

Standard Operating Procedures for the repair of houses with minor damage (Light and Medium repair SOPs)

Final Draft (31 August 2022)

This document provides the standard operating procedures for the implementation of light and medium repairs of houses and multi-story apartment buildings damaged by conflict-related activities in Ukraine in 2022.

The SOPs were developed by an ad-hoc Shelter Cluster's Technical Working Group from June to August 2022.

Contents

1	INTRODUCTION	page 2
2	2022 SHELTER RESPONSE	page 3
	<i>Table 1 - Type of assistance by type of damage</i>	
3	DEFINITIONS	page 3
	Categorisation of damage	
	Response Activities	
	<i>Table 2 - Equivalence Damage / Repair</i>	
	<i>Table 3 - Description of repairs and costs</i>	
4	SCOPE OF WORK	page 5
	<i>Table 4 - Works description</i>	
5	COORDINATION AND REPORTING	page 8

1. INTRODUCTION

The Russian Federation military offensive in Ukraine, which began on 24 February 2022, has caused death and suffering on a dramatic scale and left more than 15 million people in urgent need of humanitarian assistance and protection.

The area directly affected by military operations is no more limited, as in the previous response, to a strip along the Line of Contact (LoC) in the eastern Donetsk and Luhansk oblasts, but has scattered across the country, affecting also the oblasts of Zhytomyrska, Kyivska and the city of Kyiv, Chernihivska, Sumska, Kharkivska, Dnipropetrovska, Zaporizka, Khersonska, Mykolaivska.

The intense hostilities have severely disrupted critical services and made life unbearable for millions of people causing the world's fastest-growing displacement crisis since WW II, with over 13 million people uprooted in less than two months. Over a quarter of Ukraine's population have fled their homes, including 8 million people now estimated to be internally displaced and over 5 million people who have crossed borders to seek security and safety in other countries, most of them women and children.

Besides the mass displacement, the widespread use of explosive weapons with a great impact area in urban settings, including shelling from heavy artillery and multiple-launch rocket systems, missile and airstrikes has resulted in a loss of life, injuries and the devastation of civilian infrastructure and residential houses. Due to the ongoing hostilities and a lack of reliable data, the number of destroyed and damaged housing varies significantly and is estimated from 9 up to some 26 million square metres. Some of the affected families continue to reside in or returned to their houses which have minor damages such as broken windows, doors, locks and collapse of ceiling or roof.

This document outlines the Standard Operating Procedure (SOP) for Shelter actors in Ukraine undertaking minor repairs to address the damages caused by the hostilities.

2. 2022 SHELTER RESPONSE

The 2022 emergency shelter response in Ukraine is roughly divided in two components:

- one, focussed more in the western and central regions, and on displaced population;
- the other, focussed more in the central-north, central-south and eastern regions, and on non-displaced and returnee population.

The main activity of this second component will be the repair of houses damaged by the conflict. The aim will be to provide vulnerable families with a dignified warm and dry core functional space, prevent unnecessary displacement and create the conditions for the return of displaced families.

The “toolset” in the house repair component will include both temporary and durable solutions.

- Temporary solutions will include:
 - the provision of ESk (Emergency Shelter kits), for the self-help quick-fix of non-severe damages, with the main aim at preventing further damages to the structural parts of the house;
 - the provision of mobile structures (tents, containers, modular units), to be assembled in the vicinity of the damaged house/apartment, where the family can accommodate for the duration of the repair works of their house.
- Durable solutions will include:
 - Light and Medium repairs, for minor non-structural damages (the object of these SOPs)
 - Heavy repairs, for structural damages

[Note: new constructions and reconstructions (for completely destroyed or non-repairable houses) are not included in this list because they are currently not considered as part of the scope of the emergency shelter response. They may be included again in the Cluster list of activities later in the response].

Table 1 - Type of assistance by type of damage		Temporary assistance		Long-term assistance		
		ESk (Emergency Shelter kits)	Temporary mobile structures	Light / Medium repairs	Heavy repairs	Reconstructions / New construct.
detached houses	minor damage	■		■		Reconstruction and new constructions are not part of the current emergency response
	structural damage	■	■		■	
	non-repairable		■			
multi-story apartment buildings	minor damage	■		■		
	structural damage		■			
	non-repairable		■			

The present SOPs cover the repair of houses that suffered light and medium damages caused by military activities¹. Damages are classified as “light” or “medium” when structural elements of the house are not affected and the house - although no longer fit to provide dignified and efficient protection from weather - is safe and structurally sound.

3. DEFINITIONS

Categorisation of damage

For the purpose of the rapid damage assessment and further response deployment, the degree of damage of residential buildings (both detached single-family houses and multi-story apartment buildings) should be categorized across three levels:

¹ Some parts of these SOPs can be used also to guide agencies who intend to target houses and apartments which didn't suffer damages from military activities but are in need of minor repairs or refurbishment to provide also displaced families with warm, dry and dignify accommodations.

- (a) Minor damage (former “light damage” and “medium damage”)
- light or medium damages such as broken windows and doors, minor roof damages
 - no structural damage
 - electricity and water pipes inside the dwelling not affected or in need of just minor fixes
 - the dwelling remains safe and habitable, with no or minor compromises on the quality of life
- (b) Structural damage (former “heavy damage”)
- All type of damages described in the “Minor damage” category above, with, in addition:
- structural damage affecting some parts of the house (bearing walls, roof structure)
 - electricity and water pipes inside the dwelling affected and in need of non-minor repair
 - some parts of the dwelling are not safe, and the house is not habitable; but damages can be repaired and safety and habitability restored
- (c) Non-repairable damage

This categorisation is consistent with the one adopted for the assessment of damages at national level, as proposed by the Shelter Cluster’s dedicated TWiG on Damage Assessment in June 2022.

Response Activities

If a house/apartment is judged as repairable, shelter agencies will choose the type of repair on the basis of the assessed damage, as per *Table 2* below:

Table 2 - Equivalence Damage / Repair

Category of damage		Type of repair
Minor damage	>>>	Light repair
	>>>	Medium repair
Structural damage	>>>	Heavy repair
Non-repairable damage	>>>	(no repair)

The classification of both type of damage and type of repair is useful for planning, budgeting and reporting. In real life, we expect that the border between a Light and a Medium repair² - and in some case even between a Medium and a Heavy repair or between a Minor and a Structural damage - may be not always clear.

This consideration applies also to the estimated cost of repairs (provided in the next table), which is just indicative and should be intended as a likely average cost, rather than as a “ceiling”.

Based on this, the classification of a repair - and therefore the way it is reported - should always be based on the type of damage and on the type of works provided, rather than on its final cost.

Shelter agencies should always choose the type of repair that covers “all the assessed damages” “within the humanitarian scope” defined by the Shelter Cluster. Consistently with this, neither (a) partial repairs, nor (b) repairs that go beyond the humanitarian scope are recommended by the Shelter Cluster (see details and important limitations in the next section (4. *Scope of Work*)).

Table 3 below provides, for each type of repairs and by type of building:

- a. an indicative description of the most common works included in them (and therefore the elements that help us classify light, medium and heavy repairs)
- b. an initial tentative indication of costs (to be updated as soon as a sufficient caseload of repairs is completed)

² Light and medium repairs are the response to the same type of damage category (“minor damage”) and are in facts very similar in many aspects. The two main differences between LR and MR are:

- (a) the extent (1 to 3 windows for a LR vs. 4 to 6 windows for a MR; 0-40 m2 of roof panels replaced in LR vs. 40-80 m2 in MR; etc.);
- (b) the fact that LR are limited to the external parts (roof, windows, entrance door), while in MR we go inside the house/apartment (interior doors, wiring, pipes, etc.).

Table 3 - Description of repairs and costs

type of repair	type of building	most common works under this intervention	cost range (USD per HH)
Light repairs	in single-family detached houses	- replacement of roofing panels (small portion of the roof) - replacement of one to three complete windows (or only glazing, when possible) - minor fixes of cracks in external brick walls and restoration of the related portion of plastering - replacement of exterior doors	1,500 - 2,500
	in multi-story apartment buildings	- replacement of one to three complete windows and balcony doors (or only glazing, when possible) - replacement of entrance doors - repair of the communal roof - for non-flat roofs: replacement of roofing panels - for flat roofs: replacement of water-proof membranes	500 - 1,000
Medium repairs	in single-family detached houses	- replacement of roofing panels (larger portion of the roof, compared to light repairs) - replacement of rafters of the roof structure - replacement of four to six complete windows (or only glazing, when possible) - replacement of exterior and interior doors - minor fixes of cracks in external brick walls and restoration of the related portion of plastering - repair of small portions of non-structural walls - minor fixes of electricity, and water and heating pipes	2,500 - 4,000
	in multi-story apartment buildings	- replacement of four to six complete windows and balcony doors (or only glazing, when possible) - replacement of entrance and interior doors - repair of small portions of non-structural walls - minor fixes of electricity, and water and heating pipes - repair of the communal roof - for non-flat roofs: replacement of roofing panels and some rafters of the roof structure - for flat roofs: replacement of water-proof membranes	1,000 - 2,000
Heavy repairs	in single-family detached houses	In addition to all works listed under Light and Medium repairs, also: - restoration of part of or the full roof structure - partial reconstruction of one or several bearing walls and partitions - reconstruction/restoration of the concrete ring beam and/or part of the foundations - partial flooring (warm room)	5,000 - 15,000
	in multi-story apartment buildings	The repair of structural damages in multi-story buildings goes beyond the scope of the Humanitarian Shelter Cluster response	

The present SOPs cover only the category of Minor damage and the correspondent Light and Medium type of house repairs.

4. SCOPE OF WORK

The Light and Medium repairs (LR, MR) of houses with minor damages are minimal interventions aimed at restoring the essential thermal envelope and preventing further damage to the structural parts of the house.

LR and MR are meant to bring a core part of the house back to the conditions it had before it was damaged.

The previous sentence entails two important principles:

- to “build back better” is outside the scope of LR and MR, whereas LR and MR still represent a non-temporary long-term solution to families whose house suffered minor damages, but is a solution that we choose when we want to provide basic assistance to many (as opposed to providing high-level assistance to few);
- LR and MR don’t necessarily cover all damages suffered by a house or apartment; under this activity, shelter agencies should limit their interventions to restoring the minimum number of rooms that will allow the beneficiary family to continue living in or return to their house. This

“minimum number of rooms” is typically represented by kitchen, bathroom and one - or more, depending on the size of the family - other rooms³.

This principle can be expressed also in the reverse way: LR and MR - although by definition limited in scope - must always create the (minimum sufficient) conditions for the beneficiary family to live in a dignified way in their repaired house. Interventions that cover the damage only partially and eventually result - for this reason - in the beneficiary family deciding to remain in displacement are technically “failed” interventions⁴.

Consistently with the above, the scope of work of regular Light and Medium repairs will be limited to the activities summarised in *Table 3* above and described more in detail in *Table 4*, below. *Table 4* is divided in two parts: “main” and “additional” activities.

Under “additional activities” we list components that (a) are not frequently needed when repairing houses with minor damages (they are normally needed after more substantial damages); (b) represent in most of the cases an improvement compared to the conditions of the house before the damage (falling therefore outside the scope of Light and Medium repair, as explained above); or (c) may be described as “beautification” of the house (also hardly falling within the humanitarian scope, and for which shelter agencies may find different solutions, like the involvement of the beneficiaries or the in kind provision of items or material).

In their regular LM and MR, shelter agencies should include activities marked as “additional” only in exceptional, duly justified cases⁵.

A last general remark on the difference between repairs of single-family houses (detached houses) and multi-family buildings (multi-storey apartment buildings): when repairing apartment buildings, shelter agencies will often face damages that affected both (a) parts that are in common to all apartments in the building (entrance hall, stairs, pipes and - especially - the roof) and (b) parts that instead belong to one specific family (windows and balcony doors; partition walls):

- as far as communal parts of the buildings are concerned, the most common intervention (and therefore mentioned in the present SOPs) will be the repair of the roof. This type of intervention will evidently benefit all families living under that section of the roof (in most cases: all apartments served by the same stairs); in facts, shelter agencies will report the number of all families living under that section of the roof as direct beneficiaries of the intervention;

³ In the previous response, the Cluster indicated:

- bathroom + kitchen + 1 living/bedroom for families with 1 to 2 members
- bathroom + kitchen + 2 living/bedrooms for families with 3 to 4 members
- bathroom + kitchen + 3 living/bedrooms for families with 5 to 6 members, and so on.

The recommendation is of course purely indicative, as many more factors (like age, gender, medical conditions of each beneficiary family member; size of the rooms; presence of windows; etc.) need to be considered.

⁴ The real conclusion of the shelter activity “house repairs” is not really when the distribution of construction material is completed or when the repair works are completed (as many shelter people think) but when the beneficiary family actually goes back to live in the repaired house, because the final goal is not to repair a house, but to provide assistance to a family.

Consistently with the above, the three cases presented here below are not recommended by the Shelter Cluster:

- (a) dropping construction material in the beneficiary’s yard, without arranging the execution of the works or directly providing the brigades, or at least making sure that beneficiaries are able to execute or arrange the execution by themselves;
- (b) providing partial repairs, without making sure that someone else (another shelter agency, the beneficiary, volunteers, etc.) will complete within reasonable time the part of repairs not executed;
- (c) completing a repair that comply with the Shelter Cluster guidelines but that was not discussed in detail with the beneficiary family and that the beneficiary family considers as unsatisfactory to the point of preferring to not go back to the repaired house.

All three above are examples of repairs that should not be reported as “complete repairs” and of families who should not be reported as “assisted”.

⁵ A clear case in which a component classified under “additional activities” should definitely be part of a LR or MR is when this component is functional to the compliance with the “one-warm-room” principle, or with the need to make sure that the assistance we offer is sufficient for the recipient family to be able to go back to their newly repaired house. This “flexibility” should be used wisely by shelter agencies, in the respect of the spirit of LR and MR.

- as far as the individual parts of the buildings are concerned, instead, the decision on whether to repair only inhabited apartments or to include also the non-inhabited ones (with the aim at promoting the return of displaced families) is up to agencies and will depend on one side, on the agency's capacity to contact displaced families and agree with them their potential return to the repaired apartment; on the other side, also on the possibility that interventions in apartments not occupied by their owners at the moment of the intervention are functional to the restoration of the functionality of the building (common pipes running across empty apartments, for instance).

Consistently with what said before, shelter agencies are recommended to cover both types of damages (to common and individual parts) in the same intervention.

Table 4 - Works description

MAIN ACTIVITIES		Light repairs	Medium repairs	Description
Preparation works	Removal of debris / preparation of the site	■	■	This component should be taken care of by the beneficiary, by volunteers or by governmental or non-governmental specialised organisations, before the shelter agency starts the repairs. IMPORTANT: removal and disposal of construction material containing asbestos - mainly roofing slates (<i>shiffer</i>) - requires the attention of all actors involved. A dedicated TWiG is currently working at preparing recommendations. IMPORTANT: beside asbestos, agencies involved in house repairs should pay the utmost attention to the potential presence of unexploded ordnance (UXO).
Roof	<u>in detached houses</u> replacement of damaged panels	0 - 40 m2	40 - 80 m2	Interventions on roofs should be limited to closing openings. Replacement of rafters may be needed in some case, but the extent of the replacement - in a damage classified as "minor" - is expected to be limited. Repairs that require more extensive interventions on the roof structure will simply be categorised as "heavy repairs". Damaged panels will be replaced respecting the original structure of the roof. IMPORTANT: damaged roofing material containing asbestos must be replaced with safe material (asbestos-free <i>shiffer</i>, sandwich panels, bituminous sheets (<i>Onduline</i>)).
	<u>in apartment buildings</u> (a) flat roofs: repair/replacement of damaged water-proof membranes (b) non-flat roofs: replacement of damaged panels	0 - 200 m2	200 - 400 m2	The roof of a multi-apartment building is a communal part and the beneficiary is not one family but potentially all the families living under the section of the roof that we decide to repair. The Shelter Cluster recommends to report as direct beneficiaries all the families living under that section.
Windows	Repair/replacement of glazing; substitution of damaged windows	1 - 3 windows	4 - 6 windows	When possible, and if the window is in good conditions, replace only the damaged glass (for wooden windows) or the glazing unit (for PVC windows). In other cases, replace the whole block (frame, window, glass) with a new one (preferably PVC). The decision on the number of windows to repair can be done on the basis of the principles exposed in these SOPs; mainly: (1) "one-warm-room", (2) preference for "many basic interventions" vs. "few higher-level interventions", but still (3) avoiding the risk that a too basic intervention would result in the family choosing to stay in displacement. When, based on the above principles, an agency decides to not repair all the damaged windows, OSB panels with transparent plastic film should be used to temporarily close the opening and provide minimal insulation.

Doors	Repair/replacement of external/entrance doors	■	■	Repair or complete replacement of external/entrance doors, preferably with the same type of material as the damaged one.
	Repair/replacement of internal doors		■	Repair or complete replacement of internal doors, preferably with the same type of material as the damaged one. The decision on the number of internal doors to repair/replace will follow the same three principles exposed in the section above.
External and internal walls	Minor fixes of cracks in external walls and restoration of the related portion of plastering (only detached houses)	■	■	All damages to external walls should be closed using materials that are durable and to the most extent possible similar to the original.
	Minor fixes of cracks in internal walls and restoration of the related portion of plastering (both detached houses and apartment buildings)		■	Damages to internal walls should be closed using materials that are durable and to the most extent possible similar to the original. The repair of internal walls is limited to MR. If in a LR an internal wall is at risk of collapsing, the agency will of course fix it, and the intervention will simply be classified as a MR. The repair of internal walls is regulated by the same three principles exposed in the two previous sections.
Pipes, wiring	Minor fixes of electricity, and water and heating pipes		■	In general, minor damages to houses and apartments don't affect water, heating and gas pipes or the electricity system. In case, though, agencies may provide minimum repairs to these parts, with the aim at restoring the minimum functionality of the house/apartment.
Plastering	around repaired/replaced windows and doors	■	■	After windows or doors are fixed or replaced, the area around the opening and the slopes should be plastered with cement sand mortar or other more efficient solutions, to improve the insulation provided by the repaired window.
	for gaps and exposed reinforcement	■	■	Beside windows, plastering is recommended only in another two cases: (a) minor gaps and cracks that need to be filled or (b) exposed reinforcement steel - in limited areas of slabs, columns, and beams - that need to be protected. Before plastering, these same parts should be properly prepared. IMPORTANT: any other use of plastering is not considered as a priority component of LR and MR, as defined in the present SOPs.
ADDITIONAL ACTIVITIES		Light repairs	Medium repairs	Description
Toilet and bathroom	Repair/replacement of basins, water heater, etc.		■	In general, minor damages to houses and apartments affect internal rooms - including bathrooms - only to a minor extent; in case, though, under this non-compulsory activity agencies may repair/replace damaged WC, water heaters, basins, water tanks, taps and associated pipes and fixtures.
Ceramic tiles works	in kitchens and bathrooms		■	Repair/replace damaged/missing tiles in kitchens and bathrooms, to provide water insulation. For houses which weren't tiled before the damage, to install one row of tiles above the kitchen sink and 1 m height for the toilets and bathrooms. In the showers, the floor must have non-slip ceramic.
Flooring	in rooms		■	The floor should be repaired in case there are damages, with concrete as necessary. The tiling will be implemented when needed, but only in bathrooms and kitchens.
Staircase and adaptations for people with disabilities		■	■	Ensure staircase has handrail. For the elderly and disabled, consider the need to include certain adaptations to facilitate their mobility (small ramp/step at the entrance, additional handrails inside the house or bathroom, etc.

5. COORDINATION AND REPORTING

In the initial stage of the development of their programmes, shelter agencies are recommended to consult with the Ukraine Shelter/NFI Cluster (at both national and sub-national levels) and then with the local authorities (at oblast and municipal level). This recommendation applies to light and medium house repairs - object of the present SOPs - as well as to any other shelter/NFI activities.

By initiating consultations already in the planning phase, shelter agencies will enable the Cluster to exercise two of its main functions:

- make sure that Cluster partners' activities comply with the Cluster standards and technical guidelines (like the present SOPs); and
- provide directions to partners on areas of priority interventions and ensure effective coordination with other agencies to avoid gaps and duplications in the coverage of needs.

The tool that agencies should use to share their shelter programmes during the consultation phase is the Cluster main reporting tool: the Shelter/NFI "5W". The 5W includes the option for partners to enter their activities under the category "planned"; this category should be used systematically by partners, the same way activities under other categories (like "ongoing" or "completed") are reported.

During the implementation phase of their programmes, shelter/NFI agencies are equally expected to regularly report the progress of their activities, with the frequency requested by the Cluster, using the options "ongoing" and "completed" in the Shelter/NFI 5W.

A final recommendation regards the PDM (post-distribution monitoring). In the case of light and medium repairs, this activity should be intended as a "post-hand-over monitoring". Shelter agencies are highly recommended to include PDM in their LR and MR programmes, to organise the collection of feedback and inputs that will be used to evaluate the impact, the beneficiary's satisfaction and to adjust the programme approach. The Shelter Cluster will develop and share with partners a PDM form for LR and MR. The Cluster will encourage all partners to either use the Cluster form or to agree on including in their own forms a number of core questions from the Cluster form. This will allow the preparation of a shared evaluation of LR and MR, based on the inputs received from as many partners as possible.