



TRANSITIONAL SHELTER ESSENTIAL CRITERIA TO BE MET

The following steps are recommended to be followed in planning transitional shelters following a disaster in order to optimise the matching of needs with the availability of land and other resources.

- Rapid Assessment of relocation and resettlement issues (excerpts from Rapid Assessment on Relocation/Resettlement Issues of Displaced Persons due to the Tsunami compiled by UNICEF in accordance with the UN Guiding Principles on Internal Displacement). See, for example, [Protection of Internally Displaced Persons](#), produced by Inter-Agency Standing Committee, New York, Dec. 1999; - [Interviewers Guide: Rapid Assessment Procedures \(RAP\)](#), by Center for Refugee and Disaster Studies, Johns Hopkins University School of Public Health, Sept. 2000; - [Crisis Response: Rapid Needs Assessment Manual](#), published by the International Labour Organization, 2002.
- Analysis of data obtained in order to determine size type and form of the transitional shelters and settlements.
- Site selection – criteria compiled by Red-R and Practical Action South Asia.
- Developing layout plans – criteria Compiled by Centre for Housing Planning & Building (CHPB), Red-R and Practical Action South Asia.
- Designing transitional shelters – (criteria compiled by Centre for Housing Planning & Building (CHPB) and Practical Action South Asia.

Rapid Assessment of relocation and resettlement issues

A rapid assessment (preferably carried out within 10 days) is necessary to support and facilitate decisions and incorporate the wishes of the displaced persons regarding possible relocation options.

The objectives of the assessment would be to find out;

- Opinions of displaced person (living in camps and with host families)
- Socio- economic profiles of camp inhabitants.
- Experiences and needs of the families who are hosting the affected communities.
- Assessment of the knowledge and access to information among the displaced persons on relocation/resettlement issues.

Analysis of data obtained in order to determine size type and form of the transitional shelters and settlements

The data obtained from the above assessment should be analysed in terms of political, socio-cultural, economic, technological and numerical terms so that the size, type and form of the settlement and transitional shelters can be determined.

Conventional analysis tools such as PEST (Political, Economic, Social & Technical), SWOT (Strengths, Weaknesses, Opportunities & Threats) and STEEPLE (Social, Technological, Economic, Environmental, Political, Legal & Ethical) may be used to analyse the data on socio-cultural, economic and technological issues. Statistical analysis may be used to analyse the numerical issues (e.g. to arrive at number of households, number of families, their size, gender, age groups, number of persons with special needs etc.).

Practical Action's Experience

Practical Action used the questionnaire below to identify people who needed assistance. Then it:

- Could provide its own technical expertise on how to adhere to the set criteria/standards, or
- Facilitate to find other service providers who could assist with meeting the transitional shelter standards.

(Standards obtained from Sphere Standards on Water and Sanitation and Standards on Shelter and Settlement: refer to Chapters 2 and 4 of the Sphere Standards respectively at <http://developmentbookshop.com/sphere-handbook.html>)

Criteria to be considered in the selection of sites for transitional shelters

1. Will the proposed site be undisturbed by all natural and man-made hazards?
Transitional settlements and shelters would need to be designed with protection provided against identified hazards for at least about a year after erection. Examples for some of the likely hazards are busy roads, areas of open water, unsafe buildings, disused septic tanks or refuse dumps, air & water contamination by factories etc.

Yes / No

If yes, explain why you think that the site would be safe and undisturbed?.....
.....

If not, do you need any help & what would that be?.....
.....

2. Are there provisions to supply clean potable water (including rainwater harvesting) in line with minimum international standards?

Minimum International Standards for clean water are as follows;

- Free from faecal coliforms
- Turbidity < 5NTU (Nephelometric Turbidity Units)
- With disinfected water, 0.5mg/litre of free chlorine residue at point of delivery

Refer to page 67 of Sphere Standards on water and Sanitation

Yes / No

If yes how.....
.....

If not, do you need any help & what would that be?.....
.....

3. Are there measures to protect ground water sources? Are the sanitation facilities located down wind and are they secure for use by women and children at all times?

International Standards on sanitation and washing facilities are 1 toilet for 20 persons

Yes / No

If yes, how?.....
.....

If not, do you need any help & what would that be?.....
.....

- 4. Are surface water drainage systems in place to minimise flooding hazards and/or effects of unfavourable weather conditions or; is there a way to make use of existing natural drainage systems?

Yes / No

If yes, how?.....
.....

If not, do you need any help & what would that be?.....
.....

- 5. Is there easy **access to electricity** from the main-grid?

Yes / No

If yes, how?.....
.....

If not, do you need any help & what would that be?.....
.....

- 6. Is there easy access to public transport facilities?

Yes / No

If yes, how?.....
.....

If not, do you need any help & what would that be?.....
.....

- 7. Can the shelters be arranged in clusters to facilitate community activities and minimise the risk of socio-cultural sensitivity & sudden alienation from familiar environments?

Yes / No

If yes, how?.....
.....

If not, do you need any help & what would that be?.....
.....

- 8. If the temporary re-settlement takes place in an area completely unfamiliar to the intended inhabitants, can the access points & boundaries around the settlement be clearly demarcated to make the residents mentally & physically secure?

Yes / No

If yes, how?.....
.....

technical brief

.....
 If not, do you need any help & what would that be?.....

Criteria in developing layout plans for transitional shelter sites

- 1. Is the extent of the site sufficient for delineation of major and minor routes across the site, public communal areas (i.e. play, meeting areas) and private spaces around shelters?

Yes / No

If not, do you need any help & what would that be?.....

- 2. Where the number of houses in the settlement exceeds 40 units, is there adherence with the compulsory provision for a Community Hall? It is advisable to locate the community hall closer to the administration unit, if facilities such as Television, Radios & Newspapers are provided. The community hall should be at least 400 square feet for 40 housing units.

Yes / No

If not, do you need any help & what would that be?.....

- 3. Is there common space located within easy access & minimum disturbance to all the housing units and, closer to the main entrance & administration office? The ideal common space would have a rectangular / square / circular shape covering an area above 1000 square feet.

Yes / No

If not, do you need any help & what would that be?.....

- 4. Have proposals been developed for refuse, sewage & waste water removal and disposal?

Yes / No

If yes, what?.....

If not, do you need any help & what would that be?

- 5. Have provisions been made for educational, health or recreational facilities or for access to those facilities?

Yes / No

If yes, how?.....

If not, do you need any help & what would that be?.....

technical brief

- 6. Are there possibilities & space to support livelihood activities of the intended inhabitants i.e. grazing of livestock, cultivation, storage of equipment, and workshop / fabrication areas?

Yes / No

If yes,
 what?.....

If not, do you need any help & what would that
 be?.....

- 7. Can the shelters be positioned to minimise the clearance of trees and maximise shading and protection from high winds?

Yes / No

If yes,
 how?.....

If not, do you need any help & what would that
 be?.....

- 8. Have there been measures taken to minimise disturbance from noise, congestion and to minimise unfavourable environmental impacts to the neighbourhood?

Yes / No

If yes,
 how?.....

If not, do you need any help & what would these
 be?.....

- 9. Has sufficient thought been given to provide service facilities such as grocery shops, markets etc?

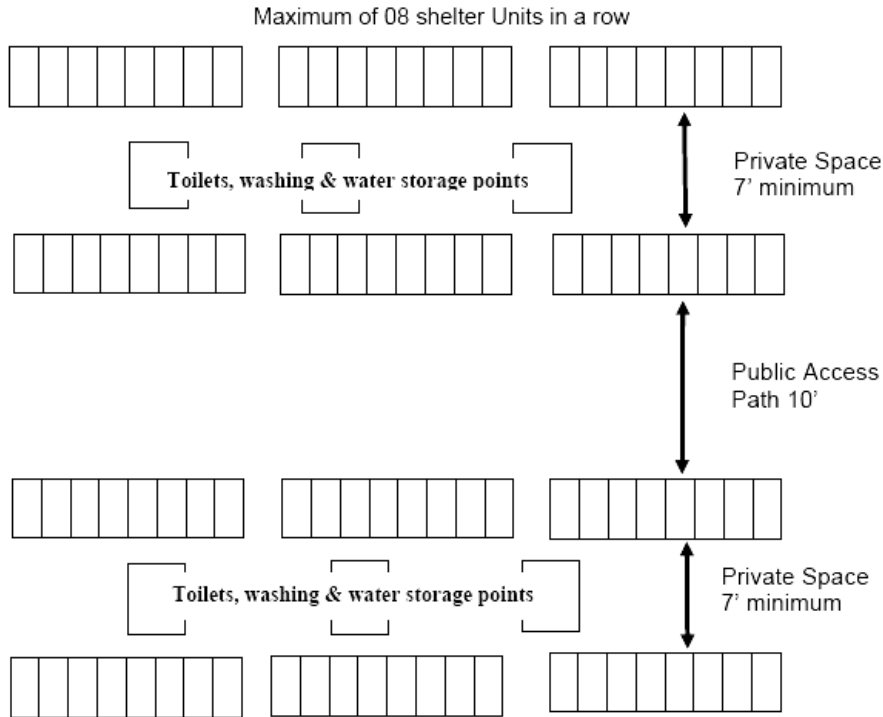
Yes / No

If yes,
 how?.....

If not, do you need any help & what would that
 be?.....

technical brief

A typical layout plan for multiple shelter units situated on many rows



10. Has the layout been designed with at least 10' wide public access paths between two rows?

This space would provide required light & ventilation to the front room of the shelter units and, help the 'day-to-day social interaction' among the residents.

Yes / No

If not, do you need any help & what would that be?.....

11. Has there been provision made for a private space adjacent to the back room of shelter units? The private space needs to be at least 7' between two rows. (The standard regulation to obtain light & ventilation for an arrangement like this is 15' between the two habitable areas; however it might not be feasible in a situation like this.) Women would mostly use this space as it is adjacent to the back room and functions such as clothes drying can take place here. This also would be a private access path to the toilets / water points etc.

Yes / No

If not, do you need any help & what would that be?.....

technical brief

technical brief

12. Is there a 10' wide vertical link road connecting all the public access paths at least at every eighth shelter unit?

Yes / No

If not, do you need any help & what would that be?.....

13. Do the residents have access to their shelters at least by a handcart and, do people with disabilities too have undisturbed access to their shelter units? The roads & paths have to be prepared in such a way that steep slopes are avoided as much as possible. It has to be ensured that the residents with disabilities are able to manage mobility on their own as much as possible, so that they too can interact socially according to their preference. In allocating the plots to them, their preferences & needs have to be given priority.

Yes / No

If not, do you need any help & what would that be?

14. Has the number of shelter units allocated in a row been limited to 8 and is there a space of at least 10' on either side of the row of units?

- This reduces the risk of fire & facilitates air movement in large settlements avoiding development of stagnant air pockets along the long access paths.
- The space on one side can be used as the vertical link road between public access paths and the other side can be used to locate the toilets, water storage points & electricity lines etc.
- Having a toilet & a water point for every eighth shelter unit in close proximity will help proper maintenance of them by the users themselves.
- As many of the residents, especially women would need more privacy or rather use private and clean toilets; allocation of toilets for housing blocks is the recommended arrangement.
- Also this provides an arrangement for residents somewhat closer to their previous lifestyle, thus contributes to a better psychological status.
- Such an arrangement will reduce obvious problems associated with sanitation & hygiene in communal toiletry arrangements.
- This will further reduce maintenance & management disputes as this option enables provision of a ration of water to every eight households, which the residents would manage among themselves.

Yes / No

If not, do you need any help & what would that be?.....

15. Have the **water storage tanks** been designed after calculating the water requirement of the number of families that would use the tank? The water requirement would be approximately 75 litres per household per day

Yes / No

If not, do you need any help & what would that be?.....

16. Have the far corners of the public access paths been left open? An 'air-escape' can be created by not having any solid barriers at the edge of the public access paths.

Yes / No

If not, do you need any help & what would that be?

17. Has the orientation of the housing blocks been done in a uniform direction as much as possible? This maximises utility of available space.

Yes / No

If not, do you need any help & what would that be?.....

Criteria to be considered in designing transitional shelters

This section sets out a transitional shelter unit with a design layout as per Sphere Standards, key features of the design, design standards and the principles adopted in designing the unit.

Principles adopted in designing;

- Minimum of 200 sq.ft. per shelter unit.
- Maintaining the privacy of the family unit.
- Maintaining the privacy within the family unit by internal partitioning.
- Maintaining the privacy between men & women by internal partitioning & by providing separate public & private spaces.
- Self-maintenance practices of toilets & other facilities.
- Providing an environment conducive to living and ordinary day-to-day family life by allowing for cooking facilities & maintaining privacy needs within the unit.

Height of the unit/roofing:

- The lowest position of the roof inside the shelter unit should be a minimum of 8' 6".
- Wall cladding. - if G.I. corrugated roofing sheets are used, the minimum length of a single sheet that can be used for wall cladding is 8'.
- If G.I. corrugated sheets are used for roofing, the heat & glare from all the housing units can cause health hazards. This needs to be avoided.
- It is recommended to have a 6" gap between the roof & the top of the wall cladding as an air gap to enable the release of hot air.

Preparation of the fireplace/hearth:

- A triangular shaped masonry or heat resistant base can be provided in the corner near to the window of the front room with a 2' high heat resistant back-guard to position the stove for cooking.
- Placing the stove near the window will provide an adequate outlet for the smoke, thus avoiding any health hazards.

Social Aspects:

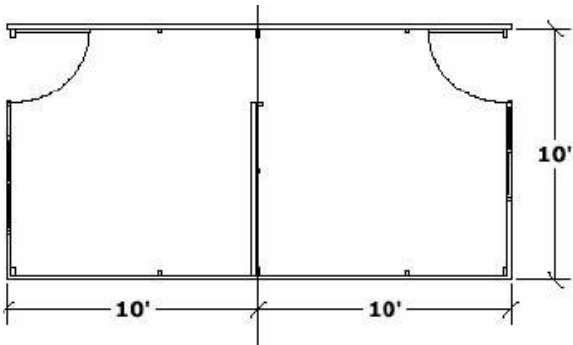
- All intended residents should be involved in setting up and allocating the units. This will help restore some sense of normality among the displaced.
- Involve NGOs, CBOs & Social Networks in the process of designing, identification & categorisation of the beneficiaries at all stages. They have the experience of undertaking similar work, the skills, capacity & experience in mobilising people and have a network of human resources that can be utilised quickly.

Our recommendation is an all inclusive unit with;

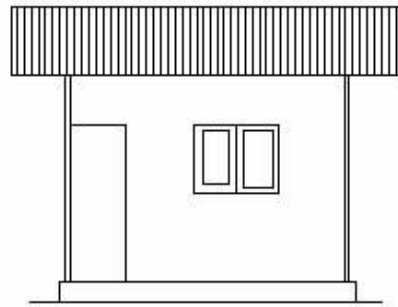
- a common room facing the common access path,
- a private room with an adjacent private space,
- a cooking corner with a protected fireplace in a corner of the common space and
- a shared toilet & washing facilities for every 8 units

technical brief

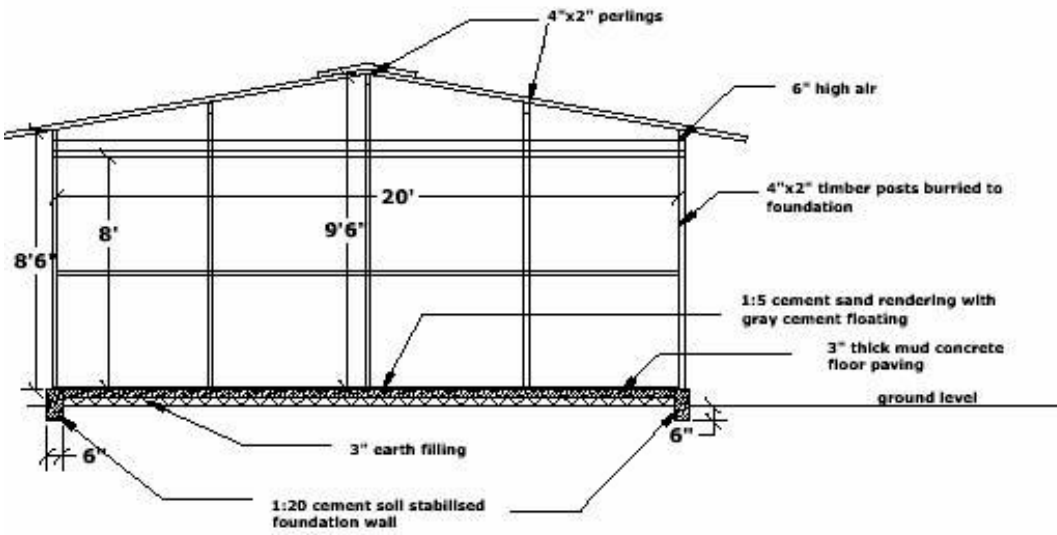
TEMPORARY SHELTER FOR DISPLACED FAMILIES



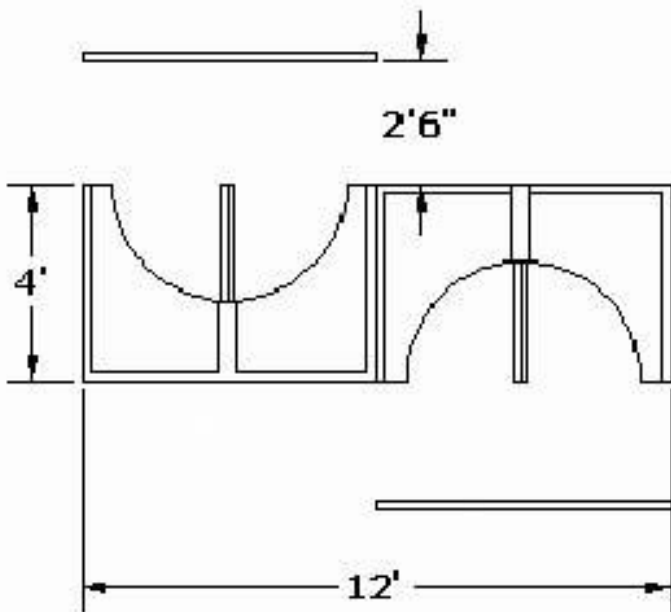
PLAN



ELEVATION



SECTION



PLAN OF COMMON TOILET

technical brief

Note on Dimensions Used

In Sri Lanka feet and inches are conventionally used for measurement and specification of length and other size dimensions. All dimensions in this brief are given in these units and are designated ' for feet (e.g. 7'), and " for inches (e.g. 6"). There are 12 inches in one foot. For approximate conversion to metric units, use the following metric equivalents:
One foot = 0.305 metres; one inch = 2.54 centimetres; one square foot = 0.0929 square metres.

Further Information

- [Permanent Shelter For Housing Infrastructure And Services Design - Planning Process](#), Practical Action Technical Brief (South Asia)
- EPC (Environmental Planning Collaborative) / TCG International / FIRE-D (Indo-US Financial Institutions Reform and Expansion) Project, [Participatory Planning Guide for Post-disaster Reconstruction](#), January 2004, (case studies of reconstruction following 2001 Gujarat earthquake in India covering planning and experiences)
- OCHA (Office for the Coordination of Humanitarian Affairs) / Shelter Centre / DFID (Department for International Development), [Transitional Settlement and Reconstruction after Natural Disasters \(Field Edition\)](#), United Nations, 2008,
- Twigg J, *Good Practice Review — Disaster risk reduction mitigation and preparedness in development and emergency programming*, Humanitarian Policy Group Network Paper Number 9, Overseas Development Institute, London, March 2004,
- ALNAP (Active Learning Network for Accountability and Performance in Humanitarian Action), [Participation by Crisis-affected Populations in Humanitarian Action, A handbook for practitioners](#), Overseas Development Institute, London, 2003,
- Benson C & Twigg J, [Tools for Mainstreaming Disaster Risk Reduction: Guidance notes for development organisations](#), Provention Consortium, Geneva, January 2007,
- Risk and Disaster Management Unit, [Guidelines for Operational Programme Formulation in Post Disaster Situations: A resource guide](#), UN-Habitat, Nairobi, 2001,
- Practical Action, South Asia, [Guidelines for Planning in the Re-building Process – Resource pack](#), January, 2004,
- Wates N, [The Community Planning Handbook: How people can shape their cities, towns and villages in any part of the world](#), Earthscan Ltd, 2000.
- Kumar S, [Methods for Community Participation: A complete guide for practitioners](#), Practical Action Publishing, UK, 2002
- [Earthquake-Resistant Housing](#), Practical Action Technical Brief
- [Building Back Better](#) T Schilderman et al Practical Action Publishing
- [Disaster Risk Management and Reconstruction in Latin America](#) Montoro & Ferradas, Practical Action Publishing, 2012
- [The Sphere Handbook](#) SPHERE/ Practical Action Publishing, 2011
- [RecoverLanka – Post-tsunami relief, rehabilitation, reconstruction resources](#),
- [GeoLanka Net](#) - Post-tsunami relief, rehabilitation, reconstruction resources meeting point,
- [Learning from December 2004 Tsunami](#), by Ananda Mallawatantri, UNDP, Sri Lanka: overview of the post-tsunami recovery process in Sri Lanka, presented at National Earthquake Conference, Seattle, USA, 22-26 April, 2008,
- [Mid-Year Review, Post Tsunami Recovery and Reconstruction](#), RADA, June 2006,
- [Transitional Settlement Displaced Populations](#), by Tom Corsellis & Antonella Vitale, Oxfam GB & University of Cambridge, 2005,
- [Field Operations Guide for Disaster Assessment and Response](#), United States Agency for International Development, Version 4.0, September 2005,

Additional resource materials on reconstruction can be found in the online library of the Shelter Centre:

<http://www.sheltercentre.org/library/>

Shelter Centre

Villa Grand-Montflueury

Chemin du Grand-Montfleury 48
 1290 Versoix
 Switzerland
 Tel; +41 22 755 3777
 Fax; +41 22 755 3779
 Email: info@sheltercentre.org

RedR International Secretariat
 Koen Versavel
 Director
 c/o Rotenaar 102
 B-2650 Edegem
 Belgium
 Email: redr.international@redr.org
 Tel: + 32 475 384 470
 Internet: <http://www.redr.org/>

Centre for Housing Planning and Building (CHPB)
 33, Sunil Mawatha
 Pelawatta, Battaramulla,
 Sri Lanka
 Tel +94-112-785628-9; Fax +94-112-787454
 Email: chpb@slt.net.lk
 Internet: <http://www.chpb.gov.lk/>

Who to contact:

Project Manager
 Practical Action South Asia
 5, Lionel Edirisinghe Mawatha
 Kirulapone
 Colombo 5
 Sri Lanka
 T +94 (11) 282 9412
 F +94 (11) 285 6188
 E srilanka@practicalaction.org.lk
 W www.practicalaction.org
http://practicalaction.org/?id=south_asia_tsunami (specifically on post-tsunami reconstruction in Sri Lanka)

Practical Action
 The Schumacher Centre
 Bourton-on-Dunsmore
 Rugby, Warwickshire, CV23 9QZ
 United Kingdom
 Tel: +44 (0)1926 634400
 Fax: +44 (0)1926 634401
 E-mail: inforsew@practicalaction.org.uk
 Website: <http://practicalaction.org/practicalanswers/>

Practical Action is a development charity with a difference. We know the simplest ideas can have the most profound, life-changing effect on poor people across the world. For over 40 years, we have been working closely with some of the world's poorest people - using simple technology to fight poverty and transform their lives for the better. We currently work in 15 countries in Africa, South Asia and Latin America.

technical brief