

# Joint Rapid Need Assessment Report Landslides and Flash Floods in Uttarakhand 2021

October 2021





**Sphere India**

*National Coalition of Humanitarian Agencies in India*

**Joint Rapid Need Assessment Report**  
**Landslides and Flash Floods in Uttarakhand 2021**

### **State Inter Agency Group (IAG) - Uttarakhand**

---

33/1, Dharampur, Dehradun  
248001, Uttarakhand  
Phone: +91 9412027279  
[iagutrakhand@gmail.com](mailto:iagutrakhand@gmail.com)

### **Sphere India Secretariat**

---

Sphere India Secretariat I B-94 I Sector 44 I Noida –  
201301, Uttar Pradesh I India  
Phone: +91 120 4268157  
E: [info@sphereindia.org.in](mailto:info@sphereindia.org.in)

## Acknowledgment

This Joint Rapid Needs Assessment (JRNA) would not have been possible without the cooperation and constant support of the volunteers, local member organizations of IAG Uttarakhand, district officials, line departments, ward members and PRI members from affected areas. We are indebted to all of them, exigencies of space and time constraints limit us from naming/ mentioning each one of them here.

However, we would like to acknowledge, with deep gratitude, the guidance, cooperation and support extended from AAGAAS Federation, Caritas India, CASA India, Doctors For You, National Centre for Peoples Action in Disaster Preparedness, and Save the Children India in the preparation of JRNA Report. We also express our gratitude towards HIRA, Sanjeevani, DHARA, AAPAR, AWARDDE and Pragatisheel Gramin Yuva Chatra Kalyan Samiti from Uttarakhand for collecting real time information, providing valuable inputs and coordinating the assessment process.

And, above all, the communities of affected areas of Districts Udham Singh Nagar, Champawat, Almora, Nainital, Bageshwar and Pauri Garhwal, who, even amidst the adversities took out time and patiently provided answers to all the questions put to them, without any reservations.

State Inter-Agency Group

Uttarakhand

Sphere India

Noida, UP

09<sup>th</sup> November, 2021

## Joint Needs Assessment

As per Sphere India and IAG Uttarakhand Standard Operating Procedures, adapted to address the emergency situation, a Joint Rapid Needs Assessment (JRNA) was conducted across the landslide affected Udham Singh Nagar, Champawat, Almora, Nainital, Bageshwar and Pauri Garhwaldistricts of the state; data collection was conducted through secondary sources, field visits, personal interviews, observations, focus group discussions and information provided by local CBOs. The organizations engaged in relief have also shared their observation notes to incorporate in the report. Also, on ground information was collected using smart phones through data collection mobile application and collated by core team taking due consent from the villagers. The aim was to gather information on Humanitarian Response initiatives as well as recovery needs, collate and analyse the findings, and disseminate the information to the State, National and International level agencies. This was truly an initial experience of a Multi Disaster with COVID 19 as a pandemic plus landslides which has driven thousands of families to relocate and spend days and nights under tarpaulins. However, the Humanitarian Response activities need to be seen with a different lens than the conventional approach of Disaster Management activities.

### **Disclaimer**

*The interpretations, data, views and opinions expressed in this report are collected from various sources including Government led institutions, line departments, field assessments by 26 volunteers and team members deployed by IAG Uttarakhand and the Organizations who took initiative in Humanitarian Assistance activities and from secondary media sources. It does not necessarily carry the views and opinions of IAG Uttarakhand or Sphere India or any humanitarian organization as a collective directly or indirectly. It is interpreted only for assessment purpose.*

### **Note**

*The report may be quoted, in part or full, by individuals or organizations for writing proposals, academic and advocacy and capacity building purposes with due acknowledgements. The materials in this document should not be relied upon as a substitute for specialized, legal or professional advice in connection with any particular matter. The materials in this document should not be construed as legal advice and the user is solely responsible for any use or application of the materials in this document.*

## Contents

Acknowledgment.....	II
Joint Needs Assessment.....	3
1. Executive Summary .....	6
2. OVERVIEW OF JOINT RAPID NEEDS ASSESSMENT REPORT.....	8
<b>Objectives</b> .....	8
The objectives of the Joint Rapid Need Assessment (JRNA) are enlisted below:.....	8
1. Collect information related to humanitarian needs in the Flood affected districts from primary and secondary sources of data.....	8
2. To estimate the damage caused by the Floods. Provide an overview of the assessed districts in the state including the demographic and socio-economic profile of the community at risk.....	8
3. To undertake sector wise assessment for the damage caused and the impact on general people .....	8
4. To design intervention plan and reach out to the most marginalized.....	8
5. To submit the report to Government departments for immediate response.....	8
6. Provide recommendations for addressing the critical gaps in the Flood response programming to support an informed decision making for the next phase.....	8
Timeframe .....	8
2.1. Methodology: .....	8
2.2. Rational behind the Sampling for Assessment: .....	9
3. Primary Data Collection .....	10
3.1. Quantitative Data Analysis .....	11
4. SECTORAL ASSESSMENT & RECOMMENDATIONS.....	12
4.1. WATER SANITATION AND HYGIENE PROMOTION (WASH).....	14
Overview.....	14
Assessment Findings .....	14
Recommendations.....	19
4.2. SHELTER.....	22
Overview.....	22
Assessment Findings .....	22
Recommendations.....	24
4.3. HEALTH.....	26
Overview.....	26
Assessment Findings .....	26
Recommendations.....	28
4.4. EDUCATION, CHILD PROTECTION & WELFARE.....	30

Overview.....	30
Assessment Findings .....	30
Recommendations.....	32
4.5. FOOD SECURITY & NUTRITION .....	35
Overview.....	35
Assessment Findings .....	35
Recommendations.....	36
4.6. LIVELIHOOD .....	39
Overview.....	39
Assessment Findings .....	39
Recommendations.....	42
4.7. PROTECTION.....	45
Overview.....	45
Assessment Findings .....	45
Recommendations.....	49
Annexure.....	52
1. Demography and Landslide incidents of Uttarakhand.....	52
2. JRNA Report Writing Team.....	54
3. List of Coordinators and Volunteers involved in data collection .....	54
4. Field photographs.....	55
5. JNA Questionnaire.....	55
6. Media reports.....	55

## 1. Executive Summary

On 17, 18 and 19 Oct 2021, almost entire Uttarakhand experienced very heavy non-seasonal rainfall. The most severely impacted areas were in the districts of Nainital, Almora, Uddham Singh Nagar located in the lower Himalayas and foothills of the Kumaon division. Other districts like Bageshwar, Champawat&PauriGarhwal were also impacted.

On an overall basis, Kumaon was lashed by 197 mm of rain while Garhwal witnessed 65 mm of rain. But multiple places received rainfall in the range of 300 – 600 mm, amounting to almost 20% of the average annual rainfall for those places.

This excessive widespread rainfall caused multiple damages across the districts.

**In the hilly regions** (Districts of Almora, Nainital, Bageshwar and Champawat), rains triggered numerous, isolated landslides, and localized flashfloods, causing damage to life and property:

1. Damages/destruction of houses & lives lost (in many instances, people sleeping at their homes were caught unaware when landslides hit their homes during the night)
2. Loss of Agricultural land
3. Power outages due to lines being damaged
4. Road blocks and bridges washed away

The road-blocks were so prevalent that not just villages, but entire townships of Nainital and Almora were also cut-off. Tourists & locals were both stranded at multiple places, due to the widespread road landslides. While traffic was re-started on many roads quickly, some roads took many days to restore. Debris removal is still pending for the Haldwani-Bhowali-Almora road, which is seen as a lifeline for the region.

**In the plain areas** (located mostly in the Uddham Singh Nagar district), the overflowing rivers and excessive rainfall caused flooding in the low lying villages and parts of Haldwani and Rudrapur towns:

1. Flooding and water-logging in houses and shops
2. Power outages due to power stations being submerged
3. Roads and public infrastructure flooded

At the time of field survey for this report, many houses are still inundated and people living in relief camps.

**Table: Rainfall recorded at different weather stations in Kumaon 24 hours**

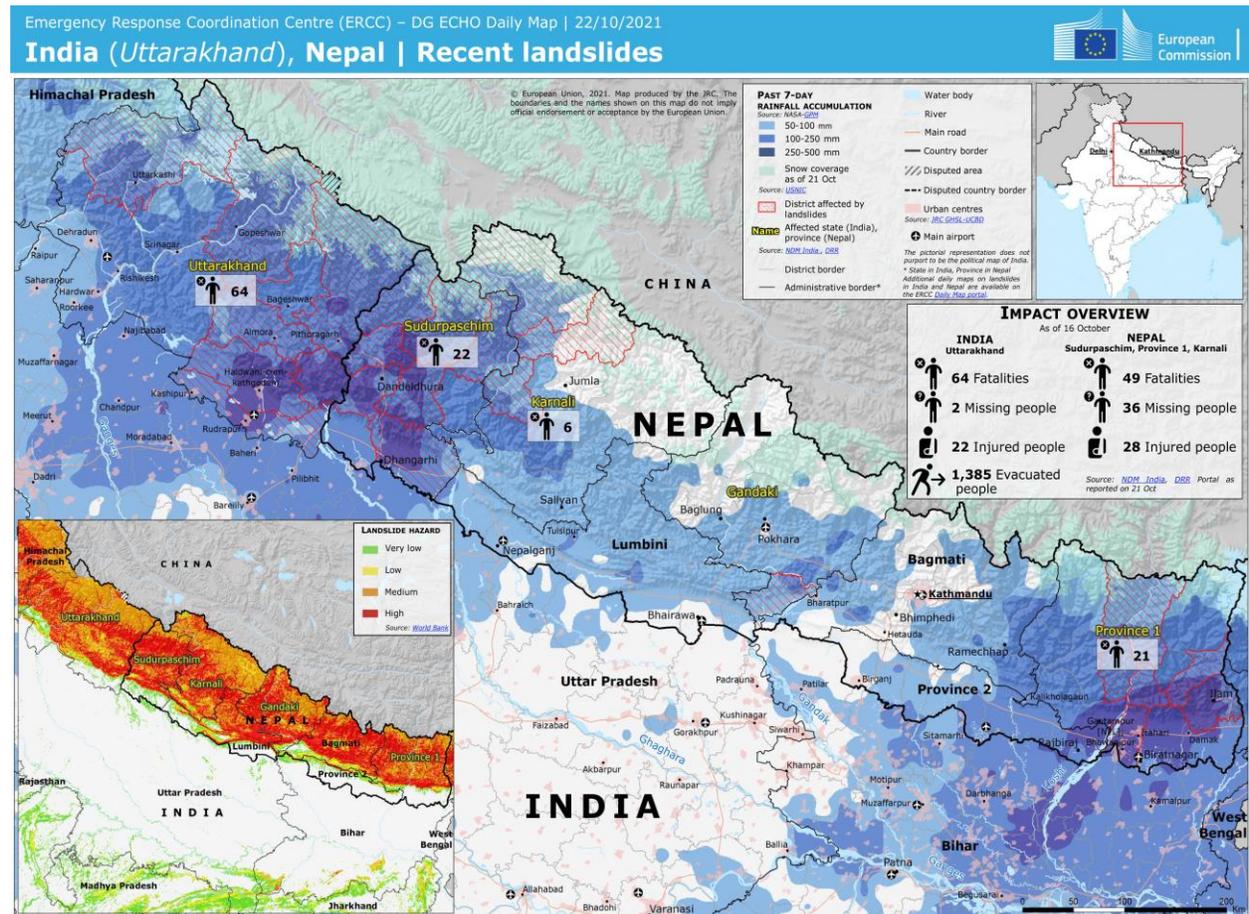
Weather Station	Rainfall in 24 hours (18 Oct)	Average Annual Rainfall	Previous Record for Highest Rainfall in 24 hours
Nainital	535 mm	2305 mm	313 mm (1957)
Mukteshwar	340 mm	1284 mm	254 mm (1914)
Pantnagar	403 mm	1465 mm	228 mm (1990)

Damage report by MHA	
<b>Affected districts</b>	Chamoli, Nainital, Almora, Champawat, Bageshwar, Pauri, Uttarkashi, Pithoragarh and Udham Singh Nagar
<b>Lives lost</b>	79
<b>Injured</b>	24
<b>NDRF deployed</b>	06 teams
<b>Evacuation</b>	1397 (by NDRF)

In the aftermath of the disaster, the response teams recovered 79 dead bodies from the affected areas across the state. The government reported 24 persons injured and 03 persons missing due to the situation. 06 teams of NDRF were deployed in the affected areas for rescue and relief operation. 1397 persons were evacuated by NDRF (MHA Situation report, 30<sup>th</sup>October 2021).

Before the rainfall, IMD had forecasted heavy to very heavy rainfall on those dates, and a red-alert had been issued by the State Government. The Government had also issued an advisory to avoid all travel on 18<sup>th</sup> and 19<sup>th</sup> Oct and stay put at safe locations. In the absence of this advance warning, loss of life could have been much more.

The loss of property, however, has been much widespread, and lives and livelihoods of many are still destabilized. To assess the full impact of the disaster, IAG Uttarakhand and Sphere India conducted a Joint Rapid Needs Assessment with support from IAG Member organizations. 596 households and 48 village surveys were taken as the sample for the most affected areas in six districts – Udham Singh Nagar, Almora, Champawat, Nainital, Bageshwar and Pauri Garhwal.



## 2. OVERVIEW OF JOINT RAPID NEEDS ASSESSMENT REPORT

### Objectives

The objectives of the Joint Rapid Need Assessment (JRNA) are enlisted below:

1. Collect information related to humanitarian needs in the Flood affected districts from primary and secondary sources of data
2. To estimate the damage caused by the Floods. Provide an overview of the assessed districts in the state including the demographic and socio-economic profile of the community at risk
3. To undertake sector wise assessment for the damage caused and the impact on general people
4. To design intervention plan and reach out to the most marginalized
5. To submit the report to Government departments for immediate response
6. Provide recommendations for addressing the critical gaps in the Flood response programming to support an informed decision making for the next phase

### Timeframe

Timeline	Activity
24 <sup>th</sup> October	Emergency IAG Meeting
26 <sup>th</sup> October	Emergency IAG Meeting for JRNA
29 <sup>th</sup> October	Training on Kobo Toolbox to field Volunteers
31 <sup>st</sup> October – 2 <sup>nd</sup> November	Field Assessment for RNA In Affected villages and Districts
3 <sup>rd</sup> November	Data Analysis
4 <sup>th</sup> –5 <sup>th</sup> November	Initial draft report for JRNA – Report writing
6 <sup>th</sup> November	JRNA Report

### 2.1. Methodology:

This Joint Rapid Need Assessment in landslide affected areas of Uttarakhand has been conducted to identify the urgent, mid-term and long-term needs of affected community based on Food & Nutrition, Health, Water, Sanitation and Hygiene (WASH), Education Shelter, Livelihood and Protection, and to flag out the vulnerability of affected community to access the basic services and entitlements.

The JRNA involved joint efforts from IAG Uttarakhand and Sphere India with the field support from organizations; HIRA, Sanjeevani, DHARA, AAPAR, AWARDE and Pragatisheel Gramin Yuva Chatra Kalyan Samiti, and Government led institutions, line departments providing support and necessary information & data.

During JRNA, urgent needs of affected communities have been identified through direct data collection from the field, government's damage assessment reports, pre-disaster information from respective line departments, and secondary data from various sources, media reports and discussions with grassroots functionaries. Data was collected based on the indicators of the specific tools/questionnaires used during the interviews/ discussions. The methodology was based on:

- a) Structured one-to-one interviews with affected households (ensuring prioritizing of random households from most affected villages giving equal representation to all sections of the local community).
- b) Structured village level information gathering from most affected villages based on Food & Nutrition, Health, WASH, Shelter, Education, Livelihood, Protection and accessibility of community towards basic services and entitlements.
- c) The organizations who are engaged in relief operation in this area have also shared their observations to add quality information in the report.
- d) Brief discussions with Gram Panchayat Members, local CSOs & NGOs who had pre-disaster existence in the area and also assisted communities with relief post disaster.
- e) Secondary data to examine the observation and facts.

**Sampling:**

Out of all affected villages and households, 48 villages and 596 households were taken as sample of most affected community from the affected districts and have been assessed and documented based on the instruments/tools/questionnaires.

Secondary data analysis based on information disseminated by government departments, media reports, reports from other national or local organization, information provided from local CBOs also has added the quality and authenticity to this need assessment process through opportunity to investigate questions using large-scale data sets that are often inclusive of under-represented groups.

## 2.2. Rational behind the Sampling for Assessment:

The sampling size were determined based on secondary data information available from government reports and media. Based on the affected population and impact area the villages in the affected districts were chosen after discussion with local NGOs.

**List of Stakeholders consulted:**

1. District, Block and Panchayat Raj Institution (PRI) Members of the selected areas
2. Local community including members form the marginalized and vulnerable community, widow, elderly, women, children, differently abled, etc.
3. Primary stakeholders
4. Teachers
5. Community leaders, religious leaders, key influencers in the community
6. Local organizations at different places

**Limitations and Challenges:**

1. The assessment villages had a dispersed pattern of households which made the assessment process time consuming with logistic and operational difficulties in reaching the most affected sites.
2. Few of the most affected villages were inaccessible and therefore the surveyors could not reach many houses which were completely damaged.
3. It was observed that the damage and needs in each district was different and unique
4. An attempt has been made by the report writing team to standardize and harmonize the findings of the needs emerging from assessed districts
5. Lack of time for detailed damage or needs assessment on field and COVID – 19 pandemic
6. Communication channels disrupted or non-functional in many of the affected areas therefore delayed or restricted inflow of information

### 3. Primary Data Collection

Data collection was conducted by member organizations of IAG Uttarakhand from 31<sup>st</sup> October to 3<sup>rd</sup> November, 2021. The survey was focused on households and villages for which the 26 field investigators collected 596 household and 48 village responses from the affected districts. The data collection was conducted using KoBo Toolbox for ease of analyzing the field information. The field investigators were given prior training on KoBo Toolbox before field assessments were conducted by Sphere India.

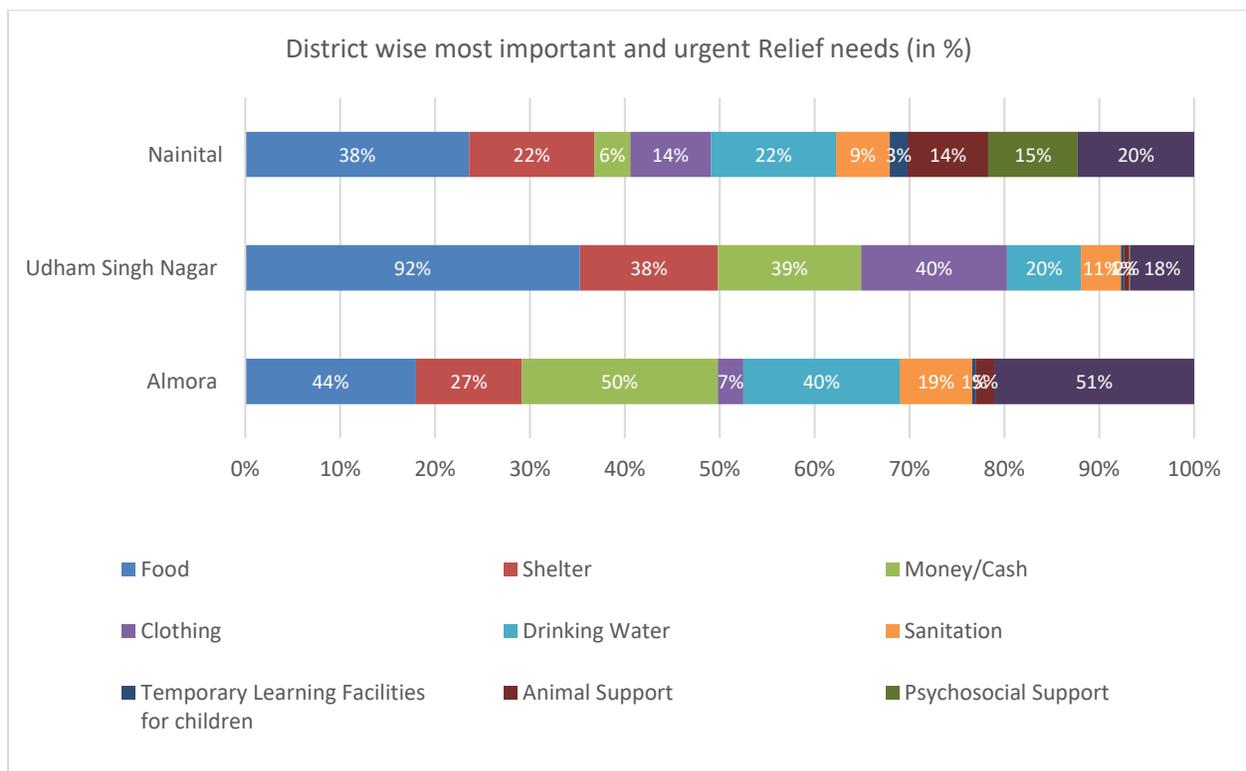
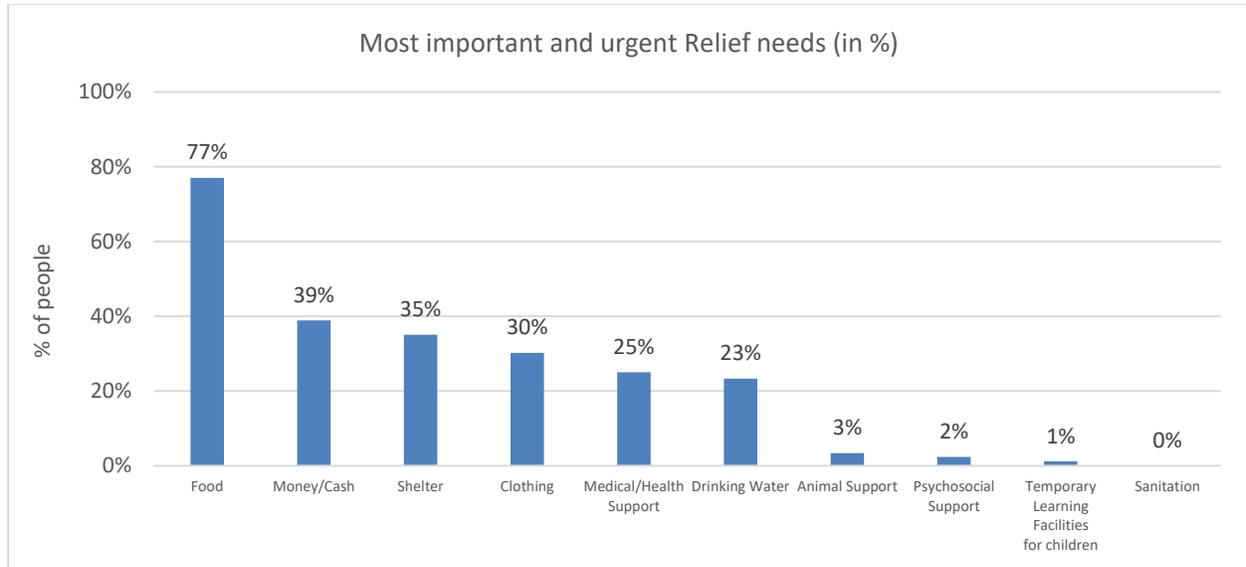
District	No. of Village responses	No. of household responses
Almora	12	107
Udham Singh Nagar	26	398
Nainital	5	65
Pauri Garhwal	1	4
Bageshwar	4	5
Champawat	-	17

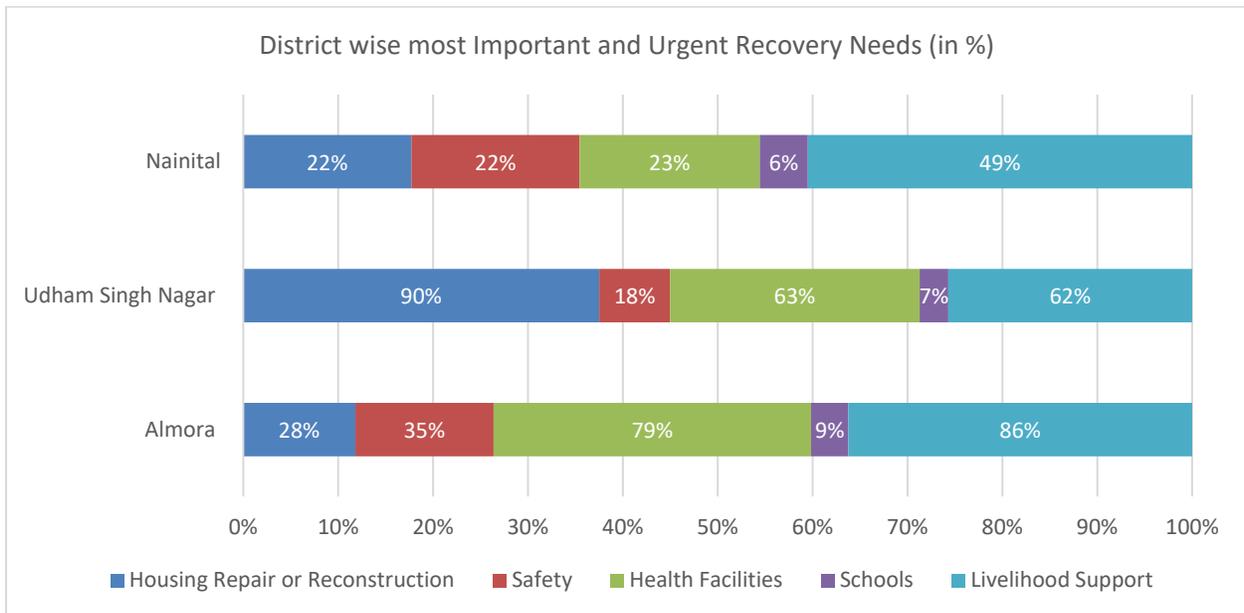
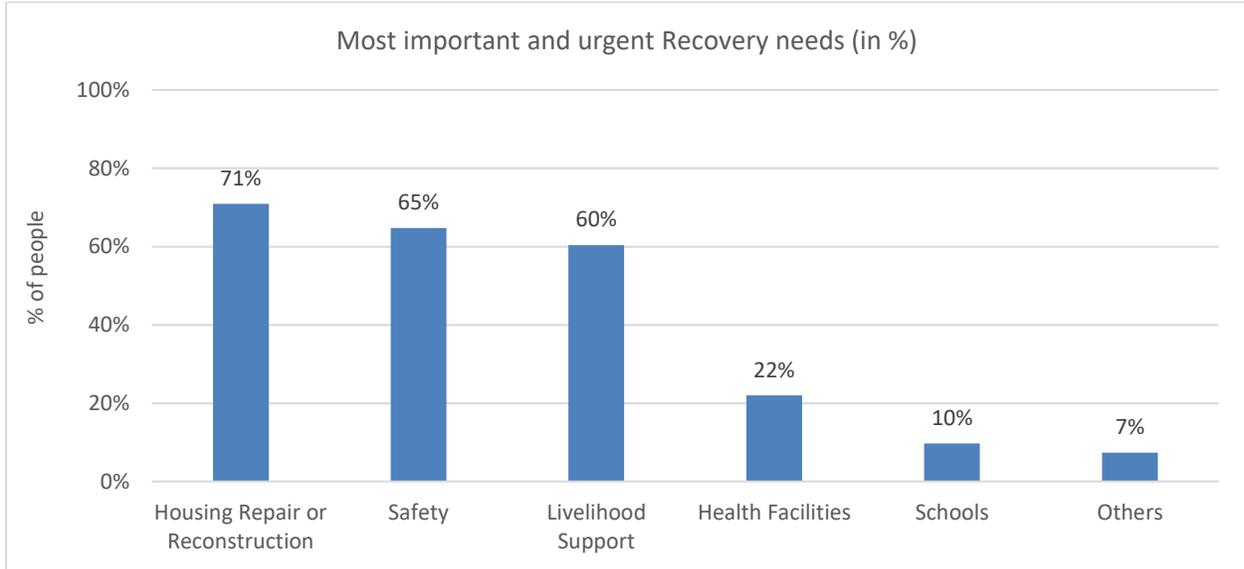
### 3.1. Quantitative Data Analysis

The data collected using KoBo toolbox were analyzed using Microsoft Excel by Sphere India. District level information for Almora, Udham Singh Nagar, Nainital were portrayed and information for Pauri Garhwal, Bageshwar and Champawat were portrayed separately due to differences in sample size, affected number in the districts, etc.

## 4. SECTORAL ASSESSMENT & RECOMMENDATIONS

As a part of Joint Rapid Needs Assessment, 596 household surveys were conducted in 6 districts (Almora, Udham Singh Nagar, Nainital, Pauri Garhwal, Bageshwar and Champawat). 48 Village level surveys were also conducted across 5 districts-Almora (12 Village surveys), Udham Singh Nagar (26 Village surveys), Nainital (5 Village surveys), Pauri Garhwal (1 village level survey) and Bageshwar (4 Village surveys). 1,930 households were reported as affected out of total 7,880 households in the 48 surveyed villages.





**Champawat**

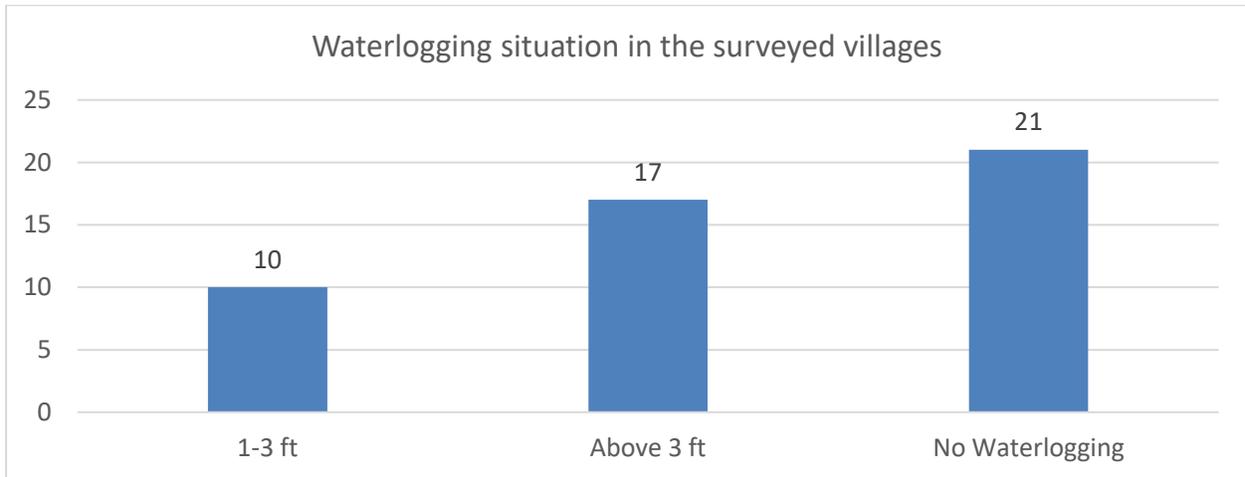
17 HHs were surveyed in Champawat district and the quick relief requirements according to the surveyed HHs are food and cash followed by shelter, medical/health support and clothes. The most important rebuilding needs are Housing - Repair / Reconstruction and livelihood support. Followed by health facilities, shelter and other needs like agricultural land.

**Pauri Garhwal**

4 HH were surveyed in Pauri Garhwal district and the quick relief requirements according to the surveyed HHs are shelter, medical/health support and psychosocial support. Followed by food and temporary learning facilities for children. The most important rebuilding needs are security, followed by health facilities, livelihood support and housing - Repair / Reconstruction.

## Bageshwar

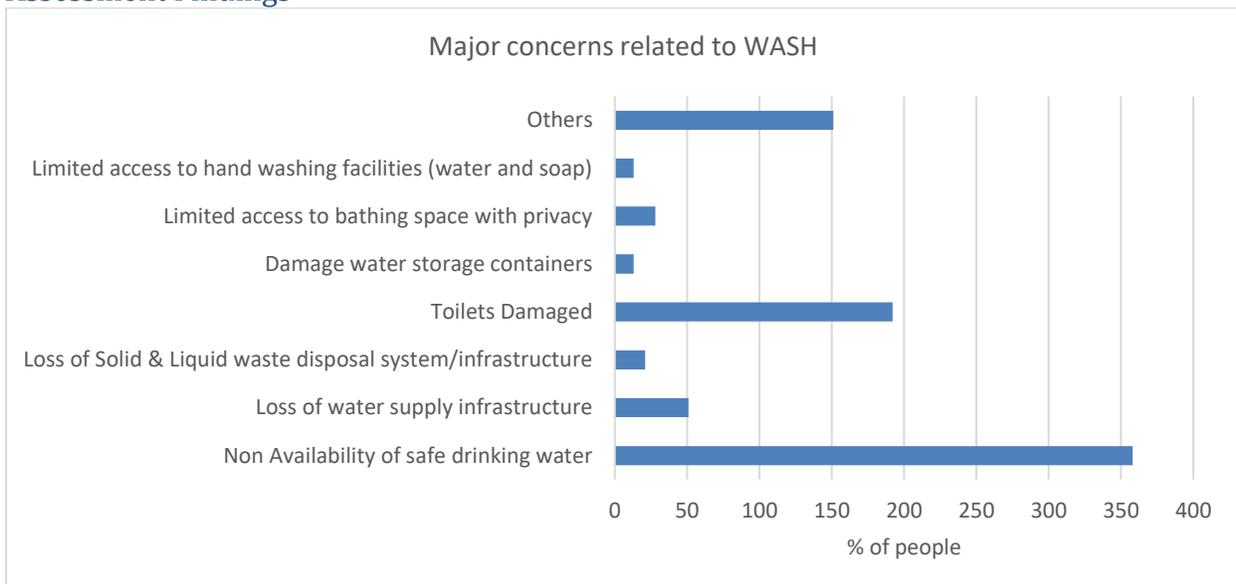
5 HH were surveyed in Bageshwar district, quick relief requirements according to the surveyed HHs are food and medical/health support. Followed by cash, shelter, clothes, drinking water and hygiene. The most important rebuilding needs are Housing - Repair / Reconstruction and livelihood support. Followed by security, health facilities, school and livelihood support.

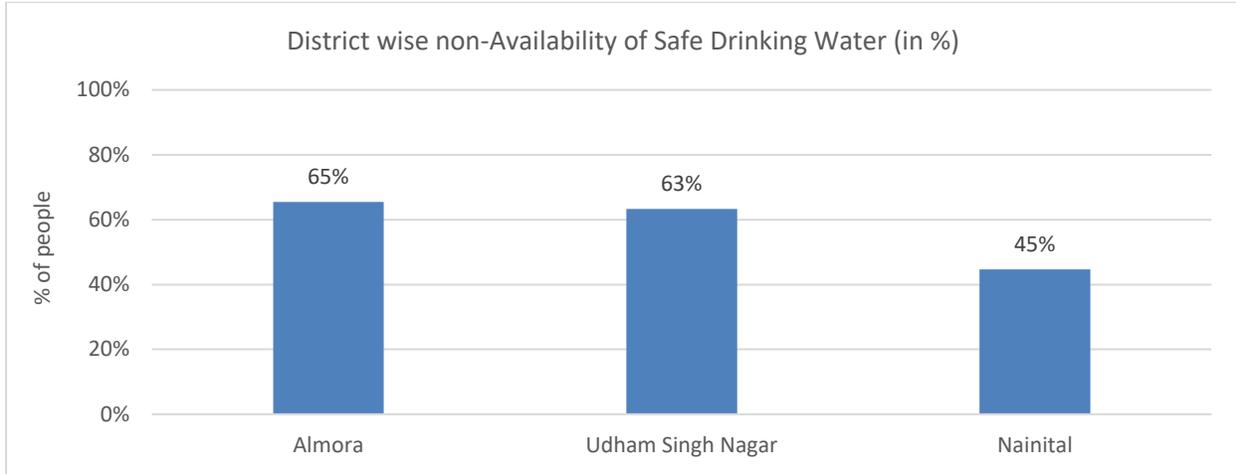


## 4.1. WATER SANITATION AND HYGIENE PROMOTION (WASH)

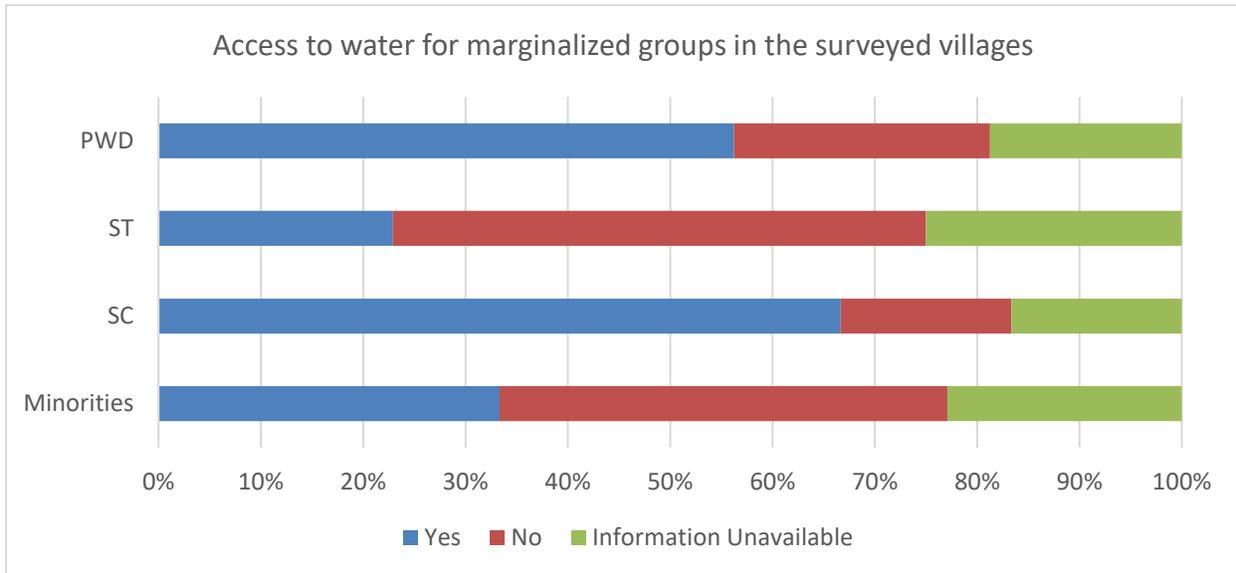
### Overview

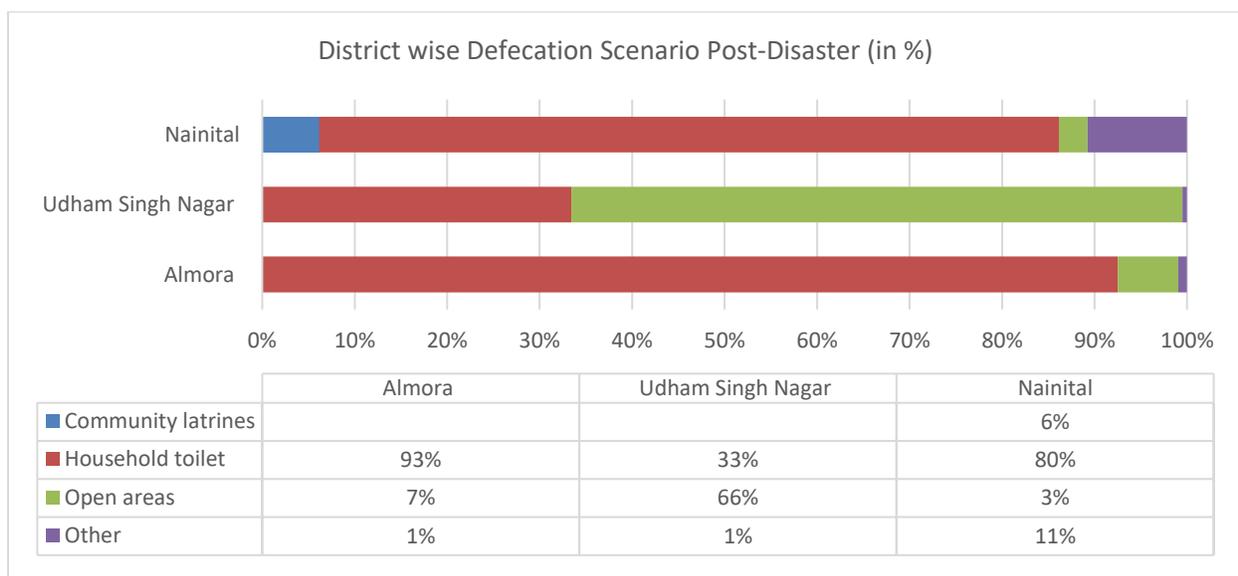
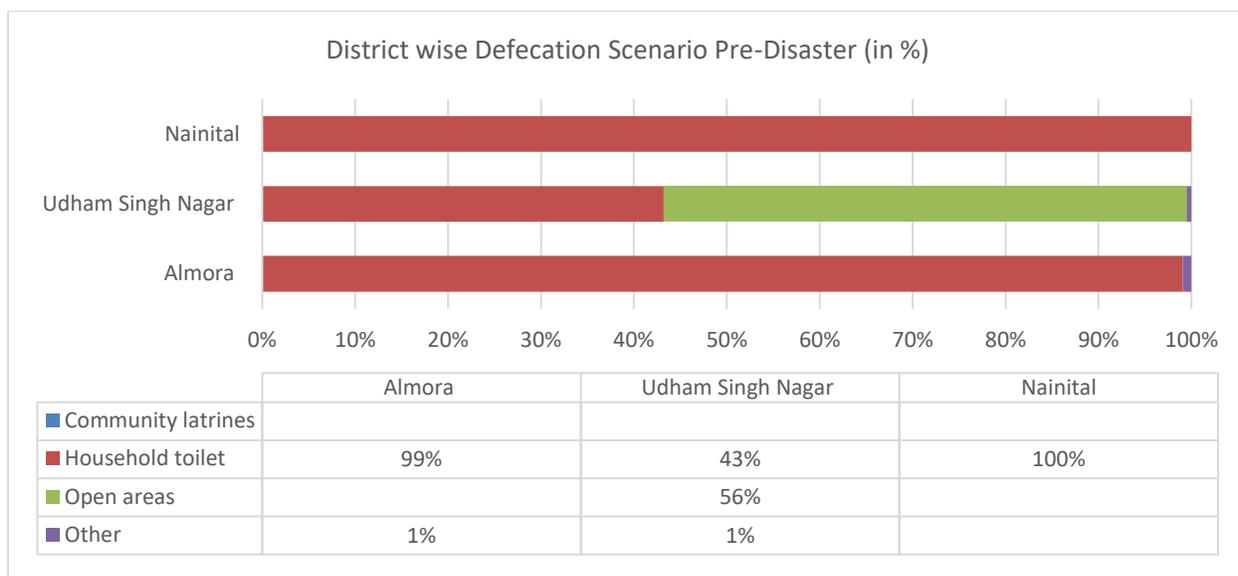
### Assessment Findings

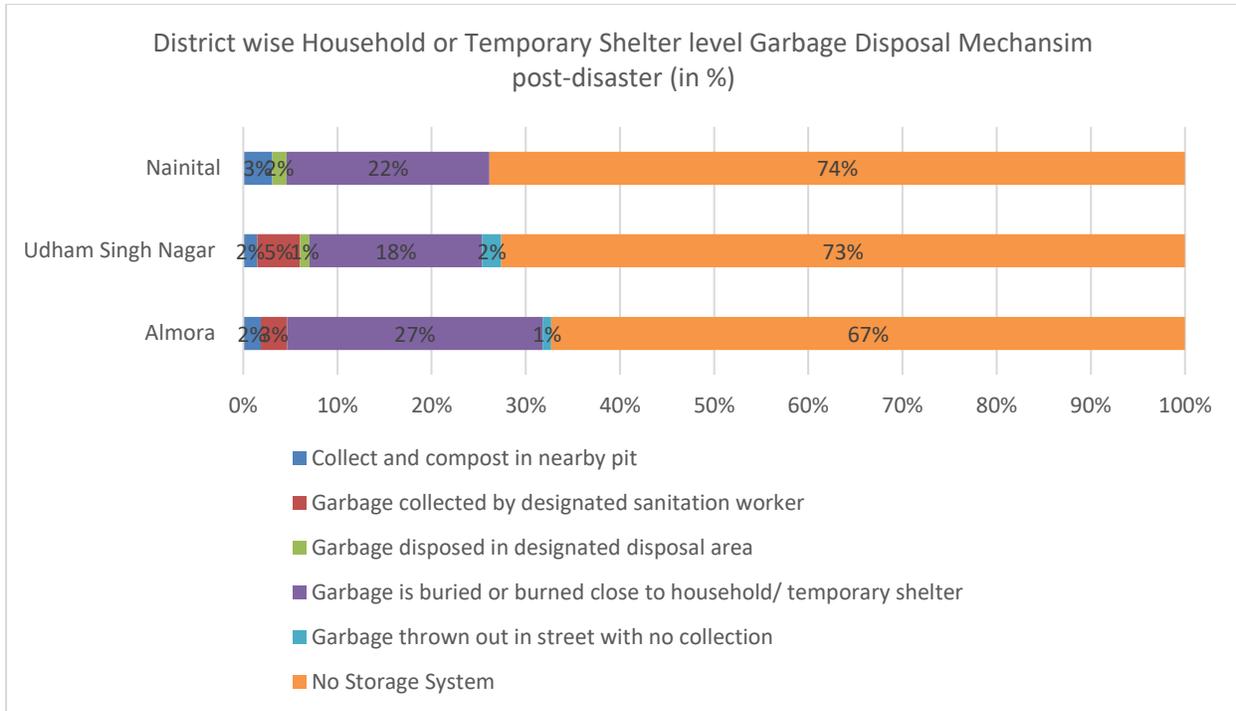




Toilets damaged in 48 surveyed Villages					
Household Toilets		Community Toilets			
		School Toilets		Anganwadi Toilets	
Partially Damaged	Fully Damaged	Partially Damaged	Fully Damaged	Partially Damaged	Fully Damaged
289	321	27	19	10	9







### Champawat district

17 households (HH) were surveyed in Champawat district. Damaged toilets are the main concern related to WASH. 35.30% of the surveyed HH mentioned untreated tap water as well as treated tap water each as the main water source before the disaster. Followed by 23.5% as untreated hand pump/ bore well and 5.9% as treated hand pump/borewell as the main water source before the disaster. After the disaster, 52.9% of the surveyed HH mentioned untreated tap water as the main water source. It is followed by 35.3% of untreated hand pump/borewell, 5.9% each of untreated tap water as well as treated tap water as the main water source.

Before the disaster, 70.6% of the surveyed used HH toilets while the rest 29.4% used open areas such as inside the forest or near the river as their mode of defecation. After the disaster, only 11.8% of the surveyed had access to their HH toilets while the majority of the remaining 88.2% used forest and few used areas near the river as their mode of defecation.

Before the disaster, 70.6% of the surveyed used HH toilets while the rest 29.4% used open areas such as inside the forest or near the river as the children's mode of defecation. After the disaster, only 5.9% of the surveyed had access to their HH toilets while the majority of the remaining 94.1% used open spaces as the children's mode of defecation.

82.4% of the surveyed said that their HH toilets are not working after the disaster. 58.8% of the surveyed mentioned that post disaster there is presence of solid waste and dirty water in less than 30m of their house.

Post disaster, 58.8% dispose their garbage which is composted in a nearby pit, 17.6% throw their garbage out in the street with no collection facility, 11.8% bury their garbage or burn it close to their household/ temporary shelter and 5.9% has no garbage collection mechanism and is collected by designated sanitation worker each.

In Champawat, the difficulty in managing the menstrual hygiene post disaster for women/ adolescent girls were observed highly for privacy concerns and unavailability of pads/material. Many didn't give any response and other reasons. Few also faced unavailability of water and soap for washing and cleaning. 88.2% of the surveyed stated that they didn't receive any information regarding the DOs and DONTs related to cleanliness and hygiene.

47.1% of the surveyed mentioned yes but there is unavailability of soap for hand washing facility. 35.3% mentioned they don't have a handwashing facility but have a designated spot to keep soap and water. 17.6% stated they do have it with soap and water.

### **Pauri Garhwal**

4 households were surveyed in Pauri Garhwal. Damage to water supply infrastructure is the main concern related to WASH. 100% of the surveyed HH mentioned pandera / stream / waterfall as the main water source before as well as after the disaster. Before the disaster, 75% of the surveyed used Community toilets while the rest 25% used HH toilets as their mode of defecation. After the disaster, 75% of the surveyed still had access to Community toilets while the remaining 25% started using other means as their mode of defecation. 75% of the surveyed said that their HH toilets are not working after the disaster.

Before the disaster, 100% of the surveyed used Community toilets as the children's mode of defecation. After the disaster, only 25% of the surveyed had access to Community toilets while the remaining 75% used fopen spaces as the children's mode of defecation. 100% of the surveyed mentioned yes they have a handwashing facility with soap and water.

### **Bageshwar**

5 households were surveyed in Bageshwar and unavailability of safe drinking water is the main concern related to WASH followed by loss of solid and liquid waste disposal system/infrastructure, damage to water supply infrastructure, damaged toilets, and limited access to shower space with privacy, limited access to hand washing facilities (water and soap) and damaged water storage container.

40% of the surveyed HH mentioned treated well water as the main water source before the disaster, 20% as treated tap water, 20% as treated handpump/borewell and the remaining 20% as untreated well water as the main water source before the disaster. 40% of the surveyed HH mentioned treated well water as the main water source after the disaster. 20% as untreated tap water, 20% as untreated well water and the remaining 20% use pandera / stream / waterfall as the main water source after the disaster.

40% of the surveyed HH mentioned they have containers with lid to store water. 60% of the surveyed HH stated that they treat the water they use for drinking and cooking purpose with the help of chlorine tablets, boiling, tablets, filters, etc.

40% of the surveyed said that their HH toilets are not working after the disaster.

Before the disaster, 60% used HH toilets while the rest 40% used Community toilets as their mode of defecation. After the disaster, 40% of the surveyed still had access to their Community toilets, 40% still had access to their HH toilets while the remaining 20% started using other means as their mode of defecation. Before the disaster, 40% of the surveyed used HH toilets as the children's mode of defecation. 20% used Community toilets and 40% used Open spaces. After the disaster, 40% had access to their HH toilets, 40% still used Open spaces and the remaining 20% use Community toilets as the children's mode of defecation.

40% of the surveyed mentioned that post disaster there is no presence of solid waste and dirty water in less than 30m of their house. Post disaster, 20% has no garbage collection mechanism, 40% dispose their garbage in designated disposal area, 20% has a designated sanitation worker who collects it and remaining 20% dispose their garbage which is composted in a nearby pit

In Bageshwar, the difficulty in managing the menstrual hygiene post disaster for women/ adolescent girls were observed highly for privacy concerns followed by hesitation to dispose of pad/cloth. Few also faced unavailability of water and soap for washing and cleaning, unavailability of pads/material.

## Recommendations

### Immediate Support Required:

- While addressing the current immediate challenges, Building Back Better principle should be applied (as integrated in the following recommendations).
- Cleaning and disinfection of the local water bodies - ensure the water bodies (springs, rivers etc.) are free from dead animals and faecal contaminants. Immediate cleaning of open sources of water to avoid further pollution and insure safety and quality.
- Drinking water purification should be ensured to avoid outbreak of diseases. Purification methods may include boiling water for 15 minutes or chlorination. Turbidity removal can also be considered in case of muddy water in specific areas.
- As some of the households have lost the utensils and equipment, water storage, water fetching and water purification related Non-food Items (NFIs) may be provided.
- Surveillance and water testing at the source to ensure quality and safety of water for consumption.
- Providing purified water for drinking to all the affected citizens and encouraging household level water purification. Safe water containers (2 Nos. 10 Lt capacity Minimum) with lid and tap should be provided to vulnerable families.
- Information dissemination to villagers for preserving sources of water such as open well to avoid damage in future.
- Providing households with safe drinking water and provision of hand washing facilities at relief camps for improving the hygiene conditions.
- Instant actions to be taken on repair of source of water for clean water supply to avoid spread of diseases.
- Rebuilding/restoring piped water supply systems with disaster resilient designs.
- Providing aid for repairing WASH infrastructure and source of water supply.
- NFI must include soaps and cleaning products for maintaining adequate hygiene conditions and avoiding diseases.
- Damaged toilets need to be repaired or reconstructed immediately to avoid open defecation and water contamination as well as to ensure privacy for the women and girls.
- Considering urgency, make-shift, temporary or community toilets may be considered for immediate need.
- Solar lights may be provided as part of NFIs to ensure safety and security at night while using toilets.

- Repairs and reconstruction of toilets should consider appropriate design suited to the mountain districts as well as one plain terrain district (Udham Singh Nagar).
- Consider building back better: toilets should have accessibility features for the children, people with disability, elderly and pregnant women.
- Solid and liquid waste management at the local level should be encouraged by working with the affected communities, and necessary equipment (e.g. waste bins) may be provided.
- Hygiene promotion activities may be undertaken to raise community awareness and protect them from communicable diseases.
- Create awareness on COVID-19 prevention, hygiene practices for using mask and sanitizers and on waste disposal practices.
- Access to menstrual hygiene items for women. Supply sanitary pads for the adolescent girls and women. Train them for proper use and safe disposal.
- Surveillance and monitoring of outbreak of water borne diseases such as diarrhea.
- Toilets of public buildings and community places should be opened up for people who don't have access to toilets. And arrangement of temporary or mobile toilets would also be a good option to fill the gaps. Panchayat should take responsibility of cleaning and maintaining these facilities, along with provision of adequate water and lighting at night.
- Debris, agriculture waste, animal carcass and other hazardous waste should be cleaned, considering COVID-19 guidelines.
- PPE kits should be provided to sanitation workers to ensure their health and safety.
- Hygiene kit including sanitizer, soap, tooth brush, tooth paste, anti-septic liquid, sanitary pads, detergent should be provided to vulnerable families, to address the needs of women, adolescent girls and children.
- A temporary arrangement of waste disposal and bathing spaces for females should be created wherever these affected families have taken shelter.

#### Medium term actions required:

- Emergency water testing kits may be provided to the ASHA workers along with their capacity building on using the same. This will help to ensure water purification wherever required now as well as in future such situations.
- Local scheme for piped clean dining water may be designed and incorporated into the annual Gram Panchayat Development Plan (GPDP) along with the budget.
- Existing (non-damaged) toilets may be assessed for multi-hazard risks as well as accessibility for the people with disability, and should be improved accordingly.
- Safe design of toilets (suited to mountain areas) may be accessed from Swachh Bharat Mission district offices and promoted in communities. Masons training may be planned for medium/long terms for the same.
- Medium and Long-term measures should address the development of the water and sanitation system into a resilient and sustainable one. These include not only improving the infrastructure, but also the capacity building of the local community to address small emerging needs themselves.
- Alternative power supply for water system can also be explored, for example- solar panels. These can be constructed for pumping stations to reduce dependence on electricity or diesel power.
- Training of youth from the community on doing basic repairs. Create trained cadre of women plumbers would bring huge change in terms of immediate services and adding income generation. This will help in increasing their capacity so that in case of such a situation next

time, the community can begin restoring their water supply till the time accessibility is restored and external help can be procured.

- Longer term agreements with suppliers for storage and supply of basic non-perishable hygiene items including menstrual absorbents, following minimum standards in emergencies.
- Awareness building and discussions need to be done with women and adolescent girls regarding menstrual health. This can be linked with the services provided by ASHA, Anganwadi workers and school teachers

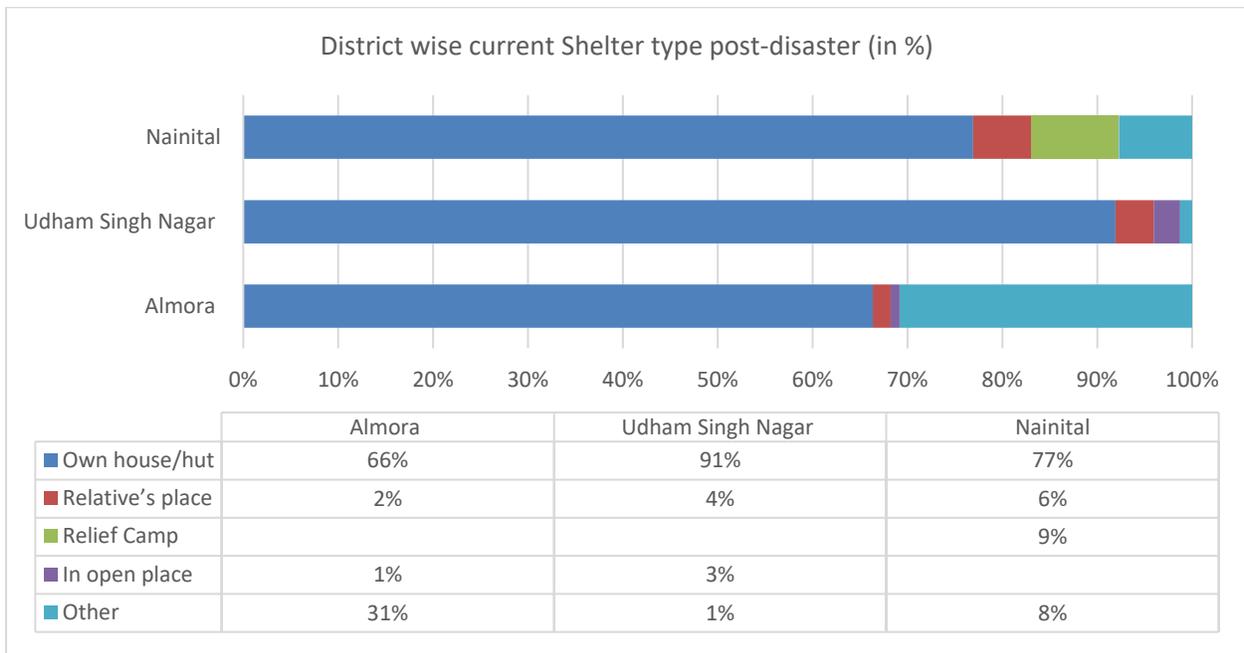
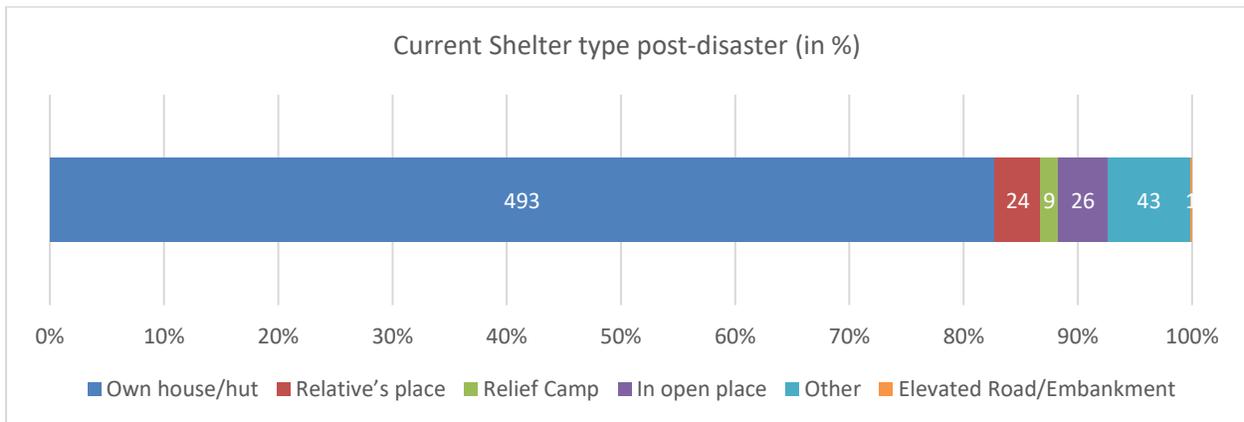
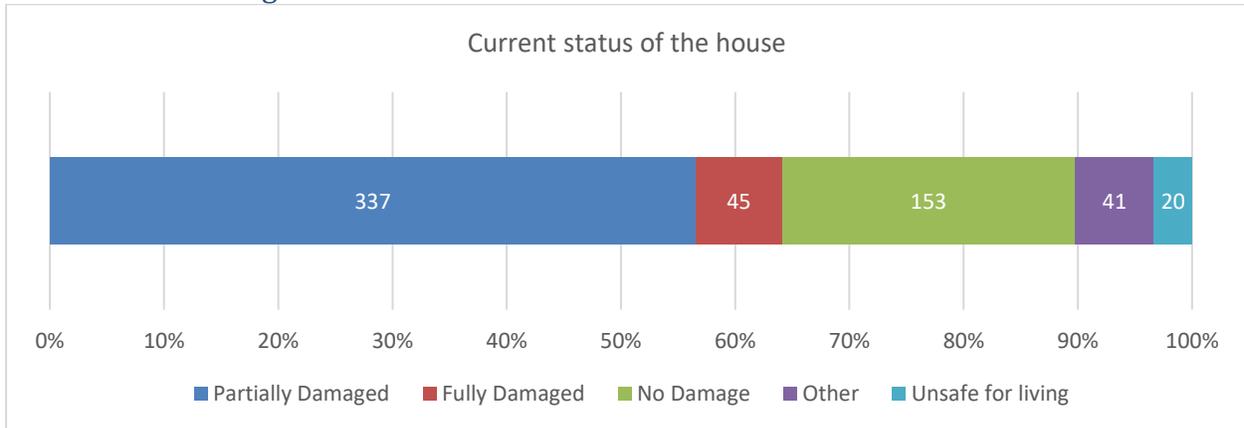
### Long term and resilience building:

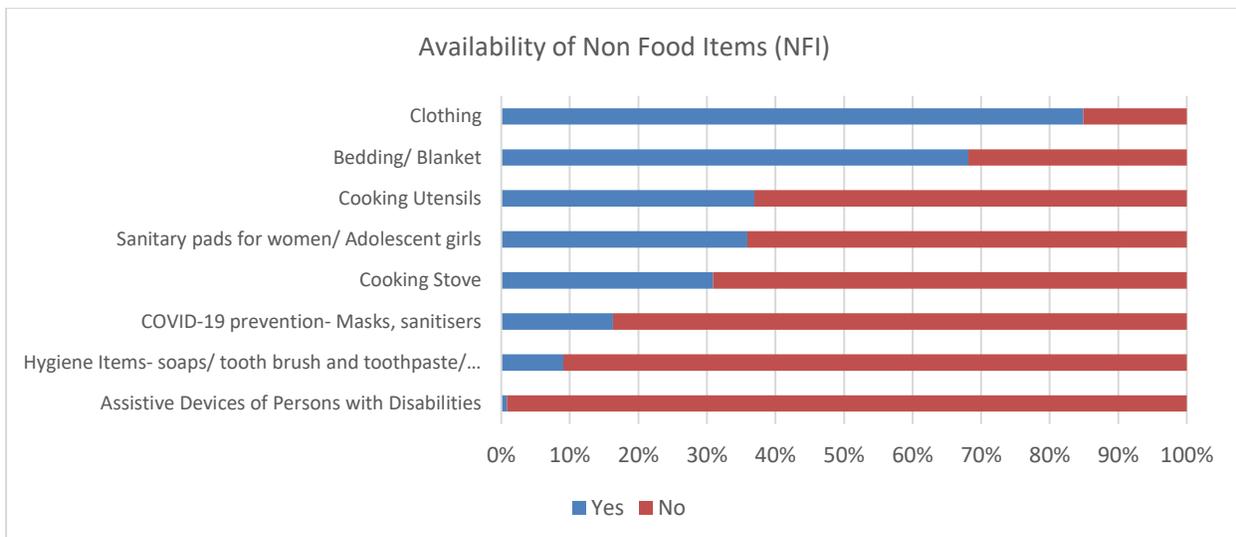
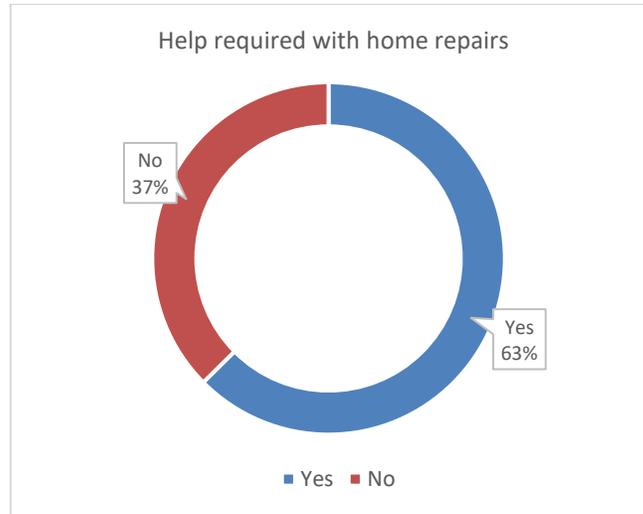
- Gram Panchayat level committees may be activated to address the long-term disaster preparedness and response measures, and coordination across them may be promoted. The most relevant committees are Village Health, Sanitation and Nutrition Committee (VHSNC) and Water Committee.
- Innovative projects for treatment of black water and gray water may be designed (especially for US Nagar) that may produce organic manure for organic farming.
- Local community-based production of innovative, accessible and affordable sanitary pads may be explored (refer to challenges in Bageshwar), which may help solve the menstruation period challenges for the women and adolescent girls, and may also promote livelihood (income generation). (For more information, refer to [https://csrbox.org/Impact/description/Impact-stories\\_full\\_Asani-Napkins--For-Women,-By-Women--Project-initiated-by-Gram-Vikas-Trust\\_244](https://csrbox.org/Impact/description/Impact-stories_full_Asani-Napkins--For-Women,-By-Women--Project-initiated-by-Gram-Vikas-Trust_244) ).
- Long term action plan of providing tap water and to all households to avoid disturbance in water supply post disasters in future. These water supply facilities also needs to be designed keeping the topography of the area and made sure these disaster resilient. A regular surveillance of the water supply facility needs to be ensured so that the damage are recorded at the earliest to avoid any contamination of water.
- Liaisoning with the appropriate line department for proper implementation of the Jal Shakti Mission.
- Taking appropriate measures to clean water at source to ensure safety and hygiene of drinking water.
- Ensuring every household has built toilets under the swachh bharatabhiyan. Liaise with the Govt and ensure the HH without toilets also have access to toilets.
- Provision of tap water to all houses as it ensures safety for consumption and eminent water quality.
- Provision for preservation of open sources of water to avoid damage and pollution of these sources.
- Hygiene promotion activities in the community to ensure awareness among the community on water purification at the HH level and also are aware of any disease outbreak immediately after any disaster.

## 4.2. SHELTER

### Overview

#### Assessment Findings





### Champawat

17 households were surveyed and 94.1% stated that their houses have been damaged in the disaster. 64.7% of the surveyed stated that their houses have been completely damaged. 29.4% stated their houses were partially damaged. 5.9% mentioned there has been no damage. 58.8% of the surveyed are residing in open places while the rest 41.2% are staying in their own house/hut.

82.4% of the surveyed stated they require assistance for repairing their houses. The major non-food items available with families were clothes and bed/blanket. Followed by cooking utensils, sanitary pads for women/adolescent girls, hygiene kit, cooking stove, COVID-19 preventives- masks and sanitizers, ORS, Zinc tablets and other things. The least supply was of accessories for disable people.

### Pauri Garhwal

4 households were surveyed and 100% stated that their houses have been damaged in the disaster. 25% of the surveyed stated that their houses have been completely damaged. 25% stated their houses were partially damaged. And the remaining 50% mentioned that their houses are not safe to reside in anymore. 100% of the surveyed are residing in open places. 100% of the surveyed stated

they require assistance for repairing their houses. The major non-food items available with families were bed/blanket.

### **Bageshwar**

5 households were surveyed and 60% stated that their houses have been damaged in the disaster. 80% of the surveyed stated that their houses are not safe to reside in anymore. 20% stated their houses were partially damaged. 40% of the surveyed are residing at their relative's house, 20% are staying in their own house/hut and the remaining 40% of the surveyed are residing in shelters. 100% of the surveyed stated they require assistance for repairing their houses. The major non-food items available with families were clothes. Followed by sanitary pads for women/adolescent girls, bed/blanket, cooking utensils, cooking stove and accessories for disabled people.

## Recommendations

### Immediate Support Required:

The survey data from the field presents two different situations. – 1. Damaged Houses and 2. Severely damaged or destroyed houses: Each calls for different approach.

**1. Damaged Houses:** There are houses that are damaged and need repair. Repairing depends on the kind of damage and also the cause of the damage. There are cautions that need to be taken in repairing the structure.

- If the damage is caused by the sliding of land then before doing any repair on the house, the land that has slid down has to be stabilized and built up.
- If a portion of the house has to be rebuilt then it is important that it is made in the same way as the original structure. In other words, if the original construction is of stone in mud mortar then the new rebuilt portion also should be of stone in mud mortar.
- It is also important that the portion that is rebuilt gets properly connected to the existing portion of the house. If small portion of the wall has collapsed, then the gap created by the collapsed portion should be modified to have stepped profile, so that new stones or bricks etc when placed get properly connected to the existing portion.
- Finally, if the structure lacks earthquake resisting features then it must be retrofitted to reduce the vulnerabilities in the building.

**2. Severely damaged or Destroyed House:** Although, the house has to be rebuilt, the most urgent step is to build a midterm shelter in which the owner can live until the permanent long term shelter or the house are built. More often than not, the reconstruction takes anywhere from a year to three years. It is important that occupants of that house get a temporary shelter that is more than a tin box.

- A. Mid-term Shelter: In the aftermath of Kedarnath tragedy a design was developed by CEDAP-NCPDP which had become very popular. It primarily depends on the local material

including stone, earth and timber. All the details of this design along with relevant notes on the construction are given in the following link.

<https://drive.google.com/drive/folders/1skgFd7dYGw42MDMEY2M4KQnlgSdz9IAN>

B. **Long-term shelter:** It is important that a safe site that is stable against sliding is found to build the long-term shelter on. Next there are various considerations as listed below that need to be looked in to.

- Comfortable and spacious to spend a long duration –
- Affordability: With some external assistance it should be possible for the house owner to build it.
- Replicability: The local artisans should be able to build it with little bit of training and orientation.
- Maintenance ease: If the reconstruction of the long-term shelter will take a couple of years then in case of the need for maintenance it should be easy to do it locally.

**Construction Options:** Three options are available among others that need to be mentioned.

- I. Construction with local stone: local stone masonry in mud mortar or cement mortar can be most easily done since stones are the most common local material in the hills. This is possible when construction quality stone is easily available in close proximity of the site. It is important that the construction is earthquake resistant. To ensure this there are two options
  - a. Construction with Reinforced Concrete Bands at various levels and vertical single steel bar embedded with masonry at wall to wall junction.
  - b. Construction with Containment Reinforcement system
- II. Construction using cement and small stones: Often construction quality stone is not available in close proximity of the site. In such a case Stonecrete Block technology of Central Building Research Institute is most easily carried out.

The information required for reconstruction using these options can be accessed from the following link.

[https://drive.google.com/drive/folders/1qqnG-9DJYXE\\_2B6dsrPbkWQjOTfEiftV](https://drive.google.com/drive/folders/1qqnG-9DJYXE_2B6dsrPbkWQjOTfEiftV)

#### **Other Immediate Considerations:**

- Consider temporary (all-weather) shelters, tents etc. as may be necessary for some of the families. Protection against snakes and wild animals need to be addressed (as identified in some of the districts).
- Check whether the District Administration has completed the shelter damage survey (fully damaged, partially damaged etc.), and if not, coordinate to get this done. Ensure that the right beneficiaries get included in the government list for compensation.

- In the mountain districts, where the land of the housing may have been lost due to landslides, land for relocation of the families need to be identified. Though the process will take time, the action should begin immediately.
- Documents lost (ration cards etc.) must be issued immediately for current and future benefits to the affected people.
- Money transfer through bank to the affected households to repair the houses may be considered (if the affected people have active bank accounts and access to the banks/ATMs).
- In case money transfer is not feasible, repairs of the houses should be taken up where possible (e.g. if the site is stable against landslides).
- In case of new house construction, care should be taken to ensure multi-hazard risk resilience (earthquake, floods, landslide etc.).
- Solar lights/lanterns may be provided to address the power cut issues at night.

#### Medium term actions required:

- Multi-hazards risk assessment of all the households in the affected areas may be carried out, and plan should be prepared for reliance building. Budgetary provisions may be made in the local GPDP that may be linked with relevant Central and State Government housing schemes.

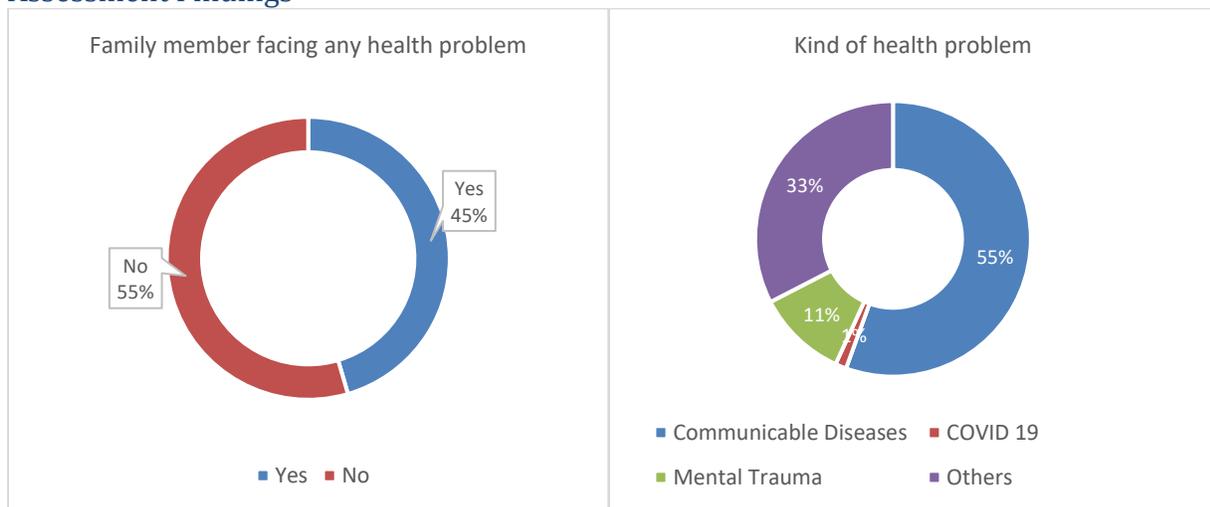
#### Long term and resilience building:

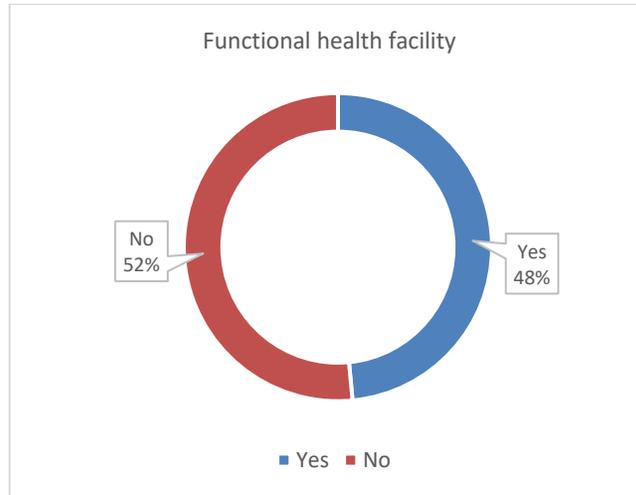
- Plan and build disaster rescue shelters (in line with Odisha's Cyclone shelters). Allocate budget for the same in GPDP and District Panchayat plans by linking with the State/Central schemes and SDMP.

## 4.3. HEALTH

### Overview

#### Assessment Findings





### Champawat

17 households were surveyed and 70.6% mentioned they or their family member is facing health problems. Diseases such as fever, cough and communicable diseases (diarrhoea/respiratory/dermatitis/cold flu) are the major health problems followed by trauma faced by the surveyed households. 94.1% stated there is a functional health facility in their area. There are no nearest health facilities damaged as per the surveyed HH. 87.5% of the surveyed mentioned they didn't receive any psycho-social support. 52.9 % of the surveyed mentioned they would like to receive psycho-social support.

### Pauri Garhwal

4 households were surveyed and 70.6% mentioned they or their family member is facing health problems. Mental trauma is the major health problem followed by diseases such as fever, cough and communicable diseases (diarrhoea/respiratory/dermatitis/cold flu) faced by the surveyed households. 100% stated there is no functional health facility in their area. There are no nearest health facilities damaged as per the surveyed HH. 100% of the surveyed mentioned they didn't receive any psycho-social support. 100% of the surveyed mentioned they would like to receive psycho-social support.

### Bageshwar

5 households were surveyed and 80% mentioned they or their family member is facing health problems. Diseases such as communicable diseases (diarrhoea/respiratory/dermatitis/cold flu) and COVID-19 are the major health problems followed by mental trauma faced by the surveyed households. 60% stated there is a functional health facility in their area. There are no nearest health facilities damaged as per the surveyed HH. 80% of the surveyed mentioned they didn't receive any psycho-social support. 100% of the surveyed mentioned they would not like to receive psycho-social support.

## Recommendations

### Immediate Support Required:

- Assessment of health care facilities which are non-functional and rendering support to those facilities to provide continuity of healthcare services to the population in their vicinity.
- As per the assessment report communicable disease contributed to 55% which is quite high. There is a need to create communicable disease profile, surveillance and reporting of communicable diseases of the affected area for immediate healthcare intervention as per the need.
- To conduct mobile health camps in areas where health services are not reached as villages are located at far off locations, people are reluctant to visit healthcare facilities available to lack of transportation and connectivity.
- Availability of basic medicines to treat symptoms of common cold, fever, water-borne diseases etc. for affected population.
- Restoration of immunization services in areas where health facility services are non-functional, deworming of children under age of 12years.
- Nonspecific prevention of respiratory illness as respiratory problems are common at high altitude. symptoms are exacerbated by hypoxic conditions, crowding into tents and huts, smoky wood stoves and cold,dry air. Cough can be purulent or dry and it can be severe enough to cause rib fracture.
- Awareness program on vascular diseases as people in hilly regions are more prone to arterial diseases due to high incidence of smoking due to cold condition.
- Adherence to COVID-19 protocols/hygiene needs as per Government advisories to be done extensively in relief camps and crowded locations along with distribution of mask, sanitizers along with better awareness.
- All health institutions to ensure an additional stock of emergency medicines to be distributed to eligible people who lost access to medicines.
- List out individuals on chronic disease medication in disaster prone areas. Continuum of care to be provided to people with existing co-morbidities, people with NCD's (hypertension, diabetes etc), patients with TB etc.
- Special care of PWD and the aged in terms of their accessibility and medical needs, link each of them with a healthy individual for any support now.
- Psychological support to affected families and individuals through psychological assessment and counselling.
- Environment cleanliness focusing on safe disposal of debris of dead animals; village/household cleanliness. Distribution of Bleaching powder, and other Disinfectants would be essential with adequate information on usage and demonstration.
- Psychosocial support is the first need that should be addressed by community-based interventions, especially for children (e.g. temporary child friendly centres), that may address needs in other sectors also e.g. education. Local NGOs may source interns/students from the academic institutions for this purpose.

- Disinfection of the affected areas and institutions (schools, AWCs etc.) need to be taken up immediately.
- As the affected communities have expressed health problems, additional government health staff may be deployed from the non-affected blocks/districts to cater to the immediate medical attention of the affected communities.
- Pre-cautions against Covid-19 must be taken and supply of protective gears (masks, sanitisers etc.) may be supplied, especially for the most vulnerable groups.
- Handholding support / supportive supervision of the ASHA Workers to ensure effective health services to the affected people.

### Medium term actions required

- Early restoration of health facilities where sub-centres and PHC have been inundated and/or have been unable to continue the basic health care services.
- Training sessions of ASHA workers related to reproductive health care, menstrual hygiene.
- Developing effective oral health promotional and interventional strategies to combat dental caries, fluorosis, MIH. Awareness and access to dental facilities available.
- Mental Health could be given priority as this time the stress and trauma associated with the disaster is compounded by the ongoing epidemic of COVID-19. Humanitarian aid workers could be trained in core psychological care skills to raise awareness and community support and to refer persons to the primary health care system when necessary.
- Training and capacity building of the health workers need to be planned and undertaken.
- Buffer stock of the medicines should be planned and ensured at different health centres (primary to district levels) to meet the emergency needs.
- Capacity of the health facility (human, equipment and transport) may be assessed and enhanced to meet the emergencies in remote mountain areas.

### Long term and resilience building:

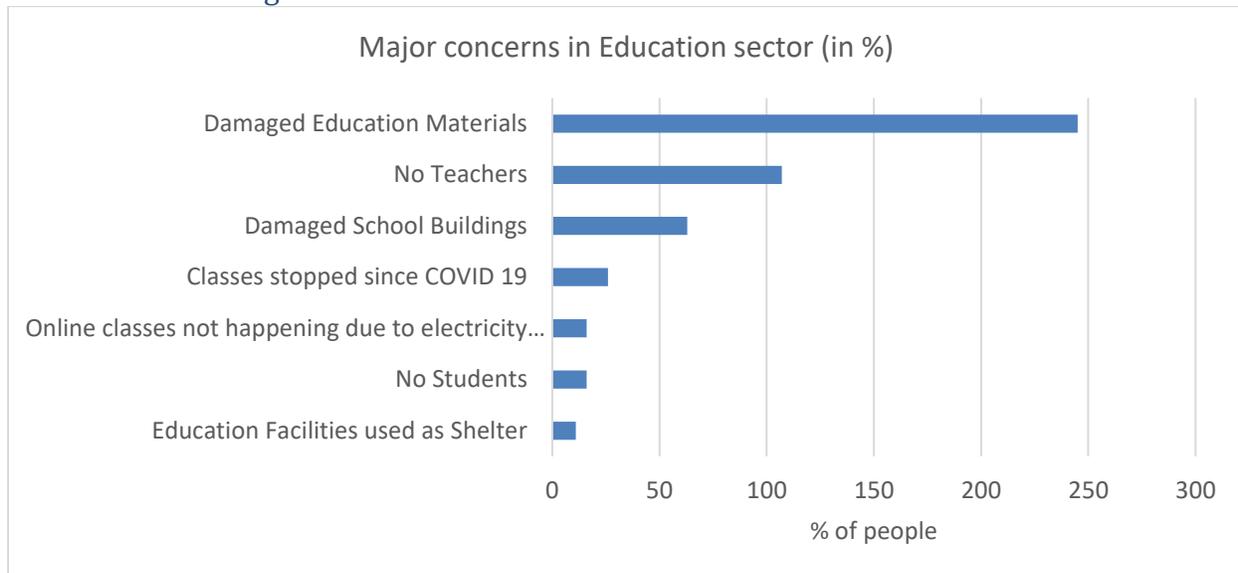
- List of health facilities located in flood/landslide prone areas and developing emergency preparedness plan for functioning of the facilities for future disasters.
- Structural and non- structural safety assessment of healthcare facilities.
- Establishment of Hospital Networking System for referral of emergency cases in future for such disasters
- A plan to ensure continuity of health facility supply and delivery chain.
- Physical rehabilitation and reconstruction of local health facilities, and/or with the required medical provision of essential equipment and supplies, especially in inaccessible disaster affected areas will also be necessary while building back better.

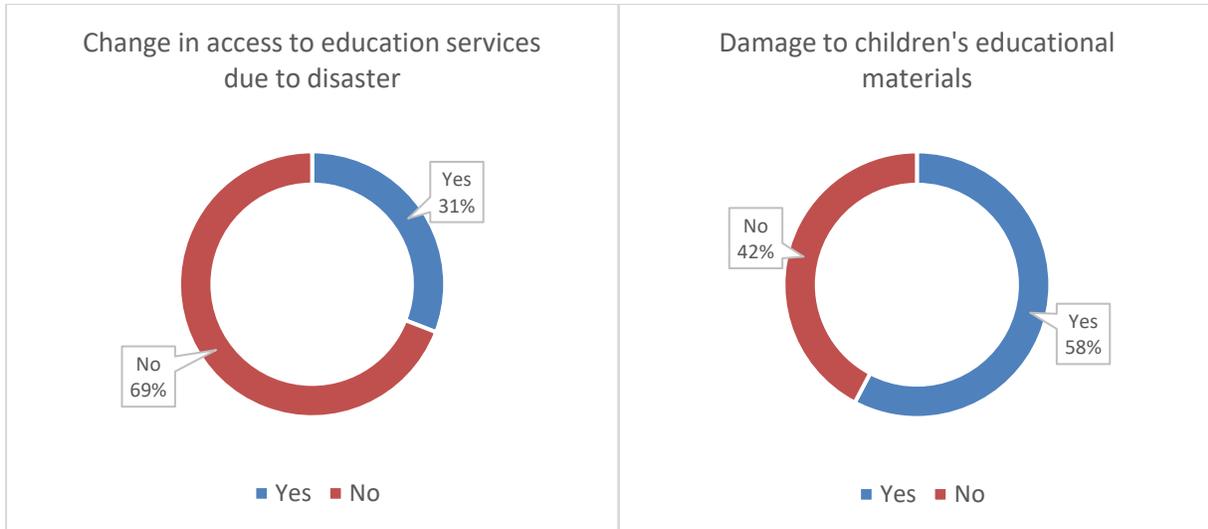
- To identify the training needs of healthcare professionals for capacity building in emergency response and disaster management.
- Working on hypothyroidism to lack of minerals and salts, Vision loss and Hearing loss people due to lack of treatment.
- Start working on Climate Change Adaptation measures, both counseling and immunization are essential for health sector on priority to improve health system response during disasters.
- Ensure multi-stakeholders' coordination at the district (DDMAs) and state levels (SDMAs), with effective plan in place, to ensure sectoral coordination and effectiveness.
- Explore community radio options to deliver health messages (if not already in place).

#### 4.4. EDUCATION, CHILD PROTECTION & WELFARE

##### Overview

##### Assessment Findings





58% of the respondents also shared that they require education support.

### **Champawat**

17 households were surveyed and 88.2% of the surveyed stated the education facility / school is functioning. The main concern related to education among the surveyed is the study materials being damaged followed by classes that were closed due to COVID-19. Few showed their concerns regarding the damage of school buildings and about the classes that aren't held due to power failure in school. 58.8 of the surveyed mentioned there has been changes in access to education services due to the disaster. 76.5% stated there were damages to the children's educational materials (phones, laptops, and books, etc. whatever was in use). 82.4% mentioned they need educational support. Most of the surveyed households mentioned they require study materials as help.

### **Pauri Garhwal**

4 households were surveyed and 100% of the surveyed stated the education facility / school is functioning. The main concern related to education among the surveyed is damage to school buildings. Followed by unavailability of students. 75% of the surveyed mentioned there has been changes in access to education services due to the disaster. 100% stated there were damages to the children's educational materials (phones, laptops, books, etc. whatever was in use). 100% mentioned they need educational support. Most of the surveyed households mentioned they require books as help.

### **Bageshwar**

5 households were surveyed and 100% of the surveyed stated the education facility / school is functioning. The main concern related to education among the surveyed is the unavailability of teachers. Followed by the damage of school buildings, unavailability of food and damages to the study materials. Other concerns mentioned were the school building used as shelter and school not accessible. 60% of the surveyed mentioned there has been changes in access to education services due to the disaster. 60% stated there were damages to the children's educational materials (phones, laptops, books, etc. whatever was in use). 80% mentioned they need educational support.

## Recommendations

### Child Protection:

The preliminary findings and assessment doesn't throw much light on the actual Child Protection scenario in the 6 districts. Therefore, it is felt that an in-depth Child Protection sectoral situation analysis be done in the areas to gauge the extent of CP issues prevalent as a result of the disaster. Based on the preliminary findings mentioned in the report the below recommendations may be considered:

#### Immediate Support Required:

- Looking at the extent of damage and water logging scenario mentioned in the sections above, it is important to set up adequate safe spaces for the safety of children, adolescents & women to reside safely.
- Child Friendly Spaces (CFS) i.e. temporary learning cum recreation centres may be created for children. The CFS may further be equipped with a CFS facilitator & play based learning materials for engaging with children and ensuring continuity in education.
- WASH facilities such as safe drinking water facilities and sanitation facilities viz. hand washing platforms & make shift/mobile toilets may be made available for use near the safe spaces created. Depending upon the best suitable measures, these facilities needs to be well lit (for dark hours) and strategically located i.e. not too far off from the camps/temporary spaces.
- Identification of Children in Need of Care & Protection (CNCP) viz. missing, un-accompanied & separated children (UASC), orphaned, semi-orphaned etc... and providing rescue, rehabilitation, referral and linkage services with support from local CP services providers such as Childline, DCPU, SCPCR & CWC.
- Essential services such as Psycho-social First Aid (PFA) for children and mental health counselling services for Adolescents & Youth (A&Y) needs to be made available to deal with the mental health issues and trauma arising out of the disaster. Linkages/partnerships may be made with professional organizations who provide such kind of services. Depending upon the feasibility remote PFA may also be explored.
- It is imperative from the findings above that Food, Shelter, clothes and drinking water are the first prioritized essential needs in the districts affected. Hence, it is important to arrange for distribution of Food (both cooked meal for immediate and dry ration at later stage), Clothes and Hygiene kits (includes basic PPE) for families and dignity kits for girls & women.

#### Medium term actions required:

- Provision of shelter kit and repair of shelter wherever applicable and provision of dry ration kits for at least 2-3 months.
- For specific cases of children identified in need of customized special intervention, Case Management services may be made available with support from local CSO/NGOs & in close collaboration with the local CP service providers such as Childline, DCPU and CWC.
- A possibility of abuse of women and children can't be negated arising out of such disaster and hence specific watch on such issues needs to be kept and linkages established with monitoring & redressal bodies such as local VLCPC, Police, UKSCW & SCPCRUK. This may be enabled with support from local CSOs and NGOs working in the area and VLCPC (if available).
- Specific age group wise learning kits may be made available for children based on school curriculum.

- Support in securing government documents/ IDs lost during the landslide.
- Sponsorship support for children who are identified as “most marginalized” may be enabled to support the children and their families financially to meet their needs.

#### Long term and resilience building:

- Repair & refurbishment of schools damaged (if any) viz. Physical infrastructure including books and recreational play way items, and supporting children to get back to schools i.e. enrolment to formal education.
- Support in enrollment and linkages of children & families with Social Protection (SP) schemes and services of the state as well as National level schemes depending upon eligibility.
- Provision of training support on coping mechanism during such disasters for building resilience.
- The findings suggest the need for cash & livelihood support among the affected families, hence livelihood support activities may be taken up for the families such as provision of livelihood kits to certain eligible families to start their livelihood, conditional or non-conditional cash transfer program for children and families in need, linkages to skill building programs of the Govt. for youth and life skills for adolescents etc.
- Long term case management for critical cases with support from local NGOs/CSOs and CP service providers viz. DCPU, CWC, Childline and SCPCRUK.

#### EDUCATION:

##### Immediate Support Required:

- Immediate CFS (Child Friendly Space)/temporary education/learning center can be setup with proper teaching learning material and local volunteers can be trained to provide psychosocial support to the children and continue children’s learning.
- Children can be provided teaching learning materials such as text books, stationary items and school bags etc. to continue their learning/study.
- Children can be provided age-appropriate learning kits to continue their learning.
- A helpdesk facilitating the re-issuance of Children certificates that they must have lost during the disaster must be established.
- Can explore Digital mode of learning where possible to continue children learning.
- Village Child Protection Committee (VCPC) may be activated (or re-formed) with identification of some of the active leaders, who may wish to take actions.
- Disinfection of the school buildings and ensuring clean water and sanitation infrastructure.
- Child-friendly centres (as mentioned in health sector) are recommendable, and VCPC members may play active role.
- Damaged school buildings’ needs to be assessed, and critical repairs must be carried out immediately, while retrofitting plans may be included in medium-term plan.
- Education materials (that was lost) need to be supplied. This may include text books, electronic equipment (e.g. laptop computers / e-pads / mobile phones) etc.
- The challenge of lost documents of the marginalised (and affected) households need to be addressed, so that they get their entitlements from the Government.

### Medium term actions required:

- School needs to be immediately repaired with the support Govt./Non Govt. societies or through CFW (Cash for Work) initiative.
- Campaign on Safe Return of Children to Schools with the support of Local Leader and School Authorities.
- Comprehensive School Safety (CSS) - Safe learning facilities, School disaster management, Risk reduction & resilience education for children and teachers to reduce future risks and disaster impact.
- Establish child-centred school safety plans.
- Solar energy interventions may be considered for uninterrupted power supply and continuous classroom teaching-learning.
- Gram Panchayat level Committees may be activated with the support of the Sarpanch/President for the welfare of the affected communities.
- Ensure that the GPDP includes disaster preparedness and risk reduction measures, along with allocated budget.

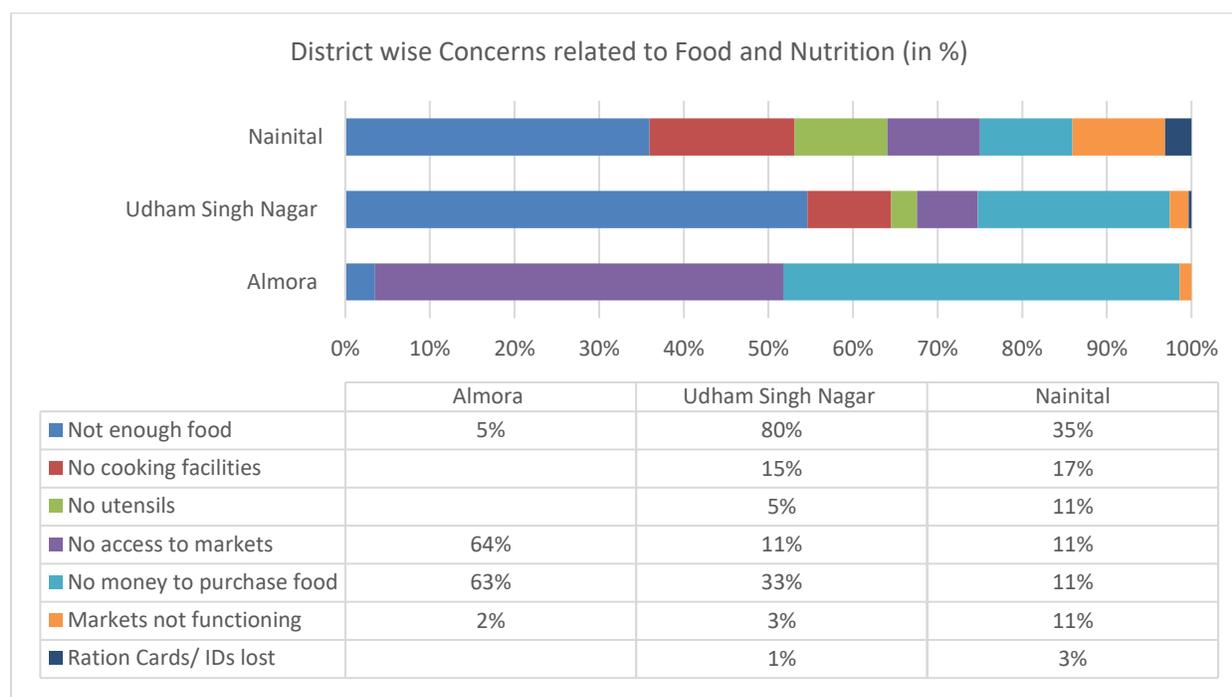
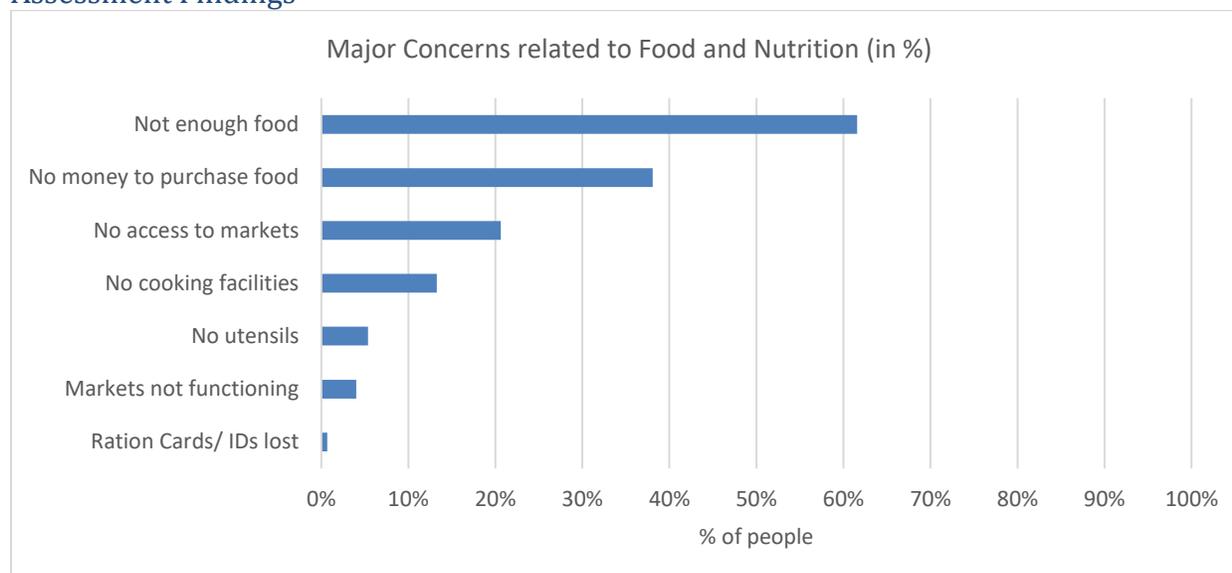
### Long term and resilience building:

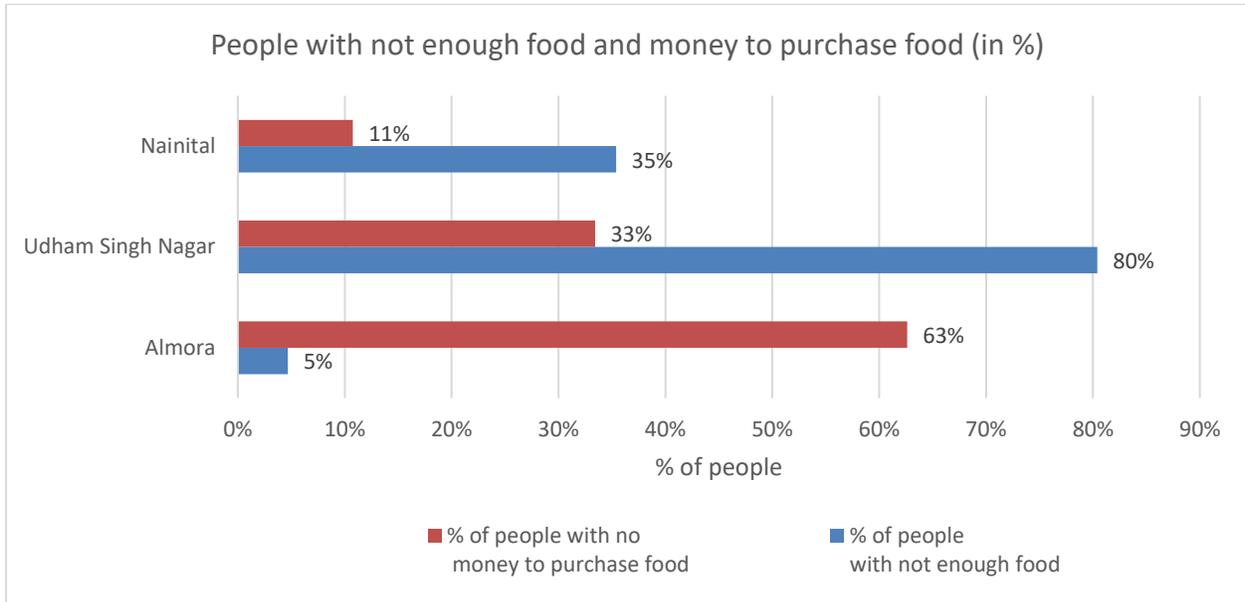
- There should be an advocacy with the government department regarding providing support to the repairing/retrofitting of damaged schools' buildings.
- Need to develop digital content of education to continue children learning at home.
- Link families with Child Sensitive Social Protection (CSSP) schemes and services/ Government sponsored social protection schemes.
- Teachers' shortage in schools need to be addressed.
- School buildings need to be allocated with adequate budget for repairs and maintenance as building resilience against future hazards.
- School building locations need to be assessed from landslide hazard risk, and plans for stabilising/protecting upper slope may be considered under forest or land development programs of the Central and State government schemes.

## 4.5. FOOD SECURITY & NUTRITION

### Overview

#### Assessment Findings





### Champawat

17 households were surveyed and 100% of the surveyed mentioned there is no availability of stored food grains. 64.7% of the surveyed households stated they have access to vegetables and other food items. The main concerns regarding food and nutrition was not enough food and not enough money to buy food. Followed by no cooking facilities, no utensils, non-accessibility to the markets, non-serviceable markets and other reasons respectively. 100% of the surveyed mentioned that the family lacks a sufficient amount of food. The reasons provided are money issues and crop failure.

### Pauri Garhwal

4 households were surveyed and 100% of the surveyed households stated they do not have access to vegetables and other food items. The main concerns regarding food and nutrition was not enough money to buy food. 25% of the surveyed mentioned that the family lacks a sufficient amount of food. The reason provided is unemployment.

### Bageshwar

5 households were surveyed and 100% of the surveyed mentioned there is no availability of stored food grains. 60% of the surveyed households stated they have access to vegetables and other food items. The main concerns regarding food and nutrition was not enough food. Followed by non-accessibility to the markets, not enough money to buy food, no cooking facilities, no cooking utensils, non-serviceable markets and other reasons respectively. 60% of the surveyed mentioned that the family lacks a sufficient amount of food. One of the reasons provided is the far distance of the market.

### Recommendations

Total 10% families in four villages (Jhutya, Bohrakot, Naikana, and Nail) out of total 215 families there are total 33 of families which are in immediate need of food availability. With the lack of money it leads to scarcity of basic requirements. On the bright side, while studying the data it was noted a significant portion of the population have access to essential items for cooking. Only less

than 2.2% of the surveyed households do not have adequate cooking utensils. Local markets, agricultural land including orchards and bridges connecting these villages to highway and other parts of district are all damaged. As a result, there is no food and vegetable supply. The expenditure incurred on food post disaster has not increased by significant amount whereas the consumption of food by women, men and children has shown variation. The PDS ration is being provided by the government but some of the families have lost their ration cards. The ICDS centres in the area has done its best in providing required food nutrients only for the beneficiaries. While there are other families which cannot be provided as they are not part of beneficiaries.

The survey of 215 families shows that nearly 82% of households reported damage to orchards and agricultural land. Also, near about 52% households reported loss or complete damage of agricultural tools which increases the possibility of delay in the process of recovery for the agriculture community. Livestock was also affected with 61 of surveyed household reported losses. While 32% of 215 sample size express the need for livestock.

The state government has initiated distribution of ration such as rice, salt, spices, dal in the food kit with the support of PDS/ Pradhan of local panchayat. Local administration (Tehsil level) has initiated mobile and road connectivity to help effected people.

### Immediate Support Required:

- Increasing food production- building buffer stocks to cater needs during disasters.
- Improving food distribution- building up the Public Distribution System (PDS) to cover a larger audience which isn't being benefitted by PDS currently.
- Food for work programme.
- Direct or indirect food subsidy.
- Food supplementation to address special needs of the vulnerable groups.
- Addressing the low dietary intake because of poverty and low purchasing power. Considering lack of food items and cash, unconditional money (cash) transfer through banks is recommended for those households, who have active bank accounts, ATM cards for money withdrawal and accessible ATM machines.
- Where access to the bank and the market is not available (e.g. in some of the mountain villages), supply of food kits and NFIs need to be considered immediately. In food kits, ensure nutrition requirement as per the local condition.
- PDS shops may be made more accountable and effective by activating the Village Vigilance Committee (VVCs). Local leaders may be encouraged to influence the PDS shop owners to cater to the needs of the affected families immediately.
- Support Anganwadi Centres (AWCs) with special nutrition packs, children's play equipment etc.
- Support the AWCs in serving the expecting women with meeting the nutritional requirement to ensure health deliveries. Similarly, address the needs of the lactating mothers.
- Address the needs of the SAM and MAM children by linking with and providing support of the nearby Nutrition Rehabilitation Centres (NRCs) with following COVID-19 safety protocol and should have proactive services with necessary equipment, medicines, and supplements. Awareness regarding the symptoms of malnutrition, importance of ante natal

care services, importance of treatment at NRC to be promoted with promoting consumption of IFA, IYCF activities need to be undertaken.

- The grievous situation requires multipronged approach, strong political will, health system strengthening, community mobilization, awareness, and strategic plan to address the situation. The strategy to overcome the consequences of disaster should be planned keeping the Nutrition and WASH Indicators mentioned above, thus the following recommendation is to be considered:
- Amongst infant and young child feeding practices, breast feeding within an hour of birth, and complementary feeding after 6 months of age need to be strengthened by focusing on creating awareness and making provisions of necessary food packet as substitute to complementary feeding is to be promoted.
- COVID 19 infection has already hit the food and nutrition security, thus it is a challenge for the family heads to provide for the necessities of the family members. This calls for wage loss compensation to the families during the emergency.
- Take Home Ration (THR) supply to be monitored.
- Self Help Group (SHGs) who were providing meals at AWC and have become nonfunctional have to be mapped and reactivated through needful intervention.
- Participation of local self-governance to be encouraged.
- Provision of cooked food, through community kitchens, for people in relief camps who have lost their homes and utensils and are unable to cook food.
- Provision of Food Kits (uncooked raw materials) and utensils for people who can return to their homes after cleaning of debris, silt and proper sanitization.
- Making Public Distribution outlets (ration shops) fully functional, either through repairs or through finding alternate buildings, and ensuring supply of adequate quantities of food grains and other essential supplies.
- Immediately replacing or providing temporary permits for all lost Ration Cards and/or identification papers for the people who have lost them. This can be done through certificates provided by the Local Governance mechanisms. Assist the households which have lost the Ration/PDS cards to re-apply for the same.
- Appropriate nutritive kits to be provided for families with children, elderly, pregnant women and lactating mothers.
- ICDS may provide home delivery of cooked food for the children, pregnant women and lactating mothers to ensure nutrition security for these vulnerable groups.
- Identifying areas and pockets deprived of coverage food distribution process and expanding the reach.
- Provide vegetables and ready to eat meals to the ones who've lost their ration cards and cannot avail PDS benefits.
- Provide unconditional cash support to the affected population suffering with loss of means of livelihood and struggling to buy essential items.
- Facilitate coordination between agricultural labourers and farmers to clean the land affected due to the landslides.

#### Medium term actions required:

- Prioritizing the needs of people suffering from Chronic energy deficiency and undernutrition.
- Targeted food supplementation and health care for those with under-nutrition, effective monitoring of these individuals and their families.

- Ensuring appropriate infant feeding practices, discourage use of formula food and milk substitutes as it is harmful for the child as the water in such situations is often contaminated and use of milk substitute by mixing it with water will compound the health hazard for the children.
- Nutrition monitoring and surveillance to enable track changes in the nutritional and health status of the population to ensure that existing opportunities for improving nutritional status are properly utilized; and emerging problems are identified early and corrected expeditiously.
- Link farmers to SHG's and banks to avail loans against the loses to their farmlands and other assets they've incurred.
- Increase access to markets and their functionality.
- At risk villages to have hazard mapping exercise and capacity building training of PRI's.
- ICDS/Anganwadi centres to work on identifying SAM children, to provide counselling and adequate additional nutrition to them.
- Training of community on preparedness through conducting mock community coordination exercises, mock token/ticket credit systems to avail food items at discounted prices from SHG's/ community kitchens.

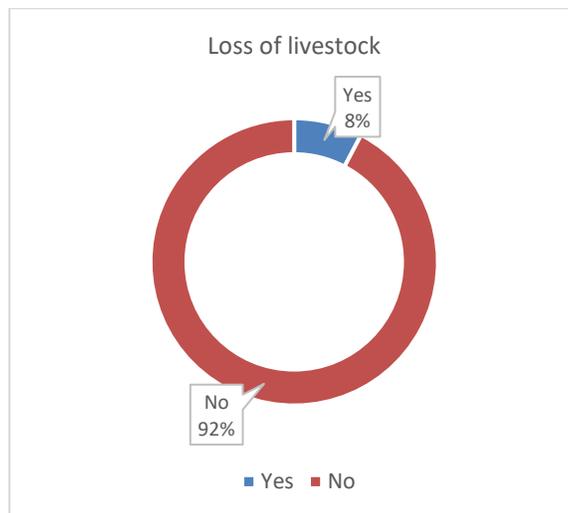
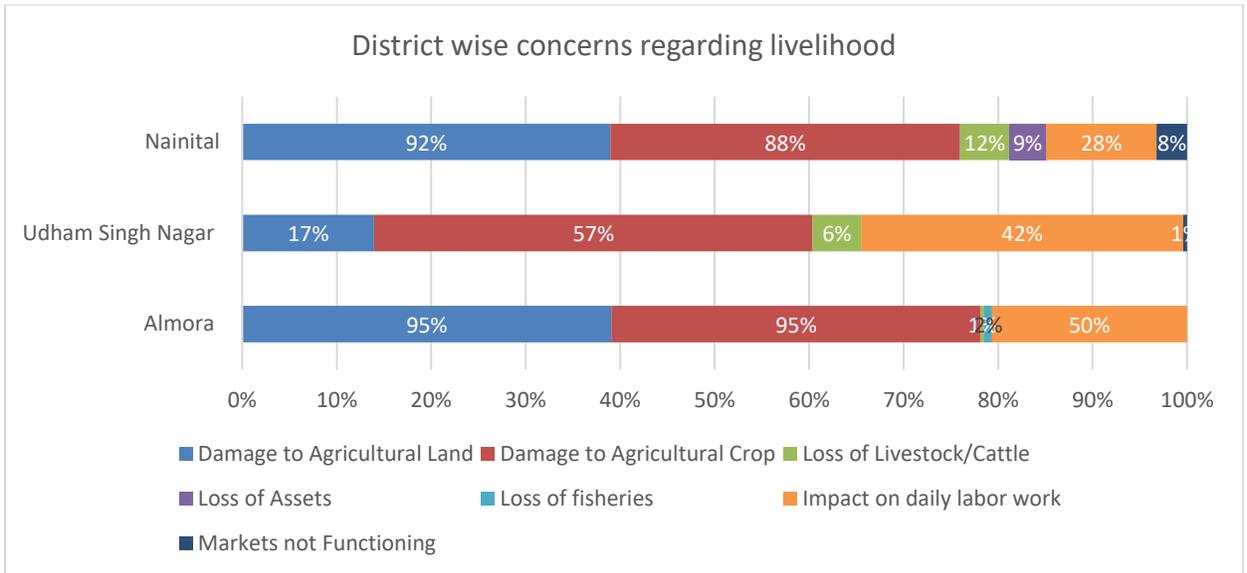
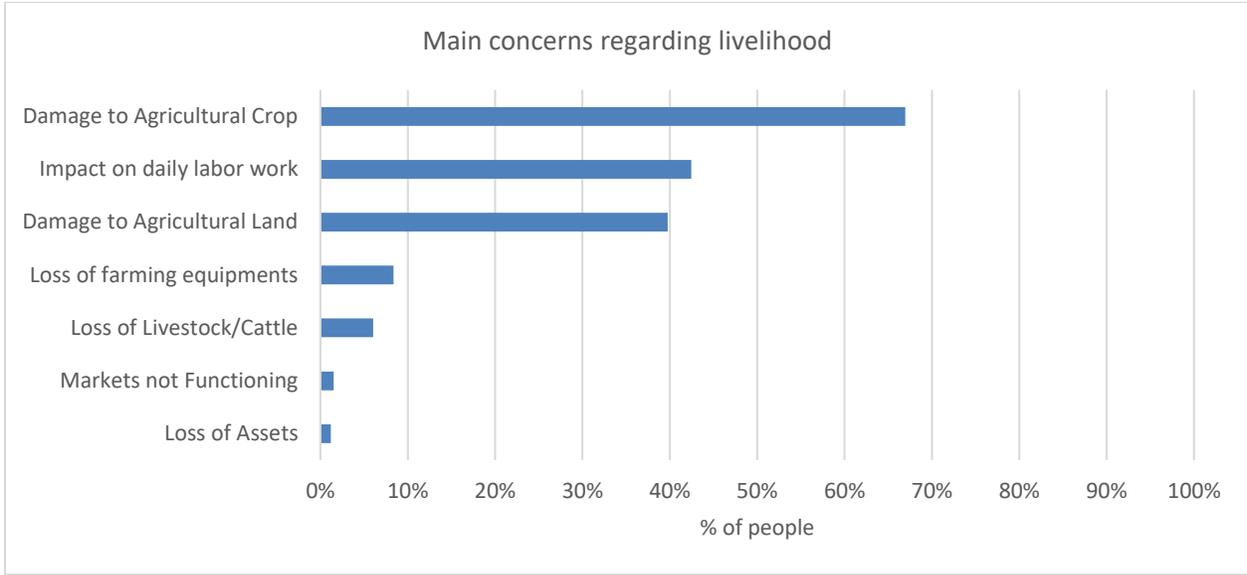
#### Long term and resilience building:

- A review of the recommended dietary intake of disaster affected communities needs to be conducted as a disaster has long term affects on the food and nutrition intake.
- Analysis of nutrition needs at the local level and tailoring ongoing nutritional interventions to meet these needs. The nutrition needs of people vary with the terrain, altitude, weather conditions and other factors.
- The efforts to stabilize the livelihoods of the affected communities need to intensified as the delay in addressing the need pushes communities to starvation, child wasting etc. which have long term implications on overall health.
- Community Food Banks and Grain Banks need to be established in association PRI to ensure equitable access to resource by all individuals of the community
- Improve the availability of vegetables at an affordable cost throughout the year in urban and rural areas. This is because transportation of produce from plains to mountains inflates the costs exponentially and the marginalized communities are unable to buy vegetables due to high costs. Increase production of pulses and oil seeds to make them affordable resulting in increased consumption
- Strengthen the Local Level Committee under the National Trust and strengthen the Village Health Sanitation and Nutrition Committees (VHSNCs) formed under the National Health Mission.

## 4.6. LIVELIHOOD

### Overview

### Assessment Findings



Majority of the Respondents surveyed were either engaged in agricultural activities, MGNREGA or in daily wage/laborer activities as a main source of income.

### **Champawat**

17 households were surveyed and the main concerns regarding livelihood are damage to crops and impact on labour followed by damage to agricultural lands, unavailability of fodder, non-functionality of markets and other reasons respectively. Concerns such as damages to farm equipment, loss of livestock were also mentioned. 88.2% of the surveyed mentioned there has been no loss of livestock and the ones that did loss were cows. 70.36% of the surveyed mentioned their income before the disaster was labour/wages. 23.5% did farming and 5.9% didn't have any income.

### **Pauri Garhwal**

4 households were surveyed and the main concerns regarding livelihood is impact on labour. 100% of the surveyed mentioned there has been no loss of livestock. 100% of the surveyed mentioned their income before the disaster was labour.

### **Bageshwar**

5 households were surveyed and the main concerns regarding livelihood are damage to crops. Followed by damage to agricultural lands, damages to farm equipment, loss of fishes. Concerns such as loss of livestock, unavailability of fodder, impact on labour and other reasons. 100% of the surveyed mentioned there has been no loss of livestock. 100% of the surveyed mentioned their income before the disaster was farming. Among them 20% also did labour.

## **General Observation by Survey Team and local Livelihood Experts**

Uttarakhand has almost all agro-geo climatic zones, which provides commercial opportunities for floriculture and horticulture. The state is home to more than 175 species of rare medicinal, aromatic & herbal plants.

The state has proximity to the national capital, Delhi, a leading market of the country and excellent connectivity with neighbouring states. The state has abundant natural resources due to hills and forests. Its agro-climatic conditions support horticulture-based industries. The vast water resources available in the state are also favourable for hydropower. The presence of several hill stations, wildlife parks, pilgrimage places and trekking routes make Uttarakhand an attractive tourist destination.

Uttarakhand is one of the fastest-growing states in India, thanks to the massive growth in capital investment arising from conducive industrial policy and generous tax benefits.

The state is situated in the foothills of the Himalayas. The presence of several hill stations, wildlife parks, pilgrimage places and trekking routes make Uttarakhand an attractive tourist destination. Uttarakhand is a well-renowned religious and wildlife tourism destination. The state is popularly known as Devbhumi (land of Gods) due to the presence of numerous Hindu pilgrimage sites. As a result, religious tourism forms a major portion of the tourism in the state.

There is big damage of agricultural land including cow and goat sheds, state highways, national highway, government and private properties including business enterprises, shops and hotels.

This untimely disaster caused big loss of properties and human life in Kumaon area. On the other hand the loss of life of trekkers and mountaineers can be saved if these trek and mountaineering organizers could follow the meteorological forecast and weather reports spreaded over by government and non-government agencies including social media timely.

Keeping in view the recent disaster caused due to the heavy rainfall in particular areas of Garhwal and Kumaon. Major impact observed in few part of Chamoli such as- Helang, Auli, Suneel, Sema in Joshimath Block. Road blocks at Laambarh, Pagal Nala Tangani, Sukkhi village in Malari valley and village Dungri of Tharali block. In Kumaon Almora, Champawat, Nainital and Udham Singh nagar affected badly.

As per the rapid rural appraisal of few of the team members observed that loss of agricultural land, paddy fields, mountain millets and pulses crops including rajma, potato, chaulai (Amaranthus), Til (Sesame), Bhangjeera (Perilla frutescens), Ginger, Turmeric, Arabi or Taro (Colocasia esculenta) and Hemp seed. Even community not able to harvest the crop due to bad weather conditions and heavy rains. In result thousands naali (1 naali = 200 sq. mtr.) of land have washed with new rivulets, drainage water, change of river course. Thus, land become unfertile, unproductive with deep gorges full of pebbles and will be not suitable for further agricultural activities for another next one decade.

Ramgarh, Dhari, Bhanwali, Champawat areas are well-known for its horticulture based livelihood. Many of the families were growing culinary herbs, succulents, stone fruit such as peach, plum, pear, apricot, walnut including Hazel nut and pecan nut. Seetla area is also known for the cultivation of Avocado and Persimmon. Not only the crop but the orchard also destroyed. Under horticulture many families involved in cultivation of green leafy vegetables, herbs, and medicinal plants including aromatic plants, mushroom based micro enterprise. Even the nurseries of succulents and flowers partly affected.

Link path of few home stay in Auli Suneel damaged. On the other hand the business of ecotourism, tour travel guide, trekking porter and guide affected during these days. Many tourists died and sad demises of local porters and guide reported in Bageshwar and Uttarkashi / Himachal border. The tourist guide and porters were unfortunately the only earning member of the family and after this disaster the dependent family badly affected and are under socio-psychological trauma. Few home stay owners, hotel dhaba and shopkeepers also lost their source of livelihood. Few jeep-taxi owners lost their vehicles. So there's an urgent need of long term support.

Apart from the permanent assets it is reported that there is massive loss of livestock which includes poultry, goateries, cattles. Around 74 cowsheds were damaged, up to 26th October 2021. 50 cows and buffaloes, 14 goats and 21,250 poultry birds were reported dead. And the other data says big animal losses 314 and small losses 734 (provided by SDMA).

## Recommendations

### Immediate Support Required:

- As the prime agricultural land have been badly damaged. Provision of alternate fertile land will be needed for sustaining the family, resettlement plan needed in time. Apart from this quality seed and provision of seed bank needed to be developed. In this process of resettlement and

land allocation proper attention should be provided to the poorest of the poor family. Because many of the families have become landless. As they lost their whole agricultural land.

- Monetary support to redevelop the nurseries, purchase of quality plant material which includes grafted, air layered high quality plants and distribution of these plants to the affected families for dense cultivation is needed. Provisions for green shade net house, water irrigation facilities and fencing and marketing network for floriculture, and succulents is needed. Many of the families have even lost minor agriculture tools, utensils, seed bank, storage drums etc. This will be needed to redevelop the sites. Land redevelopment activities will need huge manpower.
- An interim package for quick relief to the families owing the sector of ecotourism needs long term support to sustain the family. Government should wave off water and electricity bills of such entrepreneurs and provision of soft loan is needed through the banks and cooperatives. In each district there should be a committee of block and village panchayat level representative along with local community based organization (CBOs). And there should be a contingency fund which will be available for the local families as and when any disaster occurs.
- There is an urgent need of cow shed for rest of the animals that have been saved by the villagers. Government should provide land for construction of sheds, poultry structure and shed for goatery. The allotted land should be close to the village. No and low interest loan through cooperatives, NABARD, Corporates, Dairy Development Department and department of Livestock of Uttarakhand will be appreciated.
- Unconditional money (cash) transfer through bank (as recommended above) may be taken up.
- Compensation for the crops and/or land loss may be taken up at the District Administration and State levels.
- Employment work under MGNREGA should be allocated to the affected households immediately. Eco-friendly construction techniques and practices can be promoted under MGNREGA.
- Design relief package for farmers incurring losses to their farmlands and link the affected population with government schemes and provisions on livelihood.

#### Medium term actions required:

- Innovative livelihood projects may be undertaken, especially for the women (e.g. sanitary pads manufacturing as mentioned earlier).
- Skills building initiatives may be planned with potential CSR funding and Government schemes.
- Nutrition gardens (with vegetables and fruits) may be promoted to address livelihood and nutrition requirements of the families and communities.

#### Long term and resilience building:

- Van Panchayats should not only be responsible and accountable for effective management and expansion of forest but also should be given direct payments as an encouragement mechanism. The payments can be directed by Van Panchayats for local community needs in the form of incentives, subsidies or sustainable alternative household necessities like cooking gas cylinders decreasing the use of fuelwood from forests.
- Forests in Uttarakhand apart from regulatory institutional mechanisms, can be protected by local communities. Ecological entrepreneurship i.e., remunerating locals to protect and restore

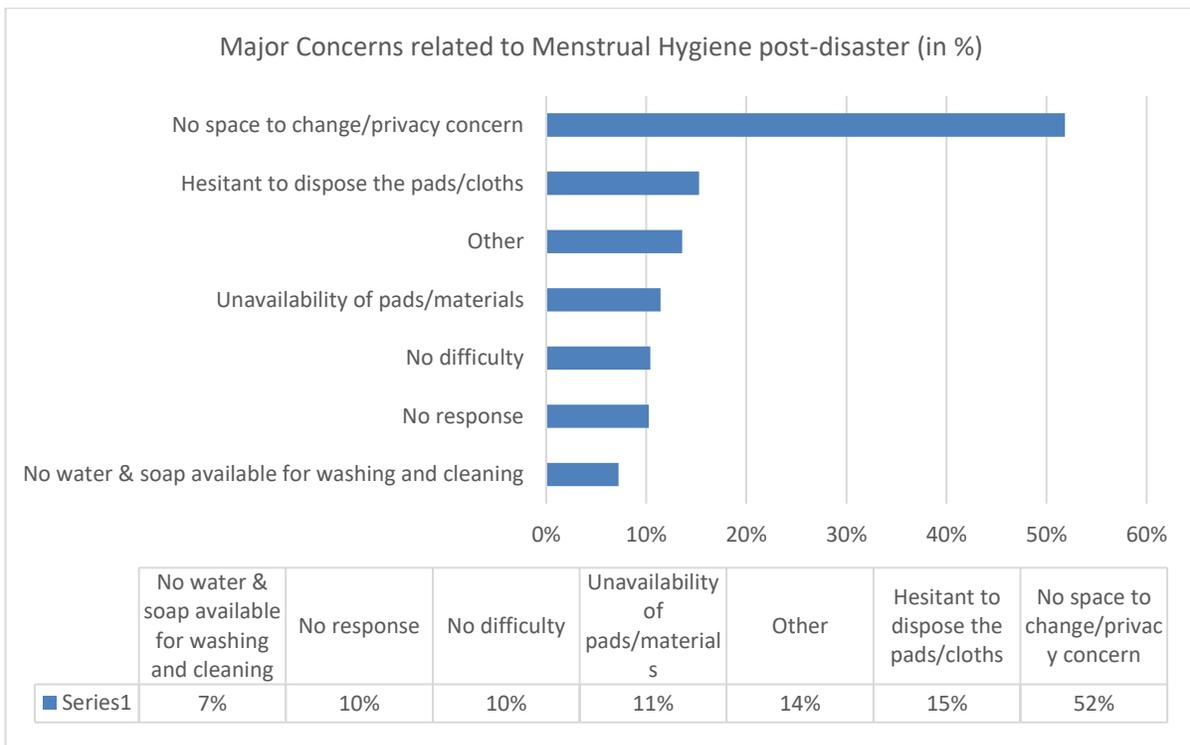
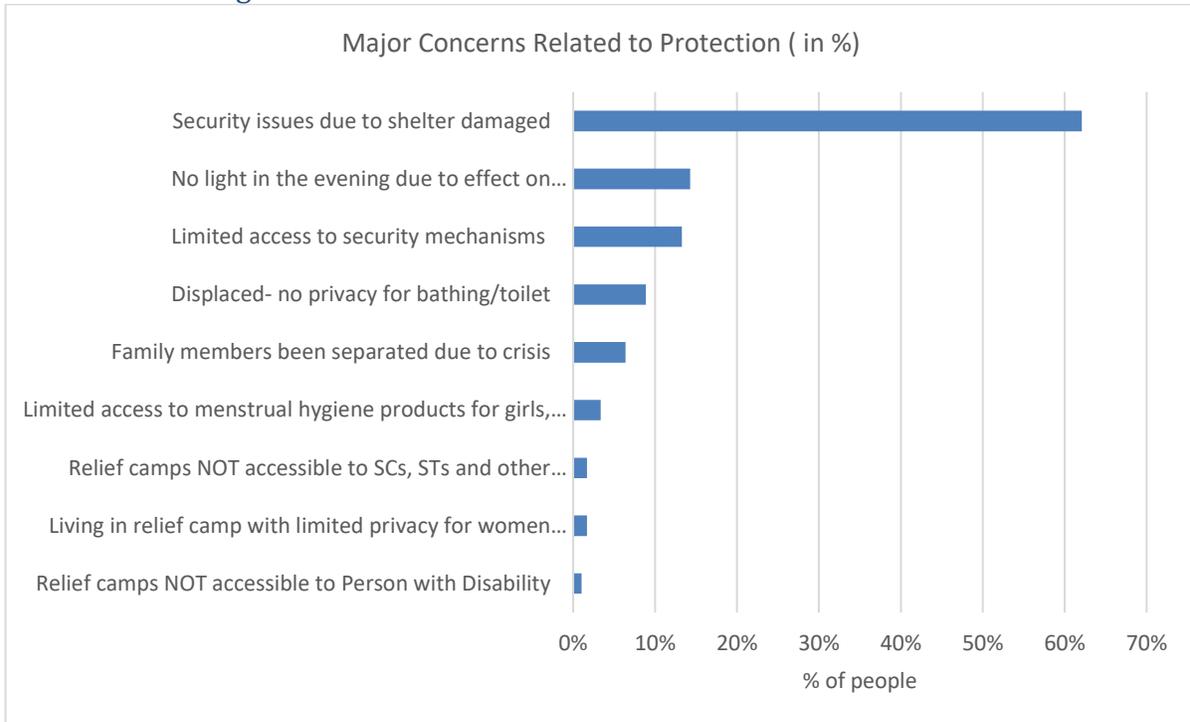
forest areas using their traditional knowledge and external expertise is an effective instrument that safeguards fragile landscape and provides autonomy and a sense of belongingness to local people. Natural resource management through activities like afforestation, soil conservation, replenishment of forests, regulated use of forest produce, etc. is the potential employment opportunities for local communities apart from regulating and monitoring the eco-sensitive forest areas.

- Plantation of species that possess soil binding and water-retaining capacities must be preferred. For instance, preferring oaks instead of pine forest which has negligible contribution to soil and water conservation.
- Crop planning and collective marketing through formation of Community-based Organisations (CBOs) may be considered for increased incomes of the farmers.
- Processing units based on dairy products may be considered.
- Resilient Livelihood Development is the most prominent recommendation and strategy to secure the economic base of local communities E.g., for a local community dependent on agriculture, development of integrated farming systems for different agro-ecological conditions, revitalization of rain-fed agriculture, diversifying crops, insurance coverage and greater awareness.
- Business development at the community level using local resources with financial and technical assistance can not only help affected people recover but also develop a sense of independence amongst them, thus making them resilient to future scenarios. Although typically livelihoods restoration policies attend to men, encouraging women into employment or business opportunities can boost the resilience at the individual, family and community level.
- Capacity Building, Knowledge Management, Training and Skill Development norms and courses should be frequently provided to the communities. Focus on economic recovery which is resilient should be given. Adaptive Behaviour through awareness and training programmes in coordination with civil society organizations and local institutions strengthens both the communities as well as facilitators.
- Community-level physical adaptation interventions like constructing percolation tanks, rainwater harvesting, sustainable waste management, watershed and floodplain restoration and management, community open space creation and management, restoring natural elements as protective buffers, etc. The reason is that communities are the frontier to face the impacts of disastrous events, their preparedness and adaptation automatically reduces the overall destruction. Again, local and decentralized organizations and institutions play a key role to facilitate this both financially and technically.
- The creation of green funds where fiscal resources are created for the local ecological services can be utilized to invest in resilience and adaptation measures, acting as financial assistance to the communities.
- Empowering villagers and local communities with the use of digital applications based on ICT. This helps the direct contact between institutions and communities and also helps them keep up-to-date. The real-time information sharing, transparency and fair stake in decision making, along with other benefits are possible with the help of technology available at fingertips (mobile phones).

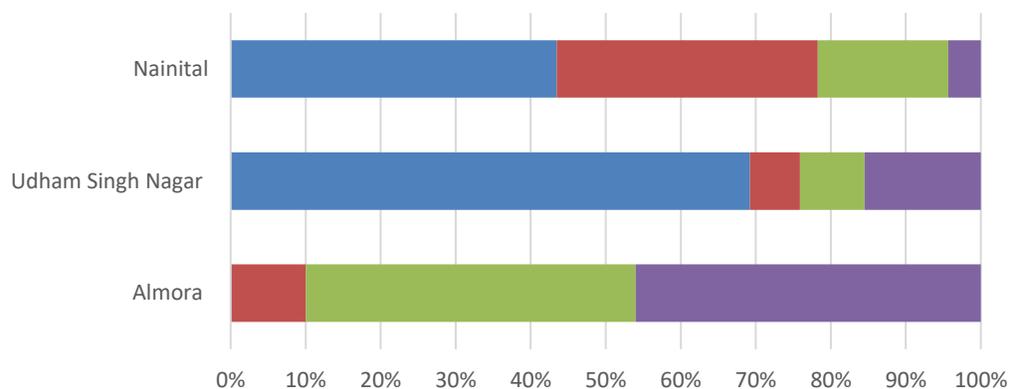
## 4.7. PROTECTION

### Overview

#### Assessment Findings

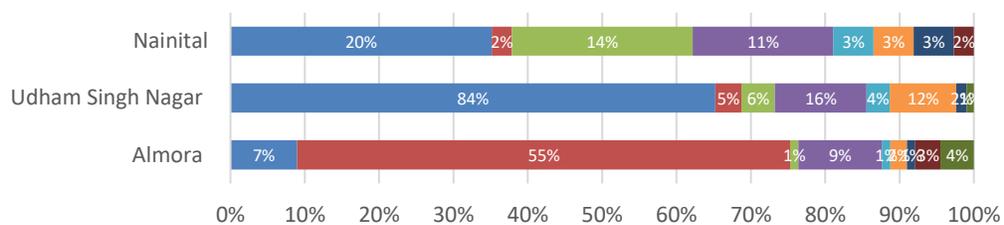


District wise major Concerns related to Menstrual Hygiene post-disaster (in %)

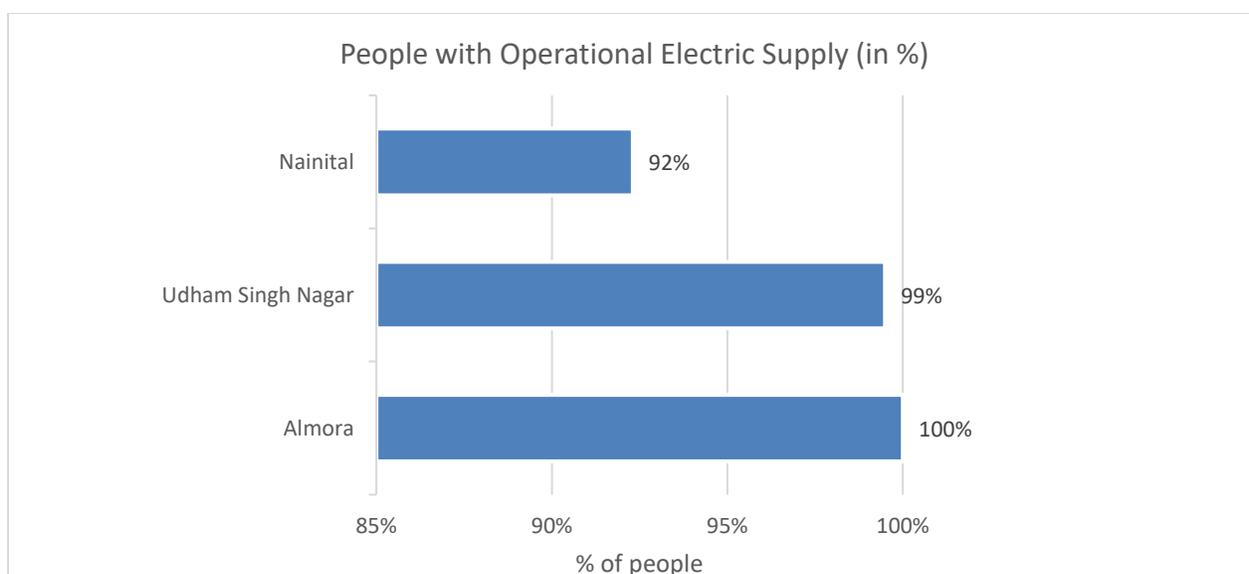
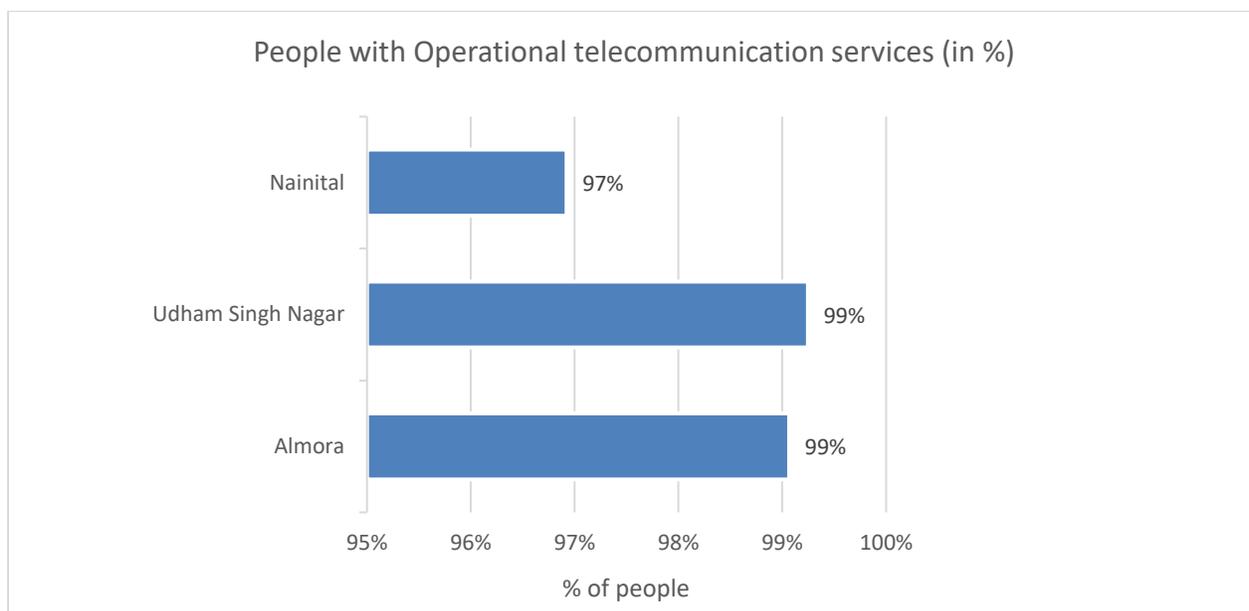


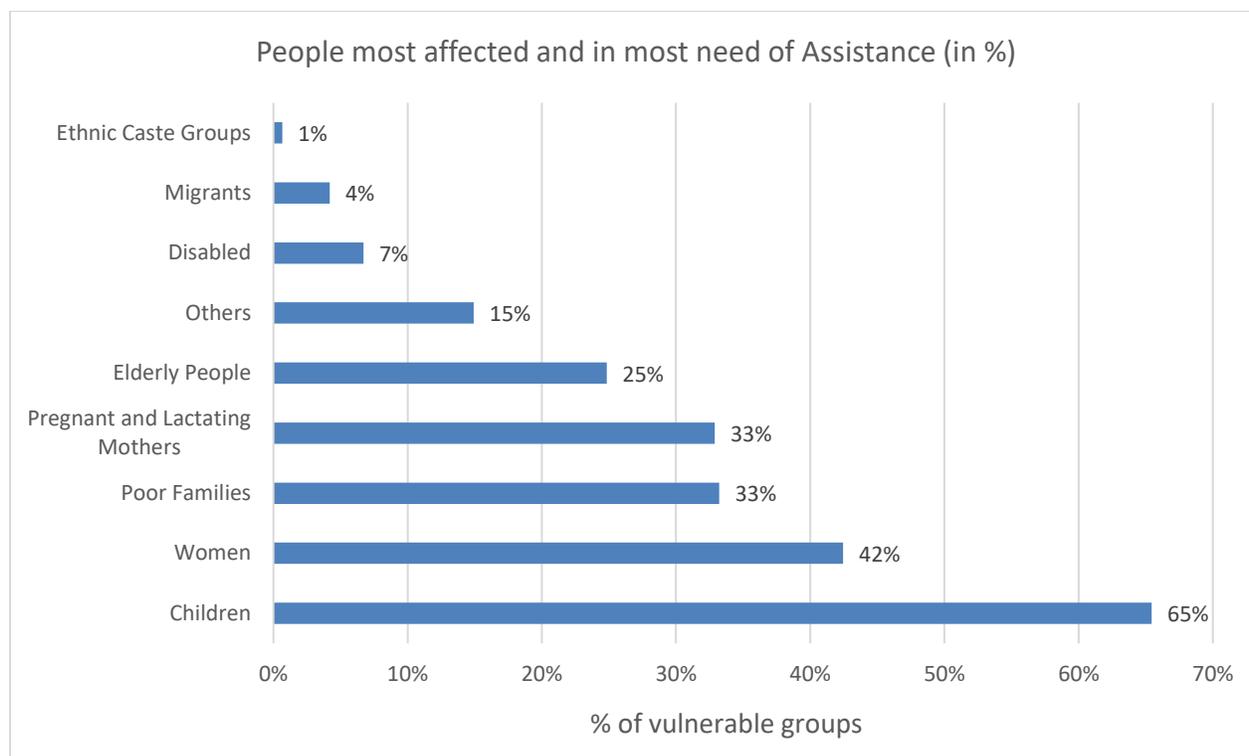
	Almora	Udham Singh Nagar	Nainital
No space to change/privacy concern		73%	15%
No water & soap available for washing and cleaning	5%	7%	12%
Unavailability of pads/materials	21%	9%	6%
Hesitant to dispose the pads/cloths	21%	16%	2%

District wise Major Concerns Related to Protection ( in %)



	Almora	Udham Singh Nagar	Nainital
Security issues due to shelter damaged	7%	84%	20%
Limited access to security mechanisms	55%	5%	2%
Family members been separated due to crisis	1%	6%	14%
No light in the evening due to effect on power/Electricity	9%	16%	11%
Living in relief camp with limited privacy for women and girls	1%	4%	3%
Displaced- no privacy for bathing/toilet	2%	12%	3%
Relief camps NOT accessible to SCs, STs and other vulnerable groups	1%	2%	3%
Relief camps NOT accessible to Person with Disability	3%		2%
Limited access to menstrual hygiene products for girls, and women of reproductive age	4%	1%	





### **Champawat**

The major concerns related to protection are security issues due to damage to the shelter. Other concerns are power cuts in the evening due to power/lightning effect, women and girls living in relief camps with limited privacy, no privacy for bath/toilet, family members separated due to crisis, relief camps are not accessible to persons with disabilities and limited access to menstrual hygiene products for girls and women of reproductive age. According to the surveyed HH, the most affected and in need of assistance are the senior citizens followed by children and women. Other affected ones are pregnant and lactating mothers and financially poor families.

### **Pauri Garhwal**

The major concern related to protection is family members separated due to the crisis. According to the surveyed HH, the most affected and in need of assistance are the children and poor families followed by women and poor migrants.

### **Bageshwar**

The major concerns related to protection are security issues due to damage to the shelter. Followed by power cuts in the evening due to power/lightning effect and no privacy for bath/toilet. Other concerns are Limited access to security systems - Police/Community Groups/Others. According to the surveyed HH, the most affected and in need of assistance are the children followed by disabled people and financially poor families. Other affected ones are ethnic group, senior citizens and poor migrants.

## Recommendations

### Immediate Support Required:

- Ensure grievance redressal system is in place and functioning effectively.
- Ensure access to information regarding entitlements for the children, women, people with disabilities, elderly and socio-economically marginalised communities.
- Work with the displaced family members and the local government for re-uniting them.
- Relief camps need to be assessed from protection points of view, along with immediate actions to rectify (as follows).
- Provide solar lanterns to deal with power cuts at nights (to ensure protection of girls, women and other vulnerable groups), especially in remote mountain areas.
- Organise activities for the children in relief camps to engage them creatively and deal with their trauma.
- Install temporary or make-shift toilets for health, hygiene, dignity and privacy of the girls, women and all.
- Reintegrated separated and unaccompanied children with their caregivers and ensure their safe wellbeing. Regular inspections and monitoring needs to be established with the Social and Outreach Worker from the District Child Protection Units and the Childline service for sustained outreach and engagements.
- In case there are NGOs working in the areas, CPCs should be strengthened towards better gatekeeping mechanisms.
- Community PSS and Peer support networks should be facilitated by NYKS and NSS volunteers active in the area.
- Information regarding social protection/Family based alternative care schemes including foster care, sponsorship.
- Setup child friendly spaces for children and promote psychosocial well-being of children. Conduct sessions for children and caregivers on Psychological First Aid and counselling and seek counselling from Govt. setup mental health helplines.
- Form Children's Groups in every village or in every hamlet of village. They can be trained on child rights and protection mechanism.
- Collaborate with community level stakeholders, children and other humanitarian actors to identify and analyze existing and protection risk for children like dangers, injuries, child labour issues, physical and mental treatment, abuse and mental health distress.
- Immediate assistance to be provided to those whose houses are either fully damaged or partially damaged as this would pose risk of security to children, adolescent girls and women.
- Children Groups, opinion leaders, Anganwadi workers and AW helpers who are currently busy with COVID-19 duties can support in forming such groups. They would also supervise these groups from time to time.
- Counselling support should be provided immediately with trained professionals on ground or telephonically to parents.
- A drive can be started on sensitization and awareness generation on the probability of increase in Child Trafficking, Child labour and Child marriage cases. The DCPUs and BCPUs can be instrumental in awareness generation and monitoring of such activities.
- A committee at every village can be formed who can act as sentinels and report any such incidents to District Child protection Unit or Child Line.
- Child Protection Committees or Child Group members of these villages should be made aware of the possible increase of such incidents so that they can be on alert. NGOs working in these

areas should extend support in raising awareness, monitoring and reporting such incidents to local authorities.

- Reaching out to women-led, single women, widow households, elderly women on a priority basis for relief and support.
- Profiling of the persons who have received relief from NGOs can be done by the NGOs that are providing relief. This will help in understanding the people who have received relief and those who might be left out.
- Relief to Persons with Disability must be provided as a priority. Persons with Disability need to be provided support for reconstruction of house.
- Facilitation for social protection schemes of the government also needs to be done for Persons with Disability, since they may face issues with documents and bank account.
- An assessment of specific needs of PwD can be done post-disaster. In case of any special needs like medicines, or support items (walking sticks, spectacles, etc.) without which, they cannot function, can be arranged.
- Women, girls and PwDs should have access to information related to support services for redressal of GBV, exploitation, abuse and harassment.
- People who have lost legal documents should be identified and should be supported in getting the new ones.

#### Medium term actions required:

- Ensure integration of prevention of sexual and gender-based violence against women and children into the disaster management plan.
- Develop a child protection response plan base on protection principles and protection mainstreaming with other sectors. Support existing child protection system in addressing protection issues and train them on protection issues and response to protection issues through proper channel. Develop a comprehensive child protection information management system.
- Assessment of new widows, women who have been disabled, children who have dropped out from school, children who have been pushed into child labour, children who have been disabled, children who have been orphaned/separated from their families, etc., needs to be done to understand the socio-economic changes in the demography of a region post disaster. This will also help in providing specific targeted relief to households, with full coverage.
- Tracking of transgender population and ensuring their protection through vigilance teams and police also needs to be done.
- It is very important to ensure the pension allowance to the old destitute elderly women and women with disabilities is restarted. After disaster, they will have even less resources than they did before, and therefore, require this support for sustenance.
- Girls may be at an increased risk of child marriage for economic reasons. Child labour can also increase. Increase in domestic violence after slight normalcy is returned may also be noticed. Increased exposure of women and children to abuse and violence is also possible. Vigilance through volunteers and responders can be set up. Women police officers can be deployed to these locations, especially to accompany those women who are returning home. Village-wise counting of the number of women, adolescent girls and children can be done to avoid abduction and trafficking.
- Women needing shelter support- materials cost and construction- needs to be identified and provided relevant help. Facilitation for support to women residing on public land also needs to be provided.

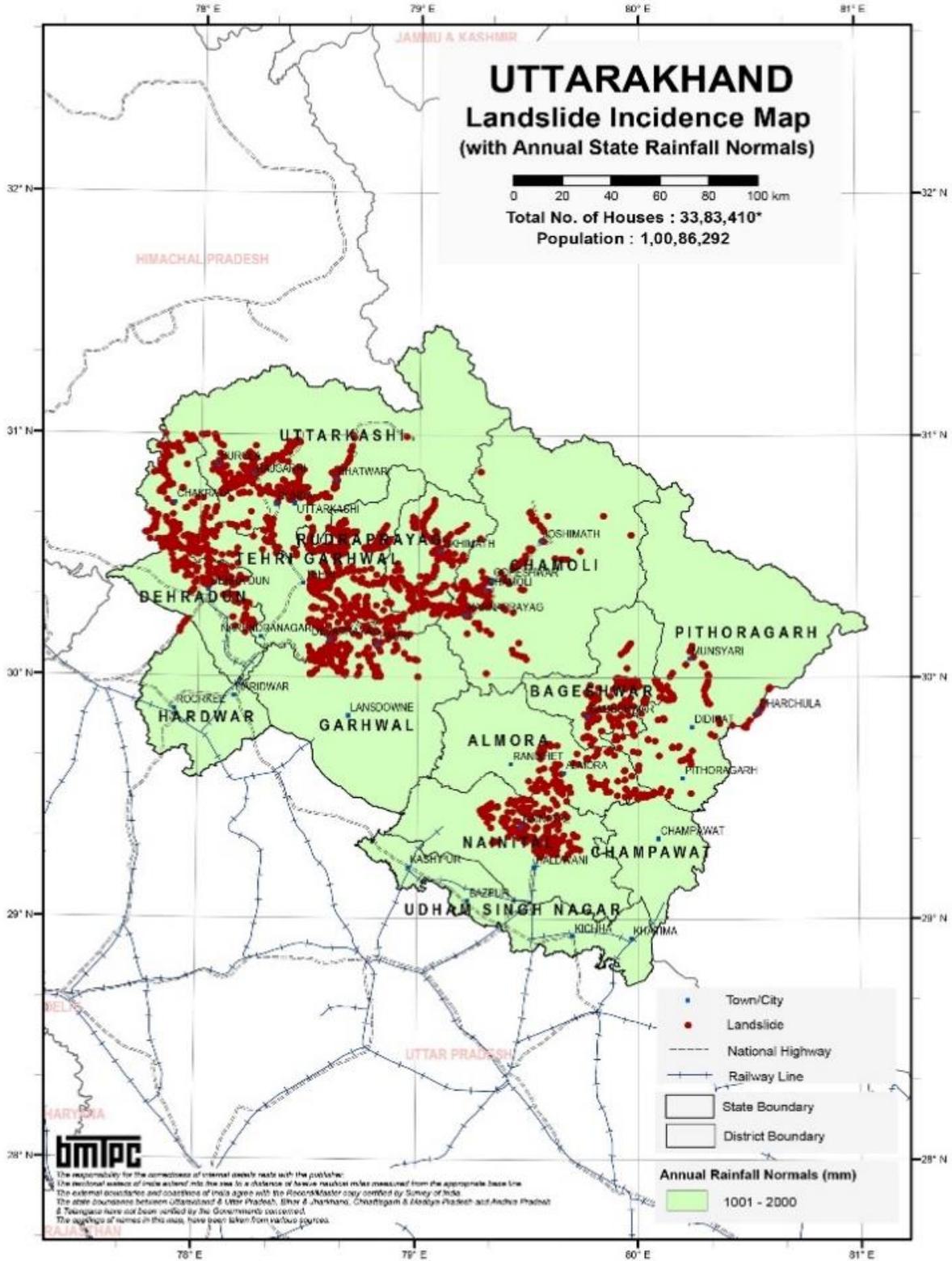
### Long term and resilience building:

- Strengthen local level leadership (Wards and Gram Panchayat) for effective GPDP and its implementation that enhances protection of the children, women and other vulnerable groups. Five year capacity enhancement plan may be considered.
- Alternative family care/foster care for orphaned children needs to be set up if it doesn't already exist. ASHA and anganwadi workers can be utilized to conduct an assessment of such children and link them with those services.
- Restoring the functioning of SHGs needs to be done to ensure economic recovery. Agricultural inputs, loans and other support to female farmers can be provided.
- Children with Disability might be considered an economic burden now that they are not able to attend school. Therefore, protection mechanism for such children can be developed.
- A Person with Disability Support Network can be established in each Gram Panchayat during the recovery phase so that, not only is there a support mechanism, but also allows for a social capital to form for such persons. This might help in increasing their resilience in a later disaster, which can also be utilized to come up with actions that will make DM more inclusive for such groups.

## Annexure

### 1. Demography and Landslide incidents of Uttarakhand

				
Area 53483 km <sup>2</sup>	Divisions 2	Districts 13	Tehsils 98	Census Villages 16,793
				
Population (2011) 10,116,752	Population density (2011) (persons/sq. km) 189	SC/ST Population (2011) SC: 17.9 % ST: 3 %	Population Below poverty line 11.26 %	Children (0-6 years) 1355814
				
Sex Ratio (2011) 963	Child sex ratio (0 – 6 years) (2011) 886	Birth Rate (%) [2016] * 16.6%	Death Rate (%) [2016] ** 6.7%	Literacy rate (7+ years) 78.82%



BMTPC: Vulnerability Atlas - 3rd Edition: Peer Group, MoHUA,GOI: Map is Based on digitised data of SOI; Landslide Incidence data GSI; Annual Rainfall data IMD. Houses/Population as per Census 2011; \* Houses including vacant & locked houses. Disclaimer: The maps are solely for thematic presentation.

## 2. JRNA Report Writing Team

Report Writers			
Sectoral Sections			
Mr. Rishi Sanwal	Independent DRR Professional	Mr. Ghanshyam Jethwa	Caritas India
Mr. Bisan Singh Rajwar	CASA India	Mr. Rudraraju Rohit Varma	CASA India
Mr. Jagdamba Prasad Maithani	AAGAAS Federation	Dr. Yashika Bhutani	Doctors For You
Mr. Rajendra Desai	National Centre for Peoples Action in Disaster Preparedness	Mr. Pradeep Kumar	Save the Children India
Ms. Raaga Ramesh	Save the Children India	Mr. Amit Kumar Das	Save the Children India
Data Collection and Analysis			
Mr. Midhun P Chandrababu	Sphere India	Ms. Nupur Tyagi	Sphere India
Ms. Lekha Chacko	Sphere India	Ms. Riya Sethia	Sphere India
Ms. Varsha Chaudhary	Sphere India		
Coordination			
Ms. Kusum Ghildiyal	IAG Uttarakhand	Ms. Divya Gupta	Sphere India
Mr. Gaurav Suyal	Sphere India		

## 3. List of Coordinators and Volunteers involved in data collection

Name	Organization	Name	Organization
Mr. Amit Rawat	HIRA	Mr. Hem chandra	SANJEEWANI
Ms. Shakuntala Nayal	HIRA	Ms. Pushpa	SANJEEWANI
Ms. Soni	AAPAR	Mr. Puran Singh	SANJEEWANI
Mr. Devanand	AAPAR	Ms. Leela	SANJEEWANI
Ms. Neetu	AAPAR	Ms. Deepika	AWARDE
Ms. Preeti	AAPAR	Ms. Poonam	AWARDE
Ms. Reena	AAPAR	Ms. Ranjana	AWARDE

Ms. Shahina	AAPAR	Mr. Kedar Singh	DHARA
Mr. Ashok	PragatisheelSamajik Sanstha	Mr. Gajendra Singh	DHARA
Mr. Deepak Pandey	PragatisheelSamajik Sanstha	Mr. Bhupendra Singh	DHARA
Mr. Suraj Sharma	PragatisheelSamajik Sanstha	Mr. Mukul Rana	DHARA
Mr. Pawan Yadav	PragatisheelSamajik Sanstha	Ms. Bhagwati	DHARA
Mr. Vijay	PragatisheelSamajik Sanstha	Ms. Neema	DHARA

4. [Field photographs](#)

5. [JNA Questionnaire](#)

6. [Media reports](#)

