



# STANDARD OPERATING PROCEDURE FOR EMERGENCY SHELTER PREPAREDNESS

PREPARED IN COLLABORATION WITH THE  
MINISTRY OF AGRICULTURE AND LIVESTOCK  
AND THE WORLD FOOD PROGRAMME

Prepared by:

Geomatics and Logistics Division  
Department of Human Settlement  
Ministry of Infrastructure and Transport



2025



དཔལ་ལྷན་འབྲུག་གཞུང་། གནི་རྟེན་མཁོ་ཆས་དང་ སྤྱི་འདྲེན་ལྷན་ཁག།

ROYAL GOVERNMENT OF BHUTAN  
MINISTRY OF INFRASTRUCTURE AND TRANSPORT

གནི་ས་ཆགས་ལས་ཁུངས།

DEPARTMENT OF HUMAN SETTLEMENT  
THIMPHU: BHUTAN



## FOREWORD

Disasters can occur without warning, leaving communities vulnerable and displaced. During such times, the rapid and effective activation of emergency shelters becomes a critical component of humanitarian response. This Standard Operating Procedure (SOP) for Emergency Shelter Preparedness has been developed to provide a structured and practical guide for the preparation, operation, and deactivation of emergency shelters.

This document serves as a foundational resource for all agencies, partners, and personnel involved in shelter management. It outlines clear roles and responsibilities with Turn Around Time for Preparedness Phase, Activation Phase, Operation Phase and De-activation/Post Disaster Phase to ensure that emergency shelters operate efficiently, safely, and with dignity for all individuals affected.

Preparedness not only requires having supplies or infrastructure in place but it is also about coordination, communication, and compassion. This SoP, thus, aims to standardize our approach towards disaster preparedness and enhance our collective capacity to respond effectively and consistently.

This report would not have been possible without the dedication and collaboration of numerous individuals and organizations including the stakeholders under the Logistics Desks and all the Local Government's Disaster Focals. We extend our sincere appreciation to the Ministry of Agriculture and Livestock specifically to Mr. Tsheten, National Focal for the Logistics Desk, for his unwavering dedication and well-coordinated effort in bringing all the stakeholders on board.

We also acknowledge the support of the World Food Programme (WFP) especially to Mr. Tashi Lhundup, Ms. Dechen Yangzom and Mr. Jigme Tenzin who contributed their time, expertise, and insights throughout the development of this document. The Department also extends our gratitude to the Department of Local Governance and Disaster Management for their guidance and support. A special mention for Mr. Temmy Tanubrata, Supply Chain Expert from the WFP, whose real-world experience and commitment to improving emergency response systems has been invaluable for Bhutan.



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Lastly, the Department acknowledges the contribution of Ms. Bhawana Chhetri, National Emergency Shelter Focal, for her dedication and initiative towards emergency shelter preparedness for Bhutan. The Department also recognizes the efforts of Mr. Yeshe Nidup, Mr. Sushil Koirala and Mr. Tashi Tobgay who have also contributed significantly to shape this SOP.

**(Tashi Penjor)**

**Director**

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## Standard Operating Procedure (SOP) for Emergency Shelter Preparedness

### Glossary

<b>Abbreviation/Term</b>	<b>Definition/Meaning</b>
BCAA	Bhutan Civil Aviation Authority
BCTA	Bhutan Construction and Transport Authority
BICMA	Bhutan InfoComm and Media Authority
BPCL	Bhutan Power Corporation Limited
BRCS	Bhutan Red Cross Society
BTL	Bhutan Telecom Limited
DGM	Department of Geology and Mines
DHS	Department of Human Settlement
DMC	Disaster Management Committee
DMU	Disaster Management Unit
DoAT	Department of Air Transport
DoFPS	Department of Forest and Park Services
DoID	Department of Infrastructure Development
DoPP	Department of Procurement and Properties
DRC	Department of Revenue and Customs
DSE	Department of School Education
DTA	Department of Treasury and Accounts
ERT	Emergency Response Team
FBPP	Field Based Preparedness Project
GLOF	Glacial Lake Outburst Flood
HSC&L	Humanitarian Supply Chain & Logistics
IC	Incident Commander
LG	Local Government
MoAL	Ministry of Agriculture and Livestock
MoENR	Ministry of Energy and Natural Resources
MoESD	Ministry of Education and Skills Development
MoFAET	Ministry of Foreign Affairs and External Trade
MoF	Ministry of Finance
MoHA	Ministry of Home Affairs
MoH	Ministry of Health
MoICE	Ministry of Industry, Commerce and Employment
MoIT	Ministry of Infrastructure and Transport
MoU	Memorandum of Understanding
NDMA	National Disaster Management Authority
NCHM	National Centre for Hydrology and Metrology
NDRCC	National Disaster Response Coordination Committee
NDRCP	National Disaster Response and Coordination Process
NFI	Non-Food Item

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NLOM	National Logistics Operation Manual
NMS	National Medical Services
RBA	Royal Bhutan Army
RBP	Royal Bhutan Police
SAR	Search and Rescue
SOP	Standard Operating Procedure
TAT	Turn Around Time
Thromde	Municipality
WFP	World Food Programme

### Definitions

Emergency Shelter	A temporary facility to house individuals displaced by a disaster or emergency.
Gewog	Block
Stockpiling Centers	Areas/ locations identified for prepositioning emergency shelter items

### 1. Background

Considering the vulnerability of Bhutan to various natural hazards and to enhance the preparedness level to manage Type III disaster in the country, the Logistics Desk under the National Disaster Risk Coordination Committee (NDRCC) with support from the World Food Programme (WFP) formulated the National Logistics Preparedness Action Plan in 2022 and the National Logistics Operation Manual (NLOM) in 2023.

The Preparedness Action Plan is part of the Field Based Preparedness Project (FBPP) and focuses on the five pathways of Humanitarian Supply Chain & Logistics (HSC&L) Management. The pathways include i) the HSC&L policy and regulatory environment; ii) the HSC&L institutional effectiveness and accountability; iii) Strategic planning and financing for HSC; iv) the National HSC&L Preparedness Plan; and v) Engagement of other actors in HSC.

The NLOM is an implementing tool of the National Preparedness Action Plan and highlights the roles and responsibilities of all the stakeholders involved in the Desk. Therefore, to ensure efficacy and coordinated functioning of the Desk, the NLOM mandates the formulation of a Standard Operating Procedure (SOP) underlying the response mechanism, roles, and the Turn Around Time (TAT).

The Logistics Desk comprises several agencies, each mandated to either lead a specific unit or support the lead agency. The Department of Human Settlement (DHS) under the Ministry of Infrastructure and Transport is mandated to lead the Emergency Shelter Unit in times of national emergencies. The Unit is supported by the Ministry of Education and Skills Development for mapping of schools as evacuation centres and the Department of Infrastructure Development under the Ministry of Infrastructure and Transport to look after drinking water supply and sanitation.

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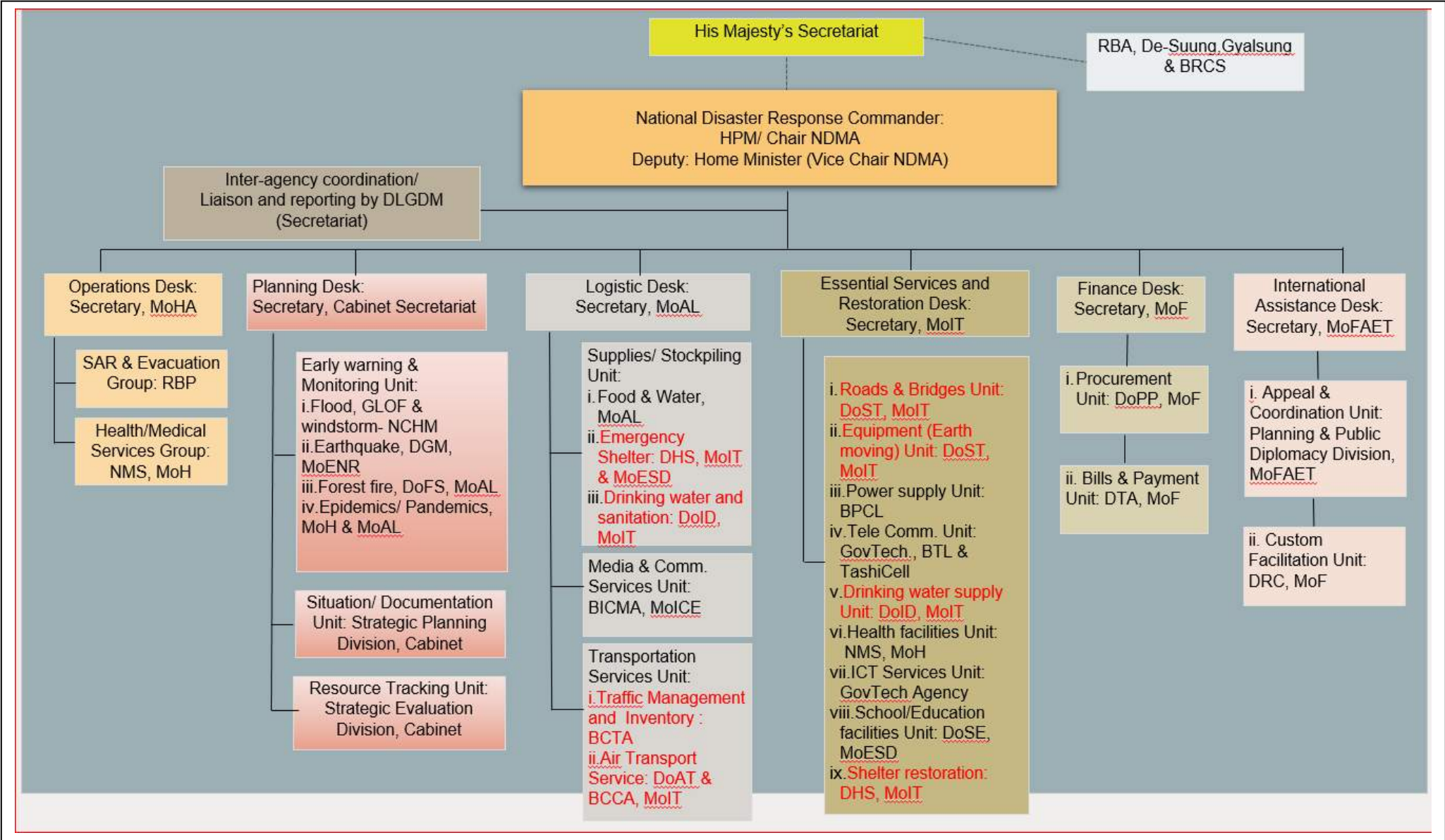


Figure 1: NDRCC Structure

## 2. Objectives and Scope of the SOP

### 1.1. Objectives of the SOP

The SOP for the Emergency Shelter Unit is targeted to achieve the following objectives:

- a) To ensure the required level of readiness and smooth functioning during the Preparedness Phase, Activation Phase, Operation Phase and De-activation Phase for Type III disasters;
- b) To respond to immediate shelter needs of the affected people or communities within the stipulated Turn Around Time (TAT);
- c) To ensure effective coordination within the Ministry and among relevant stakeholders for the mobilization of human resources and shelter items; and
- d) To delegate roles and responsibilities to all the sectors involved in emergency shelter preparedness.

### 1.2. Scope of the SOP

The scope of this SOP includes the following:

- a) Delegation of roles and responsibilities to respective committee/units under the Emergency Shelter Unit;
- b) Fixing effective and efficient Turnaround time (TAT); and
- c) Process workflow for smooth delivery of manpower and emergency shelter items.

**Note:** *The SOP shall be reviewed as and when required.*

### 3. Disaster Management Structure for Emergency Shelter Preparedness

Three levels of structure have been proposed for the Emergency Shelter preparedness at the Ministry level. At the management level, there will be a Disaster Management Committee (DMC) overseeing the policy, and regulatory aspects and ensuring smooth functioning of the Emergency Shelter activities.

At the working group level, the Disaster Management Unit (DMU) and the Emergency Response Teams (ERT) have been proposed responsible for carrying out planning, budgeting, and implementation of the action plans.

#### 3.1. Disaster Management Committee at Ministry Level (DMC)

The composition of the DMC for the Emergency Shelter Unit will be the same as the composition of the DMC for all disaster activities at the Ministry level. The composition is as shown below:

Sl. No.	Department	Agency	Role
1	Secretary	Ministry of Infrastructure and Transport	Chairman/Incident Commander
2	Head of Department	Department of Surface Transport, MoIT	Member
3	Head of Department	Department of Infrastructure Development, MoIT	Member
4	Head of Authority	Bhutan Construction and Transport Authority, MoIT	Member
5	Head of Department	Department of Air Transport, MoIT	Member
6	Head of Department	Department of Human Settlement, MoIT	Member
7	Head of Authority	Bhutan Civil Aviation Authority, MoIT	Member
8	Chief Planning Officer	PPD, MoIT	Member Secretary

Table 1: Composition of DMC

#### 3.2. Disaster Management Unit (DMU) at Ministry Level

The DMU at the Ministry level comprises a focal from each Department and is constituted as shown below:

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Sl. No.	Numbers of members	Agency	Role
1	5 (One each from all Departments)	Department of Human Settlement, Department of Surface Transport, Department of Infrastructure Development, Bhutan Construction and Transport Authority, Department of Air Transport, Bhutan Civil Aviation Authority	Lead all activities related to disaster for their respective Departments
	<b>Total:5</b>		

Table 2:Composition of DMU at Ministry level

### 3.2.1. Disaster Management Unit (DMU) for Emergency Shelter

The composition of DMU for Emergency Shelter will be as shown below:

Sl. No.	Numbers of members	Agency	Role
1	2	Department of Human Settlement	Main Focal (Logistics Officer) and Assistant Coordinator
2	2	Department of Infrastructure Development, MoIT	Member
3	1	Procurement Division, MoIT	Member
	<b>Total: 5</b>		

Table 3:Composition of DMU for Emergency Shelter

### 3.3. Emergency Response Team (ERT) for Emergency Shelter

The composition of ERT for Emergency Shelter will be as shown below:

Sl. No.	Numbers of members	Agency	Role
1	5	Department of Human Settlement	Lead Division as Coordinator (1 from each Division)
2	2	Department of Infrastructure Development	Member
3		Department of Surface Transport Regional Offices	To facilitate mobilization of stockpiled items
	<b>Total: 7</b>		

Table 4:Composition of ERT

*The ERT will be instituted when a Type III disaster is declared or when there is a need to provide support to the Local Governments for shelter requirements after a Type I or II disaster.*

## 4. Roles and Responsibilities for Emergency Shelter Operations

The roles and responsibilities of the DMC, DMU, and the ERT are as tabulated under:

Levels under the DM structure	Preparedness Phase	Activation Phase	Operation Phase	Deactivation and Post Disaster Phase
1) Disaster Management Committee	<ul style="list-style-type: none"> <li>Institute Disaster Management Unit (DMU) and ERT (as and when required);</li> <li>Appoint a Coordinator for the DMU;</li> <li>Approve /Propose new changes in the National Disaster Response Coordination Committee (NDRCC) structure when required;</li> <li>Attend meetings related to disaster including the National Disaster Management Authority (NDMA) meetings;</li> </ul>	<ul style="list-style-type: none"> <li>Coordinate with the NDRCC Desks; and</li> <li>Activate the DMU and ERTs.</li> </ul>	<ul style="list-style-type: none"> <li>Monitor the activities of the ERTs in the field and provide timely support if required;</li> <li>Assist the DMUs in mobilization of necessary resources;</li> <li>Coordinate with the Local Governments' Incident Commanders and other agencies for provision of shelter items;</li> <li>Instruct the DMU to plan the provision of shelter items;</li> </ul>	<ul style="list-style-type: none"> <li>Coordinate with the LGs' Incident Commanders to deactivate shelter operations based on either reduction in shelter population or declaration of safety from higher authorities;</li> <li>Provide timely updates to higher authorities and to the Logistics Desk;</li> <li>Conduct debriefs with the DMU and ERTs;</li> <li>Instruct the DMU to plan for the replenishment of</li> </ul>

## Standard Operating Procedure (SOP) for Emergency Shelter Preparedness

	<ul style="list-style-type: none"> <li>• Approve plans, guidelines, strategies, manuals, and SOPs for logistics preparedness;</li> <li>• Ensure there is adequate funding and mobilize resources for implementation of disaster related activities and capacity building programs; and</li> <li>• Monitor the implementation of the activities.</li> </ul>		<ul style="list-style-type: none"> <li>• Liaise with other Ministries, and agencies for resources and support; and</li> <li>• Provide timely updates to the higher authorities.</li> </ul>	<p>the used stockpiled emergency shelter items;</p> <ul style="list-style-type: none"> <li>• Assist the DMU in mobilization of necessary resources; and</li> <li>• Liaise with other Ministries, and agencies including international, and regional agencies for support.</li> </ul>
2) Disaster Management Unit	<ul style="list-style-type: none"> <li>• Prepare/review plans, guidelines, strategies, manuals, and SOPs for logistics preparedness and get necessary approval/endorsement;</li> <li>• Provide technical guidance and support on disaster management plan &amp; activities to the Ministry;</li> <li>• Formulate Terms of Reference for the DMC, DMU, and RRT/ERT;</li> </ul>	<ul style="list-style-type: none"> <li>• Coordinate with the DLGDM, DMC, and ERTs for emergency shelter operations;</li> <li>• Deploy staff and supplies.</li> </ul>	<ul style="list-style-type: none"> <li>• Coordinate with the store in-charge at the stockpiling centres for mobilization of the required stockpiled items;</li> <li>• Coordinate with the identified vendors for mobilization of additional items if required;</li> <li>• Get updates on the damage assessment from the field and report to the DMC;</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare damage assessment with the support of the ERTs and LGs;</li> <li>• Provide updates to the DMC and Logistics Desk;</li> <li>• Carry out deactivation of the shelter operations upon instruction from the DMC;</li> <li>• Prepare field operation reports in coordination</li> </ul>

## Standard Operating Procedure (SOP) for Emergency Shelter Preparedness

	<ul style="list-style-type: none"> <li>• Coordinate Committee meetings /stakeholder meetings/workshops and serve as the Secretariat to the DMC;</li> <li>• Prepare budget proposals and work plan and identify and submit resources requirements;</li> <li>• Identify and establish MoUs with vendors for supply of emergency shelter items;</li> <li>• Identify potential shelter sites (e.g., schools, parks, open spaces, community centers);</li> <li>• Ensure shelter facilities and items meet basic standards;</li> <li>• Stockpile critical shelter items at identified locations and submit the bills to the DMC for approval;</li> <li>• Identify/recruit relevant officials or storekeepers to maintain the inventory of stockpiled items and update the DMU regularly;</li> </ul>		<ul style="list-style-type: none"> <li>• Coordinate with the identified vendors, Desuung Office, Gyalsuung, Bhutan Red Cross Society (BRCS), and other supporting agencies for the mobilization and delivery of emergency shelter items; and</li> <li>• Coordinate with the LGs Disaster Management Committee/Team; and</li> <li>• Assist in the field operations if required (Some members of the DMU may also be members of the ERTs).</li> </ul>	<p>with the ERTs and relevant stakeholders;</p> <ul style="list-style-type: none"> <li>• Update the inventory of the stockpiled items;</li> <li>• Submit the bills to the DMC, and process for payment with the Finance Division;</li> <li>• Coordinate with the DMC, DLGDM and Logistics Desk to mobilize resources to replenish the used items; and</li> <li>• Update SOP based on lessons learned.</li> </ul>
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## Standard Operating Procedure (SOP) for Emergency Shelter Preparedness

	<ul style="list-style-type: none"><li>• Ensure that the stockpiled items are mobilized only for disaster related operations and not for any other use;</li><li>• Maintain proper records of all documents including bills, minutes of meetings, and any other correspondences related to logistics operations;</li><li>• Coordinate with the Logistics Desk to provide simulation exercises and drills to the DMC, DMU, ERTs and Ministry officials on disaster preparedness and shelter set up;</li><li>• Coordinate with the DMC and Logistics Desk to mobilize resources for the procurement of necessary kits and supplies for the DMC, DMU, and ERTs; and</li><li>• Coordinate with the DMC and Logistics Desk to mobilize resources to build capacities of</li></ul>			
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## Standard Operating Procedure (SOP) for Emergency Shelter Preparedness

	<p>the DMC, DMU, ERTs, LG officials and other staff on disaster preparedness and response.</p>			
<p>3) Emergency Response Team</p>	<ul style="list-style-type: none"> <li>• Participate in capacity building programs; and</li> <li>• Ensure that they are thorough with their roles and responsibilities as outlined in the ToR.</li> </ul>	<ul style="list-style-type: none"> <li>• Move to the affected areas upon getting instruction from the DMU/DMC;</li> <li>• Coordinate with the Officer In-charge /Storekeeper at the stockpiling center, Desuung Office, Gyalsuung, and BRCS for the mobilization of the emergency shelter items.</li> </ul>	<ul style="list-style-type: none"> <li>• Coordinate with the IC or DMC of the LGs;</li> <li>• Assist the LG teams in setting up registration area, sleeping quarters, dining area, and washrooms;</li> <li>• Report to the DMU for updates and assistance;</li> <li>• Assist the teams in the field distribution of shelter items</li> <li>• Maintain logs for shelter occupancy, supply inventory and incidents; and</li> <li>• Provide timely updates and reports to the DMU on the shelter operations.</li> </ul>	<ul style="list-style-type: none"> <li>• Sanitize and hand over the shelter items back to the ROs (those items such as tents that can be reused);</li> <li>• Submit the inventory of supplies usage to the DMU; and</li> <li>• Assist the DMU in preparing the post-disaster field report.</li> </ul>

Table 5: Roles and Responsibilities of DMC, DMU and ERT

## 5. Coordination Mechanism during Type III Disaster

During a Type III disaster, the Incident Commander of the Ministry will activate the Disaster Management Committee and the Emergency Response Teams. The DMU constituting the DHS, DoID and the DoST will be activated.

While the DHS will be activated to coordinate emergency shelter operations, the DoID will manage drinking water supply and sanitation for emergency shelter and the DoST will assist in the stockpiling of shelter items from the Regional Offices.

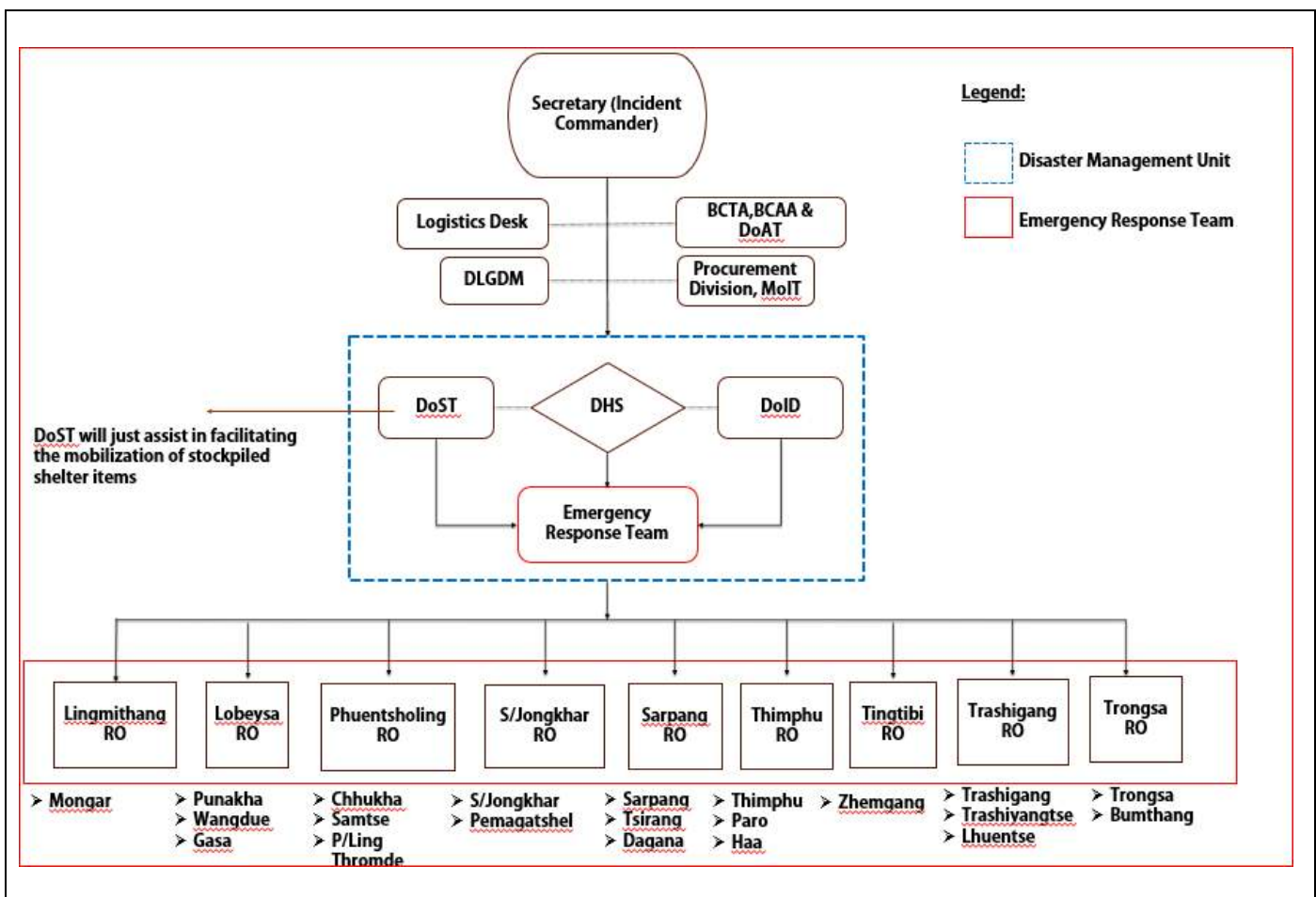


Figure 2: Coordination Mechanism for Emergency Shelter Preparedness

# Standard Operating Procedure (SOP) for Emergency Shelter Preparedness

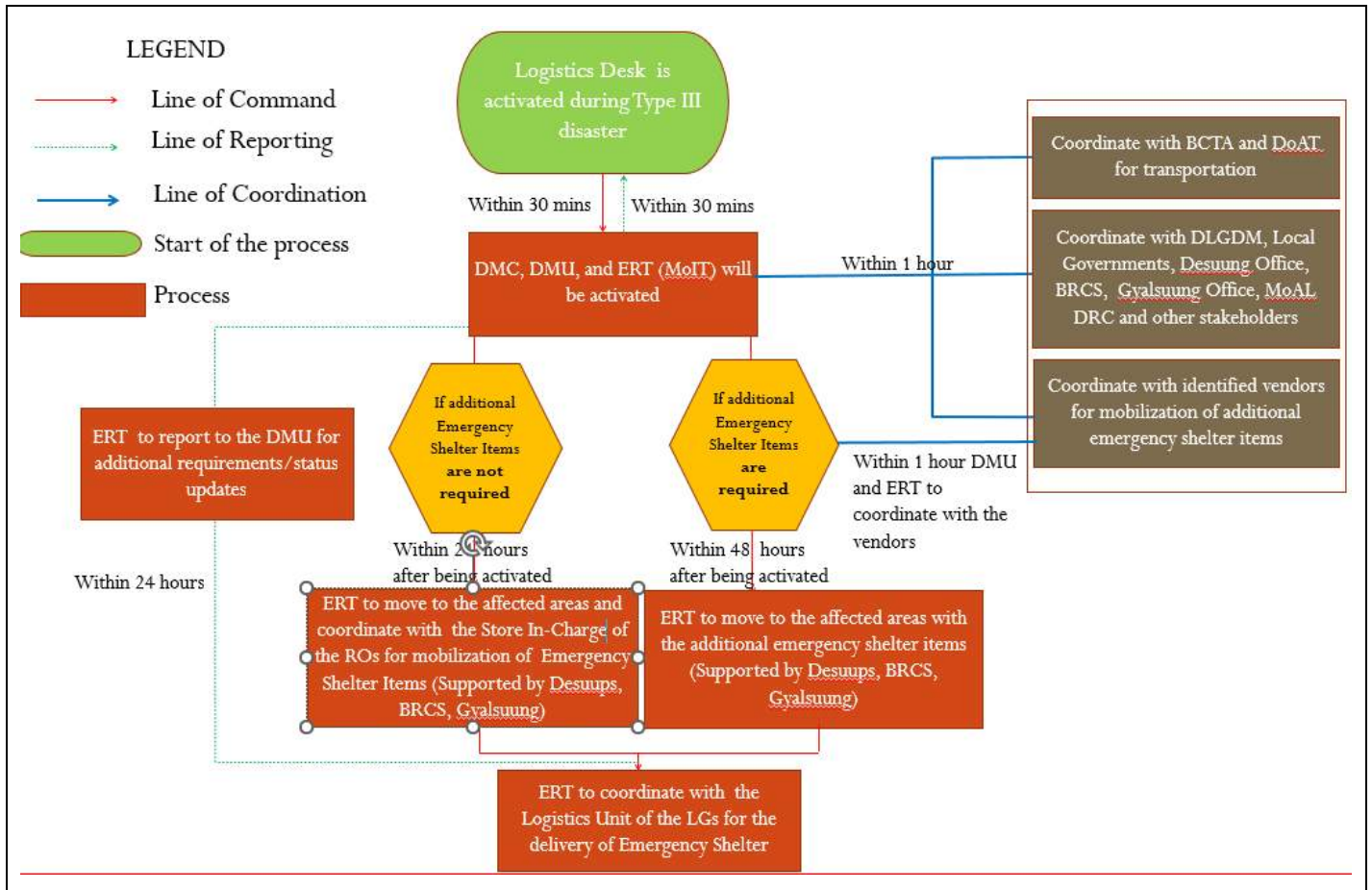


Figure 3:: Workflow mechanism with TAT for Emergency Shelter

## 6. Action Plan for Emergency Shelter Operations

The following areas of priority have been identified for intervention. Under each priority area, an action plan consisting of main activities, responsible agency, supporting agencies and timeline have been outlined. The action plan for each activity identified has been tabulated as under:

Main activities	Agency/Sector Responsible	Supporting Sector/Agencies	Timeline	Budget/Remarks
<b>Preparedness Phase</b>				
Institute a Disaster Management Committee (DMC) within the Ministry.	Logistics focal to coordinate	All Departments and Authorities under the Ministry	Short term (FY 2023-2024)	It has been instituted.
Create a DMU in the Ministry to manage and implement all activities under this shelter unit SOP.	DMC	All Departments and Authorities under the Ministry	Short term (FY 2023-2024)	It has been instituted.
Institute Emergency Response Teams for response, relief and recovery activities	DMC	DMU	Not Applicable	To be instituted during disasters.
Mainstream disaster risk reduction and management initiatives in plans, projects, and activities related to logistics preparedness for emergency shelter.	DMU (DHS)	DoID	Continuous process	Budget not required.
Prepare budget proposal and workplan for logistics preparedness for emergency shelter.	DMU (DHS)	Finance Division, MoIT	Continuous process	Included in the 13 <sup>th</sup> and 14 <sup>th</sup> FYP
Mapping of evacuation centers and NFIs in all the LGs	DMU (DHS)	DLG&DM, WFP, MoAL, LGs	FY 2023-2024 and 2024-2025	Nu. 0.5 M
Identification of vendors/suppliers	DMU (DHS)	Procurement Division, MoIT	FY 2025-2026, 2026-2027, 2027-2028	Not Applicable
Procurement of basic PPE for the ERTs.	DMU (DHS)	Procurement Division, MoIT	2025-2026, 2026-2027	Nu. 2.0 Million.
Stockpiling of critical shelter items and NFIs	DMU to coordinate	Procurement Division, MoIT, LGs and DoST Regional Offices	2025-2026, 2026-2027	Nu. 300 Million (Just to initiate the implementation)
Capacity building	DMU (DHS)	MoIT, LGs and Regional Offices	2025-2026, 2026-2027, 2027-2028	Nu. 3.0 Million
<b>Post Disaster/De-activation Phase</b>				
Update the DMU on the consumption report.	ERTs (RO and Ministry)	LGs	Within a week of completion of the field work	Not Applicable
Replenish the used shelter items and NFIs post disaster	DMU (DHS)	Procurement Division of MoIT, LGs, ROs.	Within Short Term (6 months)	Nu. 100 Million (Depends on the utilization)
<b>Total for one cycle of Disaster Events</b>				<b>Nu.405.5</b>

Table 6: Action Plan for Emergency Shelter Preparedness

## 7. Annexure

### *Annexure 7.1: Stockpiling Centers (Regional Offices under the Department of Surface Transport)*

Sl.no	Location	Dzongkhags/Thromdes to be covered
1	Thimphu Regional Office	Thimphu Thromde, Thimphu Dzongkhag, Paro, and Haa
2	Phuentsholing Regional Office	Phuentsholing Thromde, Chhukha, and Samtse
3	Samdrup Jongkhar Regional Office	Samdrup Jongkhar, Pema Gatshel, Mongar
4	Trashigang Regional Office	Trashigang, Trashiyangtse, and Lhuentse
5	Trongsa Regional Office	Trongsa and Bumthang
6	Sarpang Regional Office	Sarpang, Tsirang, Dagana
7	Lobeysa Regional Office	Punakha, Wangdue and Gasa
8	Tingtibi Regional Office	Zhemgang

*Table 7: List of Stockpiling Centres*

**Note:** The stockpiling centers should be built for all kinds of disaster including flooding and GLOFs. The shelter items should be stored on higher floors where the items will not be impacted by flooding. Proper parking with loading/unloading areas will be required.

Containers can also be used where possible. To ensure that the containers are also not affected during heavy rainfall or flash flood and to prevent damage by rodents, it is recommended that concrete posts be constructed for the containers. The container should be covered with CGI sheets where possible.

To accommodate a greater number of containers in the stockpiling yard, one container can be placed on top of the other which can be accessed by a ladder. Items such as bedding sets and tents can be kept on top. The stockpiling yard should be fenced properly and an in-charge be recruited to manage the items. Periodic airing of the items and cleaning should be carried out to ensure that the items do not get damaged.

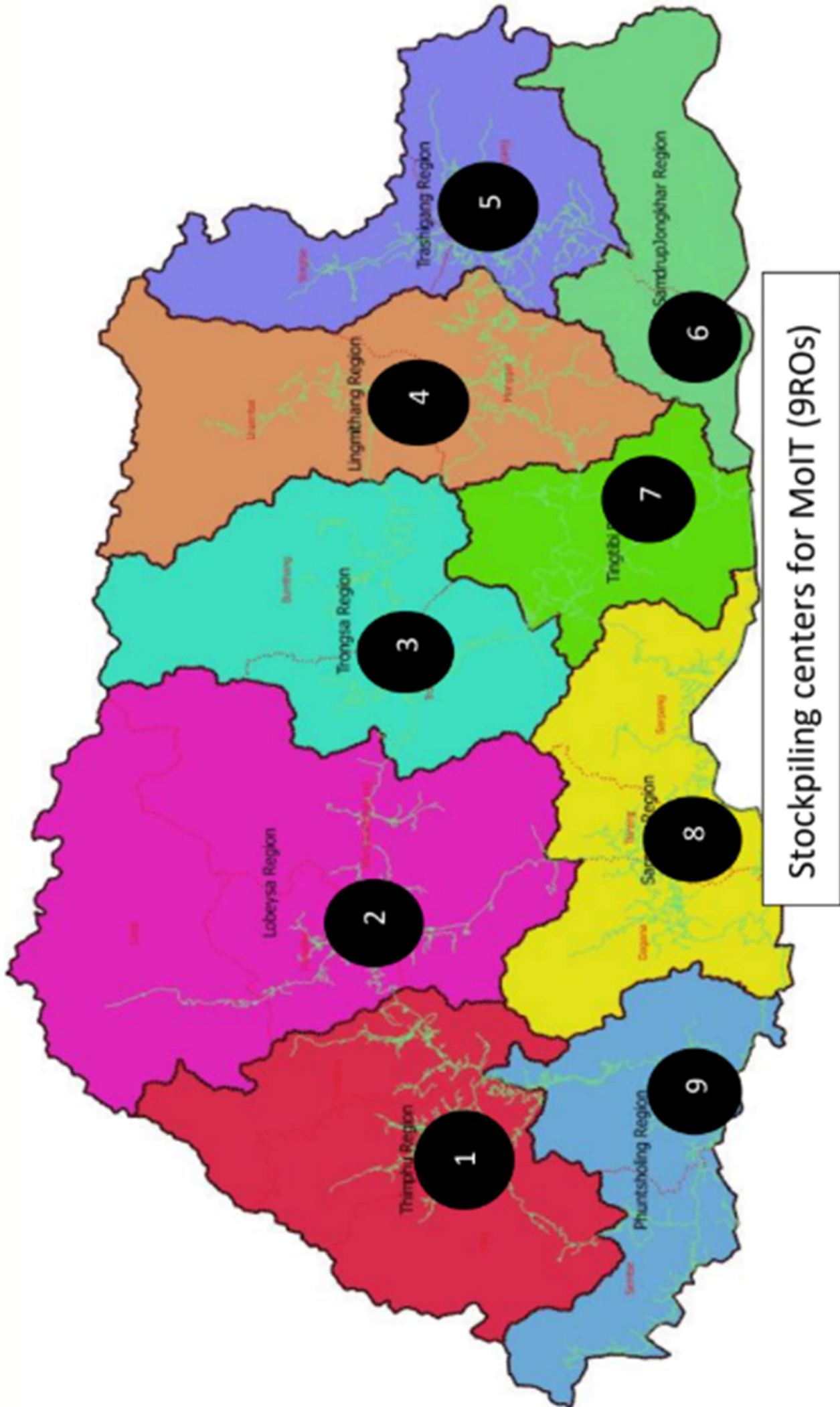


Figure 4: Map of Stockpiling Centres

Annexure 7.2: Types of Containers and Stockpiling Yard Design



Figure 5: Sample of containers for storing shelter items



Figure 6: Stacking containers to minimize space requirement

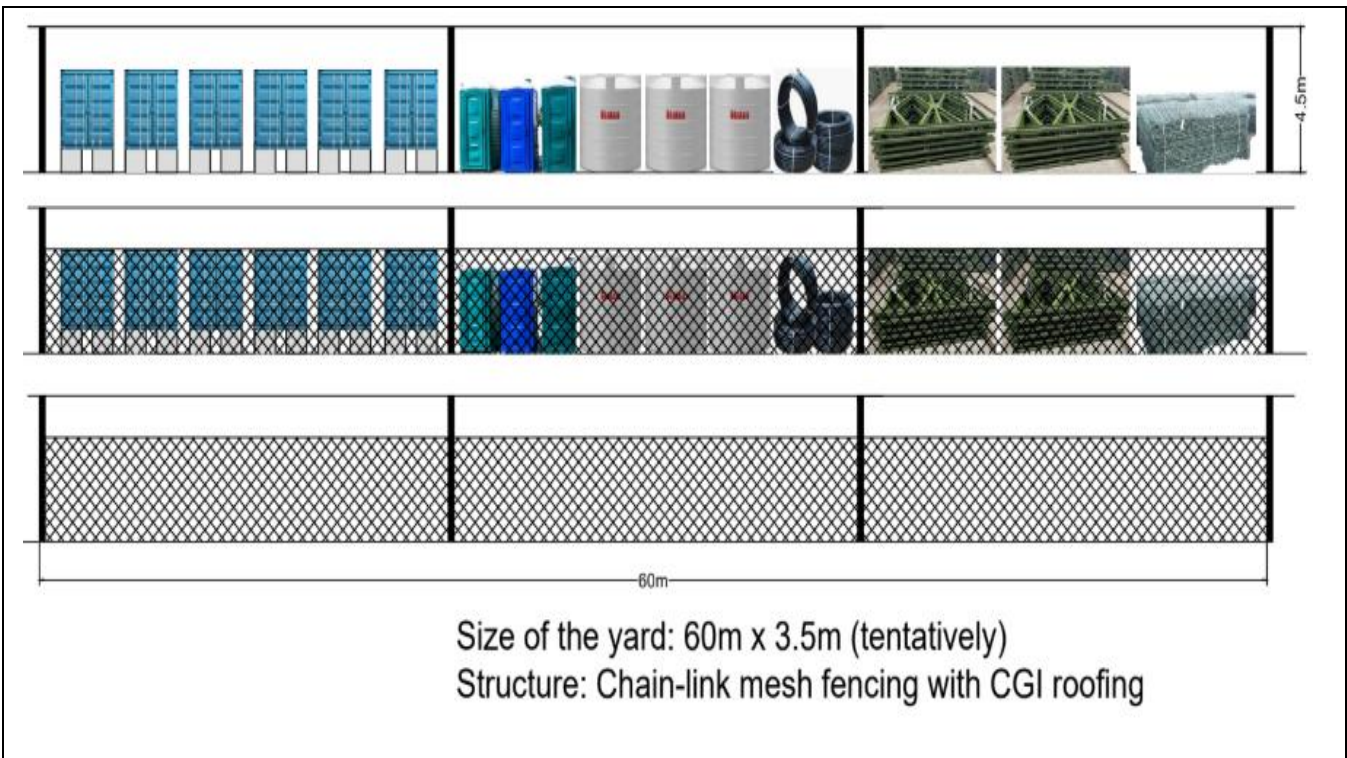


Figure 7: Storage yard design proposal for containers

### *Annexure 7.3: List of Emergency Shelter Items to be stockpiled.*

The Local Governments will have their own stock of the supplies. The list below is for additional requirements by the LGs. For areas that may require additional supplies, the required NFIs and emergency shelter kits (Shown in Table 8 & 9) may be purchased by the Ministry for stockpiling in the Regional Offices and distribution to the affected areas, when required.

Two scenarios have been considered for preparedness. In scenario 1, it is assumed that the entire country is affected. So, accordingly, the requirements of shelter items and NFIs have been worked out. In scenario 2, details have been worked out assuming only 50 % of the population in each Local government is affected.

The population has been taken from the Dzongkhag and Thromde Administration. Where the population details were not complete, PHCB 2017 has been referred and the higher side has been considered.

#### **Note:**

- 1. Estimated cost of 32mx10 m tent= Nu.0.1 M**
- 2. Estimated cost of bedding set (Pillow, covers, towels and sheet) =Nu. 2500**
- 3. Estimated cost of air mattress (200x180 mm): Nu.4500**
- 4. Estimated cost of search light/torch with batteries (big): Nu.1500**
- 5. Estimated cost of cooking utensils: Nu. 10000**
- 6. Estimated cost of plates, mugs, spoons: Nu. 300 per set**
- 7. Estimated cost of 1 set of clothes: Nu. 1500**
- 8. Estimated cost of large size garbage bag (heavy duty): Nu. 150**
- 9. Estimated cost of Washing/cleaning equipment: Buckets, Broom, Dust Pan, Sanitizers/Floor cleaners. Gloves, Mop, Dish washing and sponge: Nu.2000**

Sl. no	Areas	Population	Number of Tents (including cooking, catering)	Estimated cost of tent (in M)	Number of Bedding Sets (2 set per family/ 4 members)	Cost of bedding (in M)	Number of Mattress (Air mattress/ 2 per family)	Cost of air mattress	Number of Search Lights/Torch (1 per tent)	Cost of search light/Torch	Number of Cooking Utensils (Sets)	Cost of cooking Utensils	Number of Plates, Mugs and Spoons (Sets)	Cost of Plates, Mugs and Spoons (Sets)	Number of Clothes (Set)	Cost of clothes (Set)	Number of Garbage Bags (Wet and Dry) /2 bags per day/2 weeks	Cost of garbage bags	Number of Cleaning equipment (Set)	Cost of cleaning equipment (M)	Total Cost (In M)
<b>Dzongkhags</b>																					
1	Bumthang	17,820	267	26.730	8910	22.275	8910	40.095	267	0.401	27	0.267	17,820	5.346	17820	26.730	8019	1.203	53	0.107	123.154
2	Chhukha	40,249	604	60.374	20125	50.311	20125	90.560	604	0.906	60	0.604	40,249	12.075	40249	60.374	18112	2.717	121	0.241	278.161
3	Dagana	24,965	374	37.448	12483	31.206	12483	56.171	374	0.562	37	0.374	24,965	7.490	24965	37.448	11234	1.685	75	0.150	172.533
4	Gasa	3,351	50	5.027	1676	4.189	1676	7.540	50	0.075	5	0.050	3,351	1.005	3351	5.027	1508	0.226	10	0.020	23.159
5	Haa	12,324	185	18.486	6162	15.405	6162	27.729	185	0.277	18	0.185	12,324	3.697	12324	18.486	5546	0.832	37	0.074	85.171
6	Lhuentse	14,437	217	21.656	7219	18.046	7219	32.483	217	0.325	22	0.217	14,437	4.331	14437	21.656	6497	0.974	43	0.087	99.774
7	Mongar	36,178	543	54.267	18089	45.223	18089	81.401	543	0.814	54	0.543	36,178	10.853	36178	54.267	16280	2.442	109	0.217	250.026
8	Paro	46,316	695	69.474	23158	57.895	23158	104.211	695	1.042	69	0.695	46,316	13.895	46316	69.474	20842	3.126	139	0.278	320.090
9	Pema Gatshel	30,062	451	45.093	15031	37.578	15031	67.640	451	0.676	45	0.451	30,062	9.019	30062	45.093	13528	2.029	90	0.180	207.758
10	Punakha	28,740	431	43.110	14370	35.925	14370	64.665	431	0.647	43	0.431	28,740	8.622	28740	43.110	12933	1.940	86	0.172	198.622
11	Samdrup Jongkhar	35,079	526	52.619	17540	43.849	17540	78.928	526	0.789	53	0.526	35,079	10.524	35079	52.619	15786	2.368	105	0.210	242.431
12	Samtse	60,100	902	90.150	30050	75.125	30050	135.225	902	1.352	90	0.902	60,100	18.030	60100	90.150	27045	4.057	180	0.361	415.351
13	Sarpang	46,004	690	69.006	23002	57.505	23002	103.509	690	1.035	69	0.690	46,004	13.801	46004	69.006	20702	3.105	138	0.276	317.934
14	Thimphu	24,185	363	36.278	12093	30.231	12093	54.416	363	0.544	36	0.363	24,185	7.256	24185	36.278	10883	1.632	73	0.145	167.143
15	Tsirang	24,168	363	36.252	12084	30.210	12084	54.378	363	0.544	36	0.363	24,168	7.250	24168	36.252	10876	1.631	73	0.145	167.025
16	Trashigang	45,518	683	68.277	22759	56.898	22759	102.416	683	1.024	68	0.683	45,518	13.655	45518	68.277	20483	3.072	137	0.273	314.575
17	Trashiyantse	17,000	255	25.500	8500	21.250	8500	38.250	255	0.383	26	0.255	17,000	5.100	17000	25.500	7650	1.148	51	0.102	117.487
18	Trongsa	19,960	299	29.940	9980	24.950	9980	44.910	299	0.449	30	0.299	19,960	5.988	19960	29.940	8982	1.347	60	0.120	137.944
19	Wangdue Phodrang	42,348	635	63.522	21174	52.935	21174	95.283	635	0.953	64	0.635	42,348	12.704	42348	63.522	19057	2.858	127	0.254	292.667
20	Zhemgang	17,763	266	26.645	8882	22.204	8882	39.967	266	0.400	27	0.266	17,763	5.329	17763	26.645	7993	1.199	53	0.107	122.760
<b>Thromdes</b>																					
1	Gelephu	12072	181	18.108	6036	15.090	6036	27.162	181	0.272	18	0.181	12072	3.622	12072	18.108	5432	0.815	36	0.072	83.430
2	Phuentsholing	25918	389	38.877	12959	32.398	12959	58.316	389	0.583	39	0.389	25918	7.775	25918	38.877	11663	1.749	78	0.156	179.119
3	Samdrup Jongkhar	9325	140	13.988	4663	11.656	4663	20.981	140	0.210	14	0.140	9325	2.798	9325	13.988	4196	0.629	28	0.056	64.445
4	Thimphu	114560	1718	171.840	57280	143.200	57280	257.760	1718	2.578	172	1.718	114560	34.368	114560	171.840	51552	7.733	344	0.687	791.724
	<b>Total Population</b>	<b>7,48,442</b>		<b>1,122.663</b>		<b>935.553</b>	<b>374221</b>	<b>1,683.995</b>		<b>16.840</b>		<b>11.227</b>		<b>224.533</b>		<b>1,122.663</b>		<b>50.520</b>		<b>4.491</b>	<b>5,172.483</b>

Table 8: Estimated cost for shelter preparedness if the entire population is affected

Sl. no	Areas	Population	Number of Tents (including cooking, catering)	Estimated cost of tent (in M)	Number of Bedding Sets (2 set per family/ 4 members)	Cost of bedding (in M)	Number of Mattress (Air mattress/ 2 per family)	Cost of air mattress	Number of Search Lights/Torch (1 per tent)	Cost of search light/Torch	Number of Cooking Utensils (Sets)	Cost of cooking Utensils	Number of Plates, Mugs and Spoons (Sets)	Cost of Plates, Mugs and Spoons (Sets)	Number of Clothes (Set)	Cost of clothes (Set)	Number of Garbage Bags (Wet and Dry) /2 bags per day/2 weeks	Cost of garbage bags	Number of Cleaning equipment (Set)	Cost of cleaning equipment (M)	Total Cost (In M)
<b>Dzongkhags</b>																					
1	Bumthang	8,910	134	13.365	4455	11.138	446	2.005	134	0.200	13	0.134	8,910	2.673	8910	13.365	4010	0.601	27	0.053	43.534
2	Chhukha	20,125	302	30.187	10062	25.156	10062	45.280	302	0.453	30	0.302	20,125	6.037	20125	30.187	9056	1.358	60	0.121	139.080
3	Dagana	12,483	187	18.724	6241	15.603	6241	28.086	187	0.281	19	0.187	12,483	3.745	12483	18.724	5617	0.843	37	0.075	86.267
4	Gasa	1,676	25	2.513	838	2.094	838	3.770	25	0.038	3	0.025	1,676	0.503	1676	2.513	754	0.113	5	0.010	11.579
5	Haa	6,162	92	9.243	3081	7.703	3081	13.865	92	0.139	9	0.092	6,162	1.849	6162	9.243	2773	0.416	18	0.037	42.586
6	Lhuentse	7,219	108	10.828	3609	9.023	3609	16.242	108	0.162	11	0.108	7,219	2.166	7219	10.828	3248	0.487	22	0.043	49.887
7	Mongar	18,089	271	27.134	9045	22.611	9045	40.700	271	0.407	27	0.271	18,089	5.427	18089	27.134	8140	1.221	54	0.109	125.013
8	Paro	23,158	347	34.737	11579	28.948	11579	52.106	347	0.521	35	0.347	23,158	6.947	23158	34.737	10421	1.563	69	0.139	160.045
9	Pema Gatshel	15,031	225	22.547	7516	18.789	7516	33.820	225	0.338	23	0.225	15,031	4.509	15031	22.547	6764	1.015	45	0.090	103.879
10	Punakha	14,370	216	21.555	7185	17.963	7185	32.333	216	0.323	22	0.216	14,370	4.311	14370	21.555	6467	0.970	43	0.086	99.311
11	Samdrup Jongkhar	17,540	263	26.309	8770	21.924	8770	39.464	263	0.395	26	0.263	17,540	5.262	17540	26.309	7893	1.184	53	0.105	121.215
12	Samtse	30,050	451	45.075	15025	37.563	15025	67.613	451	0.676	45	0.451	30,050	9.015	30050	45.075	13523	2.028	90	0.180	207.676
13	Sarpang	23,002	345	34.503	11501	28.753	11501	51.755	345	0.518	35	0.345	23,002	6.901	23002	34.503	10351	1.553	69	0.138	158.967
14	Thimphu	12,093	181	18.139	6046	15.116	6046	27.208	181	0.272	18	0.181	12,093	3.628	12093	18.139	5442	0.816	36	0.073	83.571
15	Tsirang	12,084	181	18.126	6042	15.105	6042	27.189	181	0.272	18	0.181	12,084	3.625	12084	18.126	5438	0.816	36	0.073	83.513
16	Trashigang	22,759	341	34.139	11380	28.449	11380	51.208	341	0.512	34	0.341	22,759	6.828	22759	34.139	10242	1.536	68	0.137	157.287
17	Trashiyangtse	8,500	128	12.750	4250	10.625	4250	19.125	128	0.191	13	0.128	8,500	2.550	8500	12.750	3825	0.574	26	0.051	58.744
18	Trongsa	9,980	150	14.970	4990	12.475	4990	22.455	150	0.225	15	0.150	9,980	2.994	9980	14.970	4491	0.674	30	0.060	68.972
19	Wangdue Phodrang	21,174	318	31.761	10587	26.468	10587	47.642	318	0.476	32	0.318	21,174	6.352	21174	31.761	9528	1.429	64	0.127	146.334
20	Zhemgang	8,882	133	13.322	4441	11.102	4441	19.983	133	0.200	13	0.133	8,882	2.664	8882	13.322	3997	0.600	27	0.053	61.380
<b>Thromdes</b>																					
1	Gelephu	6036	91	9.054	3018	7.545	3018	13.581	91	0.136	9	0.091	6036	1.811	6036	9.054	2716	0.407	18	0.036	41.715
2	Phuentsholing	12959	194	19.439	6480	16.199	6480	29.158	194	0.292	19	0.194	12959	3.888	12959	19.439	5832	0.875	39	0.078	89.560
3	Samdrup Jongkhar	4663	70	6.994	2331	5.828	2331	10.491	70	0.105	7	0.070	4663	1.399	4663	6.994	2098	0.315	14	0.028	32.223
4	Thimphu	57280	859	85.920	28640	71.600	28640	128.880	859	1.289	86	0.859	57280	17.184	57280	85.920	25776	3.866	172	0.344	395.862
	<b>Total Population</b>	<b>374221</b>		<b>561.332</b>		<b>467.776</b>		<b>823.955</b>		<b>8.420</b>		<b>5.613</b>		<b>112.266</b>		<b>561.332</b>		<b>25.260</b>		<b>2.245</b>	<b>2,568.199</b>

Table 9: Estimated cost for shelter items if only 50% of the populated gets affected

*Annexure 7.4: Samples of Shelter Items*



Figure 8: Samples of shelter items to be stockpiled

## Standard Operating Procedure (SOP) for Emergency Shelter Preparedness

### *Annexure 7.4: Total Estimated Cost for Emergency Shelter Preparedness*

Sl.no	Activities	Estimated Cost for the entire Population (Nu.in Million)	Estimated Cost for 50 % of the population (Nu.in Million)	Remarks
<b>1</b>	<p><b>1) Improvement of Stockpiling Centers</b></p> <p>i) Constructing storage facilities for stockpiling (for emergency shelter, water supply and sanitation, and bridge and road parts)</p> <p>ii) Building platforms with a minimum height of 1 to 1.5 meter to prevent the shelter items from flood; provide simple shed with CGI sheets;</p> <p>iii) Upgrading parking spaces, loading and unloading areas; and</p> <p>iv) Constructing chain-link fencing around the stockpiling areas.</p>	18	18	Nu. 2.0 million (Nu. 20 lakhs) per Regional Office.
<b>2</b>	Procurement of shelter items and Non-Food Item Kits	5172.48	2568.19	Tents and cooking utensils will be a one-time purchase
<b>3</b>	Procurement of containers (10 Numbers in each Regional Office)	45	45	One container of 20-foot length cost about Nu.500,000
	<b>Total cost</b>	<b>5236</b>	<b>2632</b>	

*Table 10: Estimated cost for emergency shelter preparedness*