

Technical Guidance on Climatisation and Seasonal Support

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1. INTRODUCTION

This guidance has been collated from seasonal (winterisation and summerisation) support guidance produced from 2014 onwards in Iraq, with the collaboration of Shelter-NFI Cluster partners, the WASH Cluster, the CCCM Cluster and the Cash Working Group. It offers advice to agencies providing assistance to displaced households or conflict affected households living in sub-standard conditions across Iraq, or those who require additional support to meet basic needs during a particular season. The purpose of seasonally-related assistance is to support vulnerable households cope with extremes in temperature and other climatic conditions during the winter and summer months, through the integrated support to shelters alongside the provision of household and NFIs.

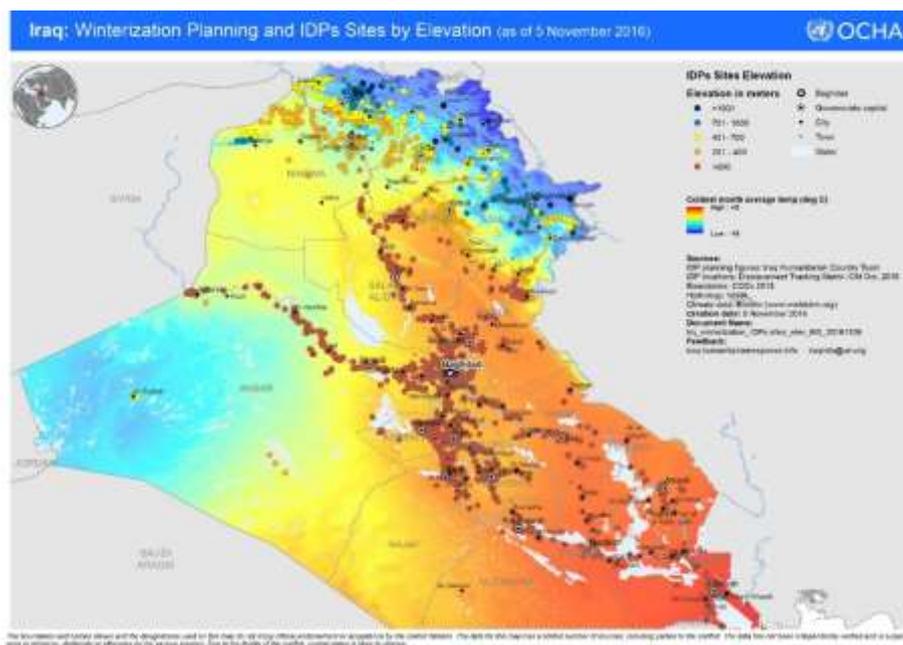
In this document, ‘climatisation’ refers to improvements or support to shelters to withstand the extremes of temperature or climate. Seasonal NFI support refers to the provision of NFIs and other items to allow individuals and households to maintain comfort and protection from temperature and climate.

2. CLIMATIC CONDITIONS

Iraq has long, hot and dry summers and short, cool winters. The average temperatures range from over 48°C during the hottest months of July and August, to below freezing in winter. Significant variations occur across the country due to the presence of both mountainous terrain and large, flat desert plains. The north of Iraq into the mountains of Kurdistan experiences cooler summers and colder winters with significant snow fall and wind whilst central and southern areas are hotter during the summer and winter, with the exception of areas of desert which can also be cold during the winter.

The majority of rainfall occurs from December to April, mostly falling in the mountainous areas of the north. Certain areas of southern Iraq (including Baghdad) have recently seen high levels of flooding.

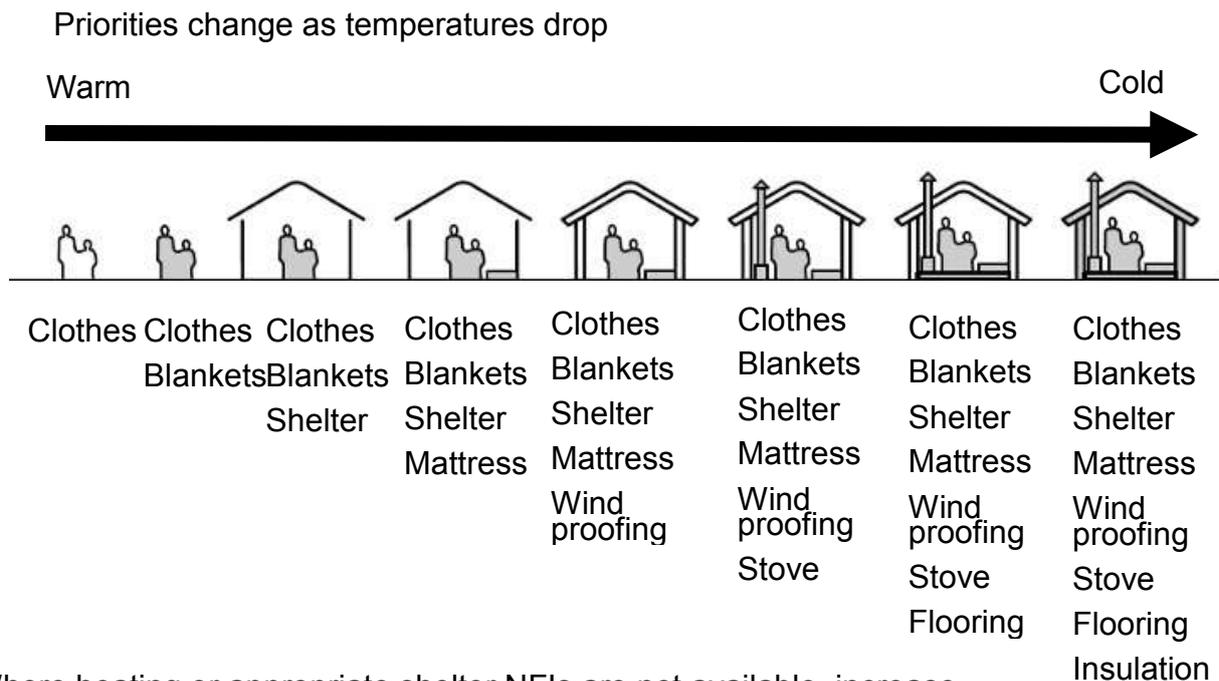
Two kinds of wind are encountered – dry, dusty gusts from the south and southeast from April to early June and late September to November, and a steady wind from the north and northwest experienced from mid-June to mid-September. Dust storms accompany these winds, and can cause damage to infrastructure and shelters or homes.



3. OBJECTIVES OF CLIMATISATION ASSISTANCE

Shelter and NFI seasonal support are closely linked. During emergencies in the absence of fully winterized shelter solutions sufficient NFIs must be provided as first line response, while shelter conditions are improved. It is generally found that families who require shelter seasonal support are likely to also require NFI seasonal assistance, therefore assessments and interventions should take into consideration the shelter conditions as well as the availability of household items.

Seasonal shelter support is provided to ensure affected households are protected from the direct effect of harsh weather, and sufficient NFIs to maintain health and well-being during extremes of temperature.



Where heating or appropriate shelter NFIs are not available, increase the distribution household NFIs, such as clothing and blankets and mattresses

Figure 1 Priority items with temperature changes

4. ASSISTANCE TIMEFRAMES

An annual strategy review should commence approximately six months ahead of the start of each summer or winter and close within three months. Timelines will adjust based upon the planning cycles of National or Local Government and partners, ensuring that both the strategy is achieved before partners finalize plans and that in kind items are procured before the start of each season.

Based upon partner PDM and lessons learnt from previous years, the timing of support is critical to meet the primary needs of beneficiaries in relation to coping with extremes of climate and temperature and avoid non-use or selling of assistance. It may also mean that shelters are not suitable for the respective season, putting families at risk from extremes of temperature and other seasonal occurrences such as damp, flooding and dust. Finally, repair and maintenance of settlements and infrastructure is required to ensure that conditions remain safe, healthy and hygienic, and supportive of adequate shelter and access to basic services.

5. TARGETING

Shelter and NFI climatization assistance should be provided to all families with increased seasonal need arising from critical and sub-standard shelter conditions, limited access to NFI or those deemed vulnerable. This is defined as families or individuals lacking the means to maintain safety, health, well-being, privacy and dignity during extremes of temperature or exposure to climate. Where possible, a proportion of assistance should also be provided to the host community in similar situations (e.g. 10-20%).

Critical and sub-standard shelter conditions or limited access to NFI is defined as:

Identifying Shelter and NFI Vulnerabilities	
Lack of climate adequate shelter	Lack of climate adequate NFIs
<ul style="list-style-type: none"> • Critical shelters (unfinished, abandoned building, open air, tents, collective centers) • Shelters with broken walls • Shelters with poor or leaking roofs • Shelters with no or broken windows / doors; or where openings are unsealed • Overcrowded shelters (less than 3.5m² covered living space per person); shelters shared by multiple families (priority for summer support) • Shelters in areas affected by seasonal flooding • Shelters with inadequate water and sanitation facilities and other basic infrastructure to meet minimum standards for the number of occupants • Shelters with no segregated space for men and women that ensures privacy, and forces women to wear restrictive clothing at all times 	<ul style="list-style-type: none"> • Lack of weather appropriate clothing • Lack of mattresses and blankets • Lack of means for cooling/heating drinks and meals • Lack of means for cooling /heating spaces • Lack of insulation or shading

Vulnerability is defined as:

- Pregnant or lactating women
- Families with one or more children under the age of 5 years
- Elderly and very elderly persons, especially if living alone or caring for others
- People with disabilities or restricted mobility, especially if confined to bed
- People with chronic illnesses

In addition to the specific criteria above, some households with limited resources may have difficulty accessing climate adequate shelter and NFIs, and may also be targeted for seasonal support:

- Families with no source of income
- Female head of household
- Child head of household
- Large family (8 members or more)
- Multiple households sharing a shelter or housing unit

Special priority should be given to families where one person is more vulnerable to extreme heat / cold or who meets one or more categories, e.g. elderly with cardiovascular disease and reduced mobility, pregnant female headed household.

5.1. Chronic illnesses affected by heat

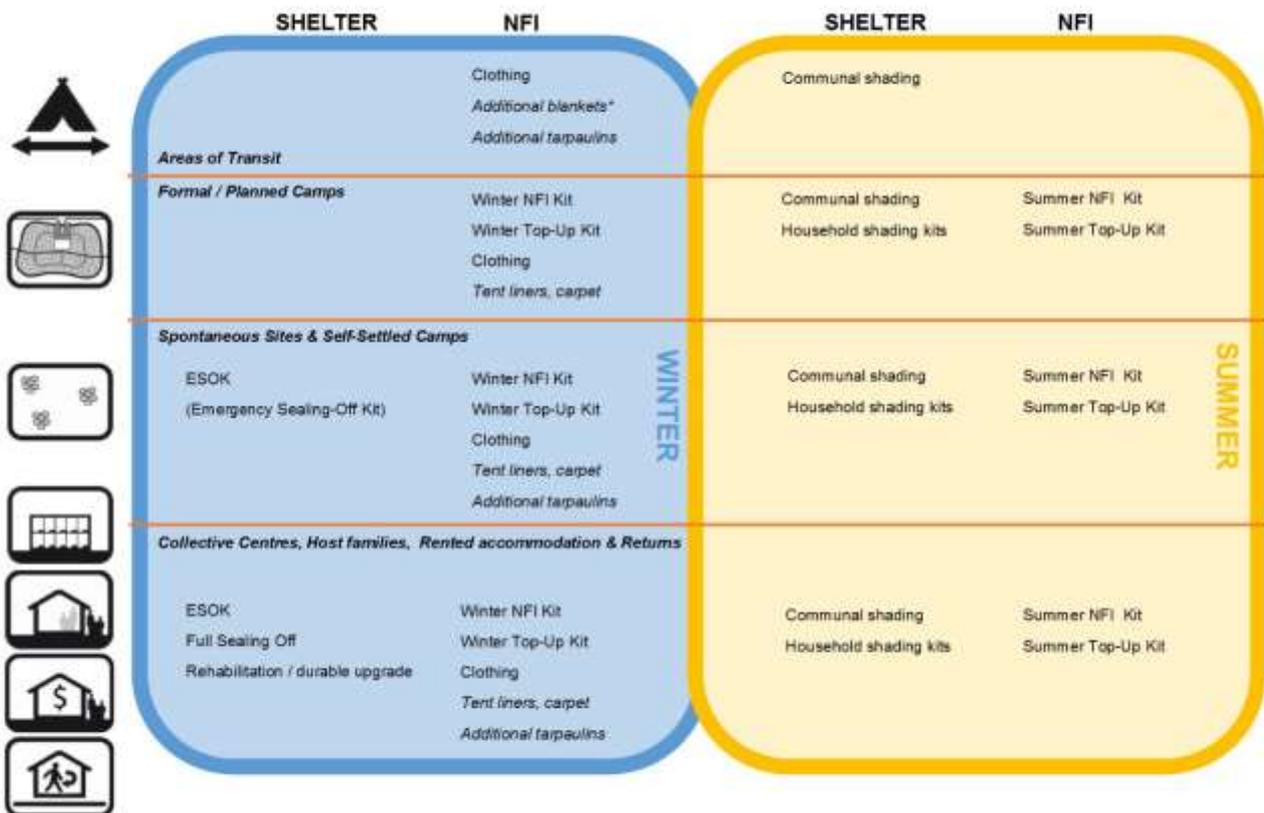
The following illnesses¹ are adversely affected by heat:

Health conditions	Mechanism	Selected evidence
Diabetes mellitus, other endocrine disorders	Types 1 and 2 diabetes are associated with impairment in skin blood-flow response, which may play a role in reducing heat dissipation. Sweating responses may also be reduced. Metabolic alterations can occur.	Bouchama et al., 2007 Kovats & Hajat, 2008 Kenny et al., 2010 Schifano et al., 2009
Organic mental disorders, dementia, Alzheimer disease	Reduced awareness of heat-related risks and adaptive behaviours, high dependency level, interaction of many medications with the body's ability to thermoregulate	Belmin et al., 2007 Faunt et al., 1995
Substance misuse disorders	Changes in physiological response mechanisms and changes in behaviour due to psychoactive substances and alcohol	Kovats & Hajat, 2008
Schizophrenia, schizotypal and delusional disorders	High level of dependency, prescribed psychotropic drugs	Bouchama et al., 2007 Kovats & Hajat, 2008
Neurological diseases, e.g. Parkinson's disease and those involving cognitive impairment	Potentially limited awareness and mobility; High level of care dependency, prescribed psychotropic drugs	Kovats & Hajat, 2008
Cardiovascular diseases (including hypertension, coronary artery disease, heart conduction disorders)	Impairment of thermoregulatory responses and high risk of acute coronary and cerebral thrombosis, reduced cardiovascular and thermoregulatory responses and changes in blood composition due to dehydration (1% of body weight deficit) Changes in renal function may be related to life-threatening cardiac rhythm disturbances in older patients Worsening the existing condition, cardiovascular, thermoregulatory and blood changes in hypertensive patients followed by a sudden fall in arterial pressure may lead to fatal cerebral ischaemia. Peripheral circulatory changes may lead to reduction in core-temperature regulation	Carberry, Shepherd & Johnson, 1992 Keatinge et al., 1986 Kenny et al., 2010
Diseases of the respiratory system, chronic lower respiratory disease	Combined effect of high temperature and air pollution on the pathogenesis and clinical history of respiratory diseases (i.e. asthma, chronic bronchitis) Worsening of existing condition (i.e. chronic obstructive pulmonary disease – COPD), due to hyperventilation and dyspnoea) difficulty in dissipating excess heat (e.g. peripheral vasodilatation, hypovolaemia)	Ren et al., 2008 Sprung, 1960 Stafoggia et al., 2008 Schifano et al., 2009
Diseases of the renal system, renal failure, kidney stones	Diminished renal function due to the electrolyte and water imbalance consequent to hyperthermia and dehydration, especially in elderly people	Flynn, McGreevy & Mulkeern, 2005
Obesity	Sensory impairment to heat, or reduced capacity for heat dissipation due to the smaller ratio of body surface area to body mass that hampers sweat evaporation	Herman et al., 2007, Kenny et al., 2010
Other chronic diseases	Examples: absence of sweat glands in people with scleroderma, high loss of electrolytes through sweating in those with cystic fibrosis	Orenstein, Henike, Green, 1984 Paquette & Falanga, 2003

¹ From World Health Organisation *Public Health Advice – On preventing health effects of heat*, 2011.

6. SUGGESTED SEASONAL SHELTER AND NFI ASSISTANCE

The diagram below summarises recommended Shelter and NFI assistance that contributes to seasonal support. It is assumed that affected households will already have received basic Shelter and household items (e.g. Basic Emergency Shelter Kit or Basic NFI Kit) but that this is insufficient to ensure health, safety and well-being during extremes of temperature and weather. Recommended seasonal items (e.g. tent liners, carpets) to be included as part of a kit have been suggested.



Note that in line with the agreed inter-cluster methodology on integrated Shelter-WASH, the WASH facilities at shelter / household level are undertaken as part of shelter activities, while WASH actors focus on community-level networks and infrastructure. For more information, see *Shelter Cluster Iraq Technical Guidance Notes on Adequacy of Shelter; Unfinished and Abandoned Buildings and Emergency Sealing-Off Kits* and *Shelter Cluster Iraq Technical Guidance Note on NFI Assistance* accessible here: <https://www.sheltercluster.org/response/iraq>

Additionally pages 16 – 17 of *Selecting NFIs for Shelter, IASC 2008* provides a list of possible Cold Climate NFIs, pgs. 18 – 19 covers Hot and Humid and lastly pgs.20 – 21 concludes with Hot and Dry.

7. OVERARCHING CONSIDERATIONS

7.1. Settlement conditions

The following should be considered in advance and during seasonal preparation:

- Maintenance of camp / centre infrastructure
- Solid waste disposal
- Impeded surface water drainage
- Flood prone areas and alternative locations for multiple night emergency shelter
- Accessibility issues caused by the deterioration of roads

7.2. Flood mitigation

Flooding can reduce access to sanitation facilities, and can result in standing, stagnant water leading to unhygienic conditions and an increase of vectors. Preparedness and response activities would include digging, deepening and clearing drainage channels in public areas (e.g. paths) as well as training in digging and maintaining drainage around shelters, to ensure rain water flow to either natural or municipal drains. To ensure continued access to WASH facilities, gravelling of roads leading for desludging and water trucks or of pathways leading towards WASH facilities should be considered. Activities should consider colder temperatures in northern areas, in addition to higher rainfalls in southern areas, often requiring flood mitigation measures at both community and household levels, comprising surface water drainage, ballast to raise areas at risk and sandbags surrounding family shelters.

7.3. WASH items

Most of the WASH related items and actions are needed year round however, in preparation for winter heating of bath water may be considered. Given the high safety risks, locally-made immersion water heaters, and kerosene heaters are not recommended. Solar or wall mounted electrical installations are recommended if feasible. Installation within a camp setting must be undertaken in consultation with Shelter-NFI and CCCM Cluster partners.

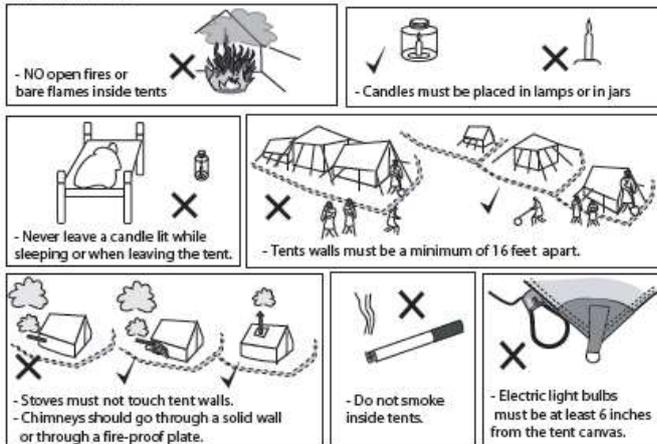
7.4. Fire and electrical safety

The following should be considered:

- SNFI Cluster partners should support CCCM Cluster partners, camp management and local authorities in fire prevention training
- Fire extinguishing items appropriate to the settlement type should be provided and maintained
- Gas appliances are not recommended for use in tents without floors. For more detailed information, see Shelter Cluster Iraq: Technical Guidance Note on NFIs (sections on stoves / cookers and heaters; Annexes)
- The distribution of electrical appliances should be coordinated with CCCM cluster, camp management and local authorities to ensure beneficiaries are informed of safe operation and supported as required in installation and maintenance
- Appliances should have a child safety switch or mechanisms to avoid tipping or burning if touched

FIRE SAFETY

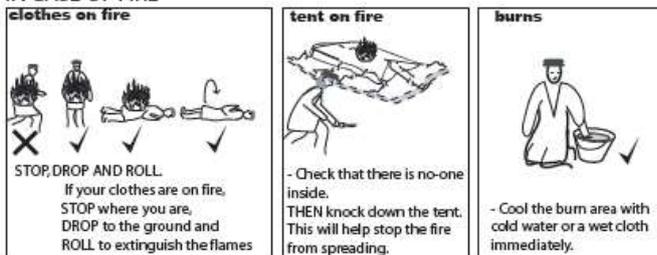
PREVENTION



PREPAREDNESS



IN CASE OF FIRE



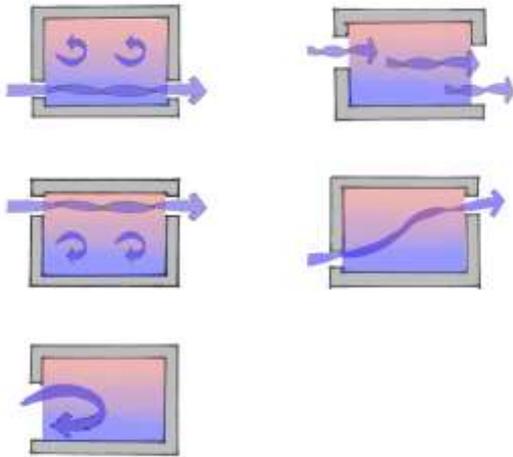
EMERGENCY SHELTER CLUSTER TECHNICAL UNIT - 21/12/06

7.5. Ventilation

Ventilation is as important in winter as in summer. Good ventilation results from 1) building / shelter location, orientation and massing and 2) sizing and placing of openings. As the direction of the prevailing wind (and associated problems, such as dust storms) may change throughout the year, the ability of inhabitants to adjust openings to encourage breezes or prevent draughts is recommended.

In winter, families may not wash clothes and fabrics as often, and they may not dry sufficiently. Shelters are increasingly enclosed, as reducing cold draughts also means reducing ventilation, leading to stale and damp internal environments. This leads to a marked increase in respiratory illnesses during winter as well as scabies. Support from Shelter and NFI actors during such preparedness and response activities for WASH-related illnesses may be required - for example, in the distribution of additional NFI kits to replace those that may have been contaminated, in the dissemination of key health and hygiene information, or the installation of facilities / features that support good health and hygiene.

Ventilation of cooking stoves and cooking areas, and of heaters / heated spaces is strongly advised to reduce the risk of fire and respiratory disease. The combined size of ventilation openings in a room should be a minimum 5% of the floor space. This may be achieved by using openable or fixed ventilation means (air bricks, louvers). Agencies may also consider the supply of agriculture netting material for temporary internal partitions, which may help to promote privacy while allowing some cross-ventilation. Agencies working in Shelter and NFI in abandoned, unfinished or damaged buildings should ensure that it is possible for households to open some windows in the summer months to promote cross ventilation.



Where possible install ventilation openings in 2 walls to allow for cross ventilation. A smaller inlet and larger outlet will increase the air flow into the space, enabling the volume of air to be changed more regularly and increasing a breeze's cooling properties. Placing openings across from each other but not directly opposite maximise the area that can be effectively ventilated / cooled. Locating air inlets low down (where air is coolest) and outlets high (where air is warmest) increases ventilation through the stack effect.

8. WINTER ASSISTANCE

8.1. Winterising tents

References: <http://humanitarianlibrary.org/channel/iraq-shelter-housing-nfis>

Standard family tents can be fitted with a winterization kit which includes: winterization liner, partition, chimney sleeve, insulating mats and floor protection (for the wooden stove). The tent winterization kit does

not include any stove/heater or fuel. These items must be purchased separately, depending on the fuel type available in the area.

For non-standard tents winterization solutions must be customized on site. The use of standard humanitarian tent is strongly recommended.

WINTERISING TENTS

This guide contains some simple suggestions on how tents can be upgraded if families have the correct materials.

CHOOSE A SAFE SITE

- Safe from landslides and falling rocks

- Well drained and safe from floods when it rains

IMPROVE TENT

- Build low mud / stone Walls inside the tent to block winds inside

- If the land has good drainage, dig downwards to increase living space

- Keep guy ropes tight to prevent tent from sagging

- Raise walls with sticks outside. sharp sticks inside will rip the tent

- Cover tent with plastic sheeting to prevent rain and stop winds from getting inside

- Dig drainage ditches 1ft. deep and bury mud flaps

- Build extensions and strengthen tent poles if there is sufficient material

BE FIRE SAFE



tent winter kit.pdf

8.2. Winterising prefabs and other structures

Prefab caravans, kitchens and WASH facilities should also be winterised however to different degrees in so much as shelters used as living and sleep areas must not be leak or be damp, whereas separate kitchens and WASH facilities can at times be to a lower degree.

Winterisation of prefab caravans can include:

- Replacement of badly damaged walls or roofs
- Use of additional rigid plastic / metal sheets or sandwich panel such on roofs susceptible to minor leakage
- Any use of screws or nails should be sealed using silicon
- If rigid sheeting is not available tarpaulin and rope can be used however accompanied with monitoring of leak and damp.
- Bathrooms and kitchens can be sealed by tarpaulin
- Expandable foam used to fill gaps ensuring it will not cause pooling of water or interrupt run off
- Additional boards can be used to screw in warped wall panels
- Drainage should be considered for all structures, especially pooling of water under prefabs.

8.3. Sealing off shelters and buildings

For the overall scope of works , see Shelter Cluster Iraq Technical Guidance on Unfinished and Abandoned Buildings [1] (Tool C: Harmonised Scope of Works) and Emergency Sealing-Off Kits (ESOK):

<https://www.sheltercluster.org/response/iraq>



Tool C_Harmonised
Scope of Works_UAI

The diagram below provides the essential elements to be addressed in any shelter:

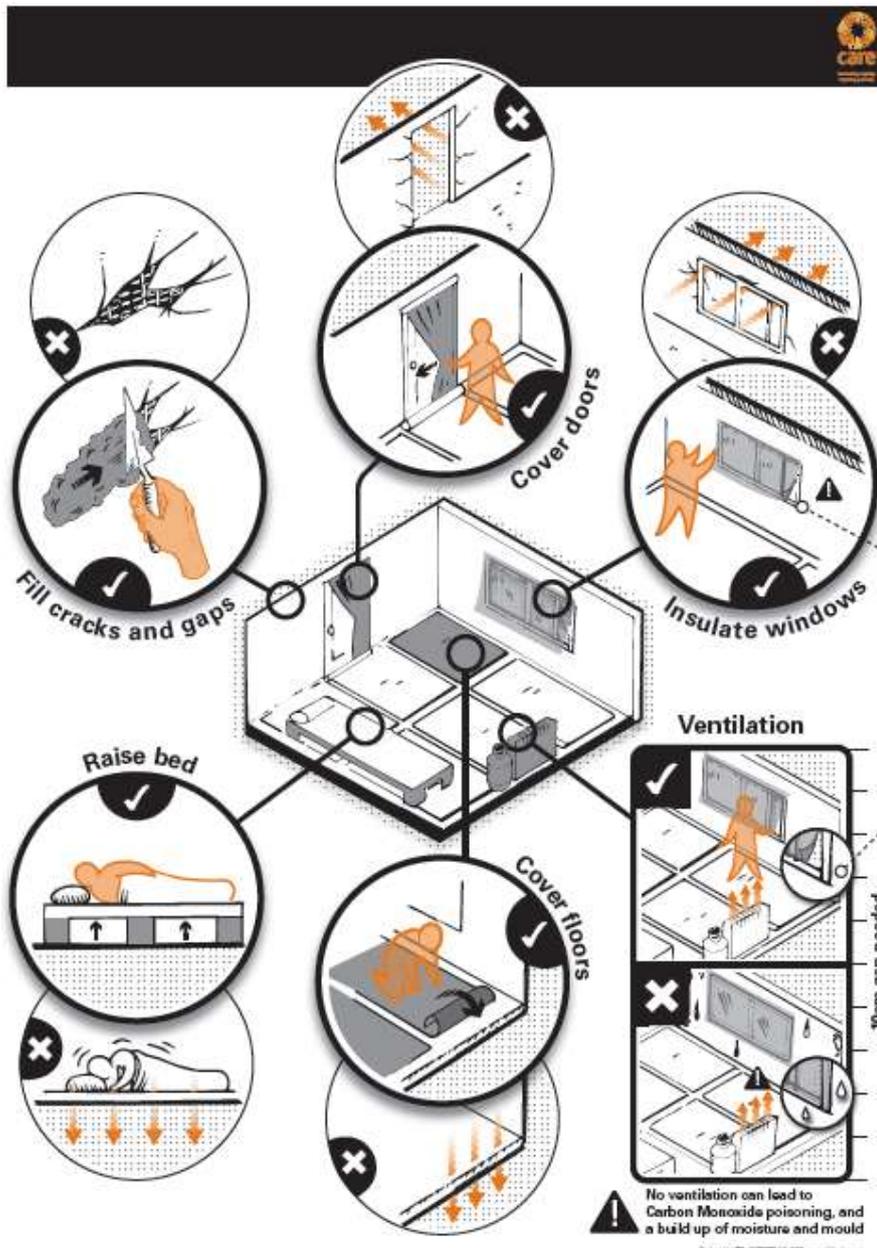


Figure 2: Sealing off priorities²

8.4. Winter NFIs

During winter, the following should be considered for general household support³:

- Protection from cold, e.g., warm clothing
- Insulation from ground, e.g., mattress

² Reference: <http://humanitarianlibrary.org/channel/iraq-shelter-housing-nfis> (available in English and Arabic)

Acknowledgement: CARE/TDL London

³<https://www.sheltercluster.org/sites/default/files/docs/Selecting%20NFIs%20for%20Shelter%202009.pdf>

Acknowledgement: IASC Emergency Shelter Cluster

- Food preparation and hygiene, e.g., cook sets and utensils
- Heating and cooking, e.g., stove and fuel

The Shelter Cluster is recommending the following for Winter BNFI kits with specifications provided in the

Item	Cost per Unit (\$)	
Kerosene Heater	50	Essential 2 seasonal NFI items
Kerosene Jerry Can	3.5	
Thermal Roll Mat x6*	15.8	Additional recommended seasonal items
Carpet x2	18	
Winter Clothing Kit x6*	67	
TOTALS	Winter essential \$53.5	
	Winter recommended \$532.8	

NFI guideline.

*The Cluster encourages partners with the logistical capacity to distribute blankets, mattresses thermal roll mats and clothing kits as per number of individuals in a household to do so.

9. SUMMER ASSISTANCE

For those living in poorly insulated tents and temporary shelters, the extremes of season are amplified and makes day to day life insufferable. The Shelter and NFI Cluster presents nine possible interventions to provide relief from the summer temperatures and the direct sun. A cost comparison is provided for each along with key considerations.

Broadly, there are two categories:

Passive Cooling – heat gain control and heat dissipation in order to improve the thermal comfort no energy consumption.

Mechanical Cooling – heat gain control and heat dissipation through mechanical methods using power and commonly water.

For maximum sustainability and to reach as many people as possible with the financial and logistical resources available, the Cluster recommends communal based solutions using passive cooling techniques.

In the event that mechanical means are chosen, partners should carefully consider the following:

Power

- Is there sufficient power available?
- Is it available during the hottest times of the day?
- What is the strategy for when there is no power?
- Can you provide the extra fuel or additional generators?

Water

- Is there sufficient water available?
- Can you provide the extra water? (e.g.: tanker of 10,000 liters for every 100 Air Water Coolers)
- Is the water quality (turbidity) suitable? It is recommended to use potable water for all situations, especially in camps, however if this is not possible how is it clearly separated from potable water?

Sustainability

- Provision to new arrivals
- Whether departing families can take all items with them

Partners should discuss the extra power and water consumption with the camp management, CCCM and WASH Clusters.

IT IS THE RESPONSIBILITY OF THE PROVIDER OF THE MECHANICAL COOLING TO ENSURE THERE IS SUFFICIENT POWER AND WATER AND THAT THE INTERVENTION IS SUSTAINABLE

9.1. Types of intervention

Icon	Type	Cost Comparison	Description
	Household Shade	● ● ○ ○ ○	<ul style="list-style-type: none"> • Shading kits distributed at HH level • Can use standard Emergency Shelter Kits (ESKs) • HH led initiative but with technical support if needed
	Tent Shade	● ● ● ○ ○	<ul style="list-style-type: none"> • Fixed shade over whole tent • Can be constructed in rows, steel columns, concrete foundation • Shade netting is lighter and less affected by high wind
	Community Shade	● ● ○ ○ ○	<ul style="list-style-type: none"> • Shade provided in available space per block or unit of tents • Multi-purpose use • Male / female areas depending on community wishes
	Summer NFIs	● ○ ○ ○ ○	<ul style="list-style-type: none"> • Jerry cans for additional water to be stored • Cool boxes without power requirements for hygienic food storage • Ice available in many camps through private sector
	Clothing	● ○ ○ ○ ○	<ul style="list-style-type: none"> • IASC 2008 NFI Guidance recommends clothes as priority in hot, dry conditions • Mobile market / cash preferred modality • Assume \$25 per person incl. overheads
	Cash / Vouchers	N / A	<ul style="list-style-type: none"> • Provided against a 'basket' of summer items – cool box, jerrycans, shading, clothing • Dependent on access to market
	Community Shading with Mechanical Cooling	● ● ● ● ○	<ul style="list-style-type: none"> • Provided at schools, clinics, safe spaces etc. • Mechanical cooling by traditional AC, AWCs, misting fans or mechanical fans • Need to check with CCCM on power / water availability
	Air Water Coolers / Swamp Coolers / Misting Fans	● ● ● ● ●	<ul style="list-style-type: none"> • Requiring power, water and maintenance • High cost option • Dependent on power – often only available after 7pm
	Reflective Insulation on Roof	● ● ○ ○ ○	<ul style="list-style-type: none"> • Less needed for IFRC / UNHCR tents, better for MoMD as they lack isolation layer • Winter insulation materials can be used, 'space' blankets or UNHCR roll mats

9.2. Evaporative water coolers / air water coolers

Although these may be an effective solution for summer cooling in the dry climate of Iraq, the restricted funding environment and supply limitations of both water and electricity in many locations limits their use.

For camps and collective facilities, the cluster recommends provision for communal facilities such as child/women friendly spaces, schools/health facilities only, and where the increased demand for water and electricity can be met. Mechanical coolers must be complemented with passive cooling techniques such as communal shading to increase effectiveness. Agreements with local government of camp management organizations is required.

For out of camp, due to restricted funding and inconsistent supply of electricity, the Cluster also does not recommend distributing fans or evaporative water coolers to individual households. However, partners with the capacity to do so should assess beforehand whether the households have sufficient access to electricity and water.

9.3. Fans

Due to restricted funding and inconsistent supply of electricity, the shelter cluster does not recommend distributing fans to individual households in camps or out of camps.

Partners must undertake a capacity assessment beforehand to determine if households or camps have regular access to electricity to keep fans functional. Rechargeable fans may be distributed as appropriate.

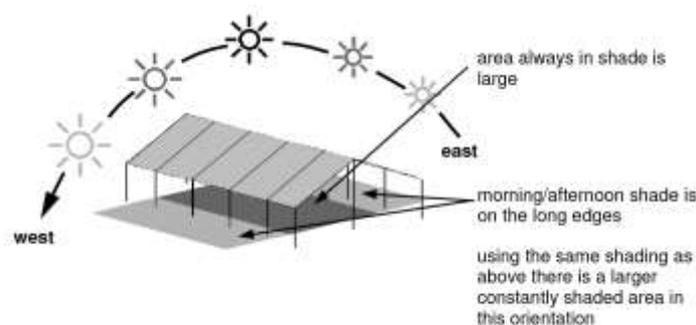
9.4. Shading 4

Shading can be constructed out of a variety of materials, from mesh netting and plastic sheeting to plywood and corrugated galvanised iron sheeting, among others.

In hot climates such as Iraq, shade is required to protect from UV radiation, preventing dehydration, and overheating. Shading can also protect structures such as water tanks (reducing evaporation and the degrading effect of UV light on chlorination), supplies, and equipment. Shade over a shelter prevents degradation of tent and tarpaulin materials by UV radiation, and reduces the internal temperature of the shelter.

Creating communal shade allows additional space for working and socialising, while shaded extensions to shelters permits some household functions more space outside.

The use of shading material for fencing supports security and privacy. It can also be used to construct windbreaks, aid circulation routes and cover waiting areas, such as around health centres, water collection points and distribution areas.



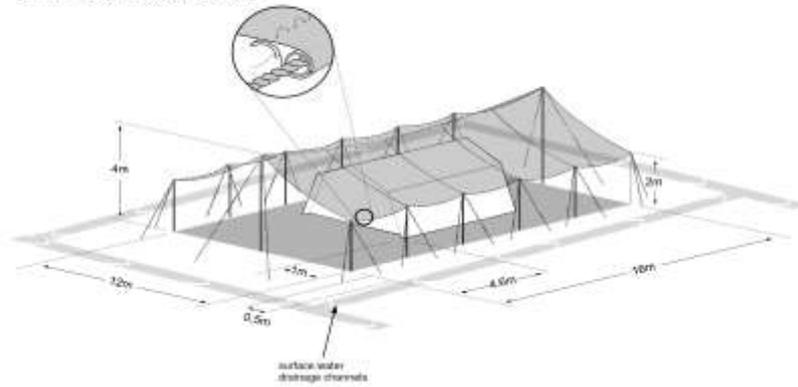
⁴ Acknowledgments: MSF & Shelter Centre; NRC; AAF; IOM; NRC



Photos: Courtesy of NRC Iraq

a fully constructed shade net for a 41m² tent

note: this is an illustration of an ideal shade net. Solutions that do not look like this can still provide adequate shade.



Photos: Courtesy of AAF/IOM



Photos: Courtesy of AAF/NRC

Figure 3 Uses of shading materials

HOUSEHOLD SHADING KIT ⁵							
#	Item description	Unit	No.	Unit cost / \$	Cost / \$	Specifications description	Notes
1	Shading material*	m ²	4.5	\$1.5 /m ²	\$7	(Example) Sunshade net: 100% HDPE; width 4.5 x 6m length; shade rate 70-80%	Basic shading material for domestic use not for industrial agricultural purpose as it is much higher in cost. Either Black or Green in colour.
2	Timber lengths	piece	4	\$4	\$16	3m long. Section size 20mm x 40 mm nominal	
3	Nails	kg	1	\$2	\$2	Steel. Supplied in a sealed bag. Length: 75mm (3"); Diameter: 3 mm	

Other items that may be included are tools (or a Community Toolkit), rope and wire.

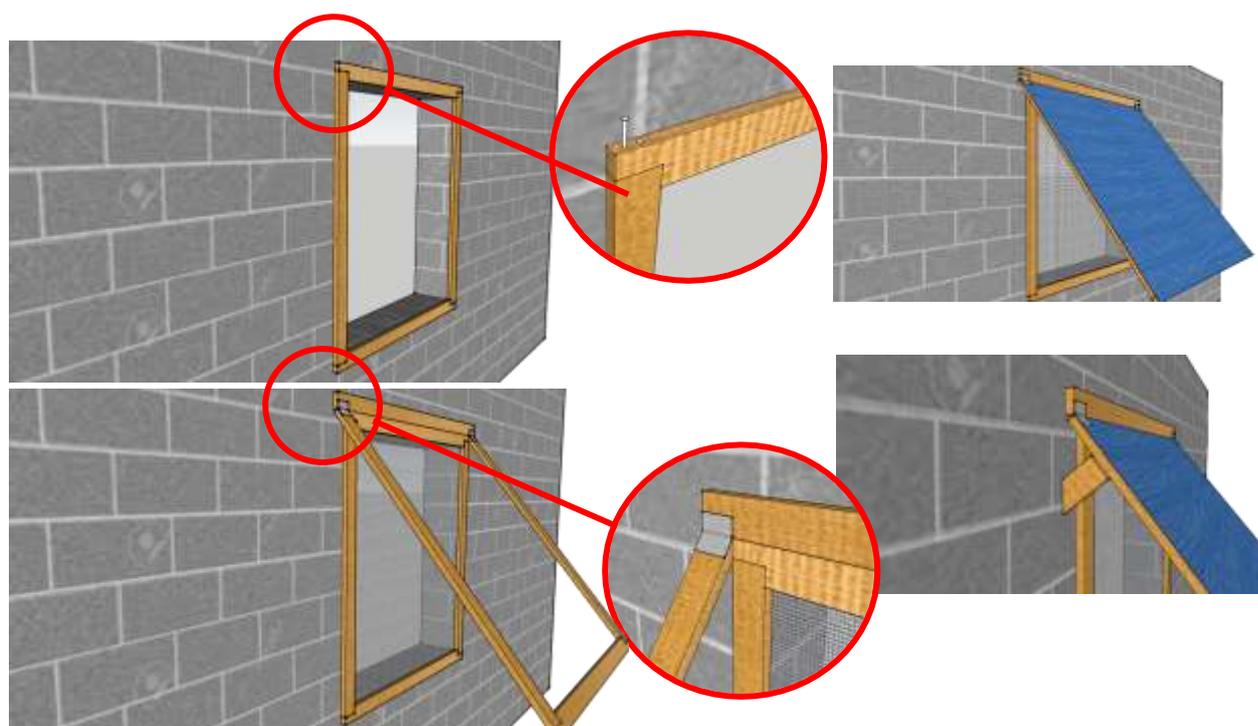


Figure 4 Shading of wall openings

⁵ From Shelter Cluster Iraq Technical Guidance on Emergency Shelter Kits (ESK), <https://www.sheltercluster.org/response/iraq>

EXAMPLE COMMUNITY SHADING KIT (for a shaded cover of 41m ²) ⁶							
#	Item description	Unit	No.	Unit cost / \$	Cost / \$	Specifications description	Notes
1	Shading material	m ²	150	\$1.5 /m ²	\$225	(Example) Sunshade net or shelter grade tarpaulin: 100% HDPE; width 4.5 x 6m length; shade rate 70-80%	Basic shading material for domestic use not for industrial agricultural purpose as it is much higher in cost. Either Black or Green in colour.
2a	Timber lengths	piece	12	\$4	\$48	2.3m long. Section size 100mm x 100mm nominal	Select either 2A or 2B
2b	Timber poles	piece	12	\$6	\$72	2.3m long. Section size 100mm diameter nominal	Select either 2A or 2B
3	Ridge poles	piece	2	\$20	\$40	5m long; 150mm wide	
4	Rope	roll	1	\$30	\$30	Nylon or similar, diameter. 9 to 12 mm diameter. Woven with 2 or 3 strands, with the possibility of being unravelled. Length: 200m, in a roll. Preferred colour: Black / dark green.	
5	Tent pegs or stakes	piece	28	\$0.50	\$14	Tent pegs, 200 to 300 mm length after bending; made of iron reinforcing bar of 10 mm diameter, with a hook bent on one end, "candy cane" shape, or a cross shape.	
6	Strong twine	m	6	\$0.5	\$3	6mm; for stitching	
7	Nails	kg	1	\$2	\$2	Steel. Supplied in a sealed bag. Length: 75mm (3"); Diameter: 3 mm	
8	Community toolkit ⁷	kit	-	-	\$90	(Example contents) Handsaw, shovel, wheelbarrow, claw hammer, pickaxe	

The table above gives an example of the materials needed for the construction of a community shade structure for clinics of feeding centres, for example. Community shading kits should be tailored in size, design and composition to address identified needs, as well as coordinated and consulted with site / settlement management authorities and end users.

⁶ From *Shade Nets: Use, deployment and procurement of shade net in humanitarian relief environments*, MSF & Shelter Centre, 2006, pp. 18-21

¹ From Shelter Cluster Iraq Technical Guidance on Emergency Shelter Kits (ESK), <https://www.sheltercluster.org/response/iraq>

² From *Shade Nets: Use, deployment and procurement of shade net in humanitarian relief environments*, MSF & Shelter Centre, 2006, pp. 18-21

⁷ From Shelter Cluster Iraq Technical Guidance on Emergency Shelter Kits (ESK), <https://www.sheltercluster.org/response/iraq>

9.5. Fixing shading material⁸

The guide produced by ICRC & Oxfam outlines the best practices for fixing plastic sheeting. Some examples in the guideline on how to spread the load to prevent the plastic sheeting from pulling through are:

Reinforcement Bands:
standard plastic sheets have reinforcement bands; all fixings should pass through the bands to add strength to fixings.

Fixing to Timber

Standard nails will easily pull through plastic sheeting as they have small heads.

Standard nails can be improved by bending or nailing them through folded plastic sheet or rope. U-shaped fencing pins can be used.

Standard nails can be improved using washers or battle caps. Alternatively, domed head nails can be used.

Timber battening is good to spread the load.

Plastic sheeting should be folded over on itself at connection points.

Plastic sheeting is best fixed to spread the load along the (smoothed) edge of the supporting structure.

With only a few fixing points, this sheeting is likely to pull free.

With many fixing points, this sheeting is likely to last longer.

max. 30cm

Fixing points should be close together. A maximum of 30 cm apart is suggested

Fixing to the Ground

When plastic sheeting is connected directly to the ground, 50cm of additional plastic is required on each side for burying in trenches. If timber is available, then the plastic sheeting can be nailed to timber runners that are pegged to the ground (or connected to the foundations).

Whilst sandy soils will not grip the plastic sheeting as well as other soil types, it may be very difficult to dig trenches in some rocky soils. Choosing a method for fixing the sheeting to the ground therefore depends upon the soil conditions as well as the availability of materials.

⁸ Plastic Sheetting – A guide to the specification and use of plastic sheeting in humanitarian relief – ICRC & Oxfam

9.6. Summer NFIs

During summer, the following should be considered for general household support:

- Protection from sun, e.g. loose fitting clothes
- Means of cooling drinks and storing food
- Means of storing additional water
- Covering of the ground by flooring, tarpaulin or mats
- Food preparation and hygiene, e.g. cook sets and utensils
- Facilitate outdoor activities, e.g. covered cooking area

Item	Cost per Unit (\$)	Note
BNFI Kits with bedsheets instead of blankets	245+	Essential 8 items
Cool Box	26	Essential 2 seasonal NFI items
Extra Water Jerrycan	1.4	
Shading Kit	60	Additional seasonal items as required
Clothing Kit	25	
Rechargeable fans	28	

The Shelter Cluster is recommending the following for Summer BNFI kits:

9.7. Mosquito nets / fly mesh

In many areas of Iraq summers are too hot and dry for mosquitoes. However, some areas experience higher humidity, particularly in the south (but also in some areas of the north), and mosquito nets may be considered in summer seasonal support programmes, in coordination with Health actors. Other support can be provided in the way of fine mesh or netting material (mesh or netting) to allow construction of insect screens for openings on shelters.

10. CASH-BASED ASSISTANCE

The Shelter-NFI Cluster and the Cash Working Group (CWG) recommend the adoption of cash-based interventions, where feasible, to meet the seasonal shelter and NFI needs of affected populations. The use of cash interventions is in line with the principles of accountability to affected populations as it respects freedom of choice to address self-identified needs with dignity. It is also in line with the broader move by the humanitarian community in Iraq to adopt cash-based assistance modalities in areas where markets are functioning and accessible.

Currently, the CWG provides multi-purpose cash assistance (MPCA) to highly vulnerable families to meet critical basic needs in the form of one-off emergency cash transfers, and an additional two transfers for the most vulnerable households. Transfer values are based on an agreed survival minimum expenditure basket that includes costs for rent and other basic needs. Partners are encouraged to work closely with the CWG to ensure shelter-NFI cash interventions are aligned with multi-purpose cash and other sector-specific cash projects being implemented in Iraq. The CWG is available to provide technical assistance in the design and operationalisation of shelter-NFI cash interventions as needed.

Cash interventions can be incorporated into climatisation and seasonal support in the following ways:

Option One: Unrestricted Seasonal Top-Up

Seasonal assistance is provided as an unconditional cash transfer “top-up” to vulnerable households and can be delivered in addition to multi-purpose cash assistance (MPCA). When delivered in combination with MPCA, unconditional seasonal top-ups ensure households have sufficient protection from extreme temperatures while also limiting the risk that cash intended for seasonal support is spent on unmet basic needs.

The following are total costs for essential and recommended seasonal items:

Kit	Cost per family (\$)	Delivery timeframe
Summer essential	27.4	May – Sept
Summer recommended	238	
Summer total	265.4	
Winter essential	53.5	Nov - Feb
Winter recommended	532.8	
Winter total	586.3	

When providing cash interventions many factors should be considered, with specific reference to equity, and further details provided are provided in the *Global Shelter Cluster Position Paper – Cash & Markets in the Shelter Sector* as well as through the Iraq cluster and CWG. Subsequently guidance figures for seasonal cash are \$146.4 for summer and \$319.9 for winter rounded to \$150 and \$320, and are determined by the essential cost plus half the cost of recommended items.

Dependent upon need, winter cash assistance could be viewed in more holistic terms and the basket value designed to include shelter repairs and kerosene increasing beyond the above, or as the essential items plus support for shelter improvements and kerosene.

Please note the above figures do not take in account other seasonal items such as air water coolers, tent insulation or other similar items which are frequently provided in kind, especially in camps.

Option Two: Restricted Seasonal Voucher

Vulnerable households are provided with vouchers redeemable only for a restricted list of seasonal shelter items at selected vendors. Where possible, it is preferable to establish a large network of local traders that are easy and safe to access, particularly for conflict-affected families and vulnerable groups such as the elderly and disabled. In cases where this is not possible, a voucher fair is a practical alternative. A voucher fair imitates a market by bringing traders to an organised space where they display products and beneficiaries use vouchers to purchase the goods they need. Partners should consider the cost of transportation to/from voucher distribution points, local markets and voucher fairs when designing their programmes. For the most vulnerable in-kind distribution or unconditional cash may continue to be the most adequate options. Partners are encouraged to work closely with the CWG to ensure restricted voucher projects are aligned with other cash-based interventions. Voucher transfer value should be aligned with cash values.