment, and social dimensions, including the reintegration of displaced populations, and addresses underlying risks that contributed to the crisis.
Early-warning system	The set of capacities needed to provide timely and meaningful information to enable individuals, communities, and organisations threatened by hazards to prepare and act appropriately in sufficient time to reduce loss of life, injury, livelihoods, damage to property and the environment.
Exposure	The experience of coming into contact with an environmental condition or social influence that has a harmful or beneficial effect.
Geographic Information System	A computer system for the input, editing, storage, retrieval, analysis, synthesis, and output of location-based information. GIS may refer to hardware and software, include data.

Hazard	A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.
Hazard mapping	The process of establishing geographically where and to what extent particular hazards are likely to pose a threat to people, property or the environment.
Host family	Family that shelters displaced persons within their households or on their property.
House owner-occupier	The transitional reconstruction option where the occupier owns their house and land or is in part-ownership, such as when repaying a mortgage or loan. Ownership may be formal or informal.
House tenant	The transitional reconstruction option where the house and land are rented by the occupant formally or informally.
Inflation	An increase in the supply of currency or credit relative to the availability of goods and services, resulting in higher prices and a decrease in the purchasing power of money.
Internally displaced persons	Persons displaced from their habitual place of residence by disaster, fear of persecution or fear of physical harm, but remaining within the territorial limits of their country of origin.
Land tenant	The transitional reconstruction option where the house is owned, but the land is rented.
Liquefaction	Process by which water-saturated sediment temporarily loses strength and acts as a fluid, typically as a result of an earthquake.
Livelihoods	The ways in which people manage their lives in order to access the resources they need, individually and communally, such as food, water, clothing and shelter.
Logical framework approach	A conceptual tool used to define project, program, or policy objectives, expected causal links in the results chain, including inputs, processes, outputs, outcomes, and impact. It identifies potential risks as well as performance indicators at each stage in the chain.
Market analysis	Research undertaken to understand how a market functions, how a crisis has affected it, and the need for and most appropriate form of support. Research can include information on supply and demand of goods and services, price changes, and income/salary data.
Mitigation	Any measures undertaken to limit the adverse impact of natural or other hazards, environmental degradation, or potential disaster losses.

Natural hazards	Natural processes or phenomena (geological, hydrometeorological or biological) occurring in the biosphere that may constitute a damaging event.
Needs assessment	A process for estimating the financial, technical, and human resources needed to implement the agreed programs of recovery, reconstruction and risk management.
Non-governmental organisation	A nonprofit, voluntary, service-oriented, and/or development-oriented organisation, operated either for the benefit of its members or of other members, such as an agency.
Non-food item	The basic goods and supplies required to enable families to meet personal hygiene needs, prepare and eat food, provide thermal comfort and build, maintain or repair shelters.
Occupancy with no legal status	The transitional reconstruction option where the occupant occupies property without the explicit permission of the owner.
Participatory assessment	An approach to assessment that combines participatory tools with conventional statistical approaches intended to measure the impact of humanitarian assistance and development projects on people's lives.
Planned camps	Camps managed by government or aid organisations including infrastructure to house displaced populations.
Post-disaster needs assessment	Usually a rapid, multi-sectoral assessment that measures the impact of disasters on the society, economy and environment of the disaster-affected area.
Programme plans	A series of plans, agreed by all stakeholders, that is consistent with the strategic plan, and that integrates project plans in order to describe programmes that respond to transitional settlement and reconstruction needs.
Qualitative data	Information based on observation and discussion that can include perceptions and attitudes.
Quantitative data	Numerical information, such as number of intended recipients, payments disbursed, cash transferred, or days worked broken down by gender, age and other variables.
Rapid assessment	An assessment that provides immediate information on needs, possible intervention types and resource requirements. May be conducted as a multi-sectoral assessment or in a single sector or location.
Recon-struction	The rebuilding of entire communities, including livelihoods, such that they are able to support themselves and have reduced vulnerability to future natural hazards.
Recovery	Decisions and actions taken after a disaster so that survivors are able to re-build their lives and livelihoods in a manner that reduces further exposure to disaster risks.

Relief	The provision of assistance or intervention during or immediately following a disaster to meet the life preserving and basic subsistence needs of those people affected.
Relocation	A process whereby a community's housing, assets and public infrastructure are rebuilt in another location.
Resettlement	Actions necessary for the permanent settlement of persons dislocated or otherwise affected by a disaster to an area different from their last place of habitation.
Resilience	The ability of a system, community or society potentially exposed to hazards to resist, adapt to and recover from the stresses of a hazard, including the preservation and restoration of its essential basic structures and functions.
Response	The provision of emergency services and public assistance during or immediately after a disaster to save lives, reduce health impacts ensure public safety and meet the basic subsistence needs of the affected people.
Risk	The possibility of harmful consequences, or expected losses (deaths, injuries, damage to livelihoods property, economic activity disrupted or environment damaged) resulting from interactions between natural or human-induced hazards and vulnerable conditions.
Risk assessment	A methodology to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that together could pose a potential threat or harm to people, property, livelihoods, and the environment on which they depend.
Rural self-settlement	A settlement formed by displaced populations on collectively owned rural land.
Self-settled camps	A camp formed by the displaced population independent from governement or aid agencies.
Shelter	A habitable covered living space, providing a secure, healthy living environment with privacy and dignity for the groups, families and individuals residing within it.
Stakeholders	All those agencies and individuals who have a direct or indirect interest in a humanitarian intervention or development project, or who can affect or are affected by the implementation and outcome of it.
Subsidence	Lowering of the ground's surface in a particular area due to the removal of subsurface support.
Sustainable development	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Transitional shelter	A process, not a product, that shelters families after a conflict or disaster over the period of securing land tenure and reconstruction, which may take a number of years, whether they rent or own their final home. Transitional shelters support families in making their own decisions by being designed and constructed in cooperation with them, using materials for more than one purpose: shelters can be upgraded into part of a permanent house, reused for another purpose or relocated from a temporary site to a permanent location. The materials used in transitional shelters can be resold for capital or recycled into a permanent house. If appropriate to a specific response, the approach should be used only as part of an integrated and comprehensive shelter, settlement and reconstruction strategy.
Urban self-settlement	Urban unclaimed properties, or land unaffected by the disaster, used informally by displaced populations.
Vulnerability	The characteristics of a person or group in terms of their capacity to anticipate, cope with, resist and recover from the impact of a natural or man-made hazard.
Vulnerable groups	Groups or members of groups exposed to the impacts of hazards, such as displaced people, women, elderly, disabled and any group subject to discrimination.
Warning systems	Mechanisms used to persuade and enable people and organizations to take actions to increase safety and reduce the impacts of a hazard.

Acronyms

Acronym	Definition
ALNAP	Active Learning Network for Accountability and Performance in Humanitarian Action
BOQ	Bill Of Quantities
CA	Cash Approach
CCCM	Camp Coordination and Camp Management
CERF	Central Emergency Response Fund
CGI	Corrugated Galvanised Iron
CHAP	Common Humanitarian Action Plan
CHF	Community Housing Foundation
CLA	Cluster Lead Agency
COHRE	Centre On Housing Rights and Evictions
CSO	Civil Society Organisations
DFID	Department For International Development (UK Government)
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EC	European Commission
ECHO	European Commission Humanitarian Aid and Civil Protection
EIA	Environmental Impact Assessment
EMMA	Emergency Market Mapping and Analysis
ERC	Early Recovery Cluster
ESC	Emergency Shelter Cluster
FAO	Food and Agriculture Organization
FI	Food Item
GCLA	Global Cluster Lead Agency
GIS	Geographic Information System
HC	Humanitarian Coordinator
IASC	Inter-Agency Standing Committee
ICRC	International Committee of the Red Cross
IDP	Internally Displaced Person
IED	Improvised Explosive Device
IFRC	International Federation of Red Cross and Red Crescent Societies

IGO	Inter-Governmental Organisation
IMWiG	Information Management Working Groups
INGO	International Non-Governmental Organisation
IO	International Organisation
IOM	International Organization for Migration
IRC	International Rescue Committee
ISO	International Organization for Standardization
LENSS	Local Estimate of Needs for Shelter and Settlement
LFA	Logical Framework Approach
LNGO	Local Non-Government Organisation
M&E	Monitoring and Evaluation
NFI	Non-Food Item
NGO	Non-Governmental Organisation
ODI	Overseas Development Institute
ODR	Owner-Driven Reconstruction
OECD	Organisation for Economic Co-operation and Development
RedR	Register of Engineers for Disaster Relief
SAG	Strategic Advisory Group
TOR	Terms Of Reference
TWiG	Technical Working Group
UN	United Nations
UN/ISDR	United Nations International Strategy for Disaster Risk Reduction
UN/OCHA	United Nations Office for the Coordination of Humanitarian Affairs
UNDAC	UN Disaster Assessment and Coordination
UNDP	United Nations Development Programme
UNDPCPR	United Nations Development Programme Crisis Prevention and Recovery
UNDRO	United Nation Disaster Relief Organisation
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UN-HABITAT	United Nations Human Settlements Programme
UNHCR	United Nations High Commissioner for Refugees
UNHRP	United Nations Housing Rights Programme

UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
UXO	Unexploded Ordnance
WASH	Water, Sanitation and Hygiene
WEF	World Economic Forum
WFP	World Food Programme
WHO	World Health Organization

Annotated Bibliography

International Federation of the Red Cross and Red Crescent Societies (IFRC), 2010

'Transitional Shelters - Eight Designs'

www.ifrc.org

www.sheltercentre.org/library/transitional-shelters-–-eight-designs

Topics

- Transitional shelter context and design
- Case study analysis
- Typical design details

Subject

This publication has been produced to rapidly respond to the need for transitional shelter solutions in emergencies in providing a 'menu' of engineered, quantified and costed solutions drawn upon existing models already used in the field by the 'Movement'. This menu would cover a variety of different contexts and climates, with practical guidance on how each solution could or should be amended to meet the requirements of a specific emergency.

As the document highlights, providing a defined shelter 'product' such as those described is but one of several means of meeting shelter and settlement needs after disaster.

The Sphere Project, 2011

'The Sphere Project: Humanitarian Charter and Minimum Standards In Humanitarian Response' Third edition

www.sphereproject.org

www.sheltercentre.org/library/sphere-handbook-2011-humanitarian-charter-and-minimum-standards-disaster-response

Topics

- The Sphere Project philosophy, approach and values
- The Humanitarian Charter
- Protection principles and standards

Subject

The Sphere Project and its Handbook frame a Humanitarian Charter, identify a set of minimum standards in key life-saving sectors and consolidate their core standards. In the 2011 revision, the Humanitarian Charter has been completely re-written, the common standards have changed significantly, and a stronger focus on protection has been introduced.

Sphere is based on two core beliefs: first, that all possible steps should be taken to alleviate human suffering arising out of calamity and conflict, and second, that those affected by disaster have a right to life with dignity and therefore a right to assistance.

United Nations (UN), 2010

'Shelter After Disaster'

www.un.org

www. sheltercentre.org/library/shelter-after-disaster

Topics

- Response coordination and strategy
- Programme assessment and implementation
- Toolkits

Subject

The publication offers governments, coordinators and implementers a framework for integrated shelter, settlement and reconstruction following natural disasters.

The guidelines were revised with the consensus of the Shelter Meeting, and the key approach is also published both in the World Bank Handbook and The Sphere Project. The revision is of the 1982 edition, Shelter After Disaster: Guidelines for Assistance.

This framework is intended to be consistent with government structures and humanitarian coordination mechanisms, supporting both in developing and implementing a single strategy, policy or plan for each response.

The World Bank, 2010

'Safer Homes, Stronger Communities: A Handbook For Reconstructing After Natural Disasters'

www.worldbank.org

www.sheltercentre.org/library/safer-homes-stronger-communities-handbook-reconstructing-after-natural-disasters

Topics

- Reconstruction tasks and how to undertake them
- Monitoring and information management
- Information of World Bank projects and policies
- Technical references

Subject

This handbook gives policy makers and project managers the information they need to plan and carry out housing and community reconstruction projects, empowering communities affected by disasters and reducing their vulnerability to future disasters.

The handbook includes nearly 100 case studies collected from global experts with recent experience in housing reconstruction, illustrating how the recommended policies and practical approaches have been used in the field.

Designed to provide immediate guidance in post-disaster reconstruction settings the publication is a vital resource for policy makers and project managers, and for all practitioners involved in post-disaster housing, community reconstruction and disaster risk management.

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To be completed.

5 TRANSITIONAL SHELTER CHARACTERISTICS

RELOCATABLE

Relocation distinguishes transitional Shelter from other shelter approaches.

A transitional shelter may be relocated to cope with insecure land tenure situations.

RECYCLABLE

Transitional shelter is inhabited while parallel reconstruction activities are taking place.

The transitional shelter may be partly dismantled to contribute to the permanent house.

REUSABLE

Transitional shelter may be reused for different purposes once a durable solution is achieved.

This may include reuse as a barn, workshop or an external kitchen.

RESALEABLE

Components of a transitional shelter may be dismantled and resold.

These resources can contribute to permanent reconstruction.

UPGRADABLE

While being inhabited transitional shelters may be upgraded over time.

Components may be replaced or improved to achieve a more durable solution.

TRANSITIONAL SHELTER RESOURCES

This CD includes all the content of these guidelines. The content can also be found on **www.sheltercentre.org**

This resource CD contains:

- the transitional shelter guidelines
- other transitional shelter guidance and fact sheets
- case studies
- other related guidance including coordination and standards

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