



**ESUPS**

EMERGENCY SUPPLY PRE-POSITIONING STRATEGY



**USAID**  
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# NEPAL

**EXECUTIVE  
SUMMARY**

## COUNTRY-WIDE ANALYSIS OF PRE-POSITIONED RELIEF ITEMS

November 2020

Update: June 2021



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For a world without hunger



**Save the Children**



**BritishRedCross**



**UNHRD**

Humanitarian Response Depot



**100**  
1919-2019



International Organization for Migration (IOM)  
The UN Migration Agency



**PennState**



# INTRODUCTION

Pre-positioning relief items in disaster prone countries or regions is a common mechanism adopted by many humanitarian organisations to increase their readiness in delivering assistance.

Despite this preparedness measure being widely implemented, and due to many different strategic approaches or capacities, there

is an alarming lack of coordination within and across organisations, both at national and regional levels, as to which relief items to pre-position, where and in which quantities.

A range of studies have recently demonstrated the needs to invest in preparedness activities<sup>1</sup> whilst also enhancing effective collaboration through a better access to pooled resources<sup>2</sup>.

## WHAT IS ESUPS?

The Emergency Supply Pre-Positioning Strategies ([ESUPS](#)) Working Group was created in 2016 by a group of stakeholders interested in improving the definition of more efficient and effective prepositioning strategies of relief items at national and regional levels to ensure a minimum of duplication or gaps and reduce times and costs of responses.



## ESUPS IN NEPAL

In September 2019, ESUPS engaged with Nepal as one of the countries selected for implementation. This decision was aligned with the Logistics Cluster Preparedness unit's selection of countries.

With the support of the Nepal Log Cluster coordinator, the Welthungerhilfe office and OCHA, ESUPS initiated a data collection process about stock levels and other required logistics information to analyse the stocks currently pre-positioned in Nepal in terms of locations and quantities. This report presents the findings of our analysis of the current pre-positioned stock in Nepal. The first analysis report recommendation was published in December 2020, based on stock data collected in April of the same year. This first report mostly helped in demonstrating ESUPS approach and deliverables. The Nepal Logistics Cluster confirmed their desire to engage in the definition of a national pre-positioning strategy and requested ESUPS to update the first report based on a fresh pre-typhoon season collective stock take.

This report presents the findings of our updated analysis of the current pre-positioned stock in Nepal.

<sup>1</sup> Action Contre la Faim: [Supply Chain Expenditures & Preparedness Investment Opportunities in the Humanitarian Context](#)

<sup>2</sup> [Strength in Numbers](#) by Réseau Logistique Humanitaire

# EXECUTIVE SUMMARY

The information provided in this document are divided in two parts: an **ASSESSMENT** of the current stocks pre-positioned in Nepal, looking at the quantities and locations, and a set of **RECOMMENDATIONS** per item, to help decision-makers in country re-allocate those stocks to be more time and cost efficient at times of disasters. Both the assessment and recommendations are made on a collective approach.

This document does not recommend pre-positioning strategies at individual agency level, the very purpose of the ESUPS project being to foster collaborative approaches such as loan-borrowing. However, should those recommendations move towards implementation, it is expected that individual agencies could draw their own pre-positioning strategy from this overall approach, now considering in country partners and other players capacities and strategies.



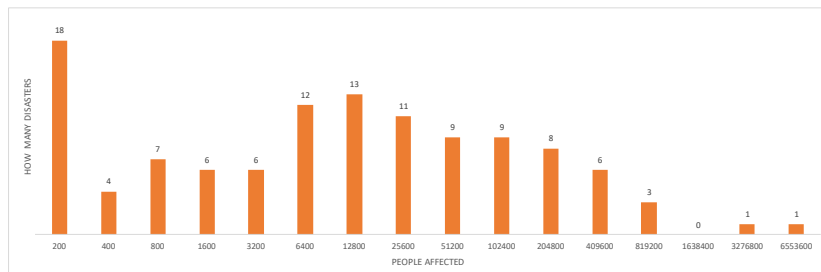
Here are the main findings and recommendations identified by the ESUPS analytics tools. Please note that **those recommendations provide guidance towards a more optimum national coordinated pre-positioning model and not a definite solution.**

Many local specific factors could not be considered, and like for any mathematical model, assumptions were made. That context-specific information needs to be discussed and factored in at country level.

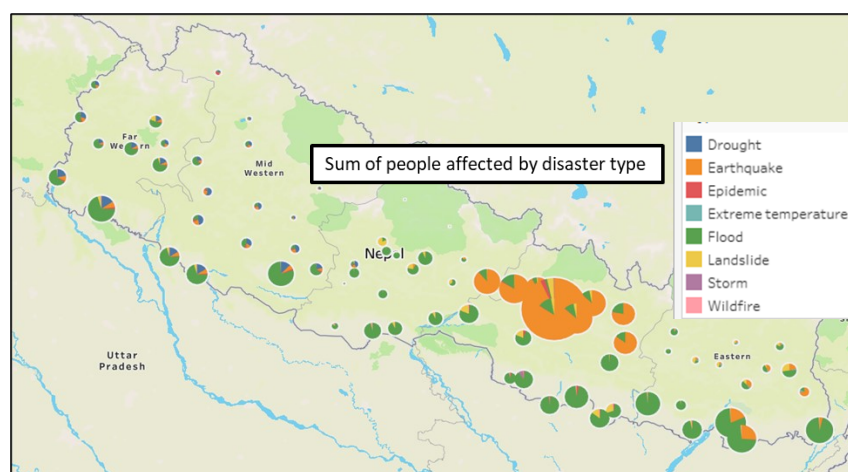
The findings contained in this report are to be looked at in complement of the Analytics tool provided and the STOCKHOLM platform alongside this document. This allows the user to look at each detailed location about the availability of stock per Cluster/Per items/ and per warehouse location.

# ANALYTICS METHODOLOGY—STEP 1: ANALYSE HISTORY OF DISASTERS IN NEPAL

- Since 1980, Nepal was affected by **114 disasters**. 104 of these, corresponding to 91%, affected more than 100 people
- **91%** of disasters affected 250,000 people or less, while **80%** of disasters affected 70,00 people or less.

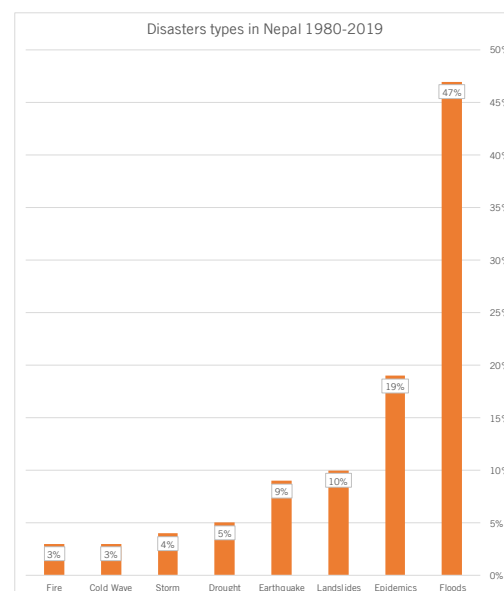
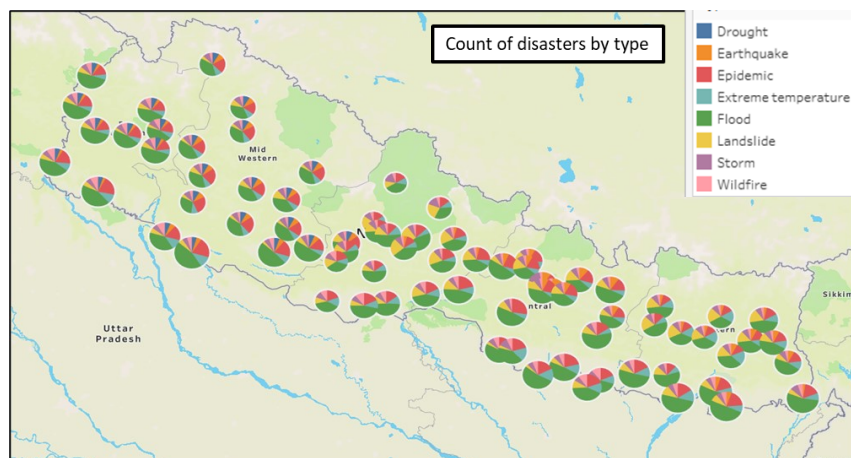


- When looking at the disasters by the number of affected people, the most vulnerable area is the Kathmandu area, simply due to the concentration of people in this area as well as the impact of the 2015 Earthquakes. (note, however, that outside of the 2015 earthquake Kathmandu is only the 30th most affected location—see below). We can also see that when focusing on the middle size disasters they are all in the South of the country.



That could be explained by the fact that many of those disasters are floods, which are a consequence of water flowing down (and south) from the mountains range.

- Focusing on disaster type, floods, epidemics and landslides are predominant and quite evenly distributed across the country. This information should be considered when defining a centralised or decentralised overall strategy.





## ANALYTICS METHODOLOGY—STEP 2: COLLECT PRE-POSITIONED STOCK AND LOGISTICS DATA

ESUPS has created a platform aimed at capturing existing stock situation in country. The [STOCK of Humanitarian Organisation Logistics Mapping \(STOCKHOLM\)](#) platform is now partially available after the first development phase and was used to enter the Nepal Stocks collected. The second phase is under development, but users can already [register](#) to access the map. The data collection was coordinated in country by the Logistics Cluster Coordinator and his team.



## ANALYTICS METHODOLOGY—STEP 3: ANALYSE DATA THROUGH THE MATHEMATICAL MODEL

With those two sets of data (history of disasters and existing pre-positioned stock situation), ESUPS, through its mathematical model could trigger the analysis.

The model provides an **optimised average response time and costs over all scenarios**. This means that based on the model recommendation, sometimes users may lose a bit in terms of time and/or cost, but that on average they will collectively come out ahead and save time and cost.

The ESUPS model works at a national and collective level. This analysis does not provide any agency-specific information but rather look at the situation for each item independently of who owns it. This is the core principle of the ESUPS project: support and encourage collaboration and coordination to maximise cost and time efficiency. There are currently **4 Clusters** reporting on **22 core relief items** as per summary table.



Click on the image to view it in full size.

# ASSESSMENT

**1** Based on the current pre-positioned stock in country, the present actors collectively have an **average capacity across all 22 items** analysed to cover **69% of disasters** in country without international assistance. This means all items combined are stored in sufficient quantities to support disasters affecting an average of **32,185 people or less**. To increase this percentage, the Nepal responders will have to increase the overall quantities of stocks.

## AVERAGE CAPACITY

*Based on pre-positioned items analysed*

**69% DISASTERS COVERED**  
**without international assistance**  
**AFFECTING 32,185 or less**  
**people**

## 5/22 ITEMS

*stored in sufficient quantities:*

**diarrheal disease kits, personal protection equipment (PPE), clothes, ropes tarpaulins**

**2** Should the Nepal responders decide collectively to be able to support **85%** of disasters in country without international assistance, **only 5 items out of 22 are currently stocked in sufficient quantities at the national level** (not necessarily in the right location).

**3** Total potential savings if the proposed coordinated pre-positioning strategy is implemented.

**SAVINGS**  
**12% TIME 18% COST**

**4** In terms of priority, the most important items to look at in order to make a significant time and cost impact are **PPE, lamps & lanterns, water purification tablets, diarrheal disease kits**. Although many of those are pre-positioned in sufficient quantities, the locations where they are pre-positioned are the furthest from an optimum situation.

**5** The lowest priority items are **clothes, sanitation, blankets, buckets**. This means that, although some of those are not pre-positioned in enough quantities, they are relatively well pre-positioned at a geographical level.

## PRIORITY

### HIGH

personal protection equipment (PPE), lamps & lanterns, water purification tablets, diarrheal disease kits.

### LOW

clothes, sanitation, blankets, buckets.



### OVERSTOCKED

**Warehouses:** Kathmandu, Lalitpur and Lamjung-Besisahar.  
**Provinces:** Bagmati and Gandaki.



### UNDERSTOCKED

**Warehouses:** Biratnagar, Pachthar-Phidim and Doti-Dipayal.  
**Provinces:** Sudhur Paschim and Province 1.

**6** In terms of location, the warehouses that are the further from an optimal stock's contents are:

- Biratnagar, Pachthar-Phidim and Doti-Dipayal for the warehouses currently understocked;
- Kathmandu, Lalitpur and Lamjung-Besisahar for the warehouses currently overstocked.

At a larger provincial scale, the 2 most understocked provinces are Sudhur Paschim and Province No. 1 while the 2 most overstocked provinces are Bagmati and Gandaki.

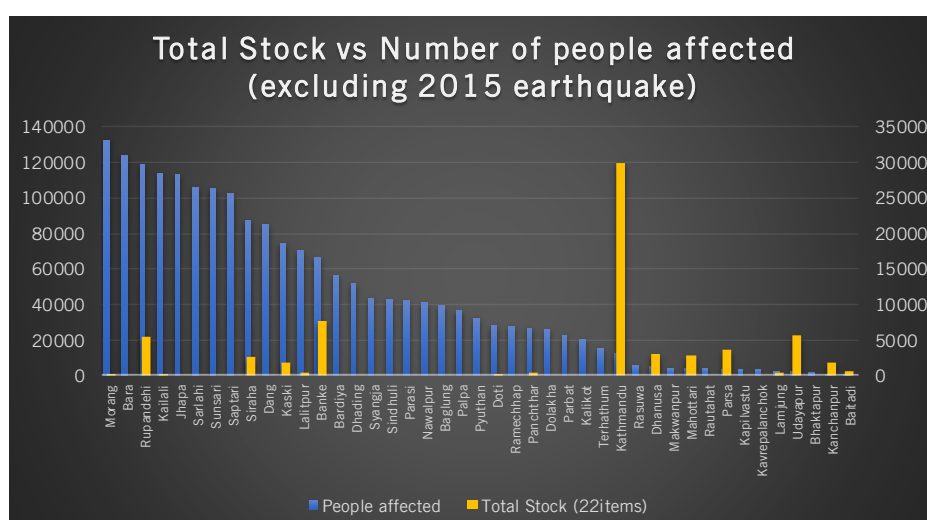
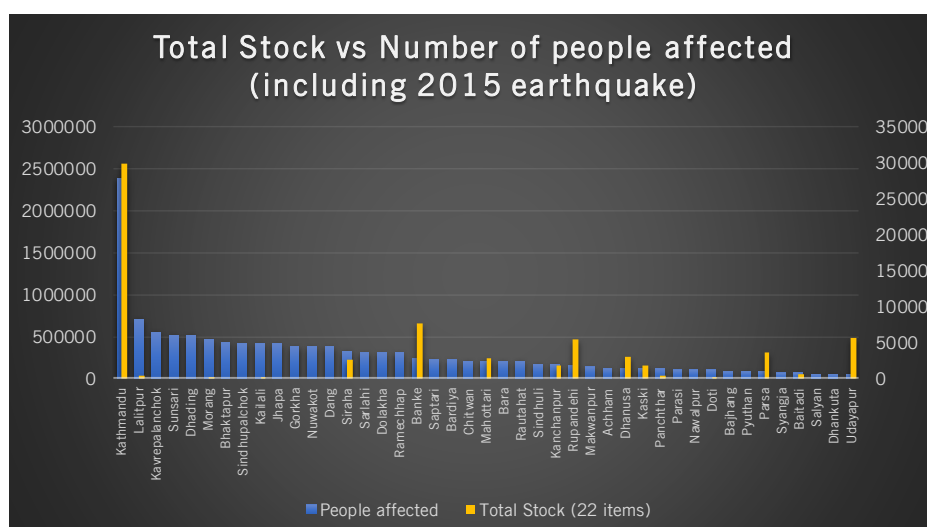
## NOTES ON NEPAL

The main central observation that should draw Nepal partners attention is the **over-centralisation** in the capital, Kathmandu.

As can be seen on the graphs below, the analysis of the last 40 years of disasters shows that **Kathmandu is only the 30<sup>th</sup> most affected place** across the country in terms of number of affected people. However, the **2015 earthquake(s)** affected mostly the Kathmandu area, which is also the most densely populated: as a consequence, it “appears” as one of the most vulnerable places. But this is not the case, and while the stock in country is very largely centralised in Kathmandu, maybe as a preparedness measure for the next big event that could hit the capital, all other locations equally or more affected than Kathmandu are left with little or no stock.

The direct consequences are a loss of time-efficiency during responses that need to be undertaken in the provinces as most stock must be sent from Kathmandu, also with a cost impact.

The second consequence is more hypothetical but worth considering: by “putting all their eggs in the same basket” in Kathmandu, the pre-positioned stockholders collectively take the risk to see their stocks damaged, destroyed or inaccessible in case of large events affecting Kathmandu (rubblies, damaged warehouse, floods, etc.). **Decentralizing** would offer flexibility to support Kathmandu from the provinces while diminishing the risks of loss.

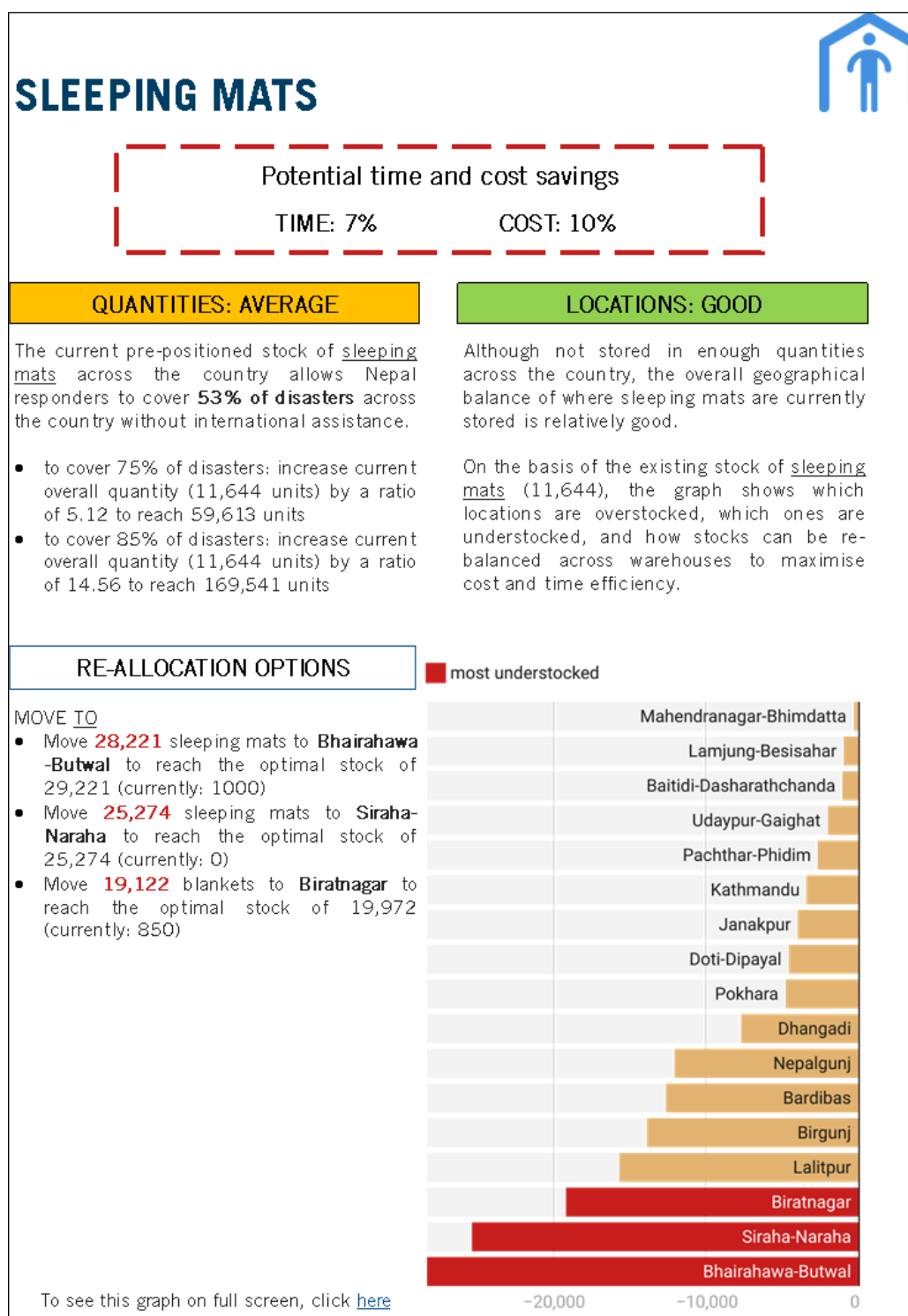


# RECOMMENDATIONS PER ITEM

At the Nepal partners request, ESUPS provided a collective per item analysis providing information as to which locations were overstocked or understocked and how items could be moved between warehouses to save time and costs during responses.

The tool designed and used to run those analysis is available to all Nepal partners to adjust the variables and run new analysis as per their needs.

Besides is one example of such an analysis. All 22 items analysis are available in the full report.





# CONTACTS



*WFP staff handling COVID related medical supplies received from UAE AID fund at the Humanitarian Staging Area in Kathmandu. Credit: Sher Ghimire*



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