



# REGIONAL SDMA's AND INSTITUTIONS CONCLAVE



## LEVERAGING GEOSPATIAL TECHNOLOGIES IN DISASTER MANAGEMENT-KARNATAKA



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# LEVERAGING GEOSPATIAL TECHNOLOGIES IN DISASTER MANAGEMENT



## GEOSPATIAL TECHNOLOGY

“An emerging field of study that includes Geographic Information System (GIS), Remote Sensing (RS) and Global Positioning System (GPS)”

Geospatial technology enables us to acquire data that is referenced to the earth and use it for analysis, modelling, simulations and visualization



# GEOSPATIAL CAPABILITIES



- Location - Where is it...?
- Condition - What is at...?
- Trends - What has changed since...?
- Patterns - What spatial patterns exists...?
- Modelling - What if...?
- Routing - Which is the best way...?

- Geospatial Intelligence
- G-Authentication
- G-Analytics
- G- Reality

“There is a great need for Spatial Relations in the effective DM”

# GEOSPATIAL TECHNOLOGY APPLICATIONS IN DISASTER MANAGEMENT

GIS Enabled Applications for mapping

Identifying, Mapping & Notifying Disaster affected areas

Data Collection Through

Weather,  
Seismic,  
Water Level,  
Lightning  
& Thunderstorm  
Monitoring  
Stations

Many Data Sources

GIS ENABLED DATABASE  
&  
WEB-APPLICATIONS

Integrate & Analyze  
Generatiing Maps / Charts /  
Reports / Alerts / Early  
Warning

ICT TOOLS

Information Dissemination  
To The Users



E-Mail



SMS



Website



WhatsApp



KSNDMC  
Varuna  
Mitra  
Helpdesk



Social  
Media



SEOC



DEWS



MOBILE  
APPS



# VULNERABILITY OF KARNATAKA IN NATURAL DISASTERS



**80%** of the Geographical area prone to **DROUGHT**

**HEAVY RAIN/FLOODS** are experienced every year since 2009

**22%** of the Geographical area is prone to moderate **EARTHQUAKES**

**24%** of the geographical area prone to **CYCLONE AND HEAVY WINDS**

**LANDSLIDES** do affect the areas with slopes of more than **30%**

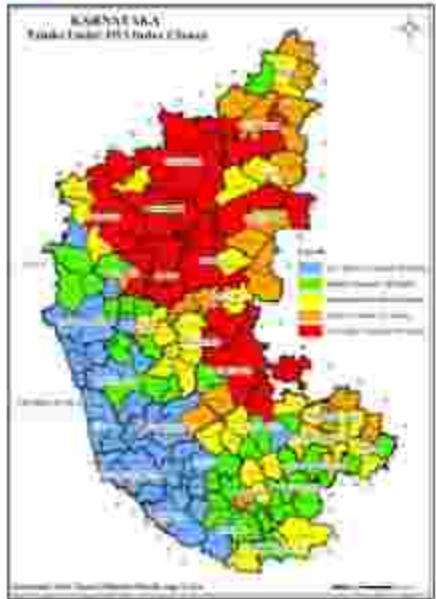
**359 km** coastal line prone to **SEA-EROSION AND TSUNAMI THREAT**

**HAILSTORMS** are experienced almost every year

**Thunder storms, cloud burst and Lightning** causes considerable damages and loss

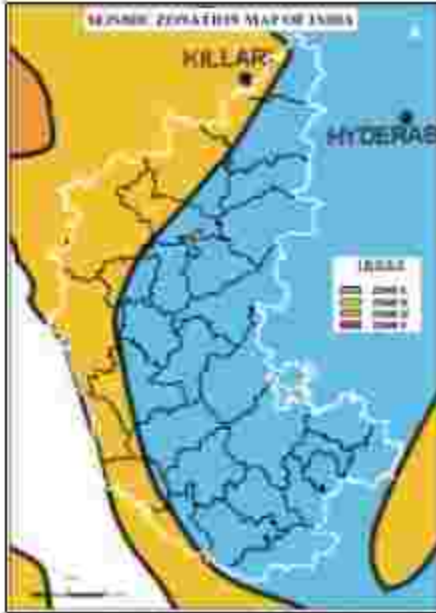
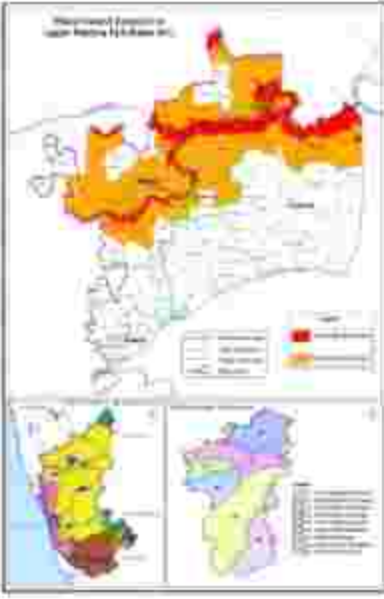


# VULNERABILITY OF KARNATAKA IN NATURAL DISASTERS MAPS



**Flood Prone**

**Drought Prone**



**Earthquake Prone**

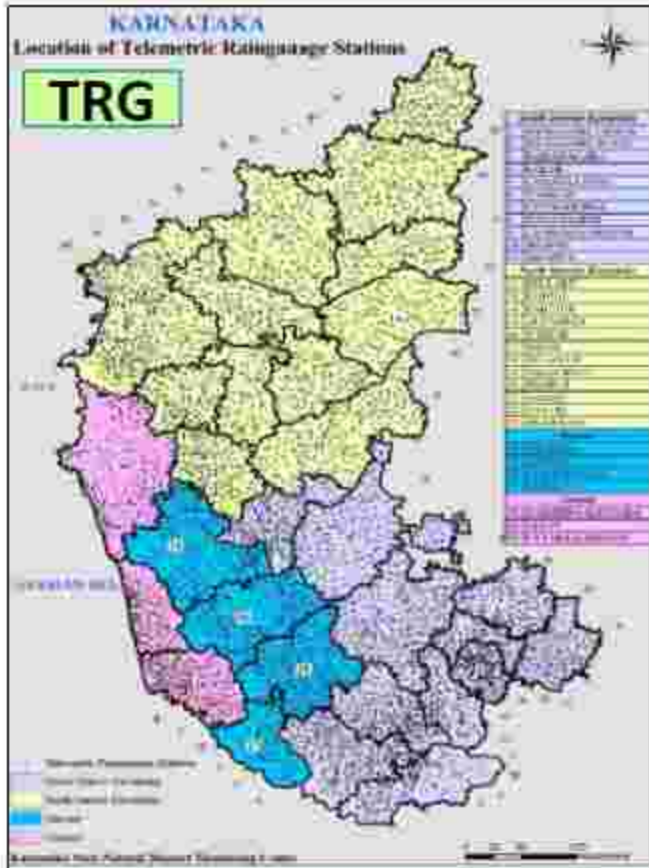


**Cyclone Prone**

**Landslide Prone**



# WEATHER MONITORING NETWORK

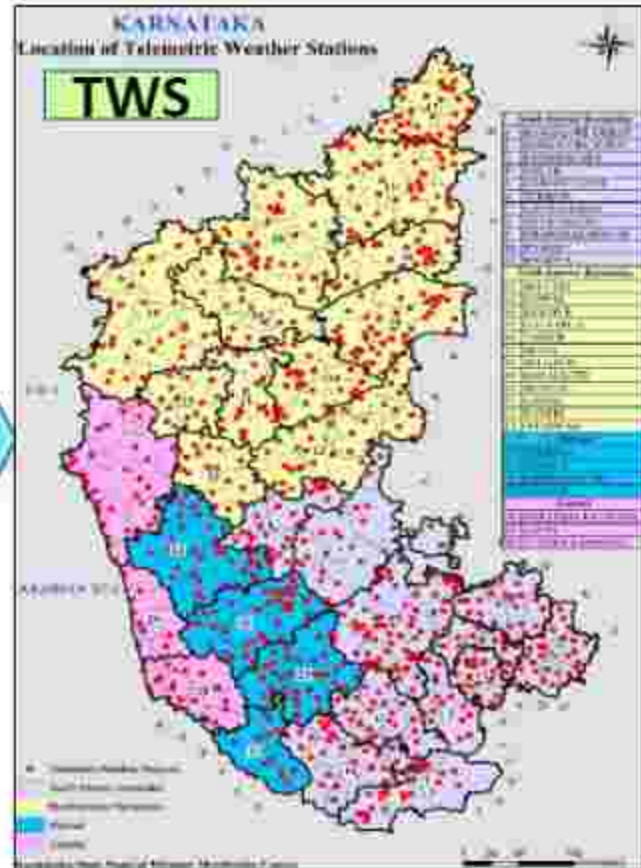


TRG

TELEMETRIC RAINGAUGE STATION



DENSITY OF WEATHER MONITORING NETWORK IS FIRST OF ITS KIND



TWS

TELEMETRIC WEATHER STATION

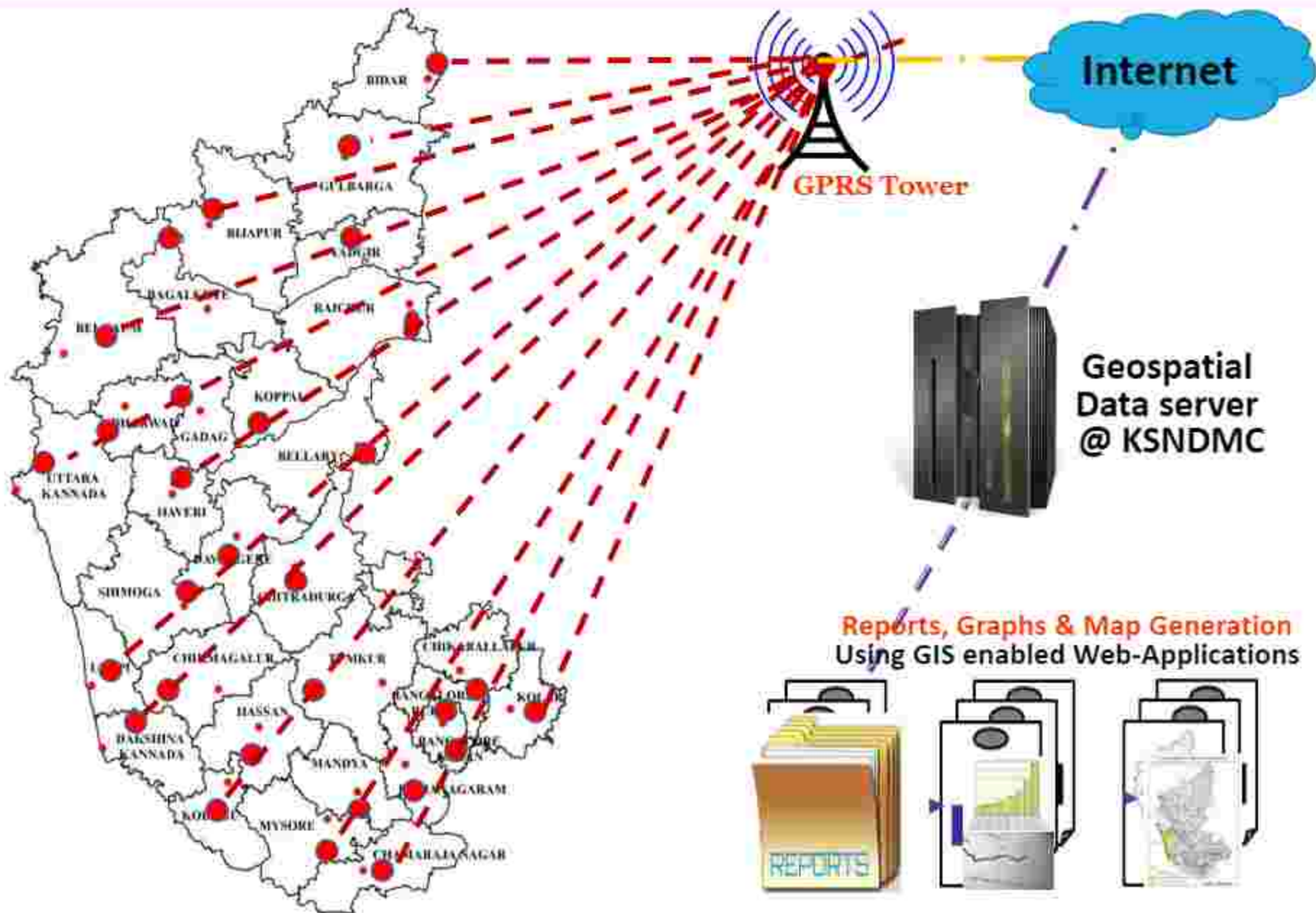


132 WATER LEVEL SENSORS in Bengaluru City



7400 stations X 96 data points per day is the density of data coming to GIS enabled server

# DATA COLLECTION, ANALYSIS, REPORT GENERATION





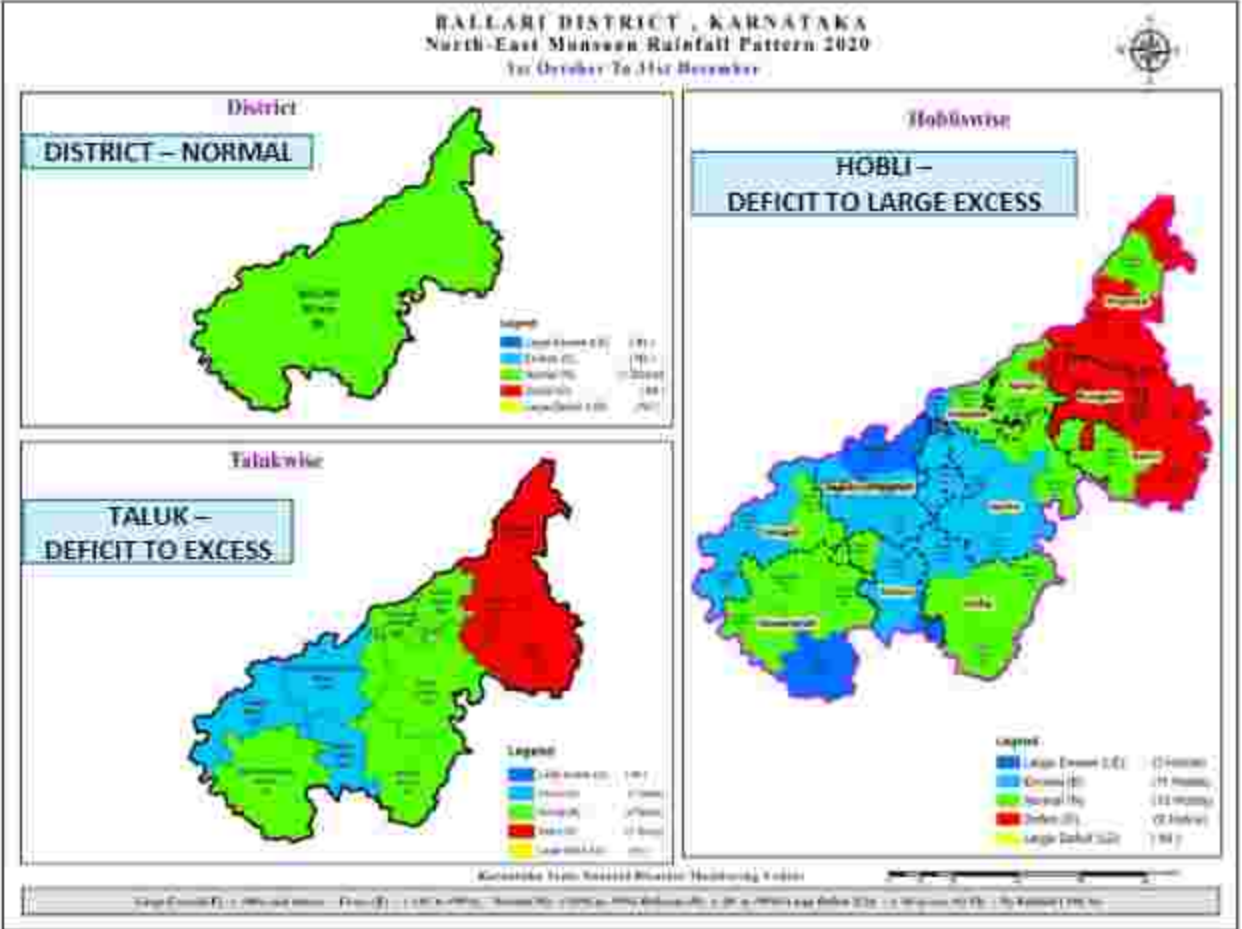
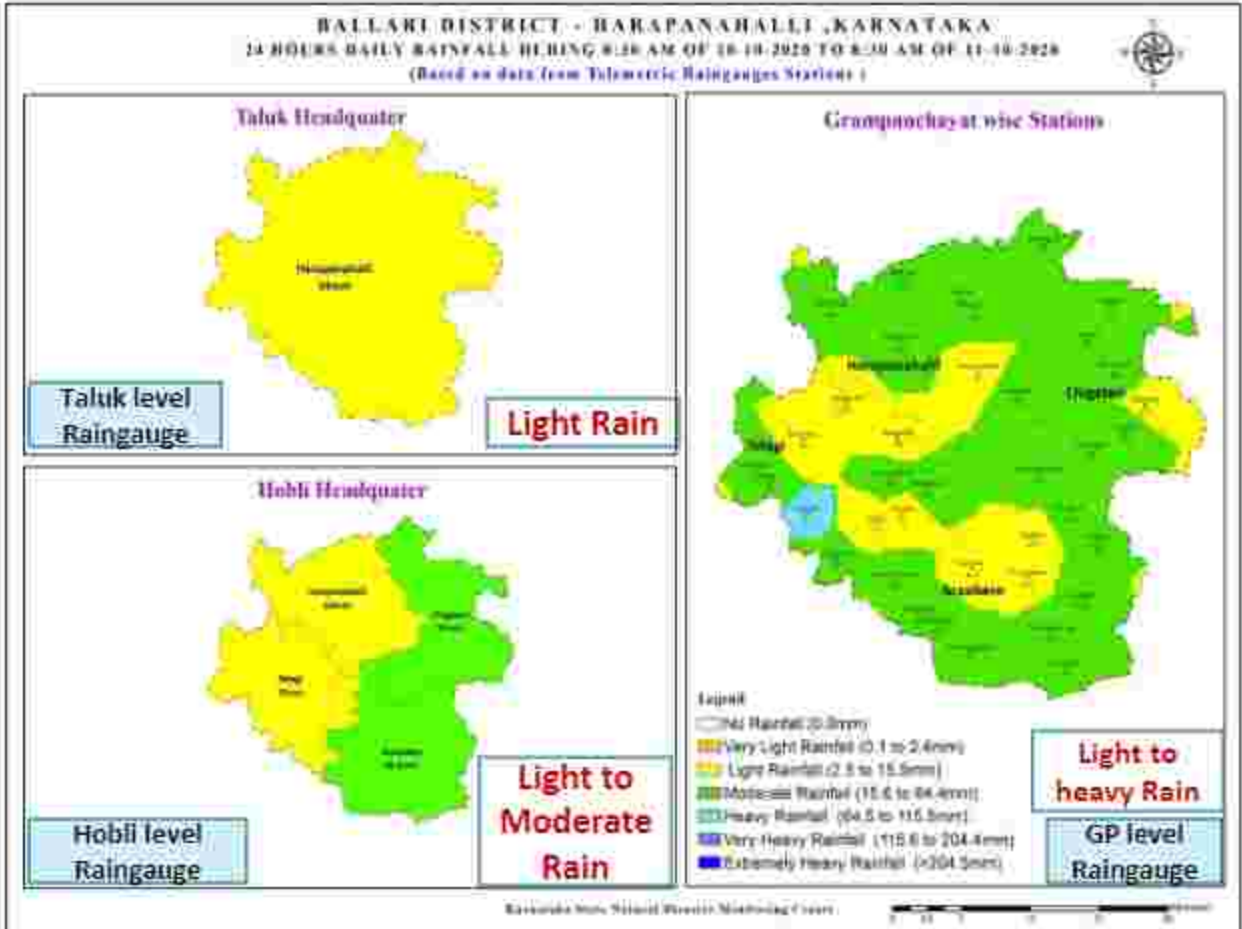


# IMPROVEMENT IN CAPTURING SPATIAL RESOLUTION OF RAINFALL: HARAPANALLI TALUK, BALLARI DISTRICT

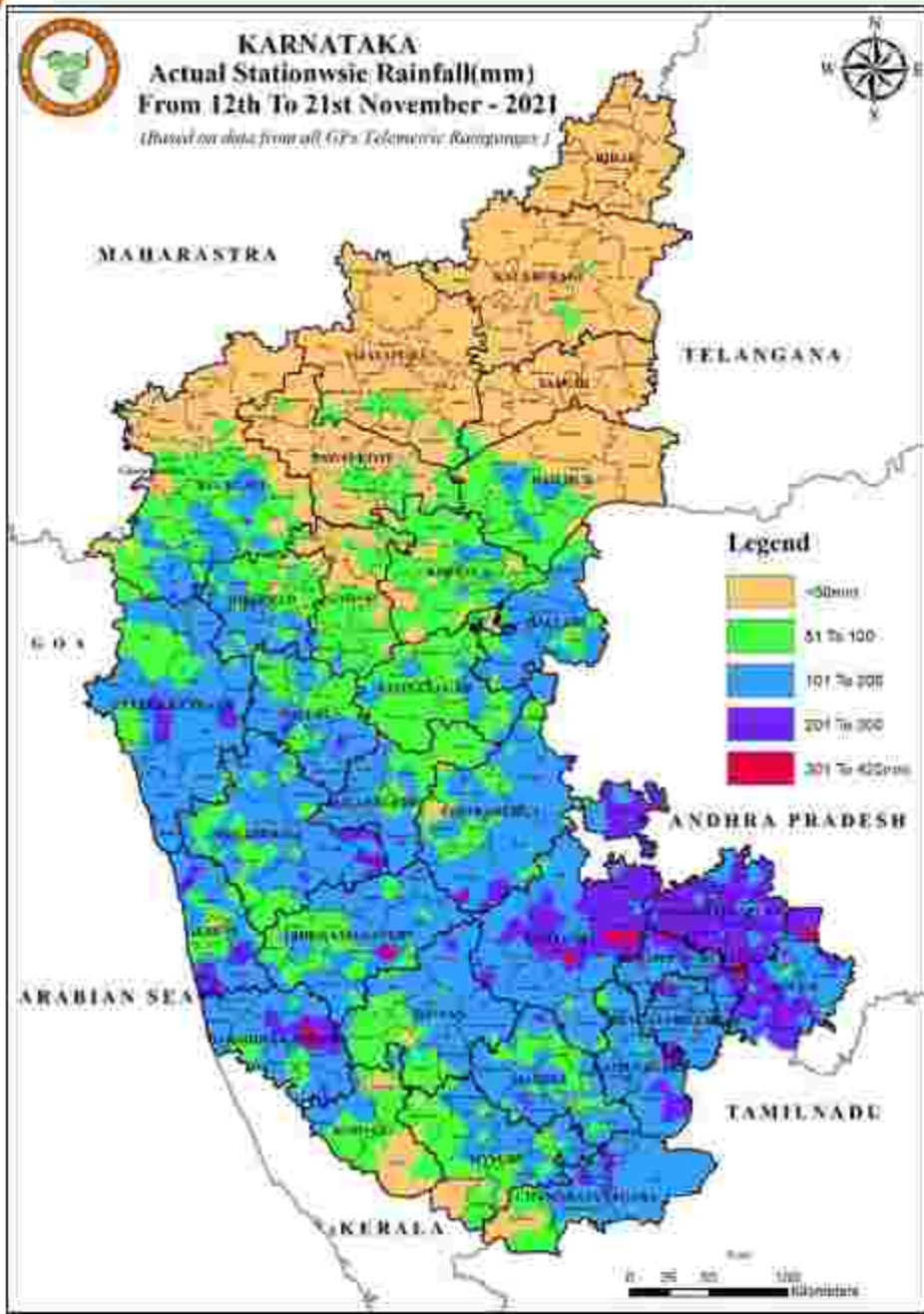


## DAILY ACTUAL RAINFALL

## SEASONAL RAINFALL PATTERN



# STATIONWISE ACTUAL RAINFALL (MM) – 12<sup>TH</sup> TO 21<sup>ST</sup> NOVEMBER 2021



**Highest Cumulative Rainfall :**  
420 mm received at **Lakya (GP), Chikkamagaluru taluk , Chikkamagaluru district**

**More than 300 mm of cumulative rainfall recorded in**  
**Bengaluru Rural, Chikkaballapura, Chikkamagaluru, Chitradurga, Dakshina Kannada, Hassan, Kolar and Tumakuru Districts**



# GIS-ENABLED WEATHER DASHBOARD



## ARCHIVED WEATHER INFORMATION - KSNDMC

[HOME](#)[CURRENT DATA](#)[COMPARISON](#)

Select Date:

Time Interval:

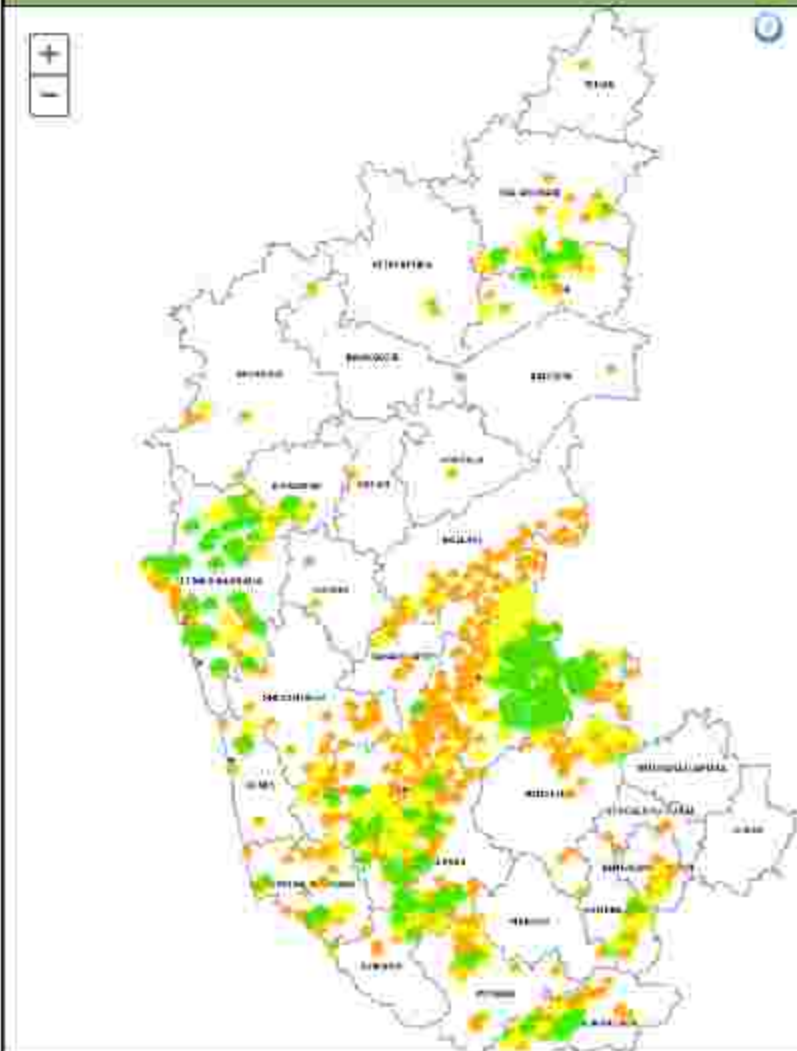
Hrs: Mins: [Get Map](#)

### RAINFALL MAP (mm)

Data Received at: 19 February 2021, 17:00:00 Hours (15 Min. Interval Data)

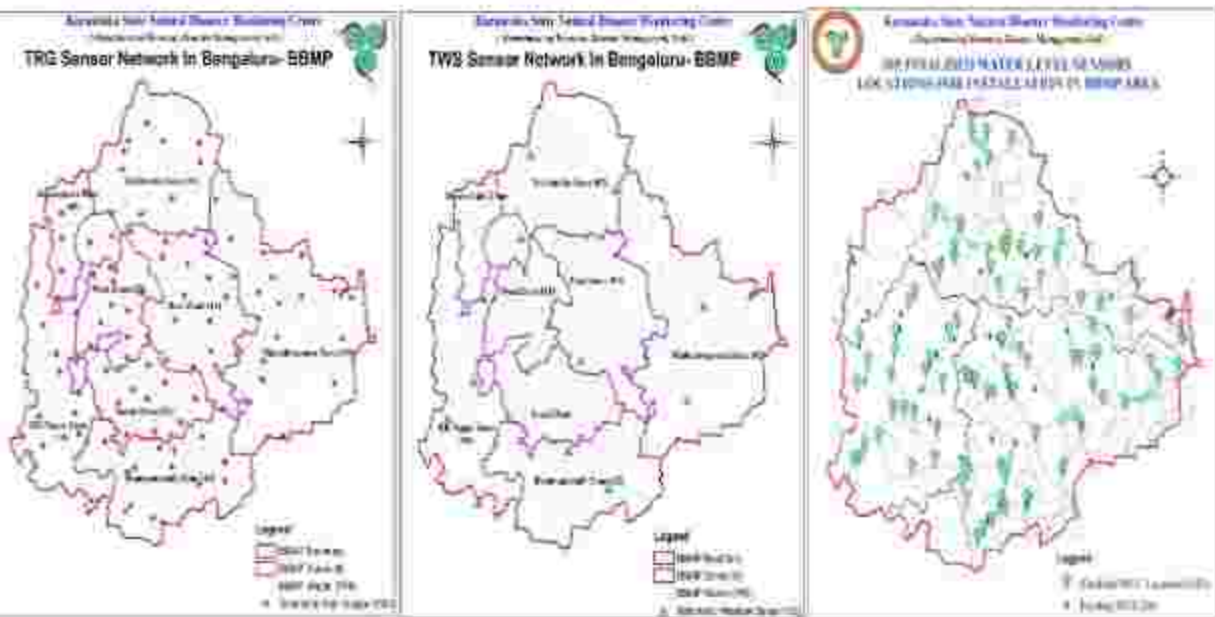
District Name	Rainfall Range (.mm)	Temperature Range (°C)	RH Range (%)	Wind Speed Range (m/s)	Wind Direction Range(°)
BAGALKOTE	0-20.4	19.2-22.1	75-84.7	0-15.6	112-150
BALASAR	0-2.5	19-26.7	54.9-74.2	0-7.4	10-140
BELGAVI	0-3.1	21-26.7	46.7-66.1	0-11.9	0-70
BELTANGURAH	0-20.4	22.8-27	40.5-72.4	0-10	0-204
BESANUR	0-1.1	22.1-27.2	38.3-61.3	0-1.8	0-110
BIDAR	0-1.1	20.8-24.4	40.2-57.8	0-1.1	0-240
BIDAR	0-4	19.1-24	74-79	0-4.6	0-70
BIRAHOLKALAPUR	0-20.4	21.4-27	47.7-74.2	0-7	0-70
BIRAHOLKALAPUR	0-4	19.4-27.1	54.7-66.1	0-10	0-70
BITHOOR	0-10.4	18.8-22.8	53.3-67.3	0-4.6	40-205.1

VLR - Very Light Rain(>=0.5to<2.4):		RHR - Rather Heavy Rain(>=64.5to<115.5):	
LR - Light Rain(>=2.5 to <15.5):		HR - Heavy Rain(>=115.6 to <204.4):	
MR - Moderate Rain(>=15.6to<64.4):		VHR - Very Heavy Rain(>=204.5):	



# BENGALURU URBAN FLOOD MONITORING SYSTEM

*BBMP area- Existing Sensor System from 2013 onwards*



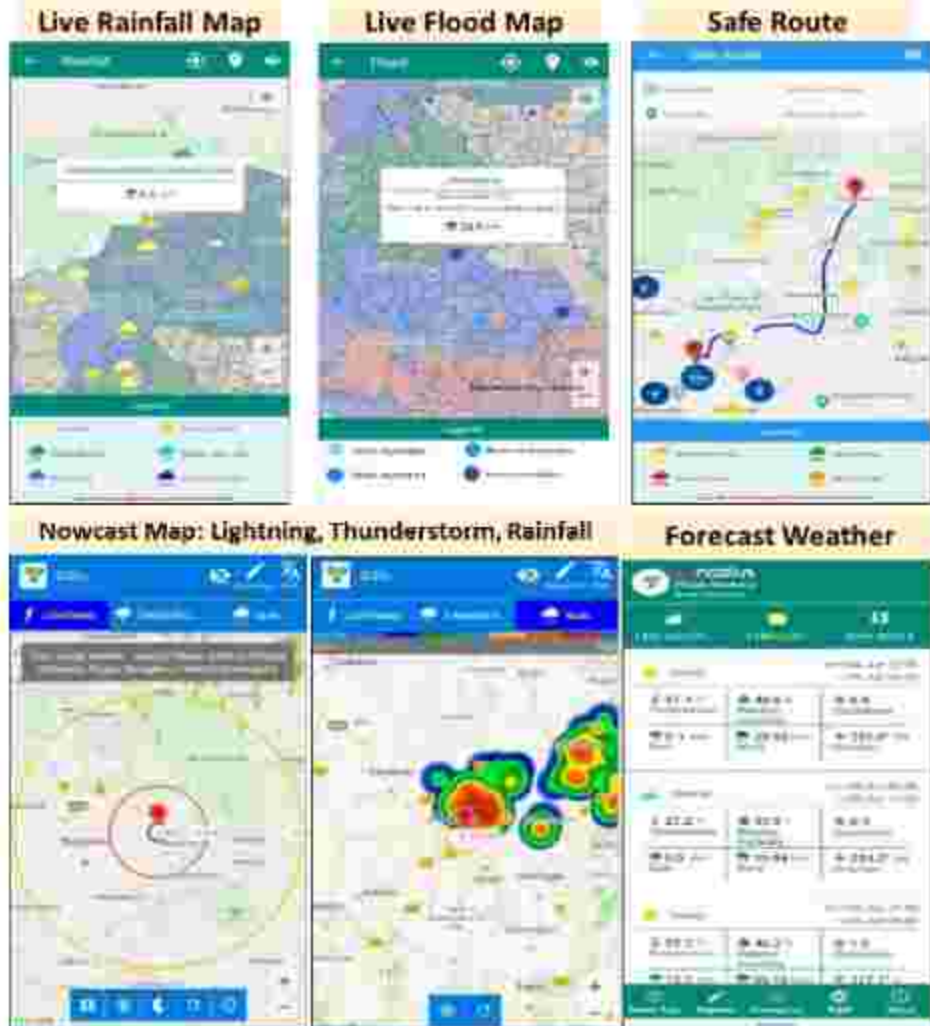
**Telemetric Rain Gauge (TRG) - 100**  
Average density 1 in ~7 sq. Km

**Telemetric Weather Monitoring Station - 12**  
Average density 1~ 59 sq. Km

**Telemetric Water Level Sensors - 132**

**GPRS enabled and Solar Powered**

**Bengaluru Meghasandesha**



**LIGHTNING & URBAN FLOOD EARLY WARNING THROUGH GIS-ENABLED MOBILE APP**

# BENGALURU CITY – BBMP RAINFALL – 22-11-2021



Karnataka State Natural Disaster Monitoring Centre  
BBMP, BANGALORE URBAN DISTRICT, KARNATAKA  
24 HOURS DAILY RAINFALL BULLETIN 8:30 AM OF 21-11-2021 TO 8:30 AM OF 22-11-2021  
(Based on data from Yellamma's Rain Gauge)

Maximum Rainfall : 153mm  
District : Bengaluru Urban  
Taluk / Zone : Yelahanka  
Hobli/GP/Ward : Jakkuru-2



## Legend

No Rainfall (0.0mm)	(0%)
Very Light Rainfall (0.1 to 2.4mm)	(2%)
Light Rainfall (2.5 to 15.5mm)	(17%)
Moderate Rainfall (15.6 to 64.5mm)	(48%)
Heavy Rainfall (64.6 to 119.5mm)	(4%)
Very Heavy Rainfall (119.6 to 204.4mm)	(2%)
Extremely Heavy Rainfall (>204.5mm)	(1%)

RAINFALL VARIES FROM VERY LIGHT RAIN TO  
VERY HEAVY RAINS UPTO 153 MM WITHIN  
CITY

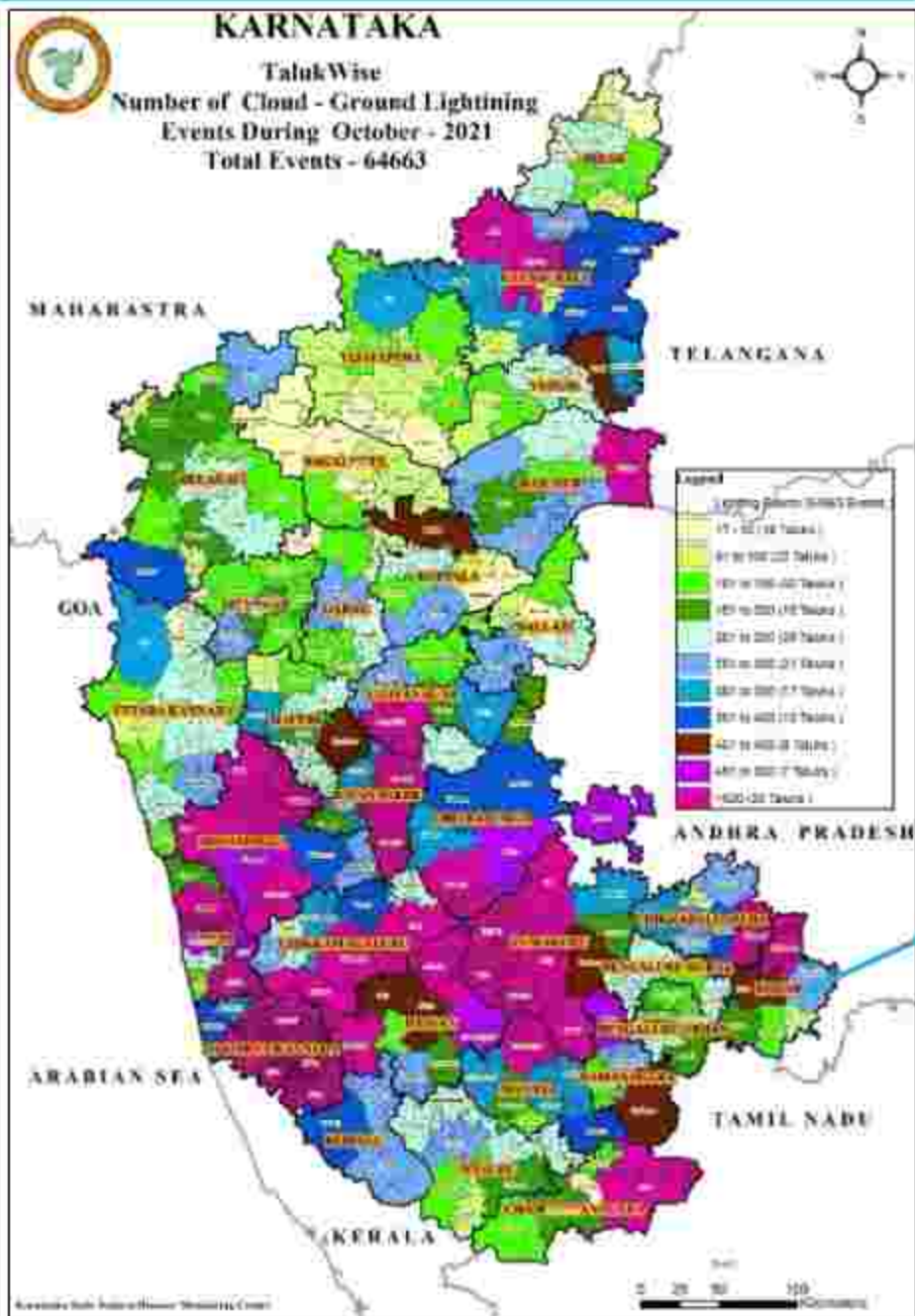
FLOODS AT YELAHANKA ZONE AREA



# LIGHTNING EVENTS – OCTOBER 2021

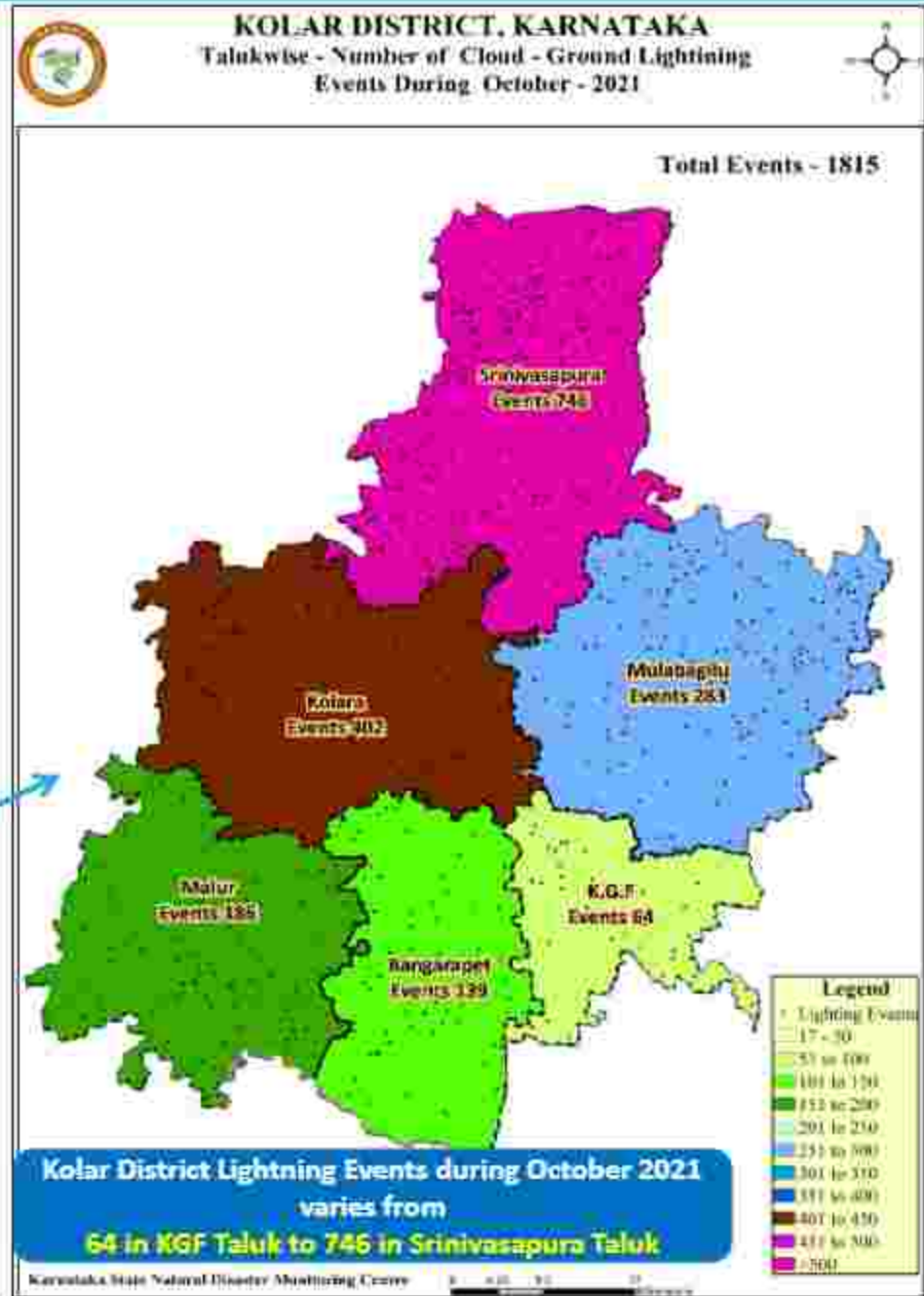
## KARNATAKA

TalukWise  
Number of Cloud - Ground Lightning  
Events During October - 2021  
Total Events - 64663



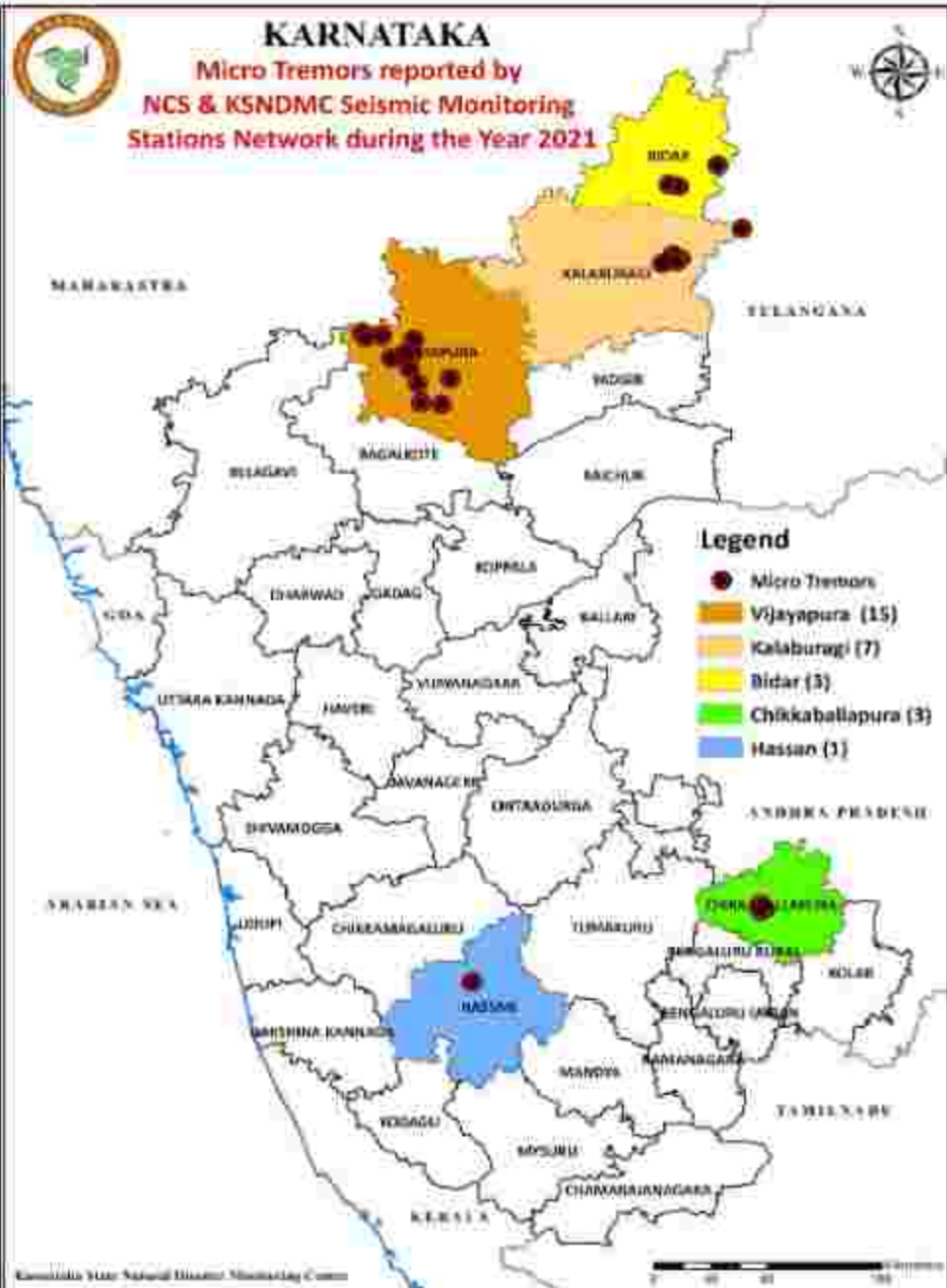
## KOLAR DISTRICT, KARNATAKA

Talukwise - Number of Cloud - Ground Lightning  
Events During October - 2021





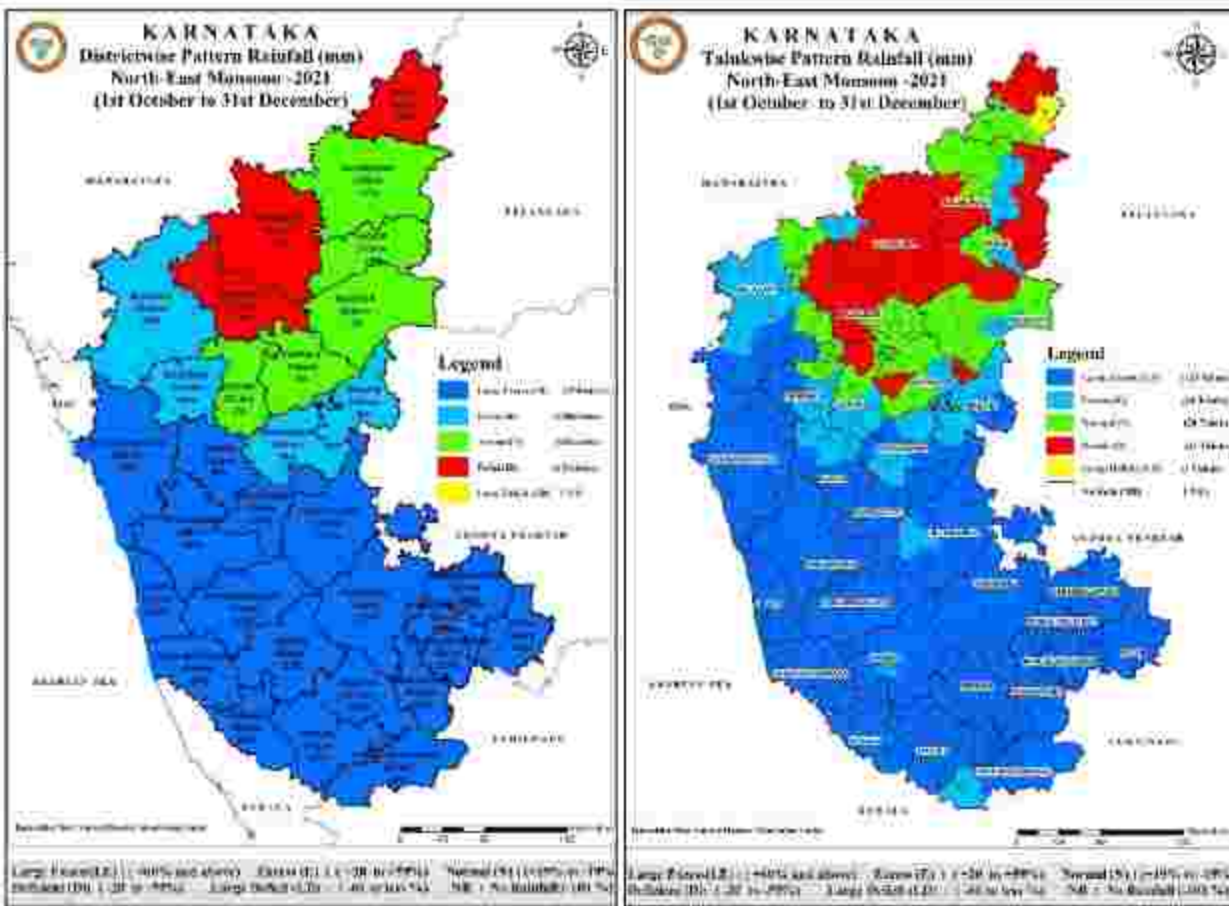
# Micro Tremors reported by NCS & KSNDMC Seismic Monitoring Stations Network during the Year 2021



Sl. No.	Date & Time (IST)	Epicentre	Taluk	District	Magnitude	Depth (Km)
1	31:12:2021:03:33:05	0.9 kms ESE of Masabinal GP	Basavana Bagewadi	Vijayapura	2.9	10
2	04:09:2021:23:48:17	Vijayapura Town	Vijayapura	Vijayapura	3.3	2
3	04:09:2021:23:49:24	Vijayapura Town	Vijayapura	Vijayapura	4.1	2
4	11:09:2021:08:18:47	Vijayapura Town	Vijayapura	Vijayapura	3.2	26
5	01:10:2021:13:47:06	2.5 kms NE of Masuti GP	Basavana Bagewadi	Vijayapura	2.5	15
6	01:10:2021:16:10:05	10 kms SW of Vijayapura City	Vijayapura	Vijayapura	2.2	10
7	02:10:2021:08:31:34	2.9 kms NNE of Bijjaragi GP	Vijayapura	Vijayapura	2	10
8	05:10:2021:15:10:17	02 kms West of Masuti GP	Basavana Bagewadi	Vijayapura	2.9	10
9	08:10:2021:00:22:06	1.7 kms South of Baratagi GP	Vijayapura	Vijayapura	2.5	8
10	14:10:2021:18:22:05	2.6 kms SW of Hittinahalli GP	Vijayapura	Vijayapura	3.1	10
11	17:10:2021:07:57:38	3.6 kms WSW of Mangoli GP	Basavana Bagewadi	Vijayapura	1.8	8
12	18:10:2021:18:46:47	3.6 kms WNW of Somadevarahatti	Tikota	Vijayapura	1.5	8
13	18:10:2021:19:03:57	3.6 kms WNW of Somadevarahatti	Tikota	Vijayapura	1.2	8
14	19:10:2021:06:11:26	1.4 kms WNW of Mannur GP	Basavana Bagewadi	Vijayapura	2.6	10
15	20:10:2021:10:29:22	2.9 kms NNW of Dhantaragi	Vijayapura	Vijayapura	3.6	18
16	08:10:2021:00:44:06	2.2 kms East of Halchera GP	Kalagi	Kalaburagi	2.6	10
17	09:10:2021:05:37:53	1.1 kms SSW of Korvi	Chincholi	Kalaburagi	3.2	10
18	10:10:2021:06:05:59	2.1 kms NE of Kodadur	Kalgi	Kalaburagi	3.0	12
19	21:10:2021:21:55:38	1.6 kms NNE of Gadikeshwar GP	Chincholi	Kalaburagi	4.0	5
20	12:10:2021:08:07:08	1.6 kms WSW of Kupnoor GP	Chincholi	Kalaburagi	3.5	5
21	12:10:2021:08:18:51	1.3 kms SE of Gadikeshwar GP	Chincholi	Kalaburagi	2.8	8
22	17:09:2021:17:32:25	1.5 kms NNE of Rayapura	Hassan	Hassan	2.3	10
23	22:12:2021:07:10:05	1.4 kms SSE of Mandikal GP	Chikkaballapura	Chikkaballapura	2.9	11
24	22:12:2021:07:14:59	1.23 kms ESE of Bhogewathi village	Chikkaballapura	Chikkaballapura	3.0	23
25	23:12:2021:14:16:46	1.2 kms SE of Sadenahalli village	Chikkaballapura	Chikkaballapura	3.6	18
26	12:12:2021:19:01:22	1.4 kms ENE of Kumbarnada	Bidar	Bidar	1.8	19
27	31:12:2021:15:38:50	3.5 kms SW of Sitalgera GP	Hummabad	Bidar	2.8	7
28	31:12:2021:20:24:24	0.5 kms W of Sirkatnalli village	Bidar	Bidar	2.6	7
29	11:10:2021:06:31:10	1.1 kms ENE of Maniyarpalli	Sangareddy District	Telangana (India)	2.5	8

# NORTHEAST MONSOON SEASONAL CONDITION - 2021

## District & Taluk - Rainfall Pattern- Northeast Monsoon 2021



## Oct-Dec 2021 - Rainy Days



## Standard Precipitation Index (SPI) - Nov' 2021







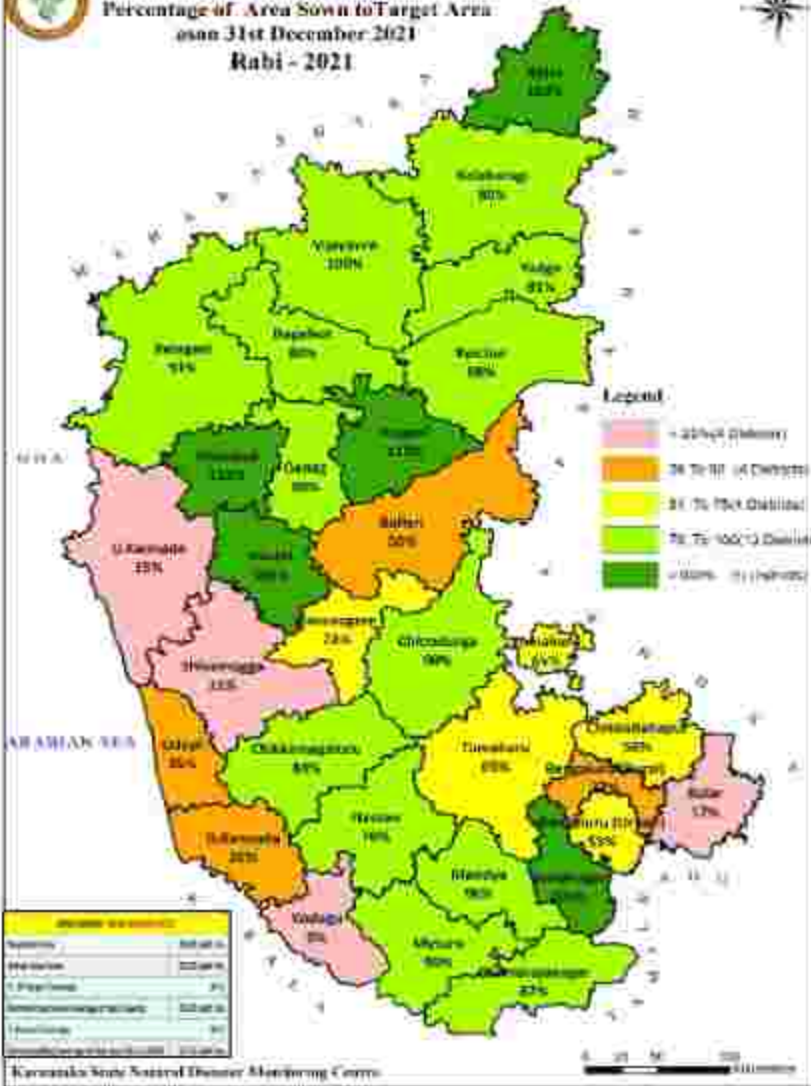
# AGRICULTURE, MAI & VEGETATION INDICES



## Agriculture Rabi Area Sown 2021

### KARNATAKA

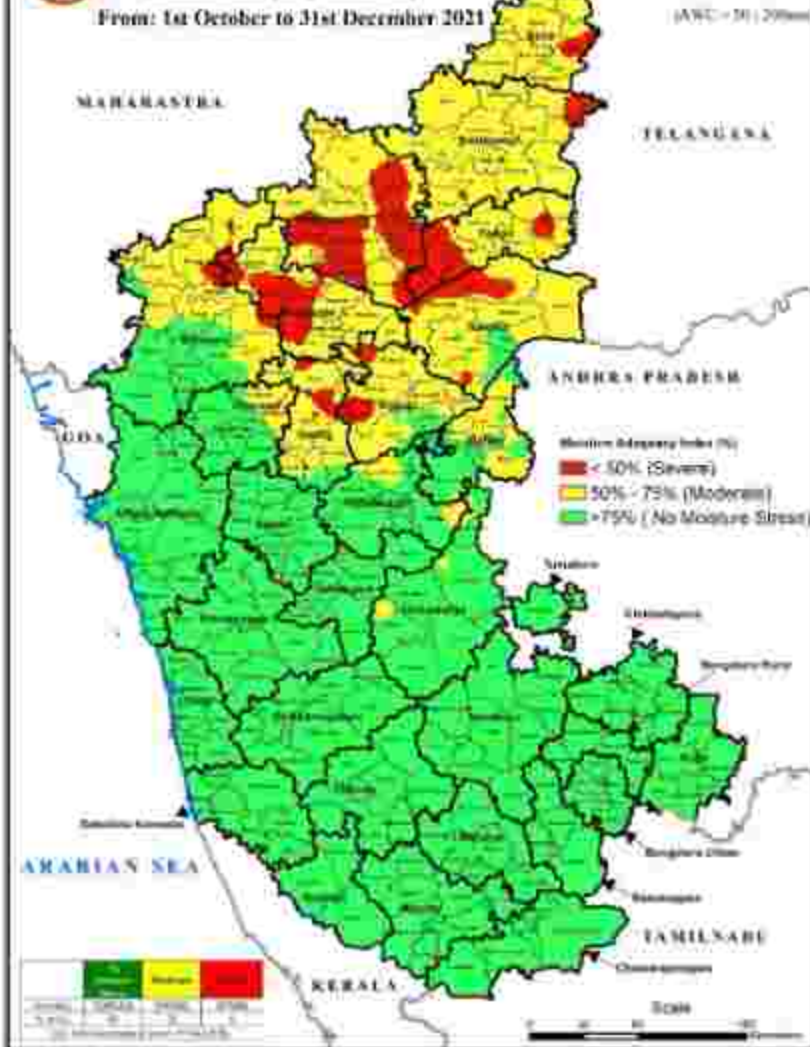
Percentage of Area Sown to Target Area  
as on 31st December 2021  
Rabi - 2021



## Moisture Adequacy Index(MAI)

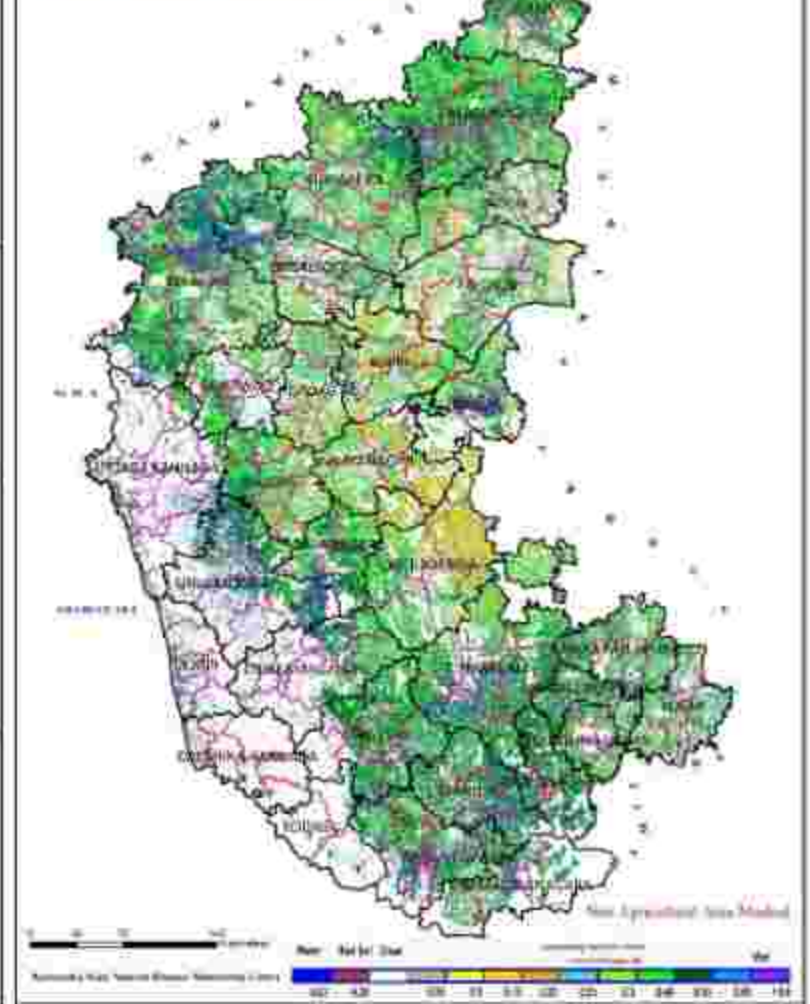


KARNATAKA  
Cumulative Average  
Moisture Adequacy Index Map  
From: 1st October to 31st December 2021



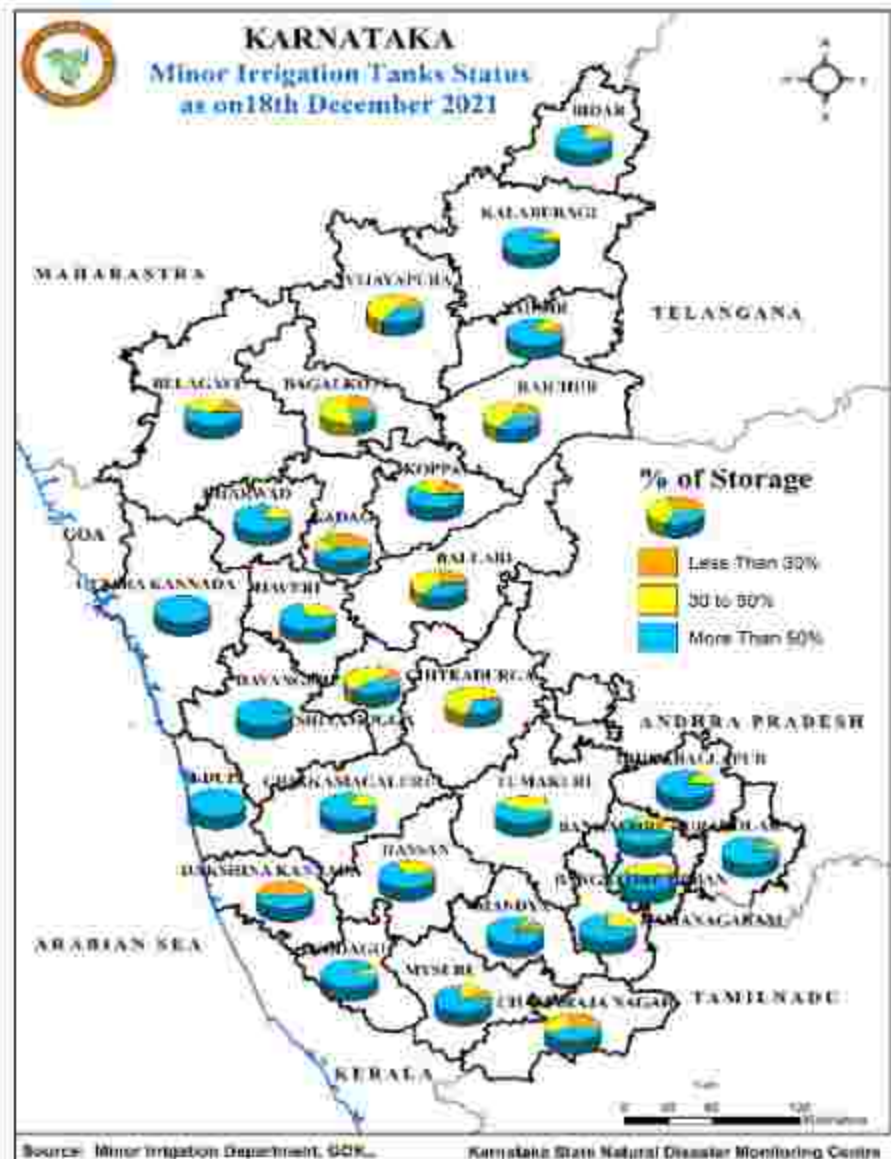
## Satellite Derived - Normalised Difference Wetness Index (NDWI)

KARNATAKA  
Multi Terra Based Normalized Difference  
Wetness Index (NDWI)  
1st Fortnight of December 2021

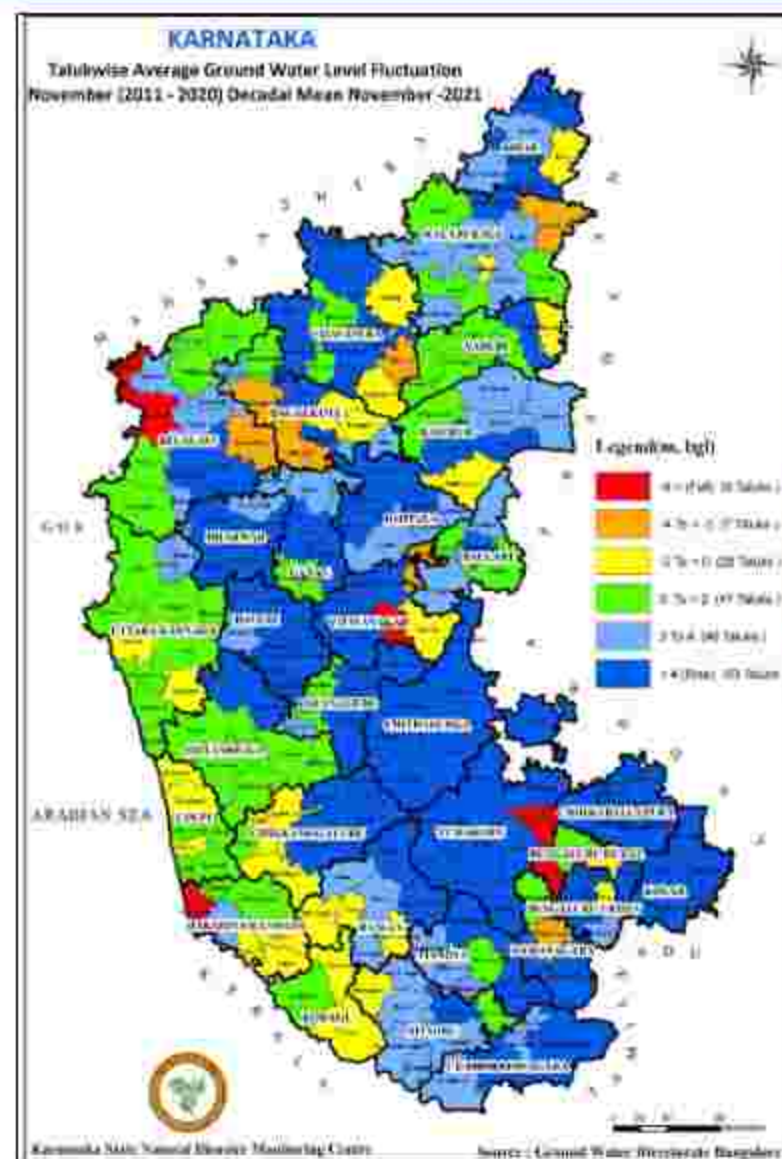


# HYDROLOGY INDICES

## Minor Irrigation Storage Status



## Taluk level Ground water Status – November 2021

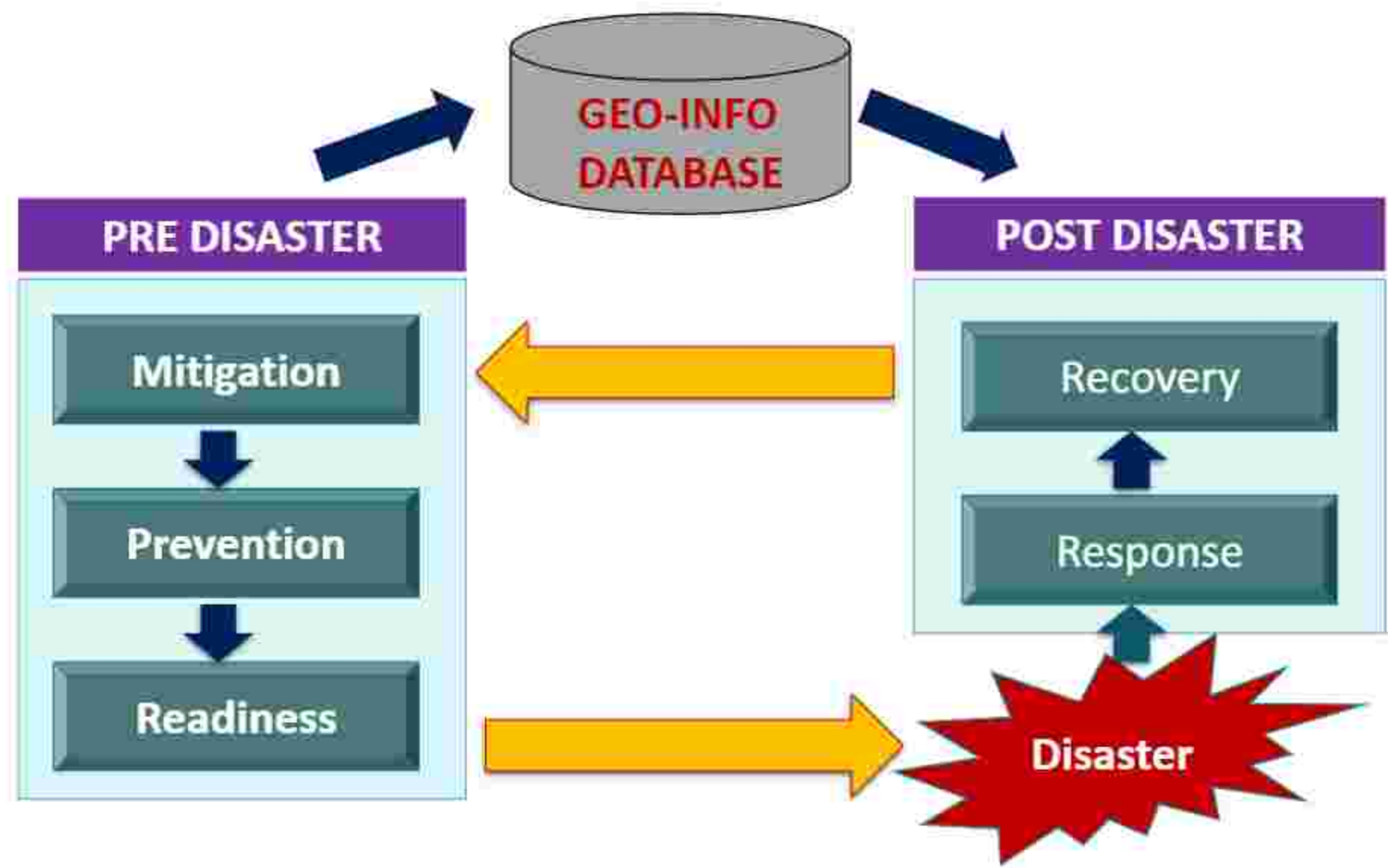


Rise – 186 Taluks  
(82%)

Fall – 41 Taluks  
(18%)



# GEOSPATIAL TECHNOLOGY IN DISASTER MANAGEMENT





## PRE DISASTER

Disaster Management Plan

Preparedness

Risk & Vulnerability Assessment

SOPs

Roles & responsibility

Mitigation

## DURING DISASTER

Disaster Response

Checklists

Action Plan

Search & Rescue

Relief

EOC

## POST DISASTER

Rehabilitation

Reconstruction Aid

Damage Assessment

Claims Processing

Lessons Learnt

Planning

**GEDDMP**

**KSDMIS**

**GEOSPATIAL INFRASTRUCTURE**



# GEO SPATIAL DDMP- INTRODUCTION



1. Disaster management in India is mostly **paper-based**
2. **Limited Access to real-time, authentic, quantifiable information** leads to communication gaps or even miscommunication
3. Complex analysis using multiple sources and layers of data is **effort, time and resource intensive**
4. Difficult **to connect Standard Operating Procedures (SOPs)** with the ground reality unless real-time, up-to-date information is readily available in **machine readable format**



## GEOSPATIAL - DDMP

- State-of-the-art disaster management technology with real-time wireless infrastructure to collect, store, analyze, communicate, co-ordinate and present, authentic field information that is geo-stamped (with GPS location & time)
- The system auto-generates District Disaster Management Plan (DDMP) using field resource and personnel information with geo-mapped resources
- From an earlier paper based DDMP



# STRATEGY

**Mapping resource  
and resource  
personal to a  
Village/ ward**

**Geo-positioning all  
resources**

**Capturing  
Experiences and  
Lessons Learnt**

**Building database**

**Documentation  
and action taken  
reports**

**What if scenarios**

**Action plan and  
checklist**

**Faster  
communication**



# GEOSPATIAL ENABLED DDMP SYSTEM ( GEDDMP)



## KEY COMPONENTS OF DISASTER MANAGEMENT

### INFORMATION ASSIMILATION

- Resources
- Resource Personnel

### COMMUNICATION

- Technology Mediums
- Alerts

### STRATEGIZING ON DISASTER TYPE

- Mitigation plan
- Response
- Recovery & Rehabilitation plan
- HRVA Analysis

### CO-ORDINATION

- SOPs
- Roles & Responsibilities
- Checklists

### MONITORING & UPDATION

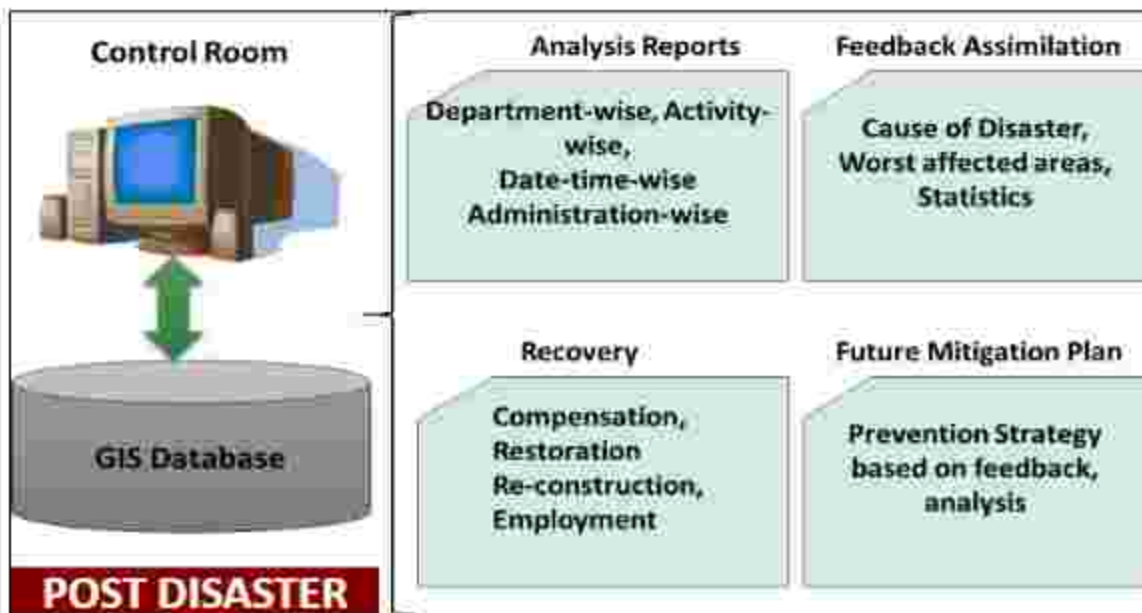
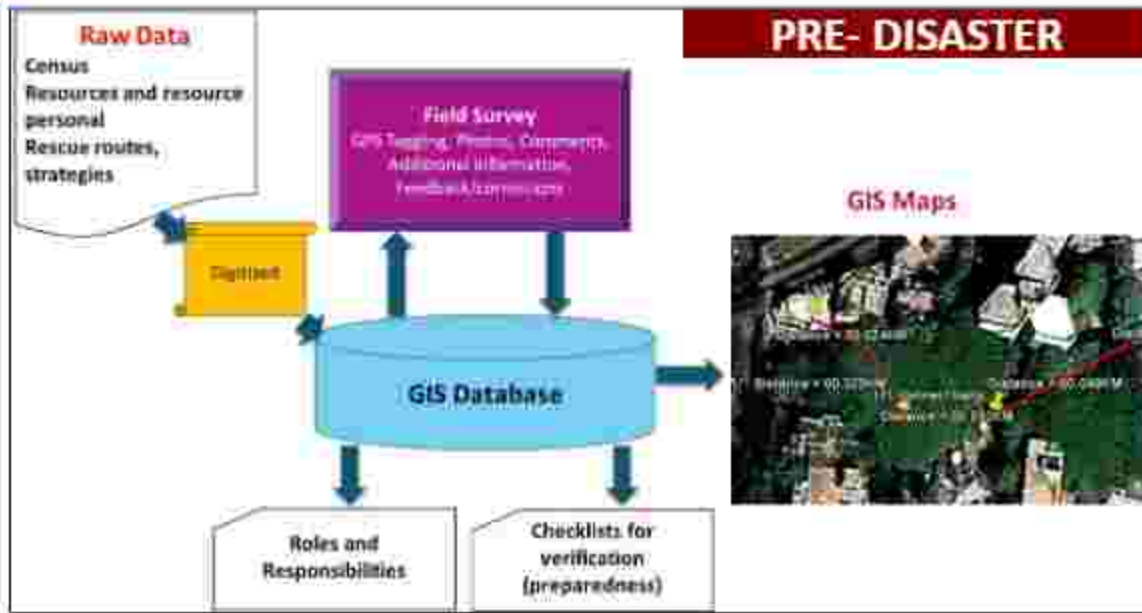
- Periodic data updation
- Progress Tracking
- Triggering alarms

### REPORTING & DOCUMENTATION

- Daily, weekly, monthly status
- Reviews
- DDMP Creation & publication



# GEOSPATIAL ENABLED DDMP TO ALL DISASTER MANAGEMENT PHASES





# ADVANTAGE GEOSPATIAL ENABLED DDMP



Accurate, Authentic &  
**tamper-proof data**

**Field friendly Hand-held devices** & data processing to handle complex field operations

Action plan, Checklist, roles auto-generation based on real-time field data – **ground reality taken into account**

Readiness based on comprehensive, accurate, **up-to-date information**

**Real-time event capture** including photo, voice, hand-written notes, forms & status

Field level information **transferred wirelessly**

Improved communication & **Co-ordination among departments**

Auto-generation of **analysis reports, statistics** saving manual labour, human errors, paper trails

**Auto-generation** of reconstruction, restoration, compensation

**Database Archive** for future disaster mitigation, accountability, traceability

# **Case study-Resource Data Collection in 5 Districts**



# GE-DDMP Data Collection



## 5 Districts were chosen for the pilot

- Udupi - Completed
- Dakshina Kannada - Completed
- Kodagu – in process
- Raichur – in process
- Uttara Kannada – in process

## To Collect Authentic Resource and resource personnel Data using surveys for each district and department along with geo-stamped photos

- Collection machine readable
- Structured Data Collection - location, department, type
- Easily updatable
- Database driven reports & MIS
- Auto generation of DDMP using authentic field information



## GE-DDMP : FORMS

- **Resource forms** : Hospitals, schools, buildings, vehicles, open grounds, ambulances, ropes, fire engines, PPE kits, food, medicines etc : **Any fixed asset or tangible item which is important for Disaster Management**
- **Resource Personnel** : Any officer, security, army, media, public representatives, NGO, Volunteer, who is involved in DM and/or is directly/indirectly responsible for resource
- **Checklists, SoPs** (static in stage I, Dynamic in stage II)
- Provision for periodic updates
- All these forms are based on department and data entry access to be restricted to the respective departments



## GE-DDMP : LOGIN



<https://ddmp.karnataka.tech/>



# Data Collection



## Submissions

Home [Statistic Bar/Charts](#)

**46237**

Total Submissions

[More info](#)

**42529**

Total Phone Submissions

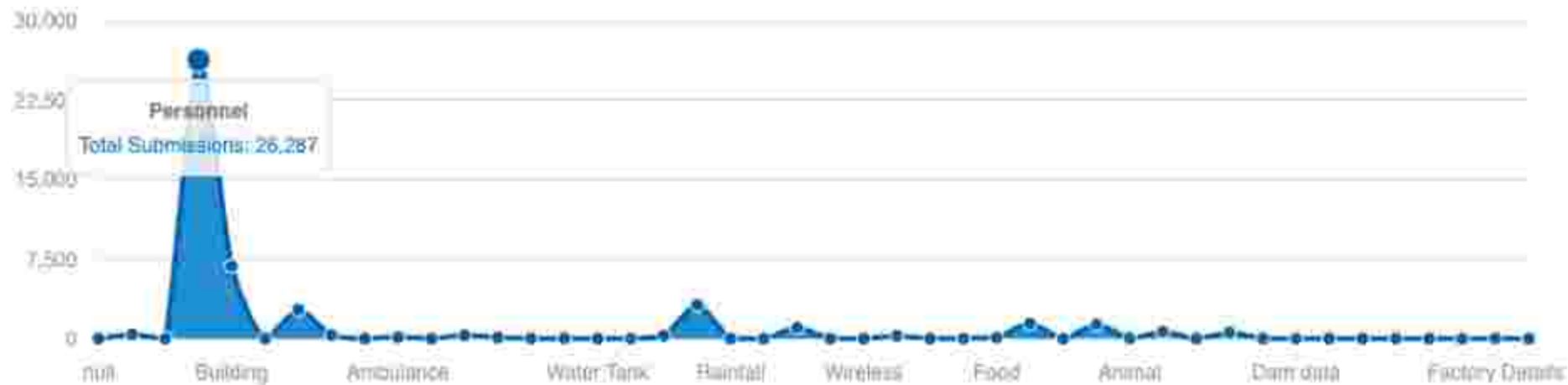
[More info](#)

**3708**

Total Web Submissions

[More info](#)

### Survey wise submissions



# **WEBSITE SCREENS**





# Selecting the Resource/Personnel



Personnel/form1\_per

Select Survey  
Telephone/Satellite Phone/VHF  
Department  
Personnel  
What If  
Building  
Private Building  
Educational Institution (School, College, Hostels, Coaching Centers)  
Hospital  
Ambulance  
Veterinary  
Fuel Station/LPG Godowns  
Helipad  
NGO  
Water Tank  
Relief material  
Horticulture Area  
Department Office  
Rainfall  
Administration  
Volunteer  
Milk  
Wireless  
Pharmacy  
Water  
Food  
Search and Rescue Equipments  
Vehicle  
Animal

Back to Main Menu Home COMV Survey Info

Search 20

Department	Specify Others	Date of birth	Gender	Job Desc
		1967-02-21	Female	Angr work
		1981-01-06	Male	Main Engh Rice
		1955-02-14	Male	APC
		1967	Female	App



# Resource View



Personnel/form1\_personnel

Personnel

Sort & Filter

Service	Experience	Exp. in DM	Office	Residential	Physically	Signature	Photo	GPS Latitude	GPS Longitude	View Map
			Landline	Landline	Challenged					
24	Good experience		08386223064	9482207888	Yes			14.628000	74.744926	Open Map
15	No experience		08284295660	9448491712	9448491710	No	imbrwadiw@gmail.com	13.277929	74.6264854	Open Map
1	No experience		08202529444	7883390010	No			13.3255495	74.7455209	Open Map
16	Good experience		08381292110	9141003521	9489780112	Yes		13.1371771	74.4002064	Open Map







## PHOTO VIEW





# Resource View

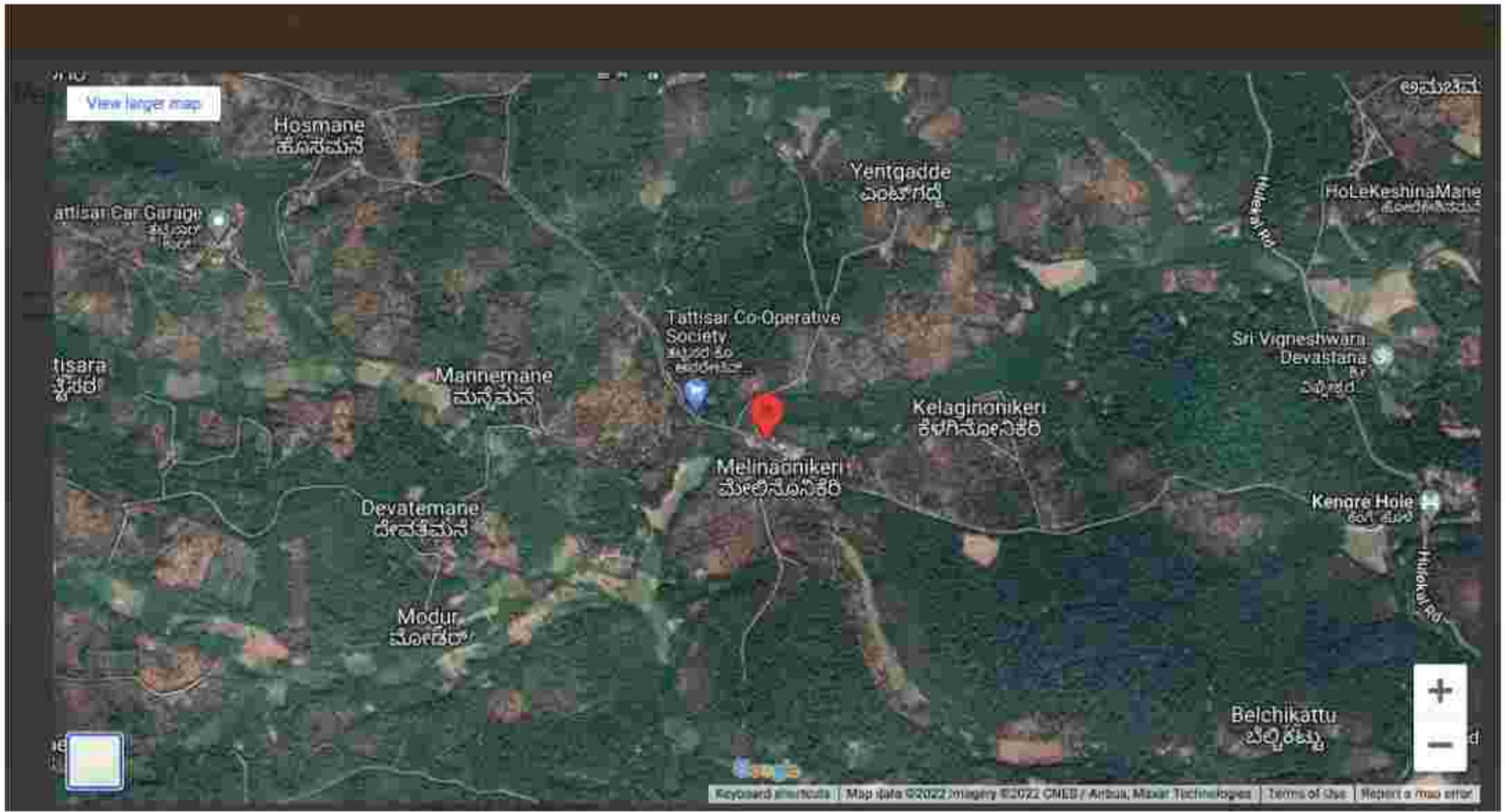
## PHOTO VIEW

id	Sq.Feet	2000	123000	hage	surathkal	perthala	4	munenagala	1		12.8518876	74.8554828
ys	Sq.Feet	2000	2800	ys	ht	vinoo	1	karmale	1		12.8120932	75.1178055
va	Sq.Feet	2000	150000	koisada	vishramaya	patrahe	6	hida	4		12.8554491	75.8168838
Panchakama	Sq.Feet	4424	1000	Malikote	Mangalore	Camel					12.8393255	74.9548821
Dialysis, Dental, Oligramoni, ECHO, Endoscopy	Sq.Meter	3000	10000	Alinga	Mangalore	Naripady	1	Harthya	1		12.8000878	74.9062882
	Sq.Feet	1500	6000	mudaje	mangalore	mudaje	1	karmaya	1		11.8254489	72.2036





# Location View





# Resource QR





# Mobile App

Urban  Rural

Select District

Bellary

Select Town

Bellary

Select Ward

Ward No - 1

Cancel Proceed

Click on Proceed



# App : Fill Survey Form

**Photo**

**Vehicle ID**

**Vehicle Type**

Select

**Driver/Owner Name**

**Driver Phone Number**

**Registration No**

**Goods, Passenger, Other**

Select

**Goods, Passenger, Other**

Passenger

**air/water system**

No

**Vehicle Make**

bajaj

**Fuel Type**

Petrol

**Condition of vehicle**

Good

**Model (year)**

2015

**SUBMIT**

Click Submit

# Resource Filtering & What if

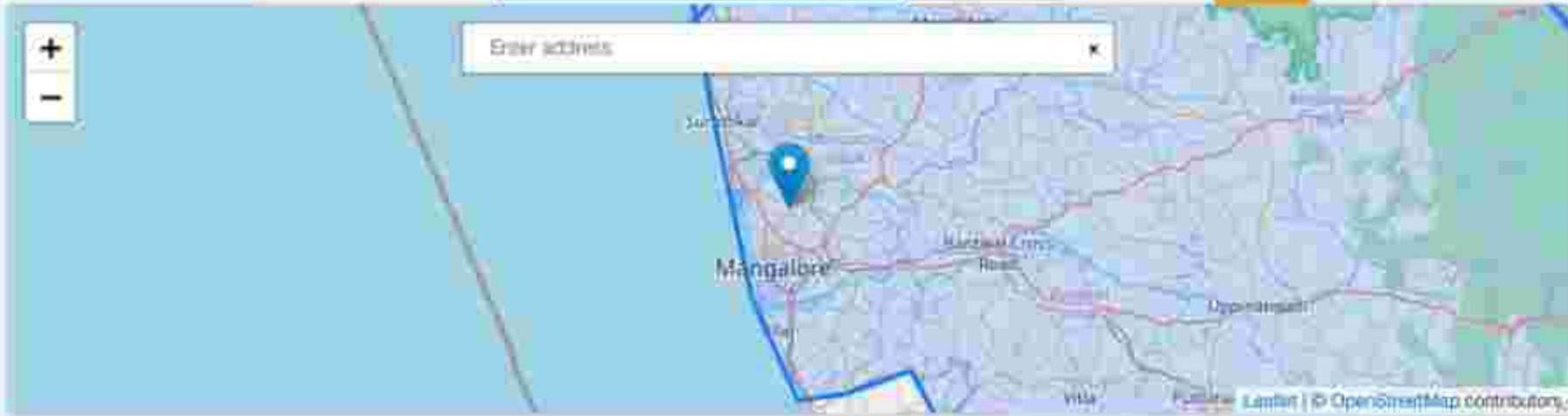


# Resource Filtering Based on Map Location & Distance

Resources for Events

Floods  5000 Meters

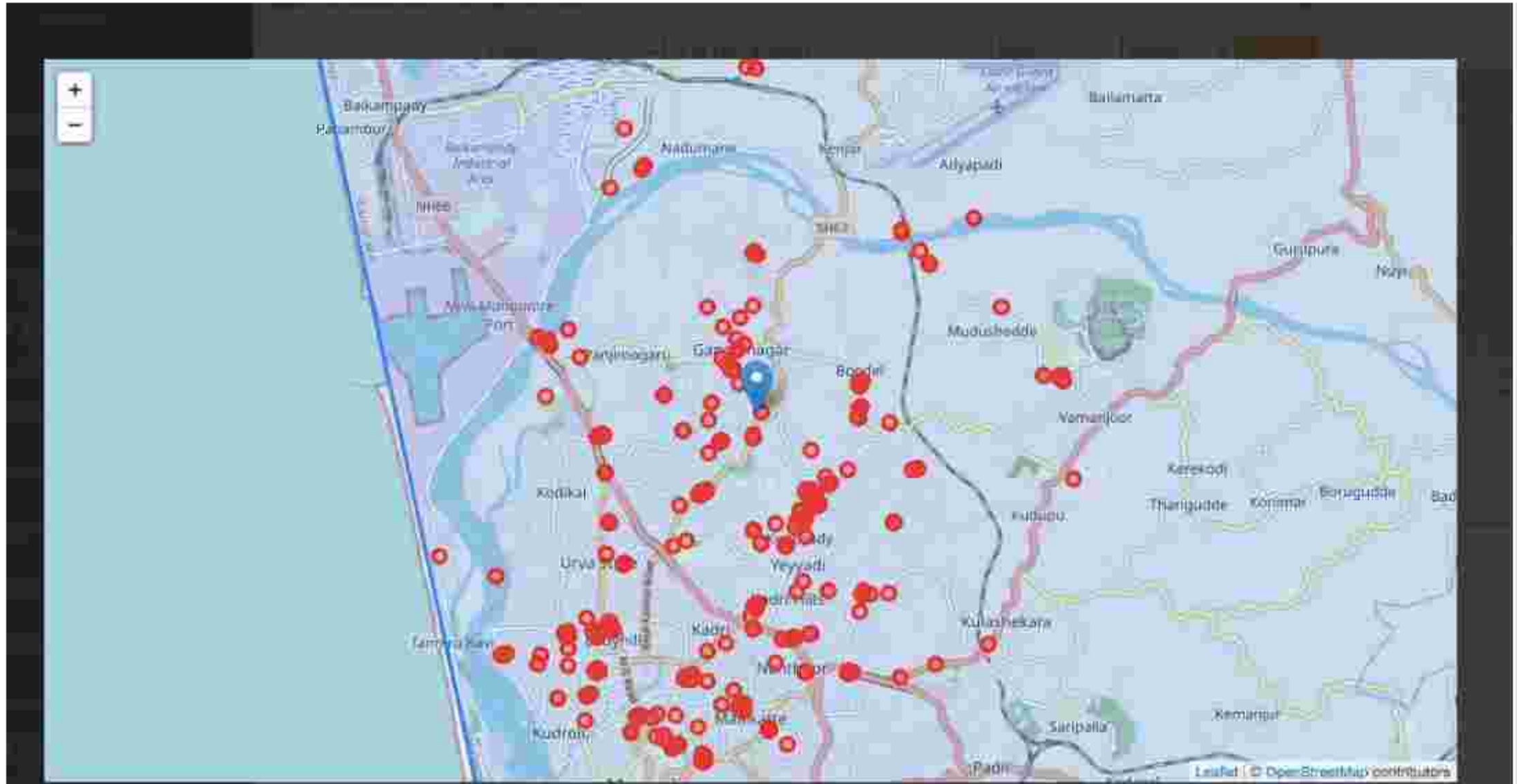
Enter address



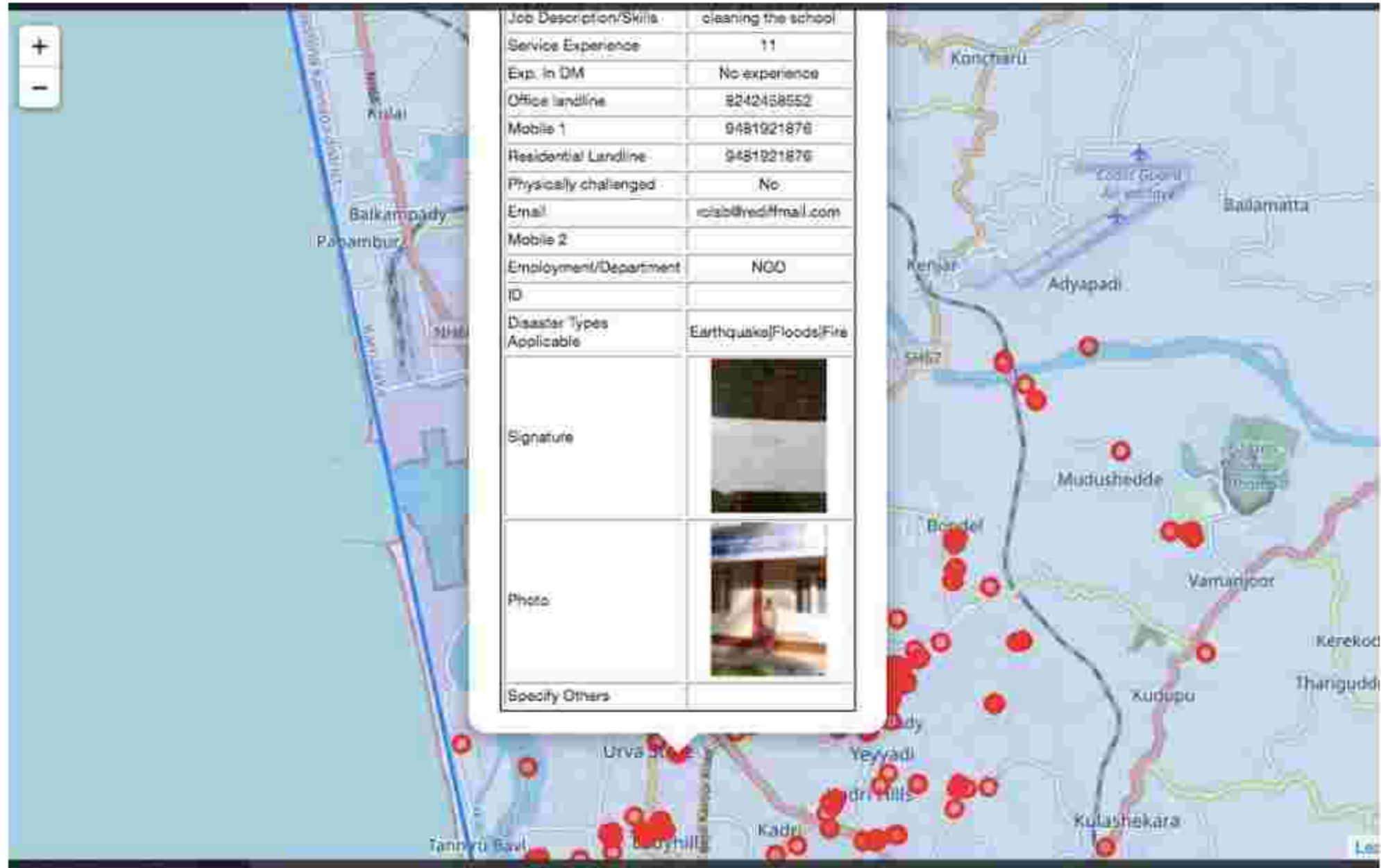
Search:

Resource Form	Map	View Resources	Total Available Resources	GPS Tagged Resources
Personnel	<input type="button" value="View Map"/>	<input type="button" value="View Data"/>	727	727
Building	<input type="button" value="View Map"/>	<input type="button" value="View Data"/>	135	135
Department Office	<input type="button" value="View Map"/>	<input type="button" value="View Data"/>	58	58
Search and Rescue Equipments	<input type="button" value="View Map"/>	<input type="button" value="View Data"/>	51	51



# Resource Filtering Based on Map Location & Distance



# Resource Filtering Based on Map Location & Distance

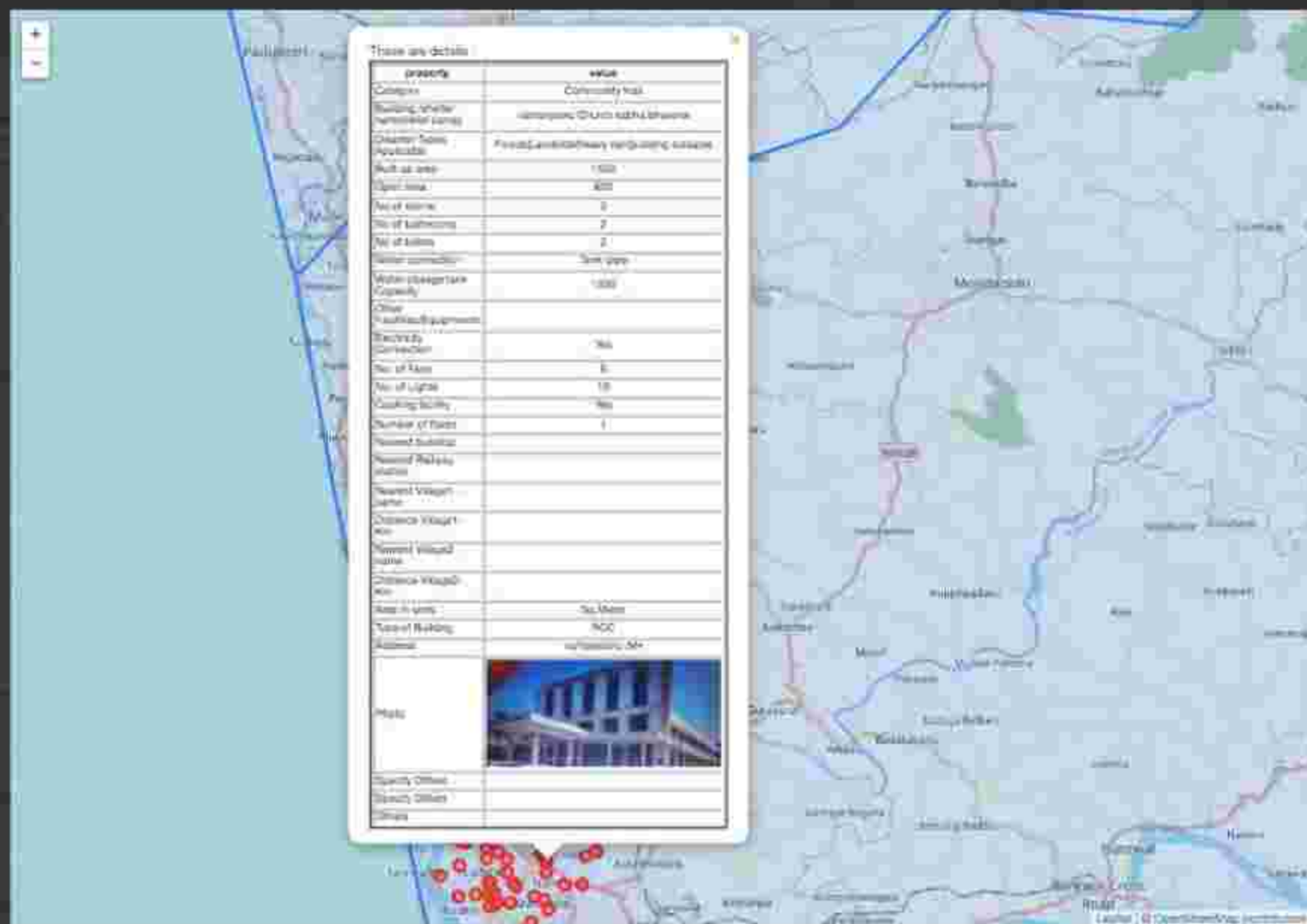


The screenshot displays a web application interface for resource filtering. On the left, a map shows a geographical area with several red circular markers indicating resource locations. A central profile window is open, displaying the following information:

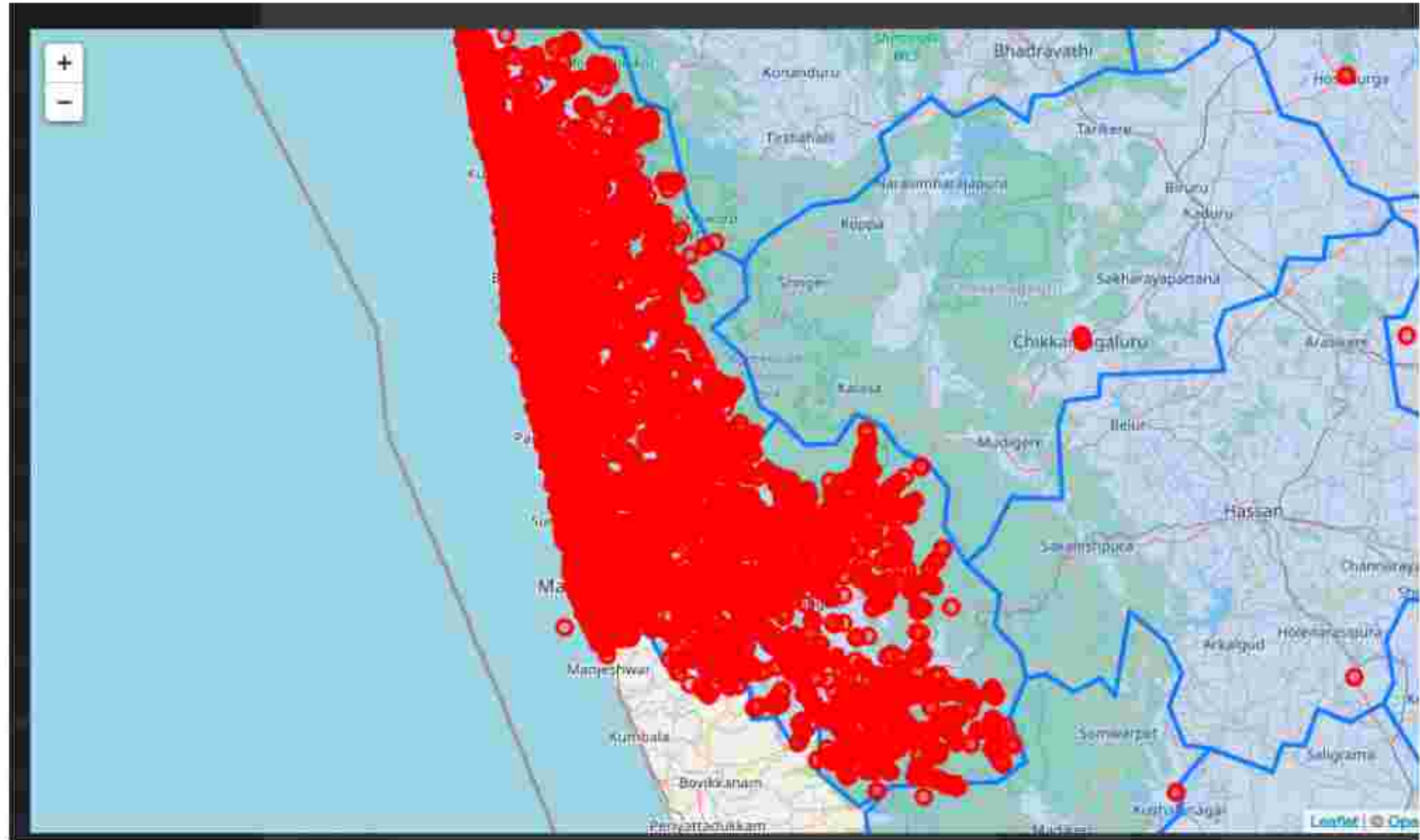
Job Description/Skills	cleaning the school
Service Experience	11
Exp. in DM	No experience
Office landline	8242458552
Mobile 1	9481921876
Residential Landline	9481921876
Physically challenged	No
Email	iclabdied@gmail.com
Mobile 2	
Employment/Department	NGO
ID	
Disaster Types Applicable	Earthquakes/Floods/Fire
Signature	
Photo	
Specify Others	

The map background shows various locations including Koncharu, Badamatta, Adyapadi, Mudushedde, Vamanjoor, Kudupu, Kulashakara, Yeyyadi, Kadri, and Urva. A zoom control with '+' and '-' buttons is visible in the top left corner of the map area.

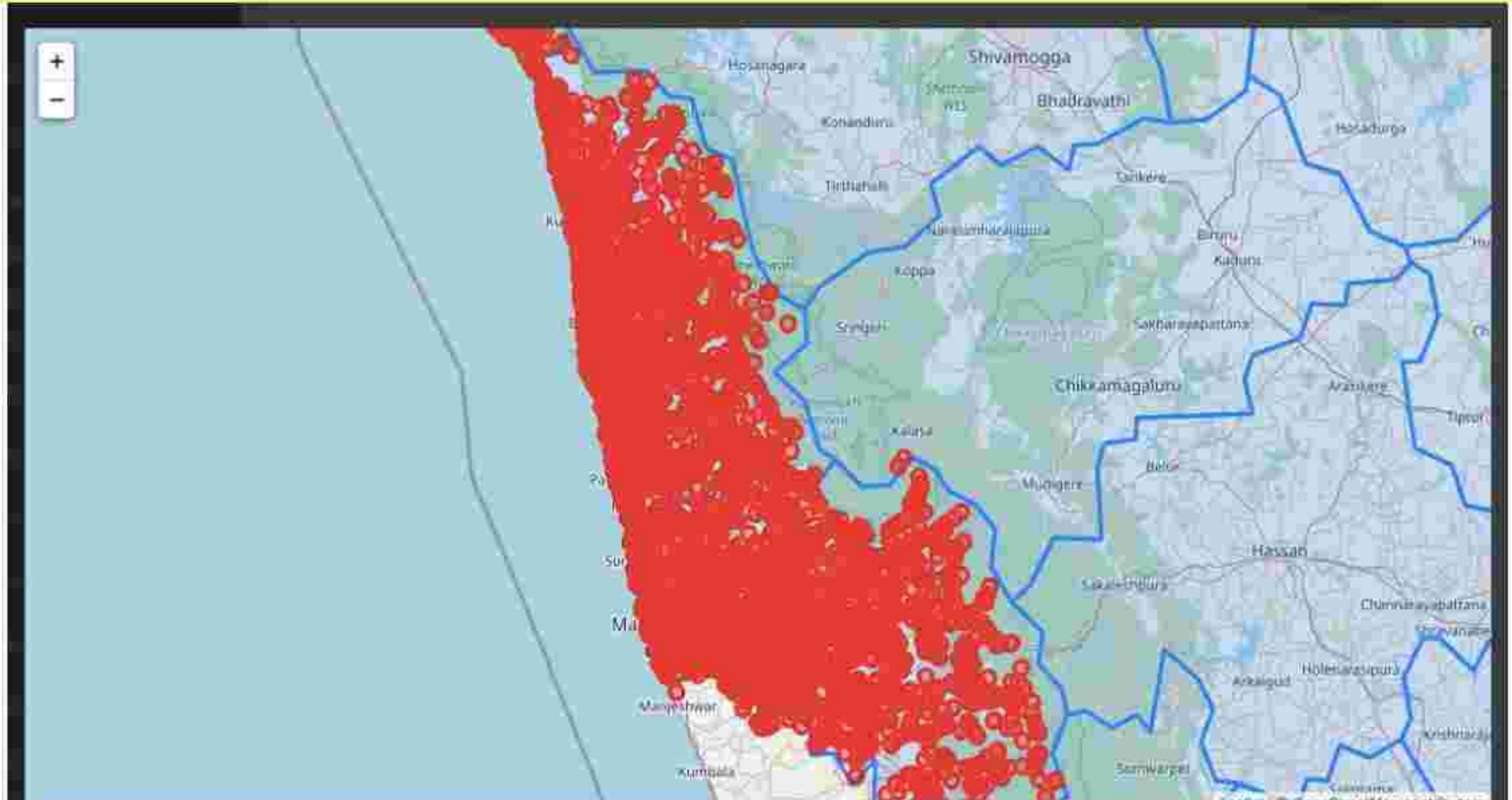
# Resource Filtering Based on Map Location & Distance



# Full Report on Map - Personnel




# Full Report on Map - Building



# Full Report on Map - Building

Map interface showing a building report overlay. The report includes the following details:

Cooking facility	Yes
Number of floors	0
Nearest busstop	2
Nearest Railway station	1
Nearest Village1 - name	kipeedi
Distance Village1 - Km	01
Nearest Village2 - name	kerekadu
Distance Village2 - Km	01
Area in units	Sq.Meter
Type of Building	Treed
Address	gipechool Ingappaiyyakadu kanchanakere
Photo	
Specify Others	
Specify Others	
Others	

The map background shows a red area and a blue boundary. The map includes labels for various locations such as Honnab, Channagan, Hutekkere, Chikamagaluru, and Hissar. The map is credited to Leaflet | © OpenStreetMap contributors.



# Geostamped Locations on Map







# KSDMIS - POST DISASTER

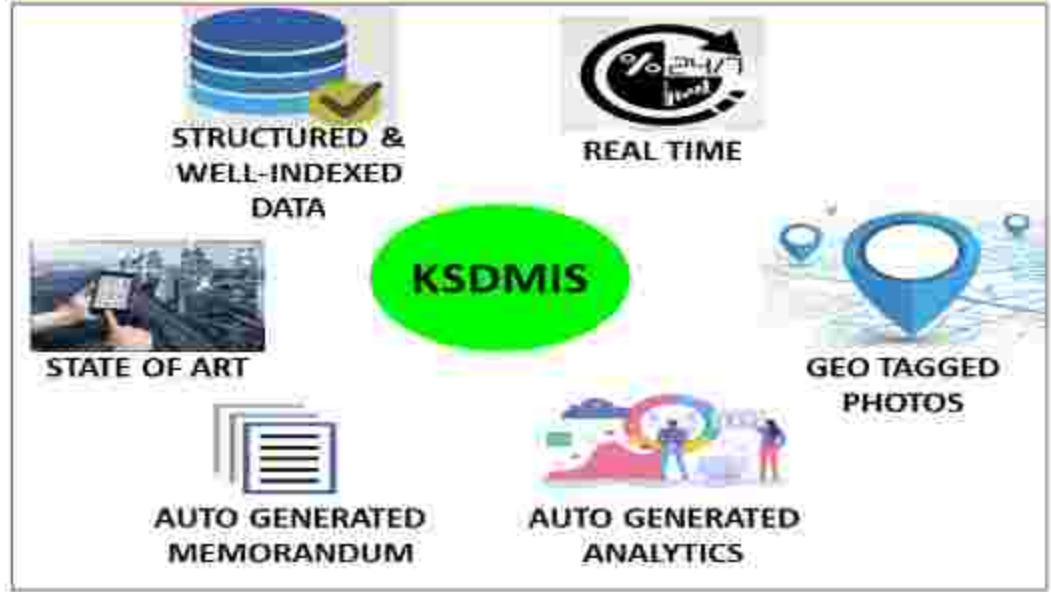


- **KSDMIS is** a Geospatial Web Application for Collecting Data on Disaster Events **with real-time infrastructure** to Collect & Store data, Analyse, Communicate and auto generate event-based Reports/Memorandums
- **Authentic information that's geo-stamped with GPS location & time is collected using web and mobile interfaces**
- **KSDMIS Provides Geospatial view of damaged areas and helps to plan appropriate mitigation measures**

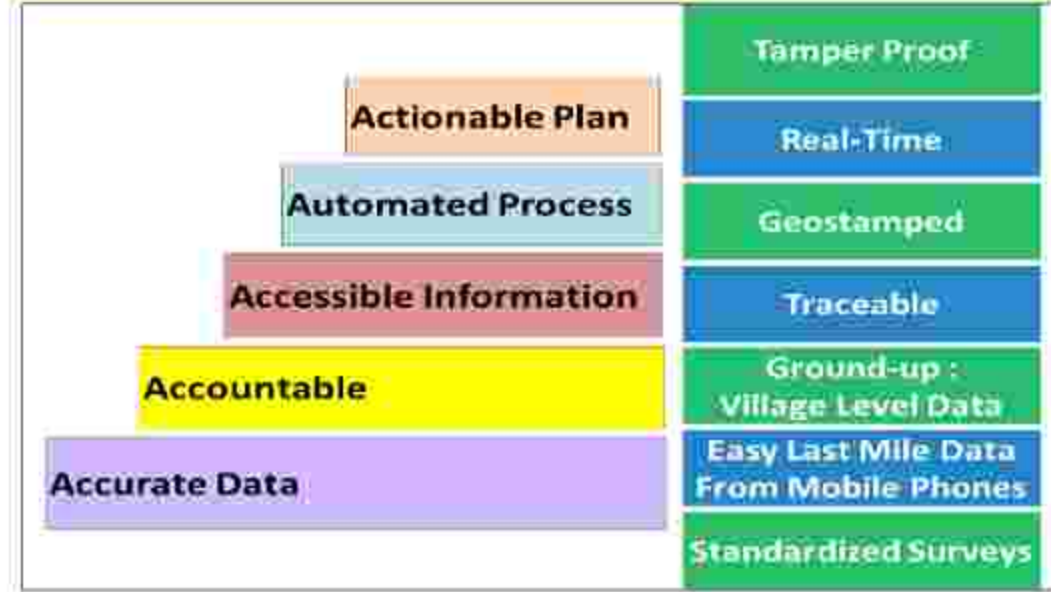


# Karnataka State Disaster Management Information System (KSDMIS)

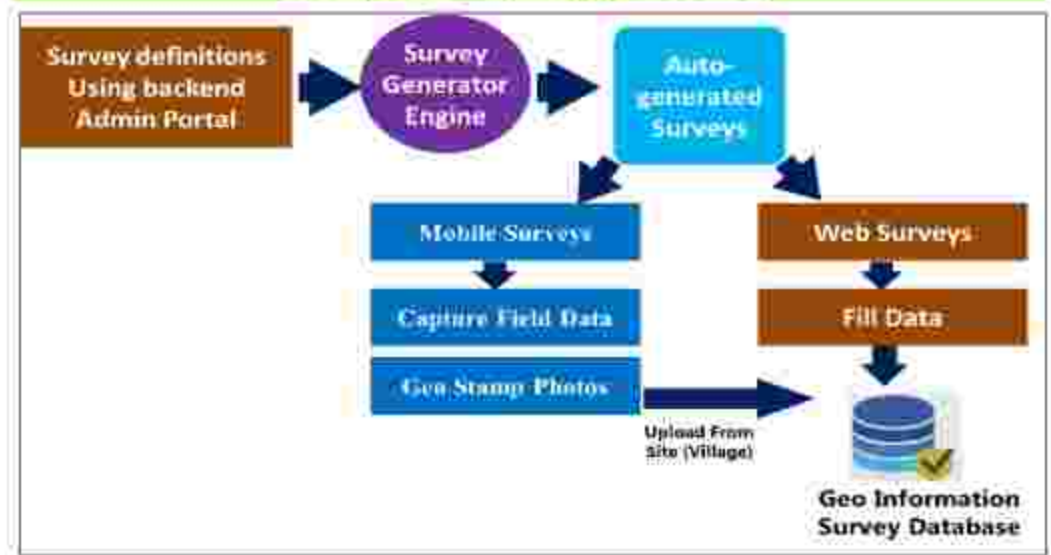
## KSDMIS - OBJECTIVES



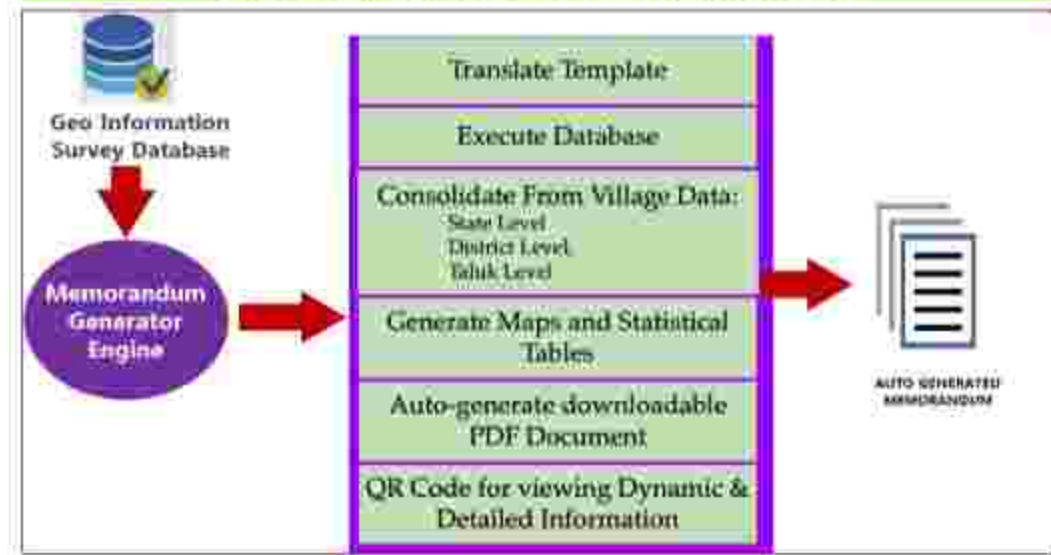
## KSDMIS - BENEFITS



## KSDMIS - TECHNOLOGY



## MEMORANDUM GENERATION





## FIELD DATA COLLECTION THROUGH MOBILE APP BY 18 DEPARTMENTS

Revenue	PWD	RDPR	PRED
Irrigation	ULB	Agriculture	Horticulture
Animal Husbandry	Veterinary	WCD	Health
Hand looms (Textile)	ESCOM	Fisheries	Panchaytha Raj
	Education	Zilla Panchayath	

## DATA COLLECTION TEMPLATES

Human & Animal Loss	House Damage	Crop Loss	Road Damage
Bridges And Culverts Damages	Primary School & PHC	Handicraft	Fisheries
Private Properties	Relief Camp Details	Search And Rescue	Crop Input Subsidy
Goshala And Fodder	Drinking Water Supply	Monitoring Repair Works	Other Templates



## Login

Enter Username and password

Then Click Sign in

## Choose Survey From List

CLICK ADD Data Button



## Fill Survey Form & Submit

Name of the deceased  
sureah

Gender  
Select

Age  
Select

Occupation  
Select

Age  
40

Occupation  
Private Employee

BPL/201  
BPL

Cause of Death  
Cyclone

Date of Death  
03 Jan 2021

Classification of death by competent authority (uploading)

Photo upload button

Photo upload button

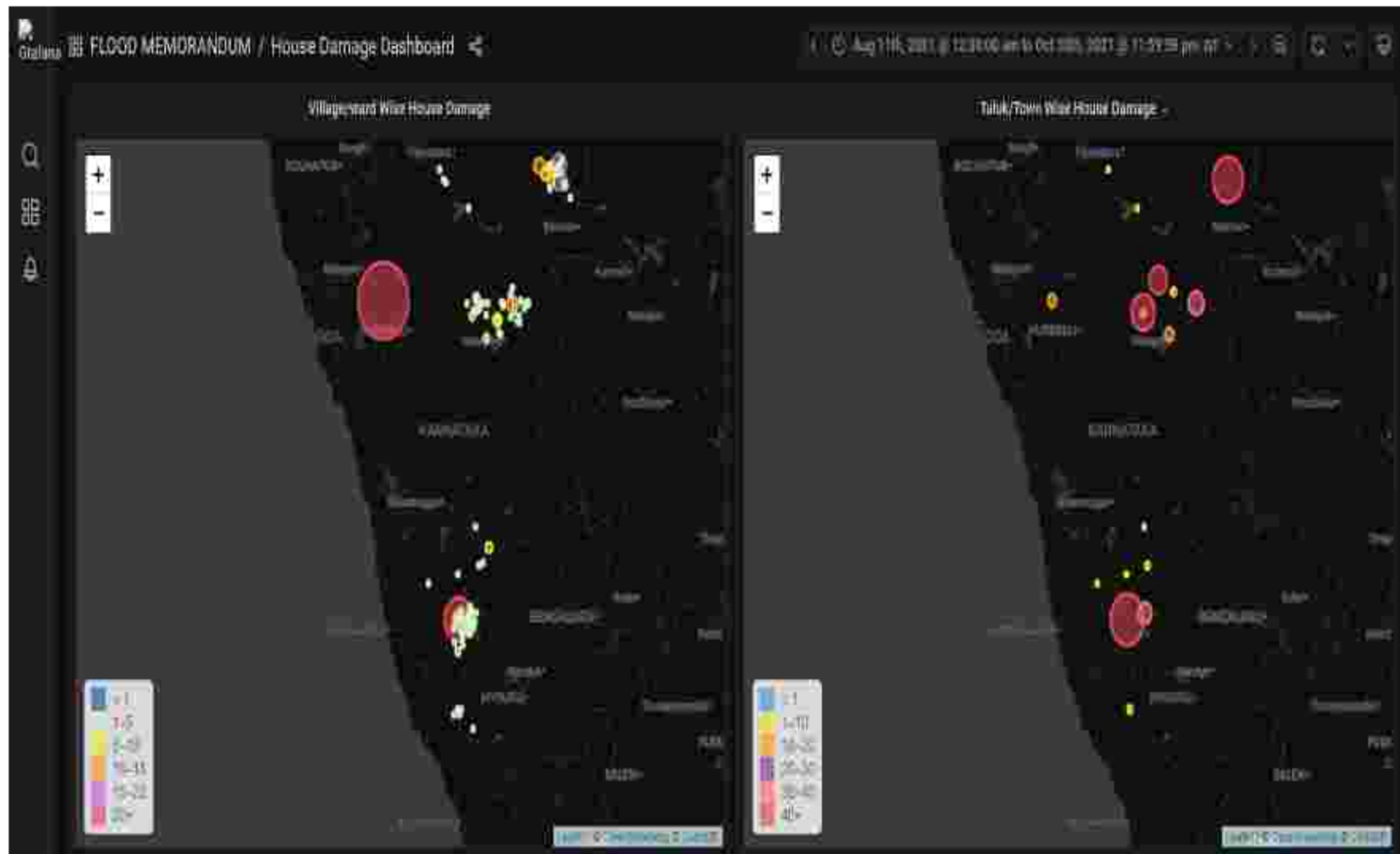
Type  
10:35 AM

Click Submit

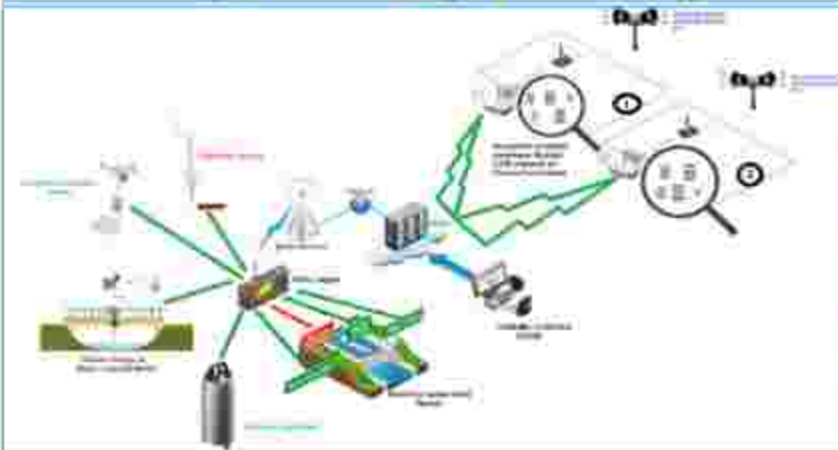
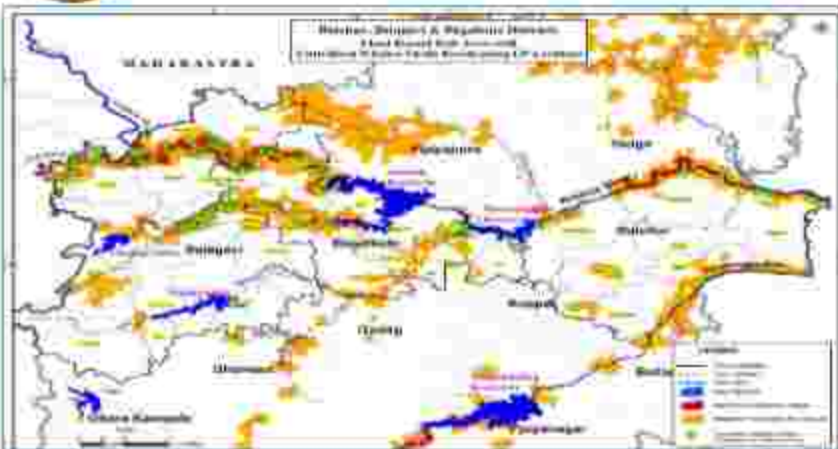
SUBMIT



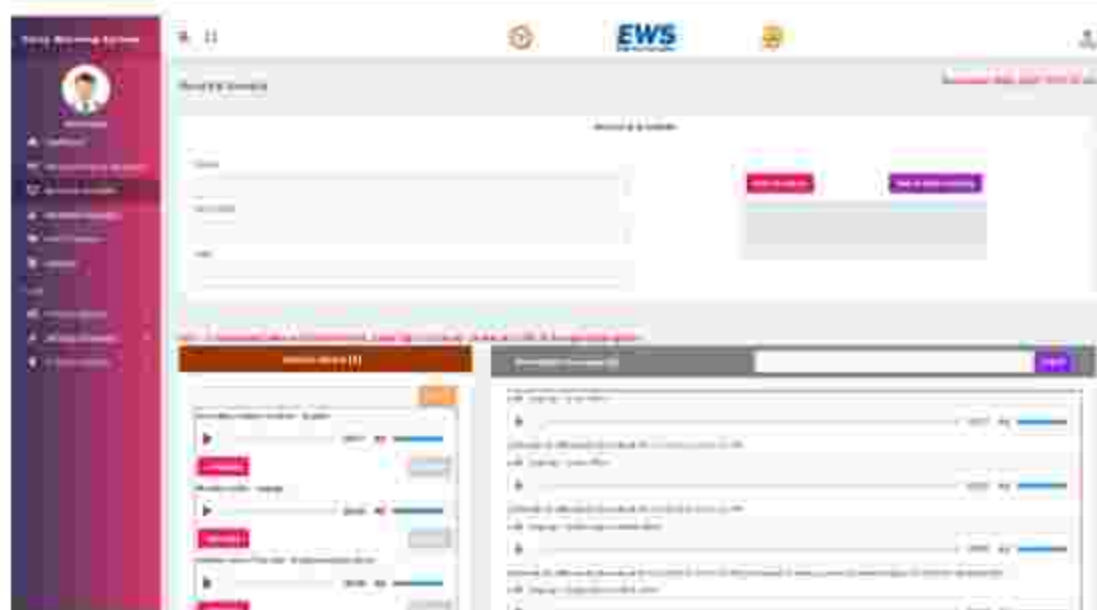
# GIS Dashboard



# Disaster Early Warning System (DEWS) - Centralized Wireless Public Broadcasting At Vulnerable Gramapanchayaths In Karnataka



- DEWS - FEATURES**
- Pre recorded message
- Text to Speech
- Schedule & broadcast



3 Districts	Belagavi	Bagalakote	Raichur
Taluks (Nos.)	7	6	5
GPs (Nos.)	55	34	15
No. of Households	87,573	48,013	19,332
Population	4,40,046	2,50,260	1,02,422

# THANK YOU

**Dr. Manoj Rajan**

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