

# Integrated Emergency Management System (Uttarakhand State, India)

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Courtesy  
NIED, ADRC and World Bank



# Functions of the System



Monitoring and  
Observation



Evacuation instructions



Collection and reporting  
of damage information



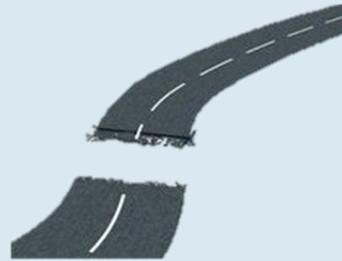
Lifesaving



Settlement of Emergency  
operating enter



Monitor  
Shelter Establishment



Road traffic control/  
Elimination of road obstacles



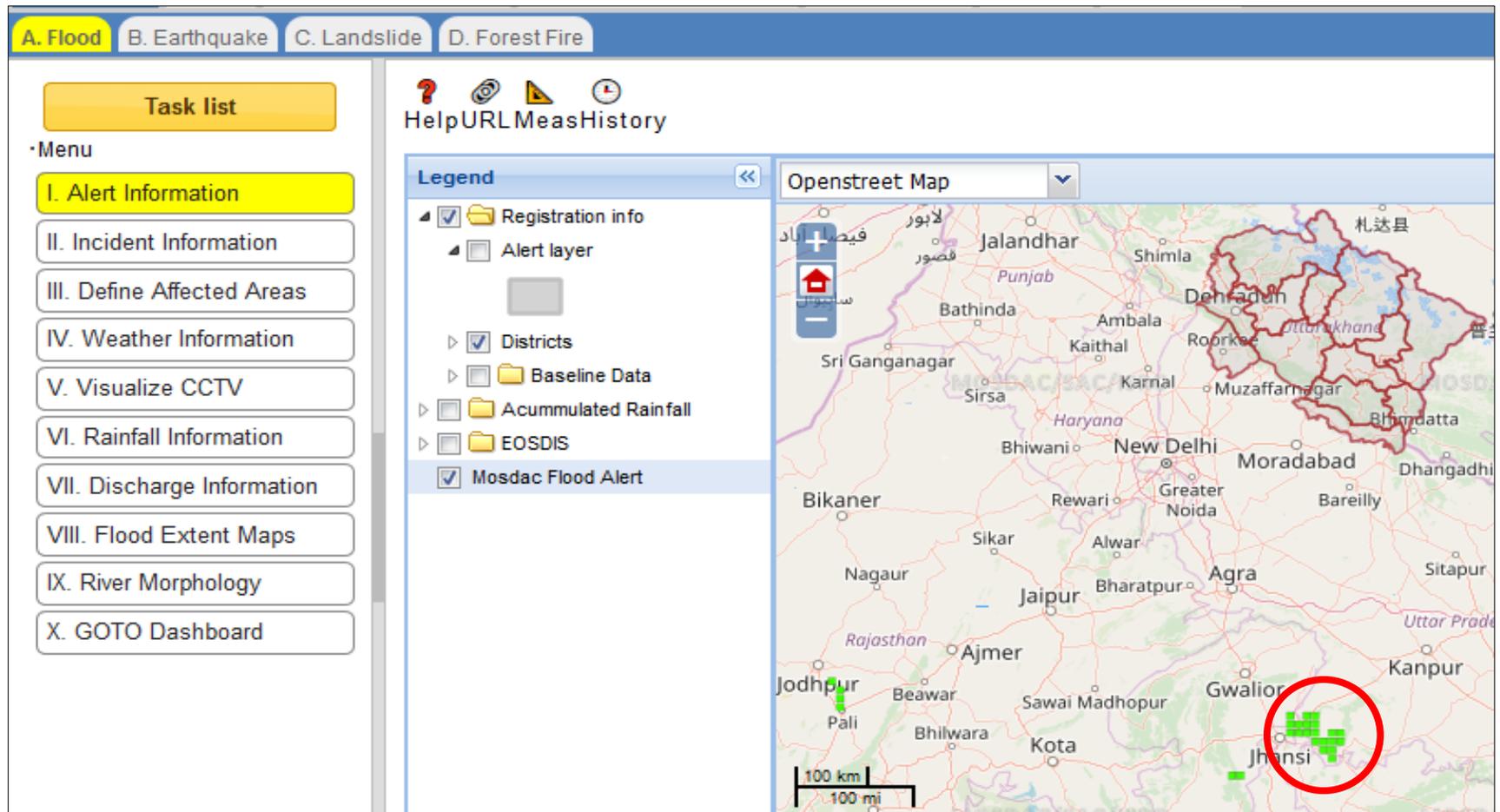
Reporting and announcement



open source

# Monitoring & Observation (M&O)– Automatic Alerts

- When Discharge exceeds High Flood Level
- When India Meteorological Department (IMD) or USGS send earthquake alerts
- When IMD Issues any warning



# M&O – Incident Reporting from Field

Incident reported from the field through a mobile app. is recorded and displayed

The screenshot displays a GIS application interface. On the left is a legend panel with the following layers:

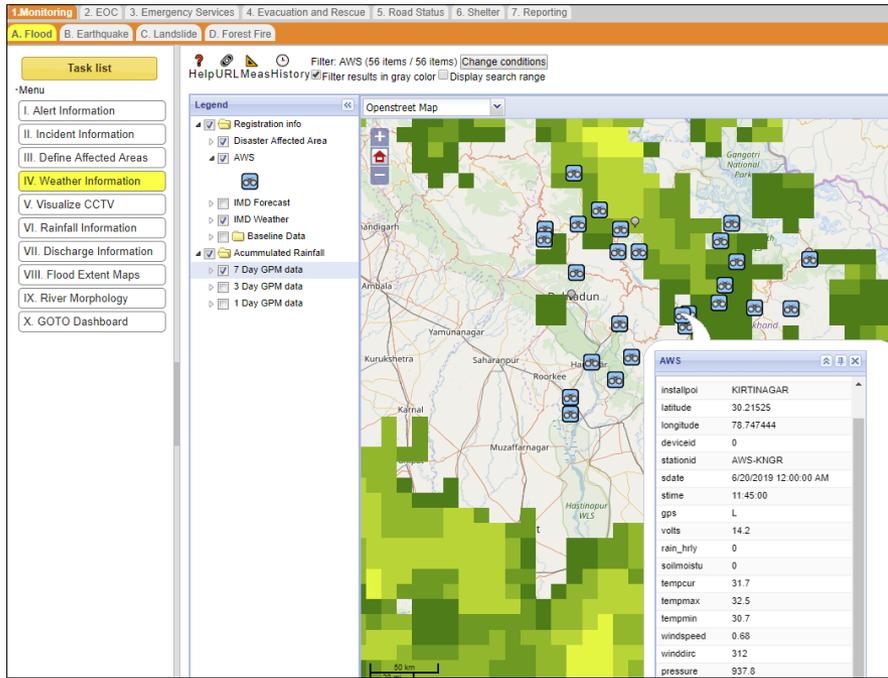
- Registration info (checked)
- IMS (checked)
- Incident Layer (checked)
- Baseline Data (unchecked)
- Accumulated Rainfall (unchecked)

The main map area shows an Openstreet Map of Uttarakhand, India. Several red star markers are placed on the map, indicating incident locations. A white popup window titled "IMS" is overlaid on the map, displaying the following data:

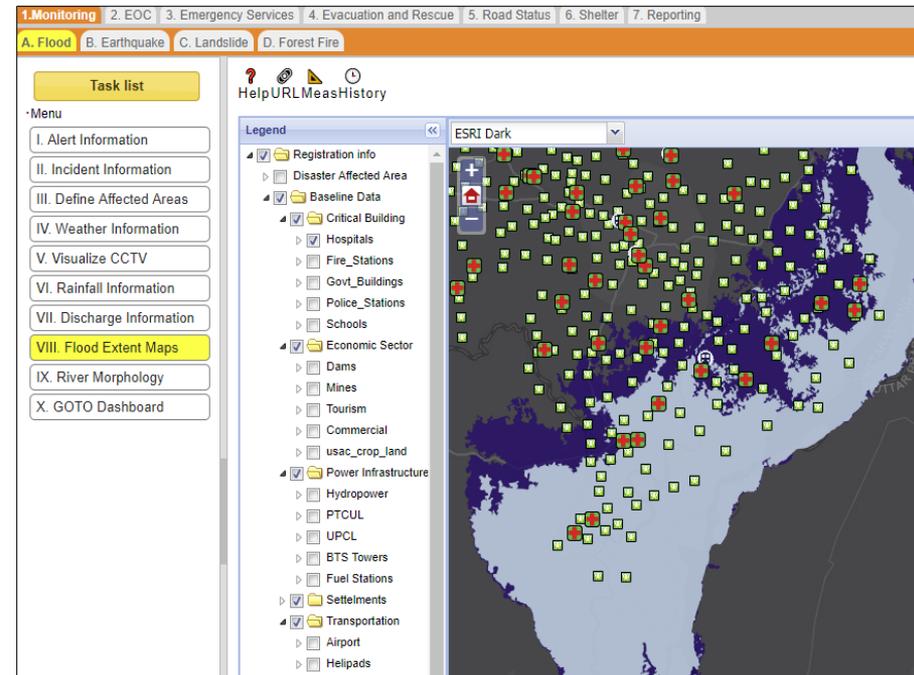
IMS	
Latitude	29.50322
Name of Lo	तहसील बनोली अंतर्गत मै 02 आसिक भवन एवं 03 तीक्ष्ण भवनो की क्षति हुई है
Longitude	79.93709
Pucca Hous	2
Repaired R	0
Restored C	0

Additional map features include a scale bar (100 km / 50 mi), a home button, and a search bar at the top. Text on the map includes "When Discharge exceeds High Flood Level", "When India Meteorological Department (IMD) or USGS send earthquake alerts", and "When IMD Issues any warning".

# M&O – Satellite Based Rainfall and Modelled Flood Map

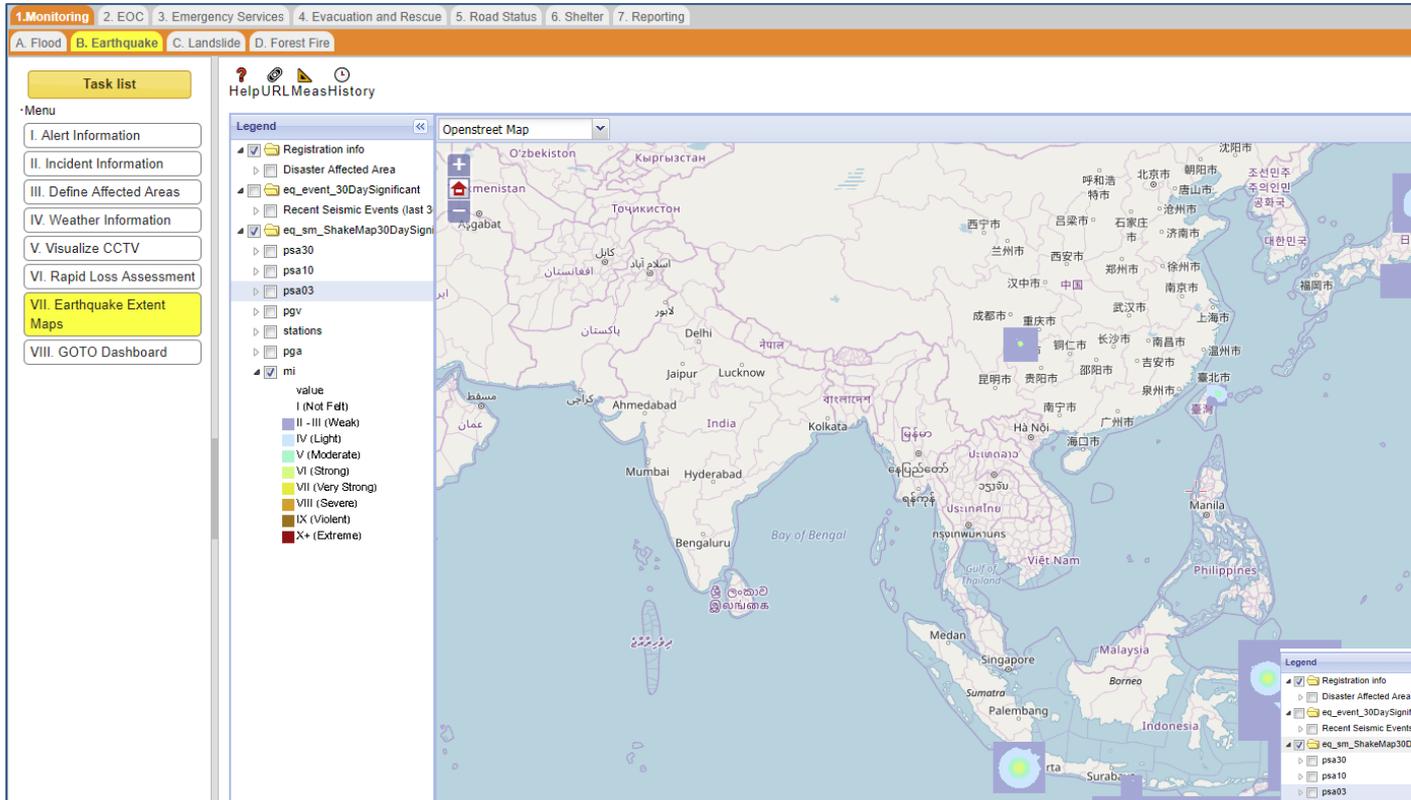


Near Real-time Satellite-based Rainfall

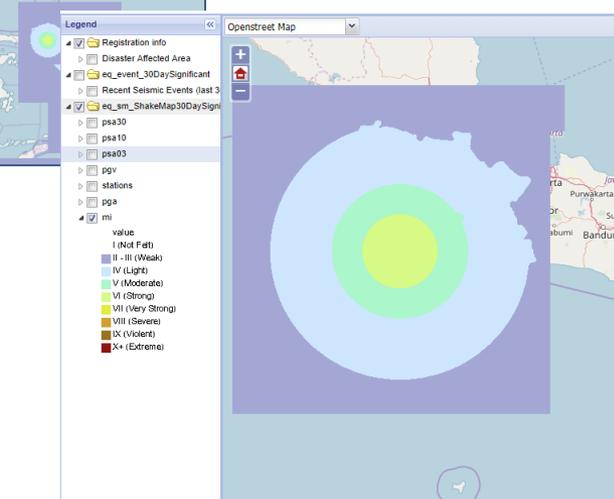


Modelled Flood Map

# M&O – Earthquake Alerts



Real-time Earthquake Alerts



# M&O – Define the Area of Interest

Resources within affected area is marked as grey and attributes of the features can be studied

The screenshot displays the 'Uttarakhand Disaster Management System' interface. At the top, there are navigation tabs: 'Messenger', 'Timeline', 'Minutes', and 'Whiteboard'. Below this is a menu bar with options: '1. Monitoring', '2. EOC', '3. Emergency Services', '4. Evacuation and Rescue', '5. Road Status', '6. Shelter', and '7. Reporting'. The 'Emergency Services' tab is active.

On the left side, there is a 'Task list' section with a 'Menu' containing five items: 'I. Hospitals', 'II. Mobilize Ambulances', 'III. Mobilize Helicopters', 'IV. Mobilize Fire Fighter Services', and 'V. Locate SDRF'. The 'Hospitals' item is selected.

The main area features an 'Openstreet Map' with a legend on the left. The legend includes: 'Registration info', 'Disaster Affected Area' (checked), 'Districts', 'Incident Layer', 'Rescue Layer', and 'Hospitals'. The map shows a large red-hatched area representing the disaster-affected region. Numerous hospital locations are marked with red and green icons. A red arrow points from one of these icons to a detailed attribute table.

The attribute table for the selected hospital is as follows:

Attribute	Value
BID	1600300
Record ID	
BNAME	CHC Nogaonkhal
[NIED DISS]Editor	
BADDRESS	Primary Health Centre Rajawata Dehradun
Category	CHC
Source	RVS
Stores	3
Eq_mes	Yes
Lat	29.9629
Lont	78.8636
	Return to list

# Communication Facilities – Emailing System

Uttarakhand Disaster Management System Messenger Timeline Minutes Whiteboard Flood Disaster Update ait

1. Monitoring 2. EOC 3. Emergency Services 4. Evacuation and Rescue 5. Road Status 6. Shelter 7. Reporting

A. Flood B. Earthquake C. Landslide D. Forest Fire

Task list

Help URL MeasHistory List Maximize

Menu

- I. Alert Information
- II. Incident Information
- III. Define Affected Areas
- IV. Weather Information
- V. Visualize CCTV
- VI. Rainfall Information
- VII. Discharge Information
- VIII. Flood Extent Maps
- IX. River Morphology
- X. GOTO Dashboard

Legend Openstreet Map

Registration info

- Disaster Affected Area
- Alert layer
- Incident Layer
- IMS
- Baseline Data
- Accumulated Rainfall

**Send info**

**Choose alert destination**  
Following user is preset.  
Re-select as required.

- usdma
- ashok
- ait
- nied
- training\_admin
- To pop-up

**Choose e-mail delivery destination**  
Following e-mail address is preset.  
Re-select as required.

- ait
- EOC
- USDMA
- Secretary

Add delivery target:

If you send to multiple destinations, enter them by comma-separated.

Not e-mail delivery.

**Choose fixed phrase for e-mail**

Title:  Template

Text: 20,,Fire,2019/04/01,Urgent,Dehradun,Raipur Rd, Raipur, Dehradun, 248008, India,Just now,100,,,,2019/04/08 01:00:00, 24,,Flood,2019/04/16,Intermediate,Rudraprayag, Gauchar Airport, NH 58, Gauchar, 246429, India,12 hour ago,300,,,,Test,2019/04/16

No file chosen

UTM grid  Add map  Move map Get address of center position 80 02803, 28 81495 2 window display

Register Update Search Send info Print

# Communication Facilities – Social Media (Twitter)

Users can tweet through a twitter account registered in the system.

Send confirmation e-mail content describing below and status report to SNS(Twitter)

•Text for Twitter

Template:

Text:

0Character/140 characters

•Confirmation e-mail

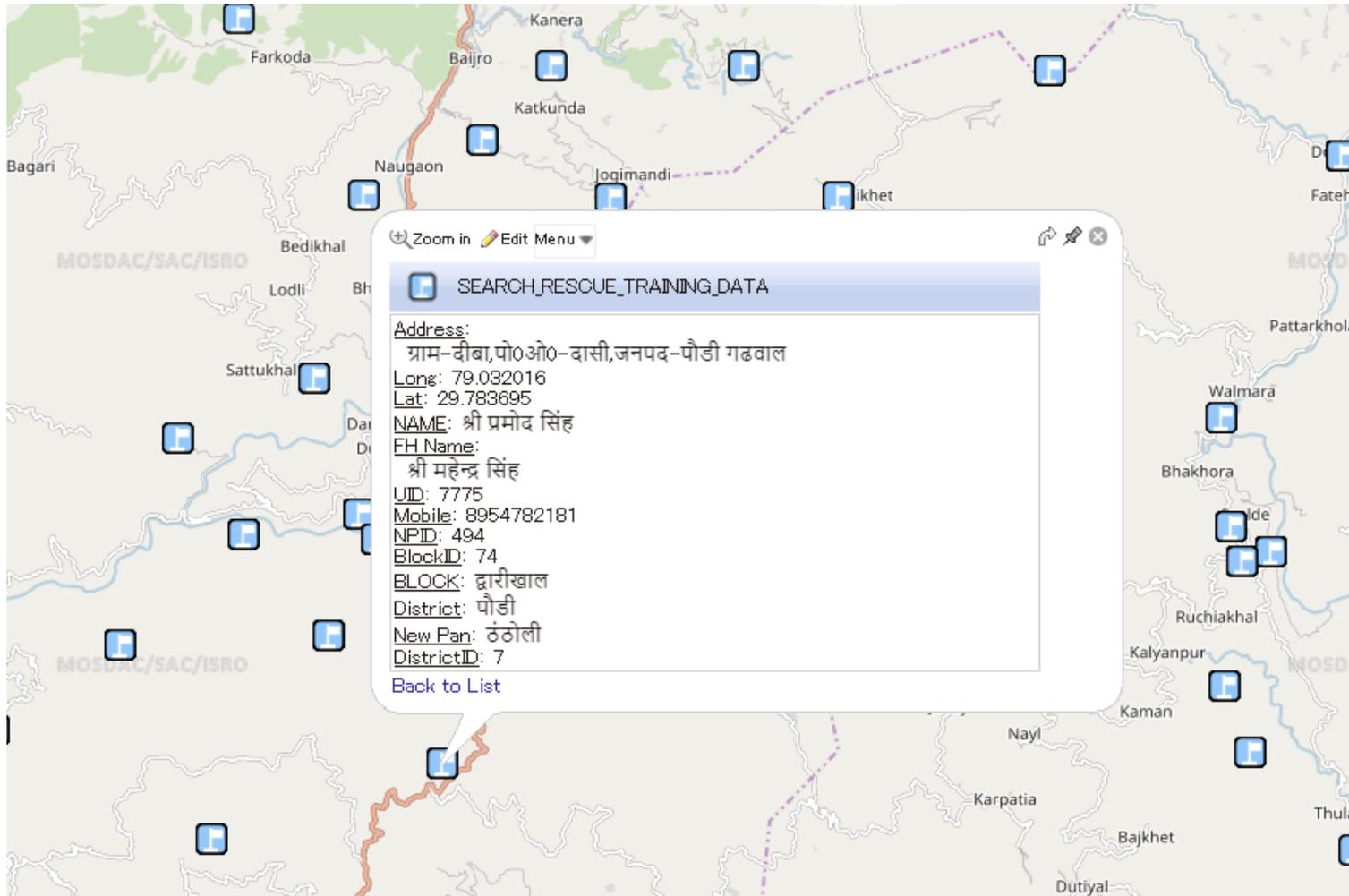
Title:

ait  
 EOC  
 USDMA  
 Secretary

\* E-mail body (text) equals to the above.

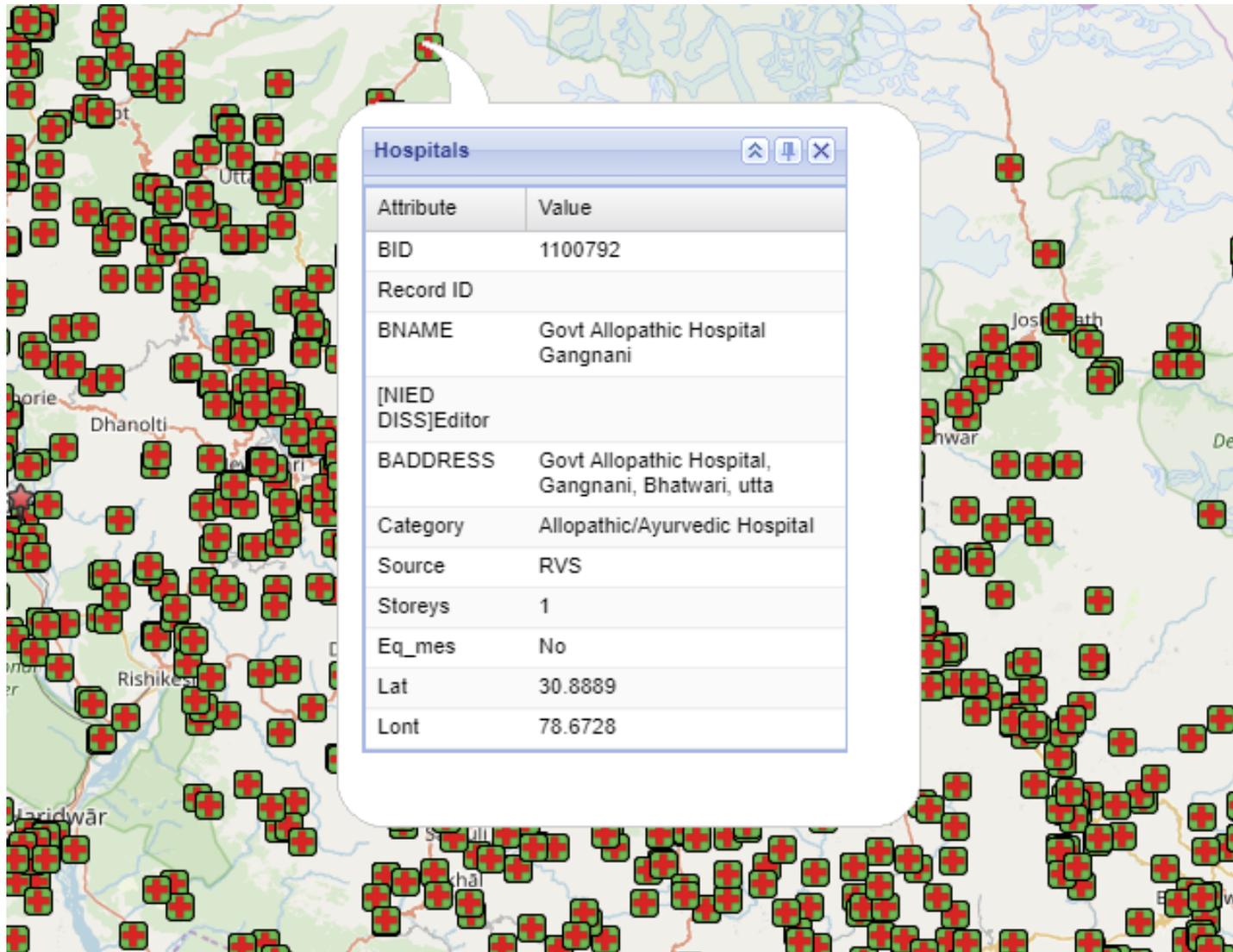
Add delivery target:

# Location and Contact Details of Govt. Officials and Volunteers



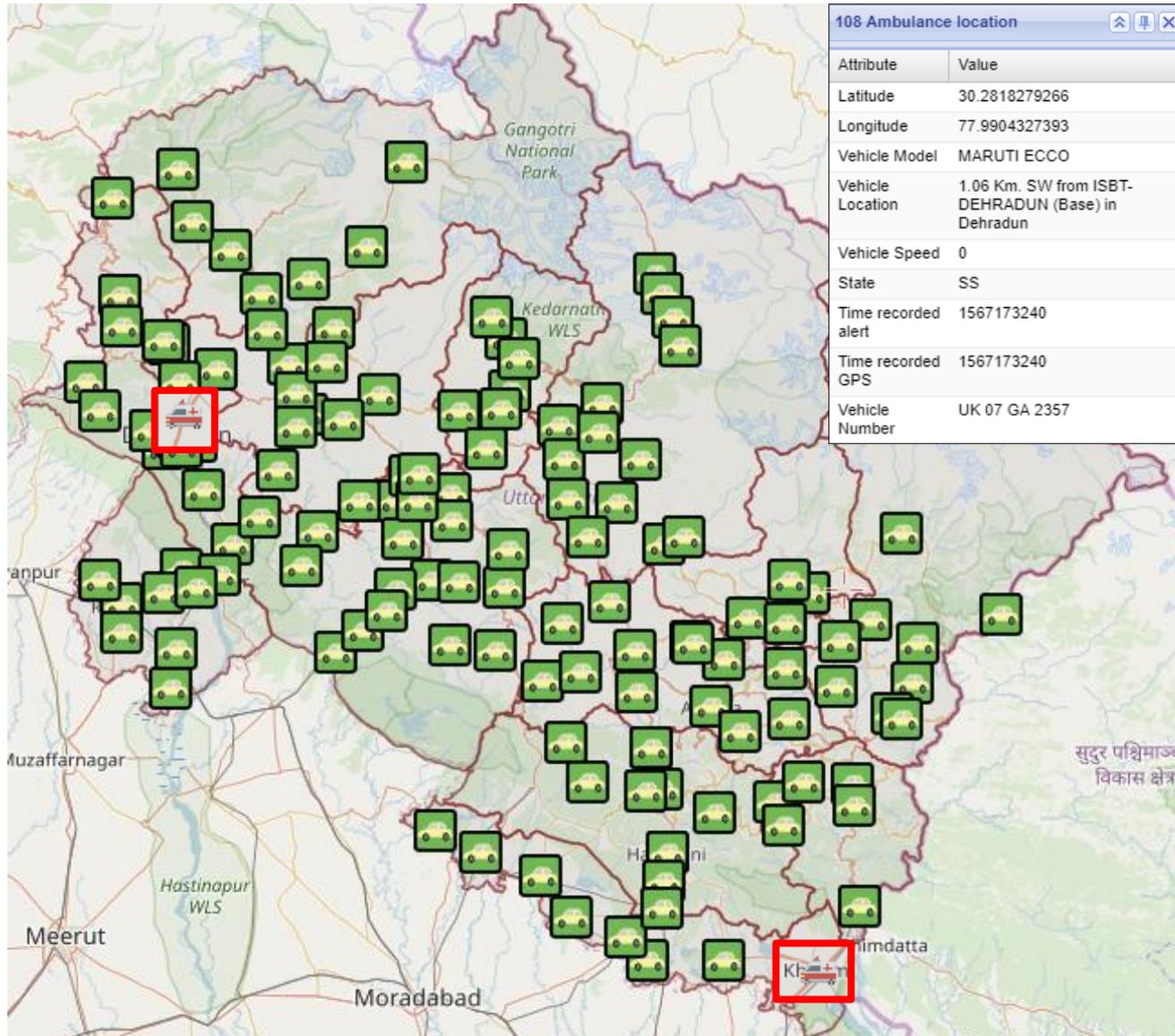
756 trained volunteers' contact in Uttarakhand have been integrated in system

# Location of Hospitals/Health Centers



Information of 1,940 hospitals (allopathic and Ayurvedic), CVC, CHC, PHC, combined hospitals, district hospitals, clinics, sub-health care centers, Trauma centers have been included in the system.

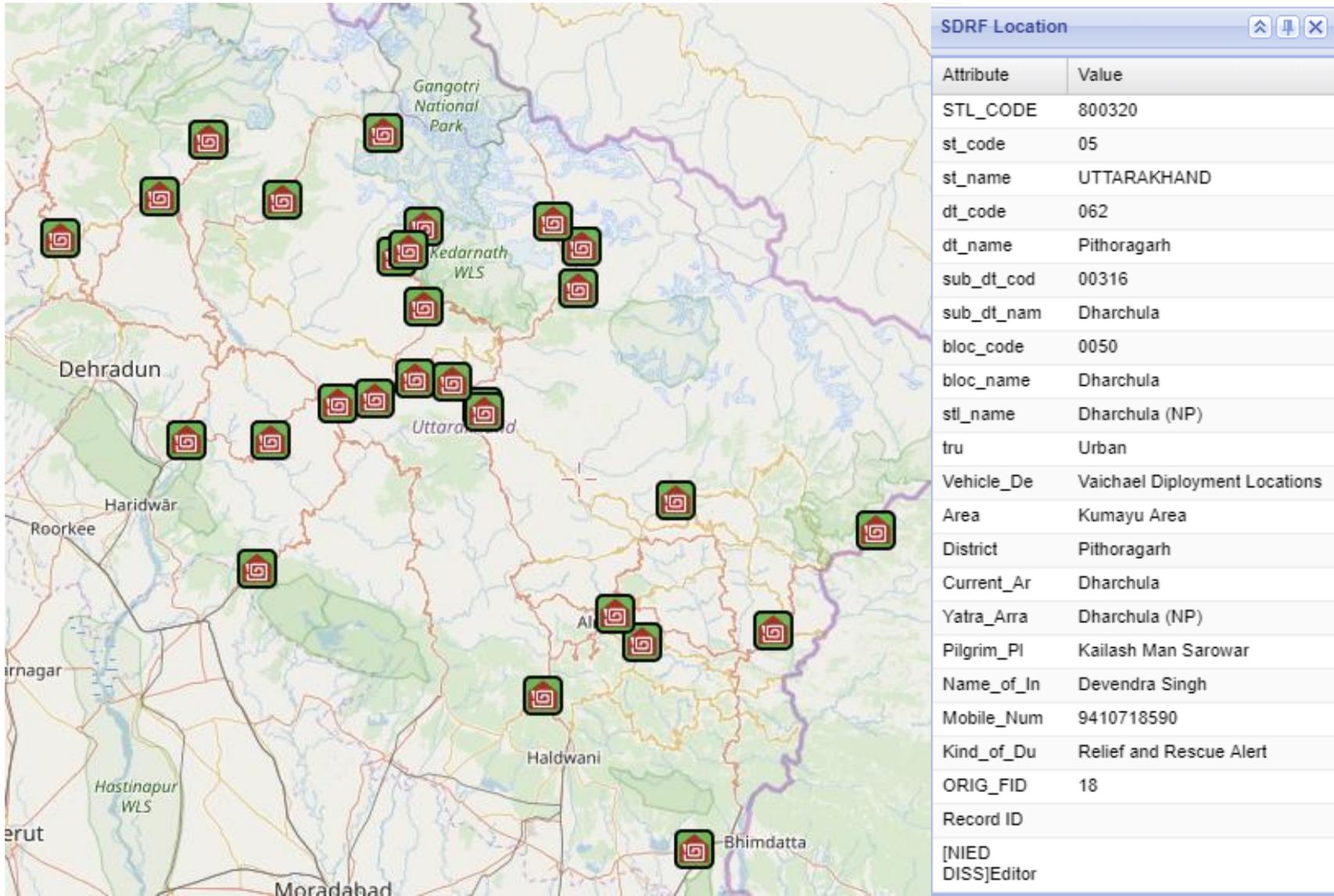
# Locations of Ambulances



141 ambulance station with real-time locations of the GPS-mounted ambulances are updated in every 15 minute, which can be seen in the system.

# Location SDRF Bases

Detail information on the SDRF bases and their locations are available in the system



# Management of Rescue Requests

Visualize and Rescue Request

HelpURLMeasHistory [ 8Items ]

Map

Maximize

	Record ID	Rescue Request	Emergency Level	Assigned Person	Assigned Organization	Last Modified	Remarks	Response Status	Districts
Total	390	-	-	-	-	-	-	-	-
  	60	Helicopter	Urgent	dr. kavinda	CAN_ASIA			Response Completed	Uttarkashi
  	59	Red Cross	High					Response Completed	Nainital
  	60	Red Cross	Low					Assigned	Bageshwar
  	60	Human Help	High	pratichhya	ait			Assigned	Bageshwar
  	53	Helicopter	Intermediate	pratichhya	gic			Assigned	Champavrat
  	49	Ambulance	Urgent	Ashok	USDMA			Response Completed	Dehradun
  	49	Red Cross	Intermediate	USDMA	USDMA	00:40:00		Response Completed	Rudraprayag
  									

Search

History

Past summary

CSV

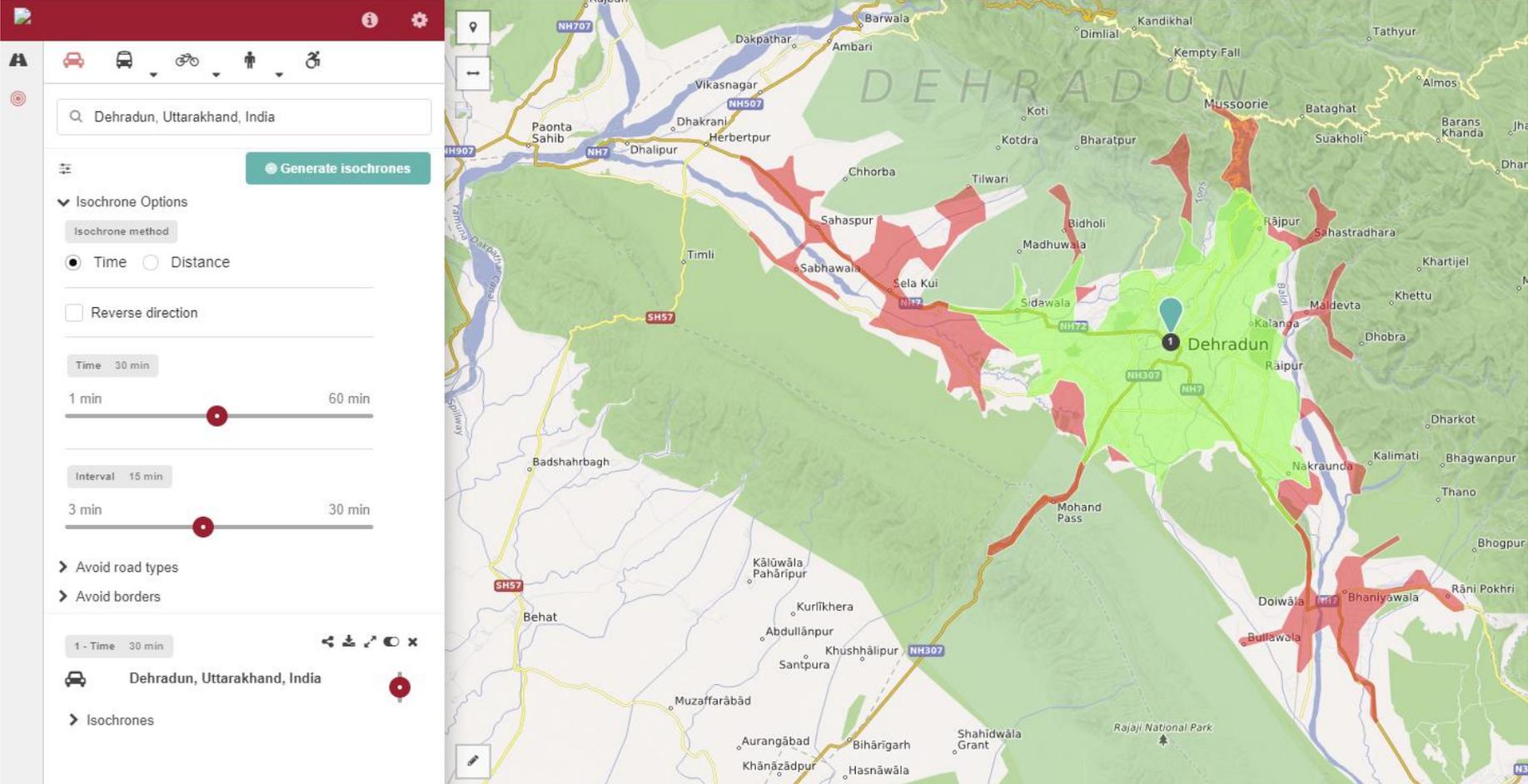
Register

Update

Send info

Print

# Time Required to Arrive at a Location



# Management of Shelters

## Locations of Shelters

**23,931 shelters** and their locations have been included in the system.

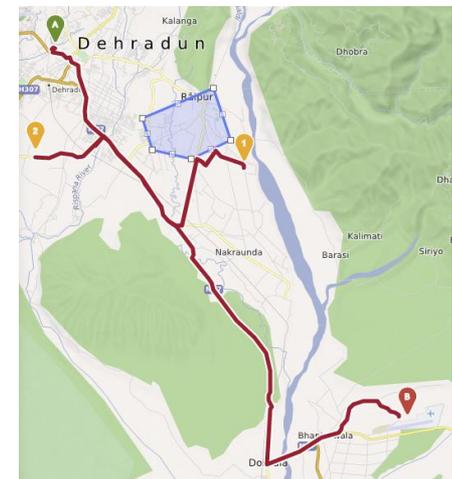
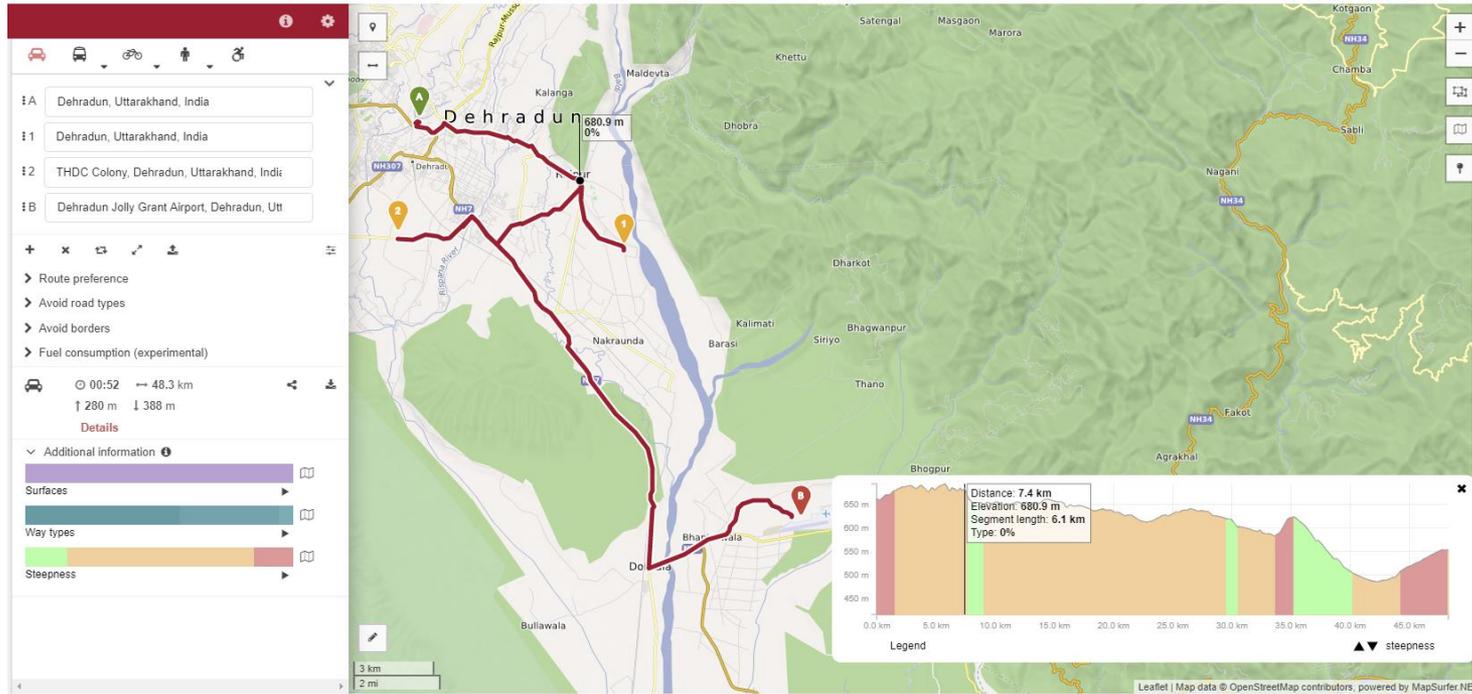
← → [1-101/23,931Items 1/240display page]

	Prescript facility	SCHOOL_NAM	SCHOOL_TYP	Status
Total	8	-	-	-
	Checked	ITI Sadar Kavrela	ITI	Not Established
	Checked	Govt. Degree college chaukhtia Almora C Block	Degree college	Not Established
		Govt. Degree college chaukhtia Almora B Block	Degree college	Established
	Checked	Govt. Degree college Chaukhtia Almora A Block	Degree college	Not Established
	Checked	Rajkiya mahavidyalaya Lamgada, Back side builind	University	Established
		Rajkiya Mahavidyalaya Lamgada, classrooms ,Almora	University	Established
	Checked	Rajkiya Mahavidyalaya Lamgada, old building, Block A Almora	University	Established
	Checked	Government Degree College Dug Nakuri, Bageshwar	Degree college	Established
	Checked	Degree College, Kapkot, Bageshwar, 1800089	Degree college	Established
	Checked	Degree College, Kapkot, Bageshwar, 1800089	Degree college	Established
		WORKSHOP ITI KAPKOT	ITI	
		ITI , Kapkot	ITI	
		ITI Office Kanda, Education Building	ITI	

## Facilities in Shelters

Food Stock Status	Blanket Status	Tent Status	Number of Tent	Temporary Toilet	SCHOOL_NAM
-	-	-	42550.00	-	-
Shortage	Extremely Shortage	Shortage		Available	ITI Sadar Kavrela
No problem	Extremely Shortage	Extremely Shortage	10	Not Available	Govt. Degree college chaukhtia Almora C ...
Shortage					Govt. Degree college chaukhtia Almora B ...
					Govt. Degree college Chaukhtia Almora A ...
Extremely Shortage					Rajkiya mahavidyalaya Lamgada, Back si...
					Rajkiya Mahavidyalaya Lamgada, classro...
					Rajkiya Mahavidyalaya Lamgada, old buil...

# Management of Roads and Re-routing of Traffic



# Report Generation

令和元 ▼ Year 10 ▼ Month 11 ▼ Day 10 ▼ Hour 49 ▼ minutes point in time info <input type="button" value="Display"/>							
<b>No. 4 format (1st)</b> (Disaster Overview immediate report)				Reporting date and time <input type="text" value="Oct.11,2019 at 10:10"/>			
Fire Defense Agency receive name: <input type="text"/>				Prefectures <input type="text" value="Nepal"/>			
Disaster name: <input type="text" value="test"/>				Municipalities (fire department HQ name) <input type="text" value="lalitpur"/>			
(No. <input type="text"/> Report)				Rapporteur name <input type="text"/>			
Disaster overview	Occurrence location			Occurrence date and time			
	<input type="text"/>			<input type="text" value="Jul.11,2019 at 12:07"/>			
<input type="text"/>							
Damage situation	Casualties	Deaths	<input type="text" value="0"/> People	Unknown	<input type="text" value="0"/> People	House	
		Injured	<input type="text" value="0"/> People	Total	<input type="text" value="0"/> People		
			Fully destroyed	<input type="text" value="0"/> Building	Partial damage		<input type="text" value="0"/> Building
			Partially destroyed	<input type="text" value="0"/> Building	Inundation above floor		<input type="text" value="0"/> Building
<input type="text"/>							
Situation of emergency	Disaster response HQ ,etc. Installation condition		(Local prefectural gov.) <input type="text" value="Nepal"/>		(City) <input type="text" value="Lalitpur City"/>		
	<input type="text"/>						

# Inbuilt Facilities – Easy to Add New Menu to the System (No. Programming Required)

Uttarakhand Disaster Management System Ver 2.2.0 Admin window

UttarakhandDehradun e-Com map C

**Configure and manage menu**

[Collapse all](#) | [Expand all](#)

- Local gov.
  - Login
    - [Group](#)
    - [Unit](#)
    - [Local gov. info](#)
  - System in general
    - [Menu hierarchy](#)
    - [Menu task type](#)
    - [Map master info](#)
- External map data
  - [Clearing house prior data info](#)
  - [Clearing house search info](#)
  - [Metadata default settings info](#)
  - [Clearing house data registration](#)
  - [Summary list info](#)
  - [Authorization info](#)
- Notifications
  - [Notification group info](#)
  - [Notification contact info](#)
  - [Notification template](#)
  - [Safety response status info](#)
- Alarms
  - [Alarm message settings info](#)
- Monitoring/observation
  - Weather info
    - [Acquired weather info](#)
    - [Weather XSLT info](#)
  - River info
    - [Telemeter](#)
    - [Menu settings](#)
  - Observation point
    - [Rainfall layer](#)
    - [Rainfall observation point](#)
    - [River water level layer](#)

ID	Menu table ID	Table item name	Name	Allowed to edit	Highlighting	Grouping	Allowed to sort	Default sort item	Allowed to uploac	Allowed to log ou	Initial check
236	140: VII. Discharge Information	111: THDC Discharge		false	false		true			1	
<b>Table list item info</b>											
684	236	attr0	Station Name	false	false	false	true		-1 false	false	false
685	236	attr1	River	false	false	false	true		-1 false	false	false
686	236	attr4	Sensor	false	false	false	true		-1 false	false	false
687	236	attr5	River Level	false	false	false	true		-1 false	false	false
688	236	attr7	Discharge	false	false	false	true		-1 false	false	false
689	236	attr6	Reservoirlevel	false	false	false	true		-1 false	false	false
Page 1 of 1											
<b>Table list karte info</b>											
ID	Menu table ID	Table item name	Name	Allowed to edit	Highlighting	Group folde					
Page 1 of 0											
Page 1 of 1											
<b>Filter info</b>											
ID	Menu ID	Name	Filter ID	Notes	Valid / i						
Page 1 of 0											
Page 1 of 1											
<b>Page button info</b>											
ID	Menu ID	Page button ID	Link	Target name	Available f						
324	140: VII. Discharge Information	2: Print			true						
325	140: VII. Discharge Information	3: Send info			true						
326	140: VII. Discharge Information	17: Search			true						
Page 1 of 1											
<b>Map layer info</b>											
ID	Menu ID	Table master ID	Initially displayed flag	Legend folding	Edit flag	Add flag	Search flag	Snap flag	Cropping		
589	140: VII. Discharge Inform	111: THDC Discharge	true	true	false	false	true	false			
341	140: VII. Discharge Inform	95: Discharge layer	true	false	false	false	true	false			
343	140: VII. Discharge Inform	24: Fire_Stations	false	false	false	false	true	false			
344	140: VII. Discharge Inform	25: Govt_Buildings	false	true	false	false	true	false			
345	140: VII. Discharge Inform	27: Hospitals	false	true	false	false	true	false			
346	140: VII. Discharge Inform	28: Police_Stations	false	true	false	false	true	false			
348	140: VII. Discharge Inform	29: Schools	false	true	false	false	true	false			
349	140: VII. Discharge Inform	31: Dams	false	true	false	false	true	false			
350	140: VII. Discharge Inform	32: Mines	false	true	false	false	true	false			
351	140: VII. Discharge Inform	33: Tourism	false	true	false	false	true	false			

# In-build Training Planning Tool

**Training panel** [Admin window](#) [ait] [Logout](#)

[Training\\_plan list](#)  
Test Training Plan  
Disaster info xml editing

**Training plan list** Create new training plan

Creating local gov. ↕	Training name ↕	Update date ↕	Edit ↕	Copy	Delete ↕
Dehradun	Test Training Plan	May.6,2019 at 12:05	Edit	Copy	Delete

**Past training data list**

Training name ↕	Training completion date ↕
-----------------	----------------------------

# Voice Messaging



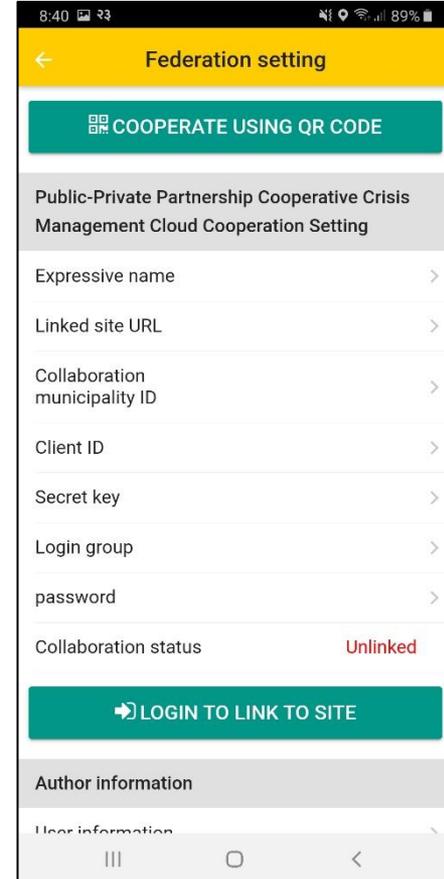
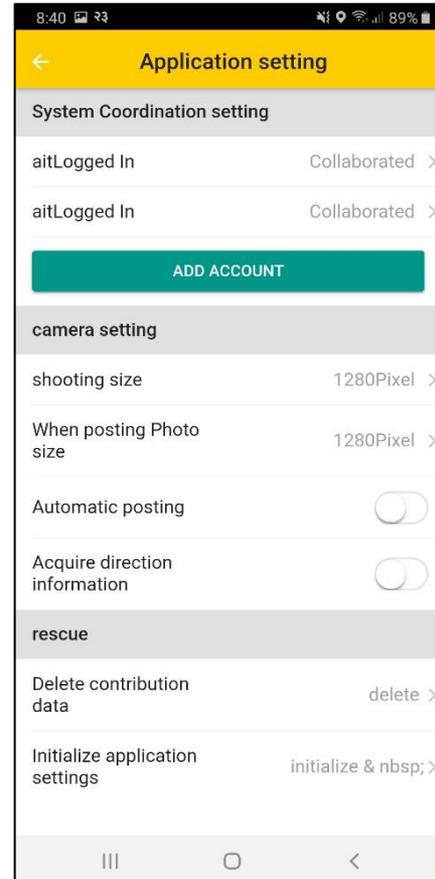
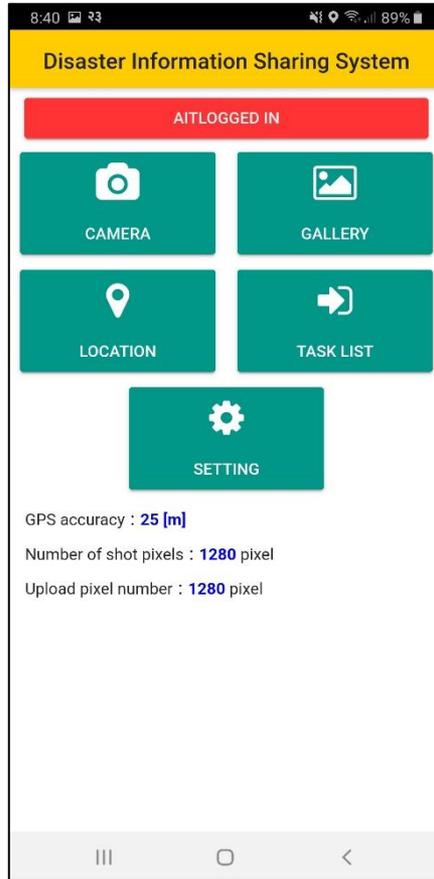
“The flood level has rinsed. **Please adopt safety measures.**”



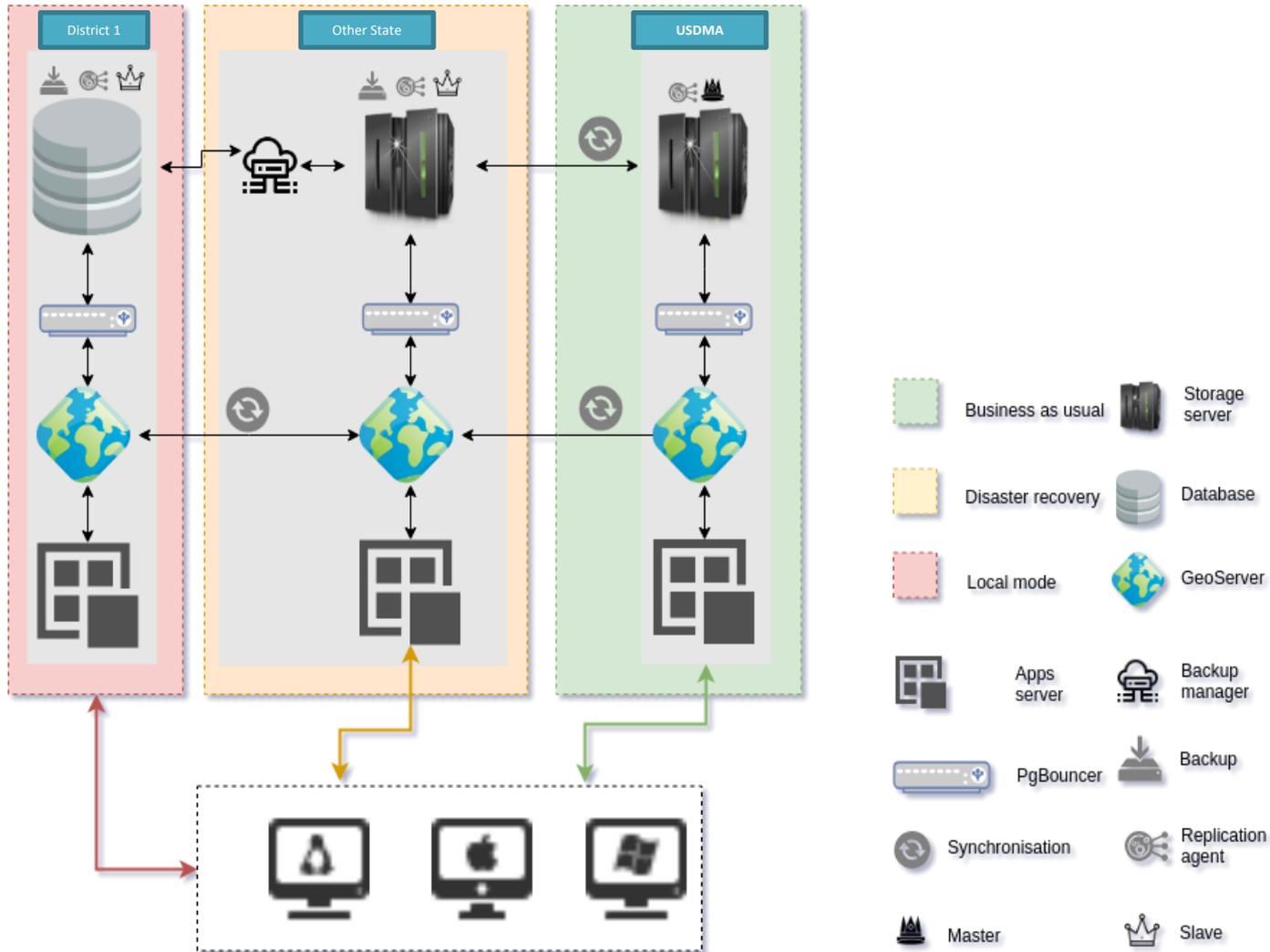
Voice message to list of phone numbers

# Authorized Mobile Application

post-appli authorized QR



# Inbuilt Facilities – BCP



**Thank you for your kind attention**



**GIC**