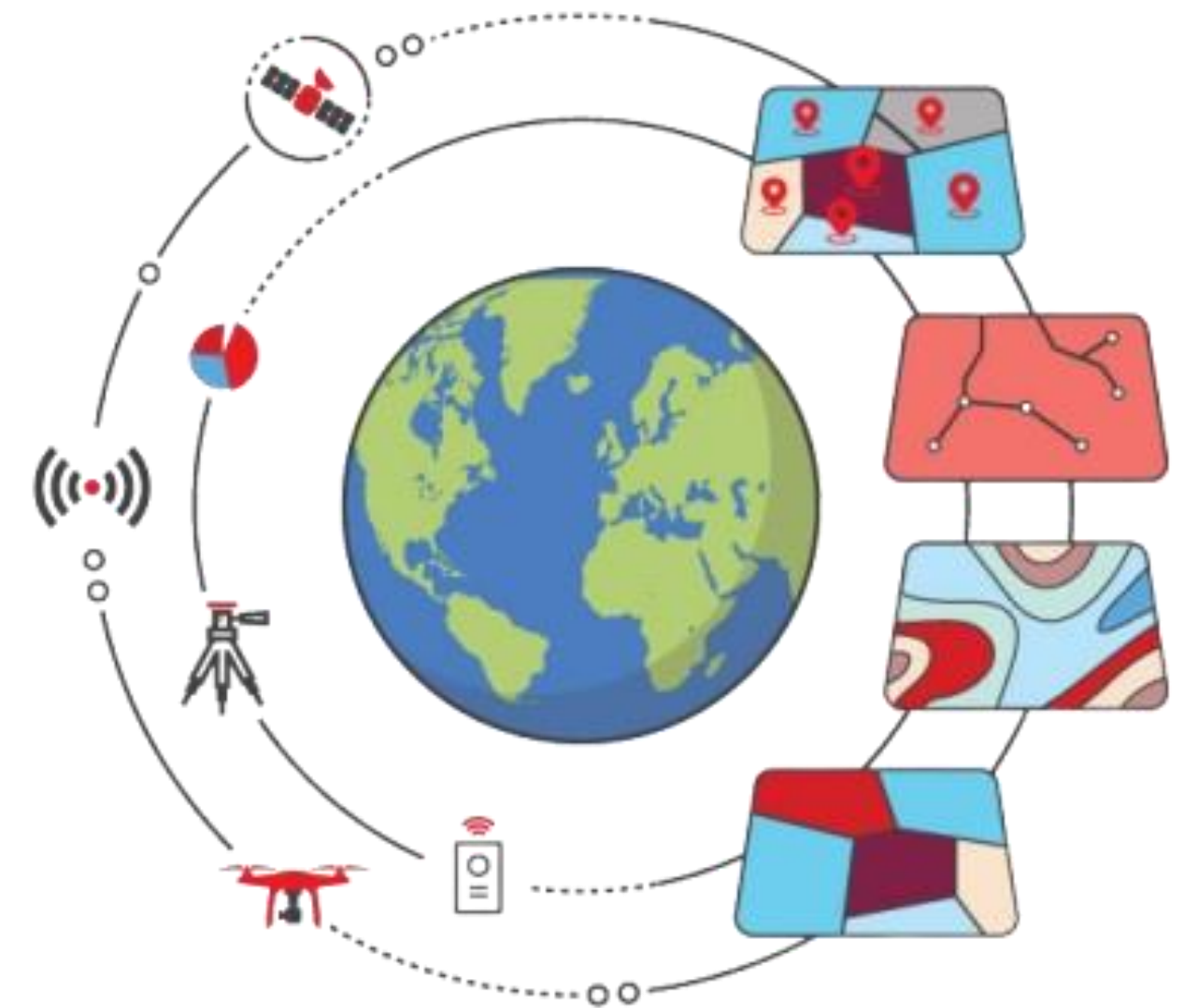


From Maps to Meaning

Using **GIS** to solve Real-World Problems



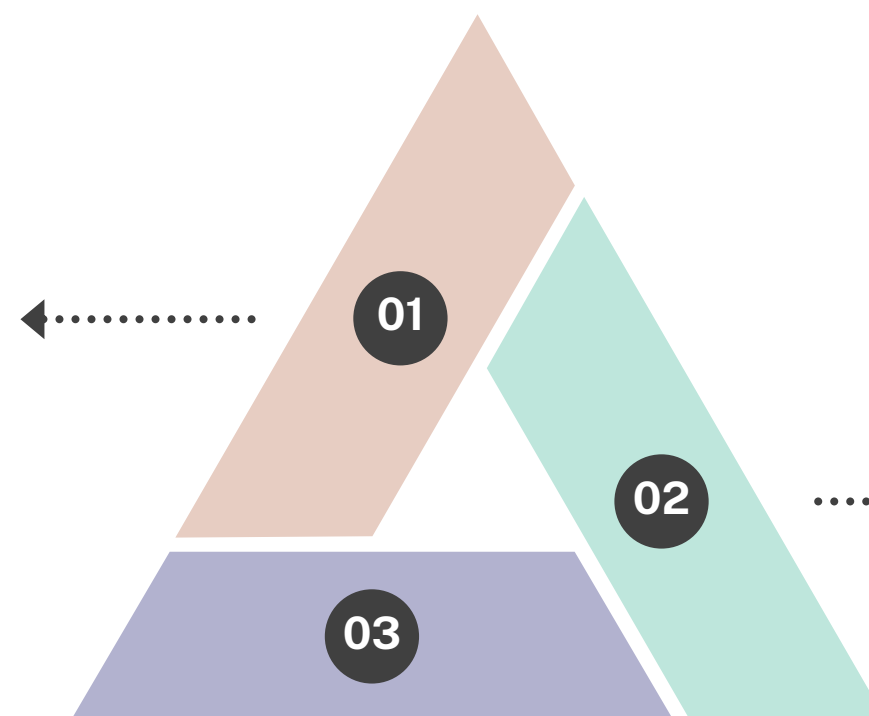
Presented by
Mohammed Azghar Hussain

Why GIS is Critical for Modern Problem-Solving



ENHANCED DECISION-MAKING

GIS helps us see and understand complex data, making decision-making easier.



REAL-TIME ANALYSIS AND UPDATES

With live data feeds, GIS allows for immediate response to emergencies and dynamic changes.

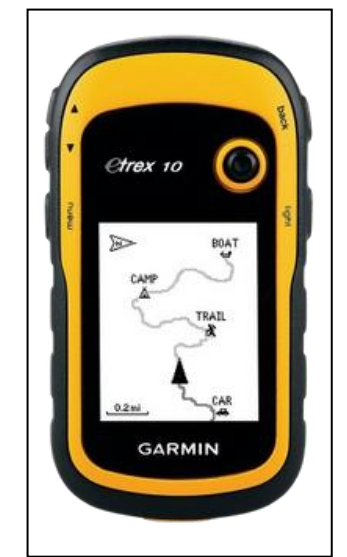


SCALABILITY ACROSS PROJECTS

GIS can be used for small local projects or big global initiatives, providing useful insights at all levels.

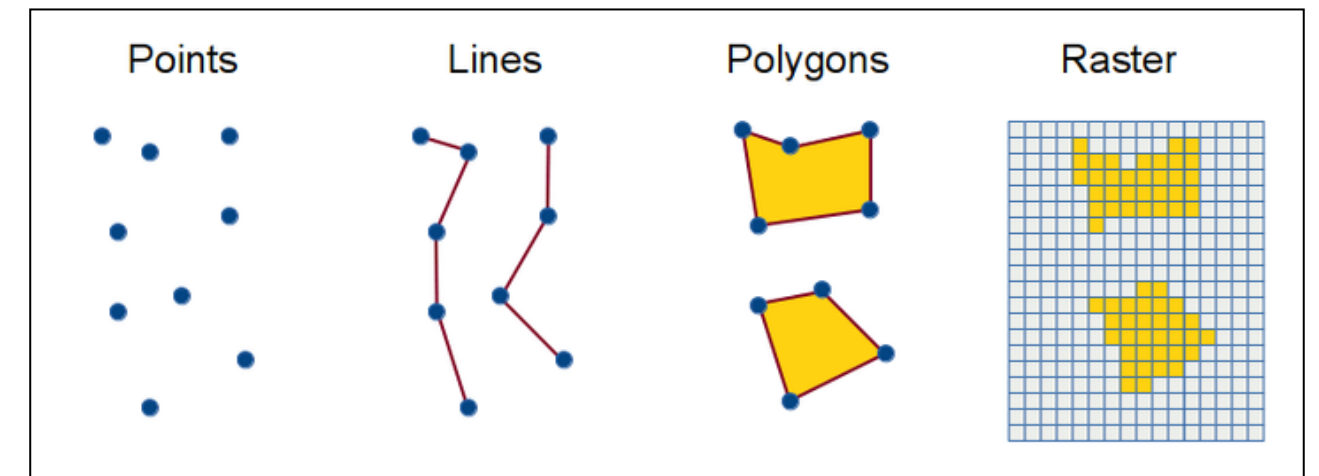
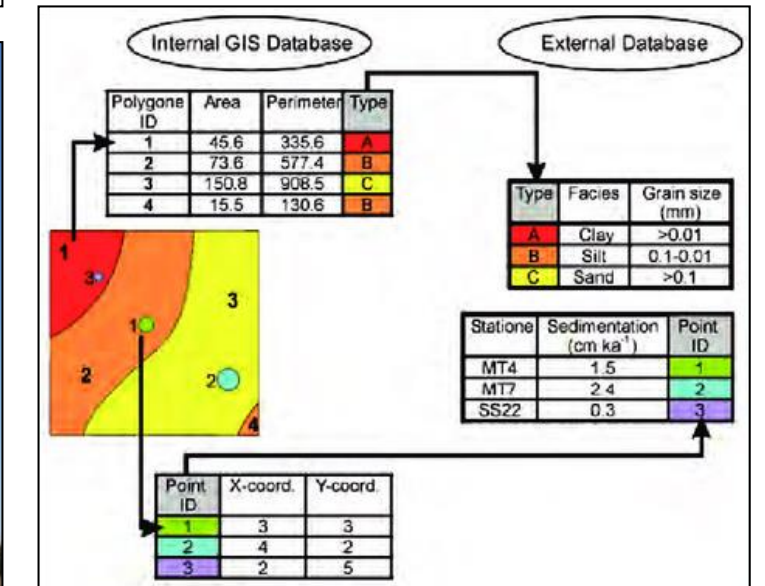
Step 1 - Data Collection

Acquiring spatial data from diverse sources, such as satellite imagery, aerial photography, GPS sensors, and field surveys.



Examples:

- **Satellite Imagery:** Used in environmental monitoring to track deforestation.
- **Data from Drones (UAVs):** Drones equipped with cameras and sensors are used for high-resolution data collection in agriculture, disaster assessment, and infrastructure inspection, especially in areas difficult to access by foot.
- **GPS:** Helps in logistics to track vehicle locations and optimize routes.
- **LiDAR:** Light Detection and Ranging (LiDAR) is used to generate 3D models of terrain and structures. LiDAR is extensively used in forestry, coastal management, and urban planning for high-accuracy elevation and feature mapping.



Benefits: Provides a foundation of accurate, up-to-date data for subsequent analysis.

Step 2 - Data Storage and Management

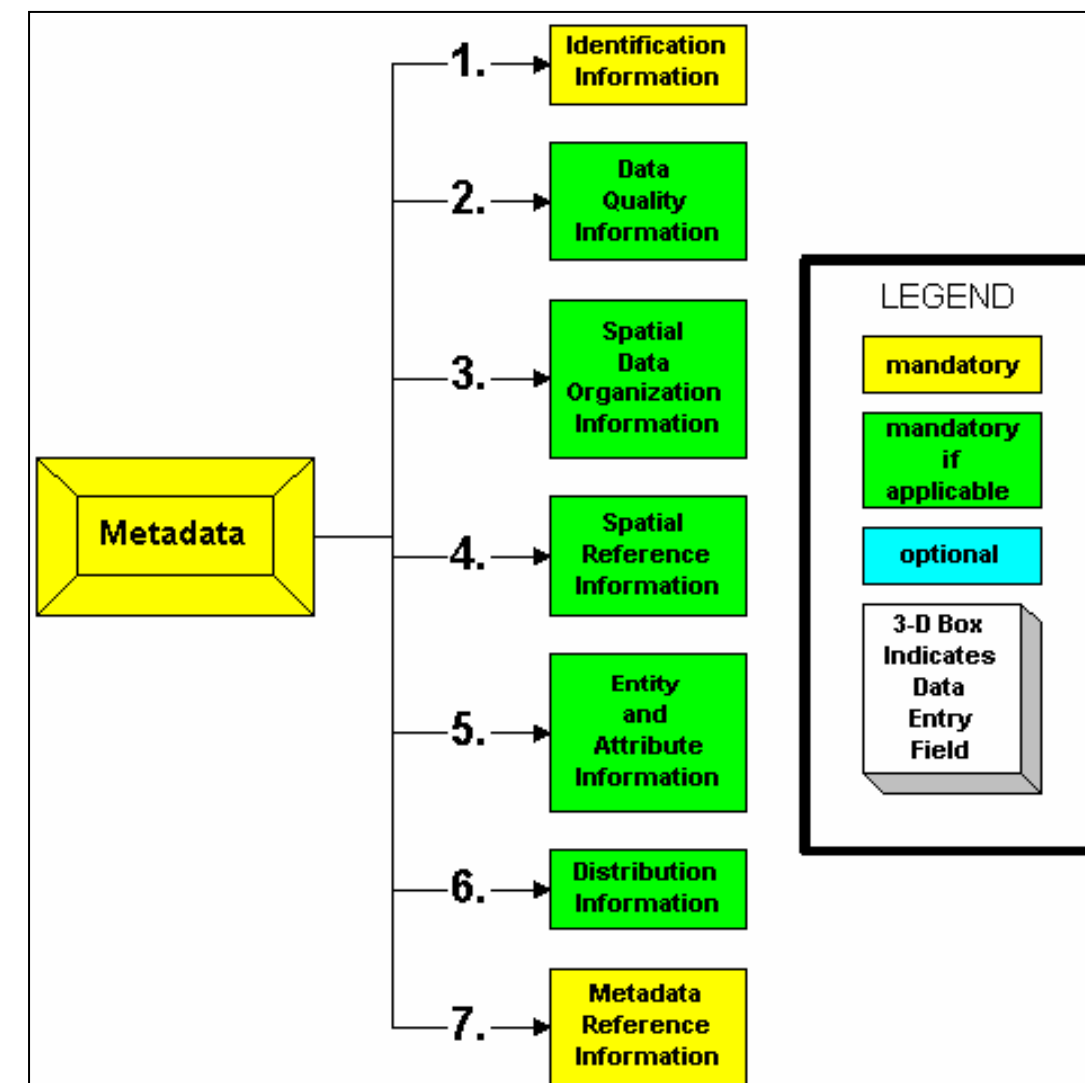
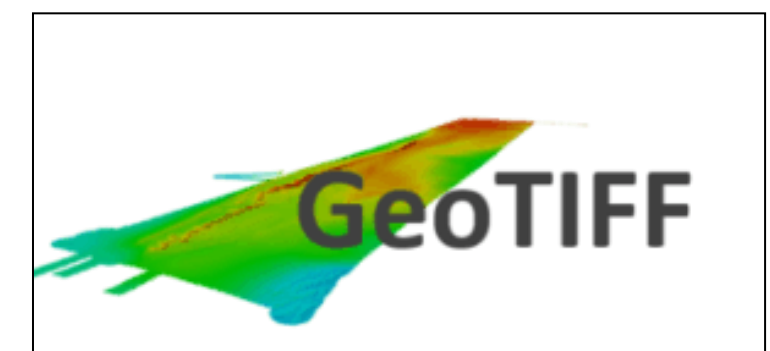
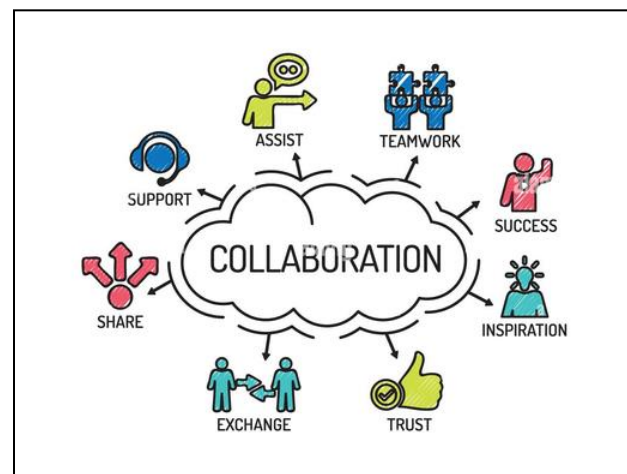


Efficiently storing, organizing, and managing vast amounts of spatial and non-spatial data within geodatabases.

Examples:

- Shapefiles
- Geodatabase
- Enterprise Geodatabase like SQL Server, PostgreSQL/POSTGIS, Oracle

Benefits: Ensures data integrity and accessibility for large-scale projects.



Step 3 - Visualization and Mapping

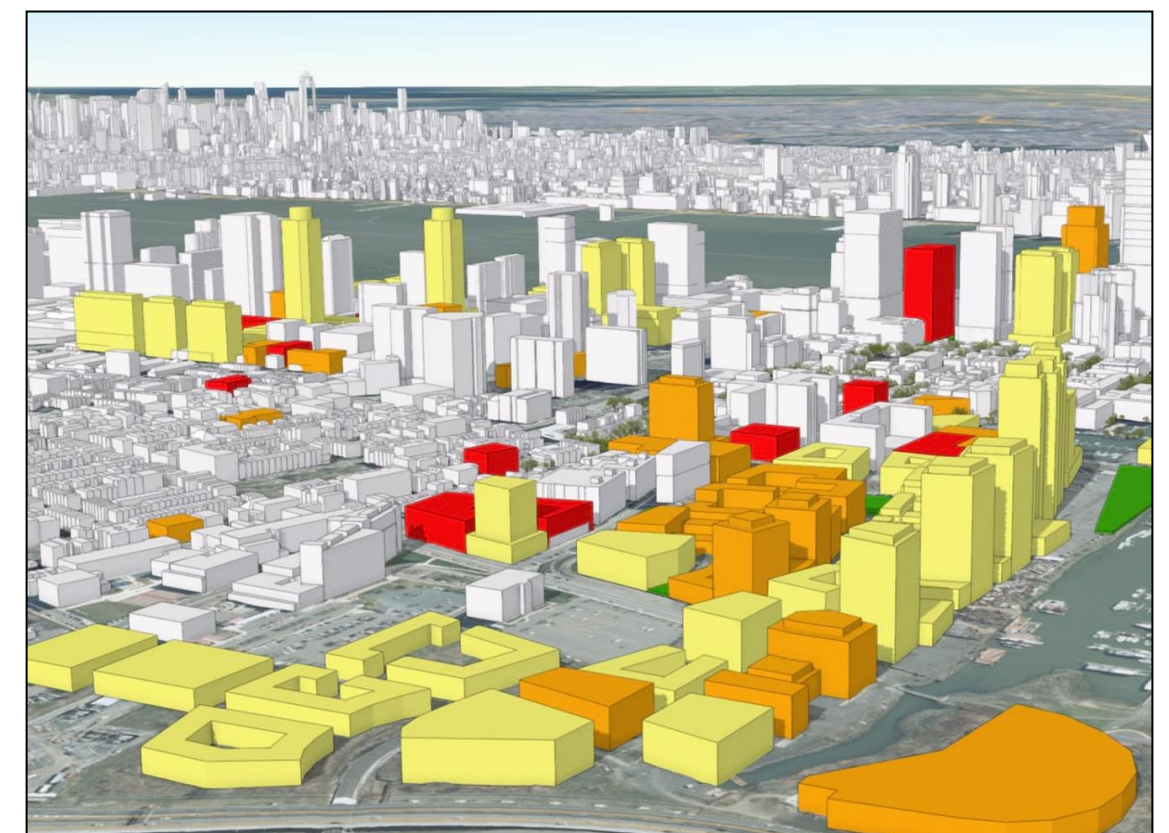


Creating dynamic visualizations, including interactive maps, 3D models, and visual reports that make data accessible and actionable.

Examples:

- **Interactive Visualization:** Enhancing user engagement through zoom, pan, and detailed data interaction on maps.
- **Layering:** Adding multiple layers to maps to display various data types simultaneously.
- **3D Visualization:** Providing realistic three-dimensional views for detailed geographic assessments.
- **Thematic Cartography:** Creating maps focused on specific themes like socio-economic indexes or weather patterns.

Benefits: Simplifies complex data and communicates findings effectively, making it easier for stakeholders to understand.



Step 4 - Data Analysis

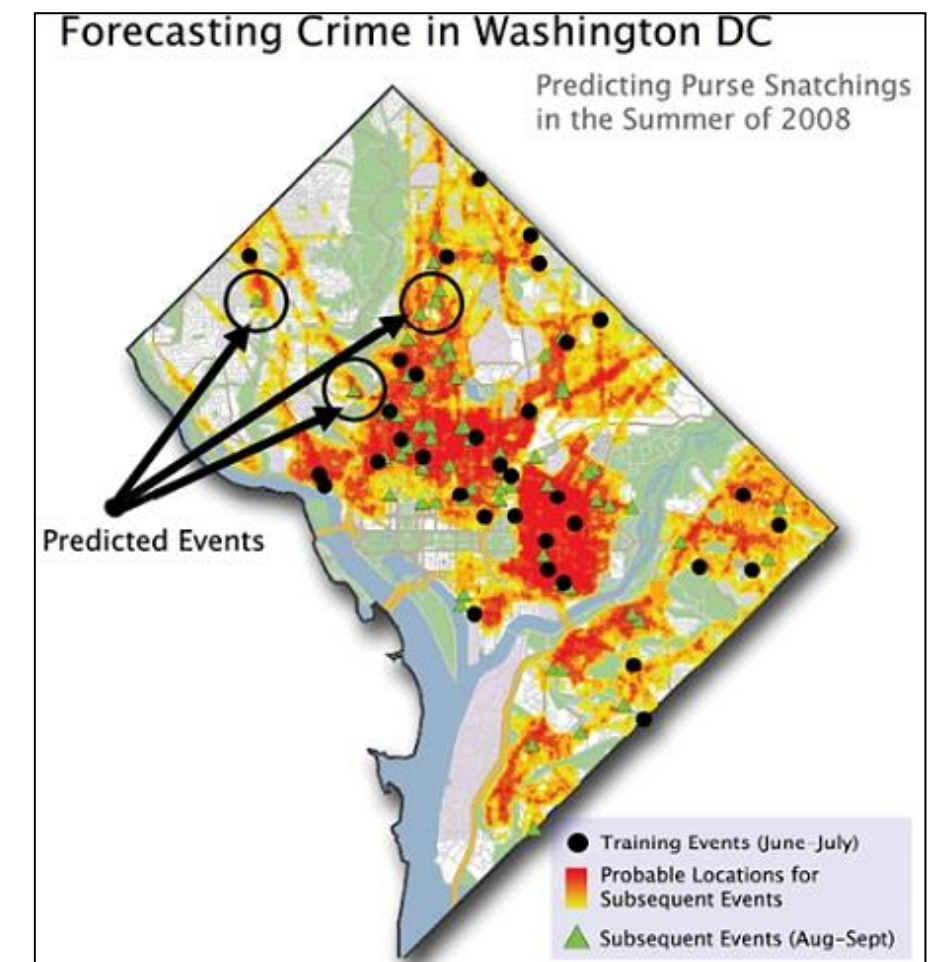
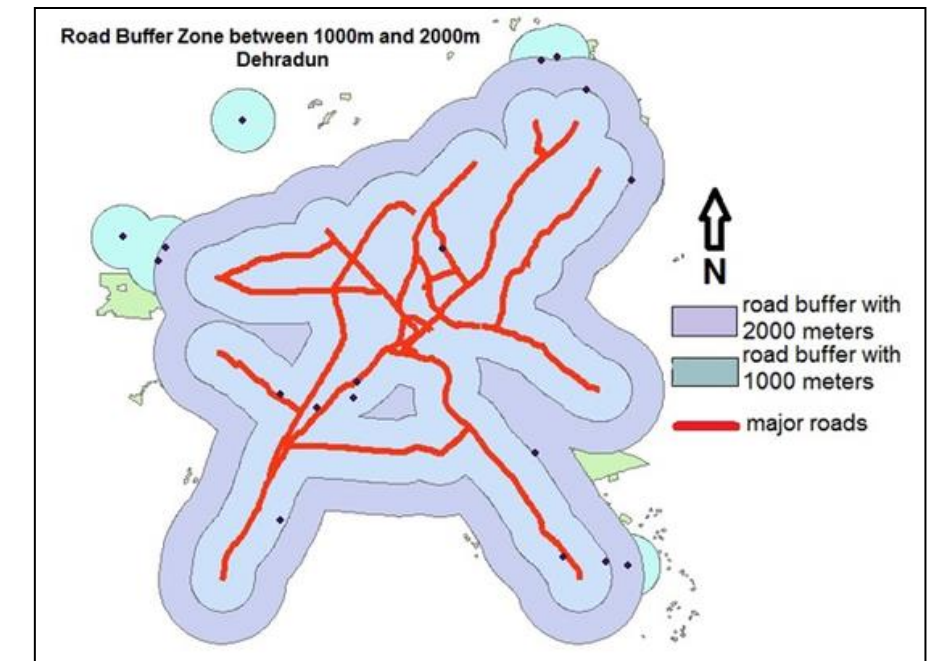


Leveraging powerful GIS tools to uncover spatial patterns, trends, and relationships in the data, allowing for predictive and prescriptive insights.

Examples:

- **Proximity Analysis:** Identifies the closeness of geographic features to determine distances and relationships.
- **Overlay Analysis:** Layers different types of data on one map to study interactions and impacts.
- **Network Analysis:** Analyzes routes and networks to optimize paths and schedules in transportation.
- **Predictive Modeling:** Uses historical geospatial data to forecast future events and trends.
- **Cluster Analysis:** Detects clusters or hot spots of activities or features for targeted interventions.
- **Buffer Analysis:** Creates zones around points or areas to assess impacts and influences.

Benefits: Helps in making data-driven decisions by providing insights that go beyond raw data.



Step 5 - Decision Support

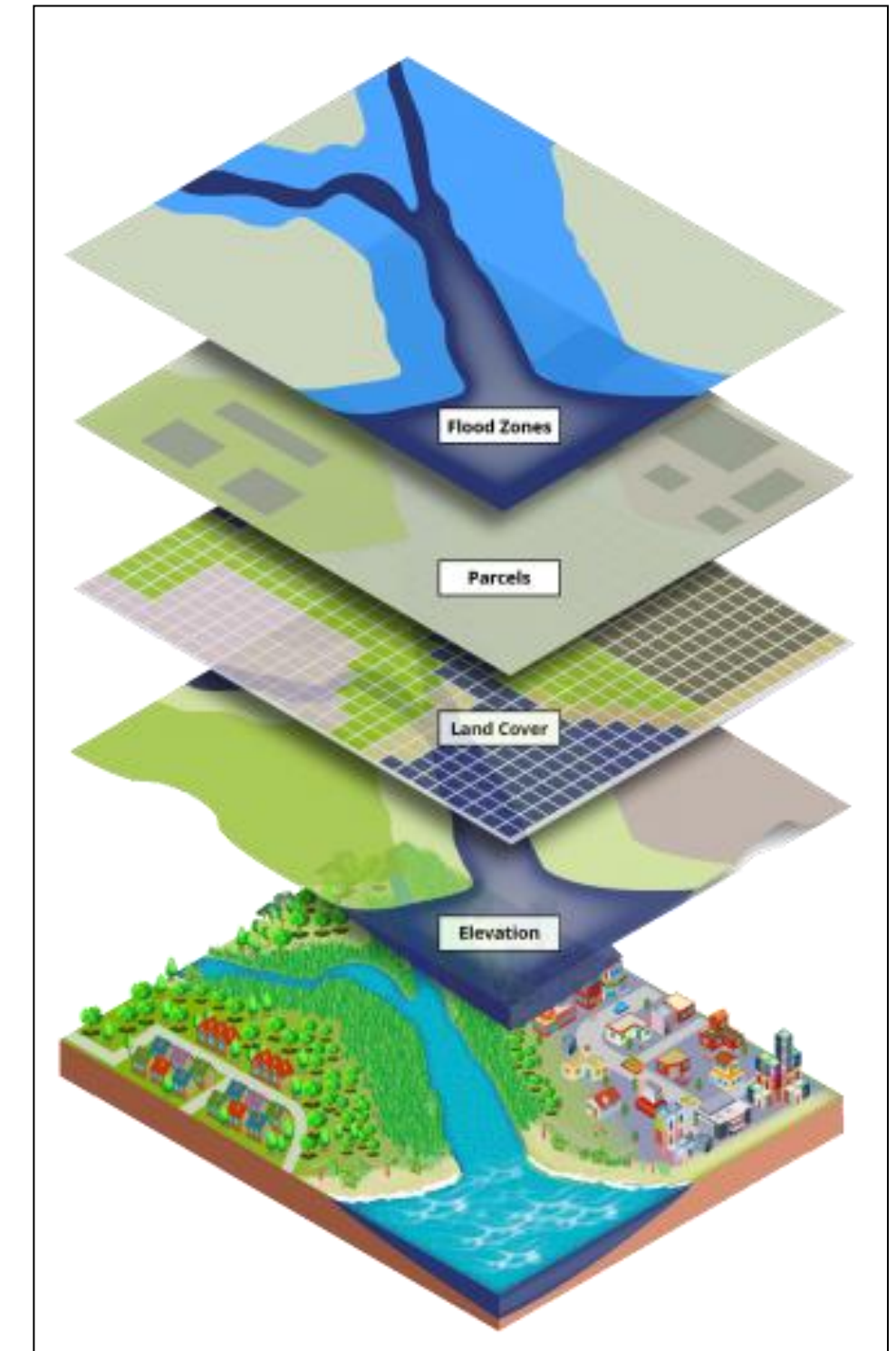


Using insights gained from GIS analysis to guide strategic, data-driven decision-making across various sectors.

Examples:

- **Environmental Management:** Environmental agencies use GIS to monitor and manage natural resources, track pollution, and plan conservation efforts.
- **Urban Planning:** Planners use GIS to visualize urban growth, plan infrastructure, and ensure sustainable development through informed zoning decisions.
- **Transportation Management:** GIS supports route optimization, traffic pattern analysis, and the planning of public transportation networks to improve efficiency and reduce congestion.
- **Disaster Response and Preparedness:** GIS tools are crucial for emergency management, enabling quick responses to natural disasters by mapping impacted areas and planning evacuation routes.
- **Public Policy and Governance:** Governments rely on GIS for policy-making, from determining school district boundaries to legislative redistricting based on population data.
- **Agricultural Planning:** GIS assists in precision farming, crop monitoring, and managing agricultural resources more efficiently to increase yield and reduce waste.

Benefits: Reduces uncertainty, optimizes resource allocation, and supports planning by using clear, visualized data for real-time and future decision-making.



GIS - Diverse Use Cases Across Industries



Government

- Asset and Infrastructure Management
- Master Plan Development
- Urban Planning and Land Use Management
- Taxation
- Utility and Resource Management
- LIS and NSDI



Agriculture and Forestry

- Precision Agriculture
- Market Linkage
- Agriculture Land Use Planning and Management
- Forest Management and Conservation
- Monitoring and Tracking Forest Resources
- Carbon Estimation
- Supply Chain Management of Forest and Agricultural Products



Water Resources

- Water Resources Management
- Water Quality and Quantity Monitoring and Management
- Pollution Assessment and Management
- Irrigation Management



Disaster Risk Management

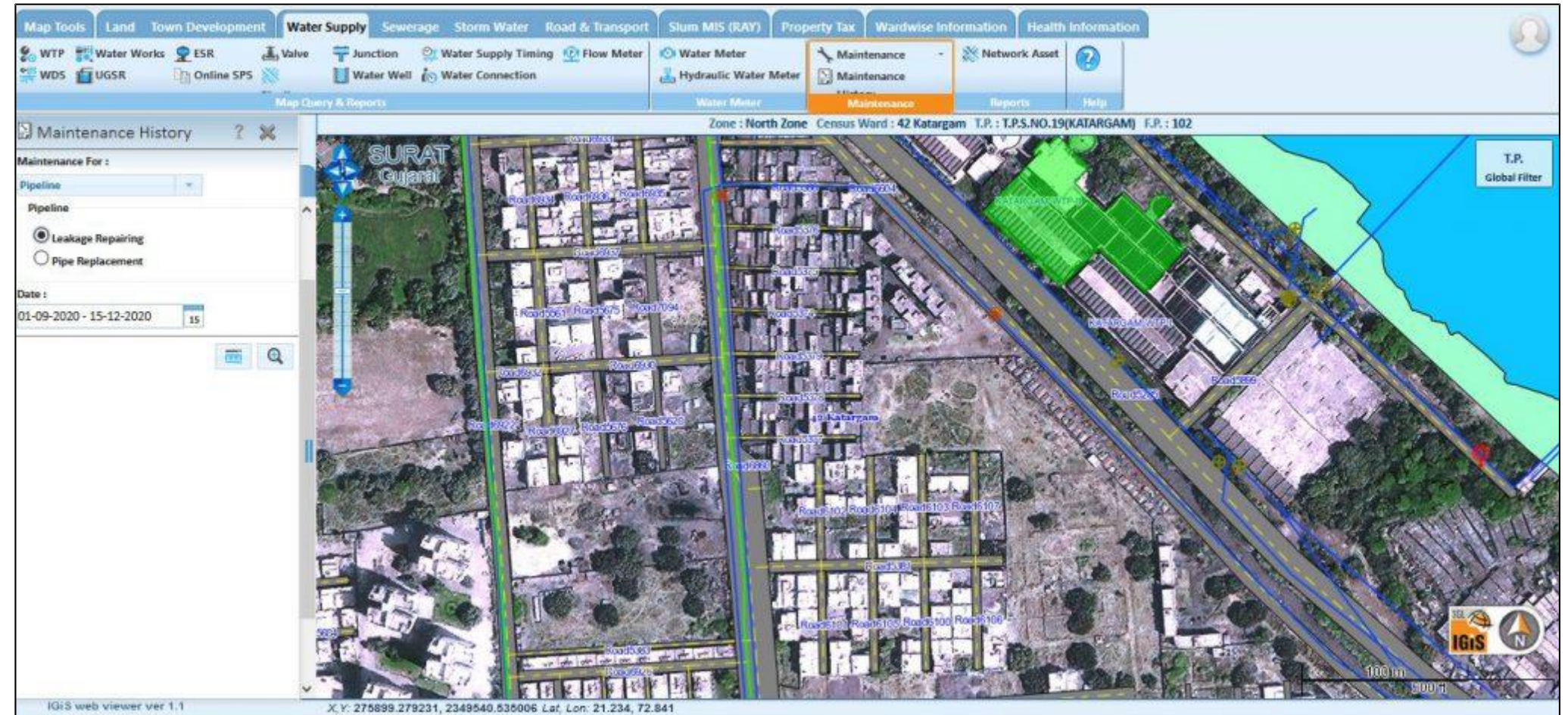
- Early Warning System
- Response and Recovery Management System
- Humanitarian Assistance
- Hazard and Risk Assessment
- Predictive Modelling

Government Case Studies

Asset and Infrastructure Management - Asset Management System - HMDA

Challenges

- Transitioning from physical files to an electronic asset registry for improved management and decision-making.
- Efficiently managing tasks like accessing location maps, databases, billing and commercial information.
- Enhancing data accuracy and retrieval speed to boost revenue through better property management.



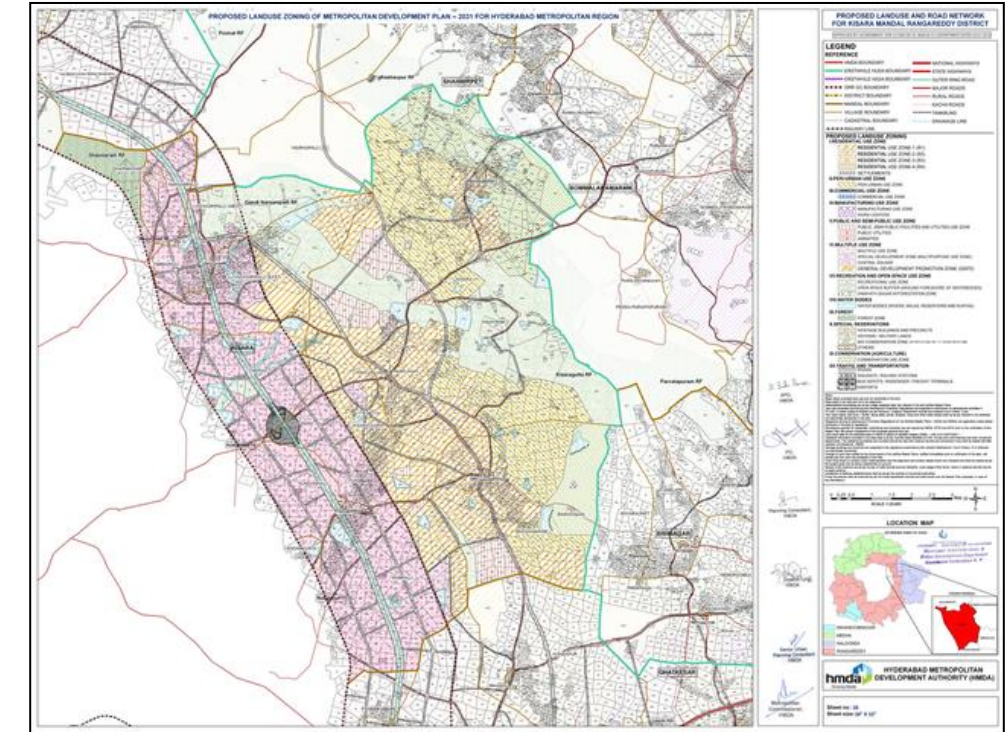
Implementation

- **Comprehensive Asset Management:** Catalog and manage physical and IT assets effectively.
- **WebGIS Integration:** Real-time tracking of asset locations.
- **Mobile App:** Facilitate field data collection and seamless data entry.
- **Secure Web Access & Reports:** Provide secure, web-based access and customizable reports for strategic planning.

Master Plan Development - Kisara, Telangana Govt, India.

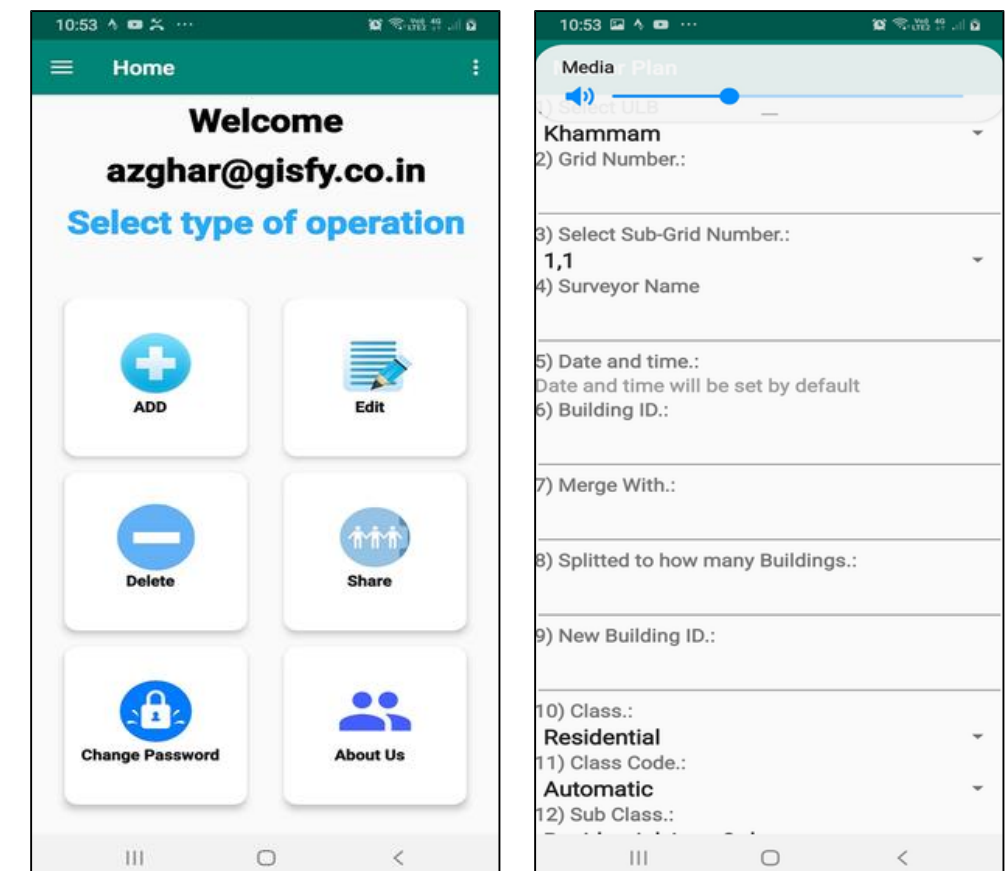
Challenges

- Supporting planned growth and infrastructure development in Telangana's new Urban Local Bodies (ULBs).
- Utilizing GIS mapping to identify, map, and plan across 56 new municipalities.
- Ensuring urban centers statewide develop in a structured manner within the financial year.



Implementation

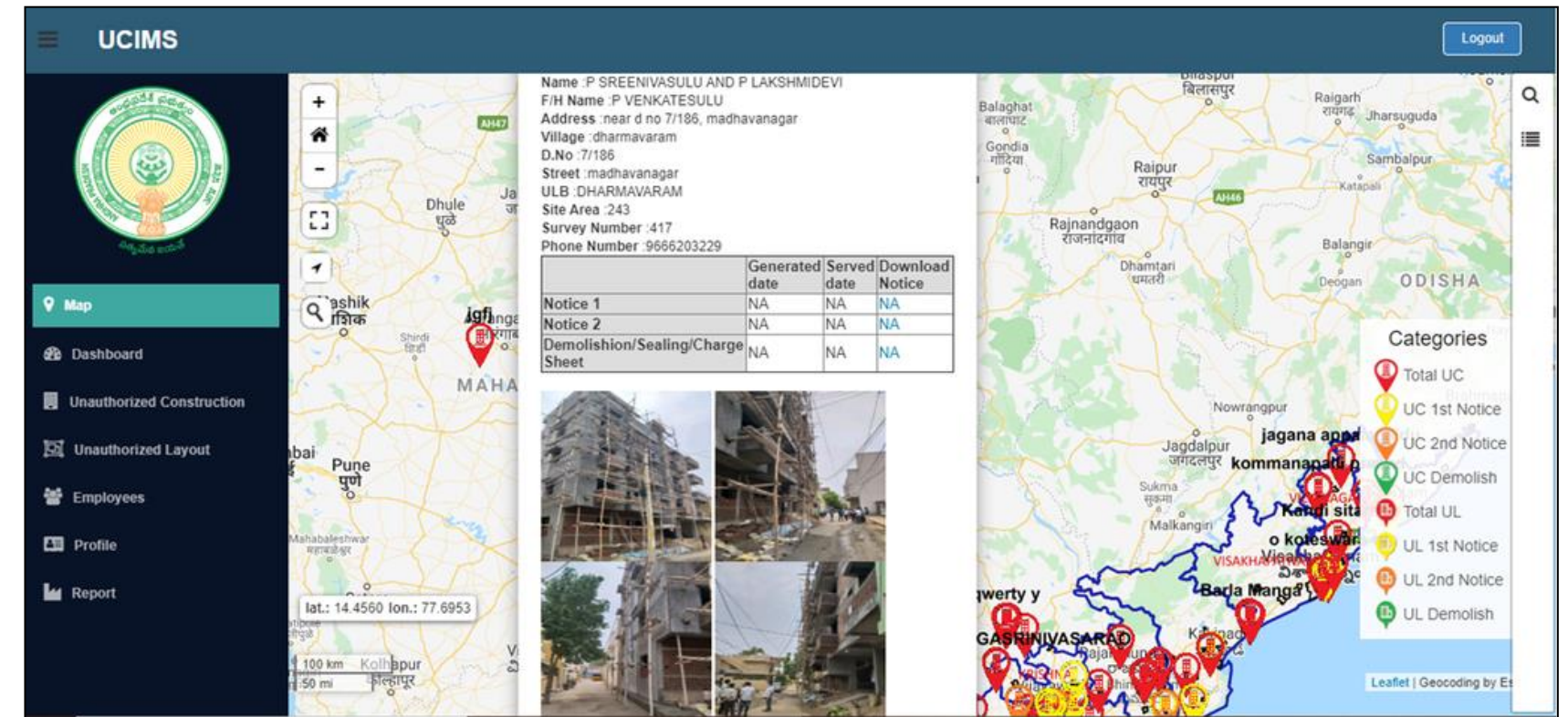
- **Master Plan Survey Mobile App:** Enables surveyors to collect and upload detailed property data.
- **Centralized Server:** Stores collected data for secure access and management.
- **WebGIS Visualization:** Displays data on a map with an accompanying statistical dashboard.
- **Admin Access:** Allows data download and review for oversight and planning.



Urban Planning & Land Use Management - Govt. of Andhra Pradesh, India

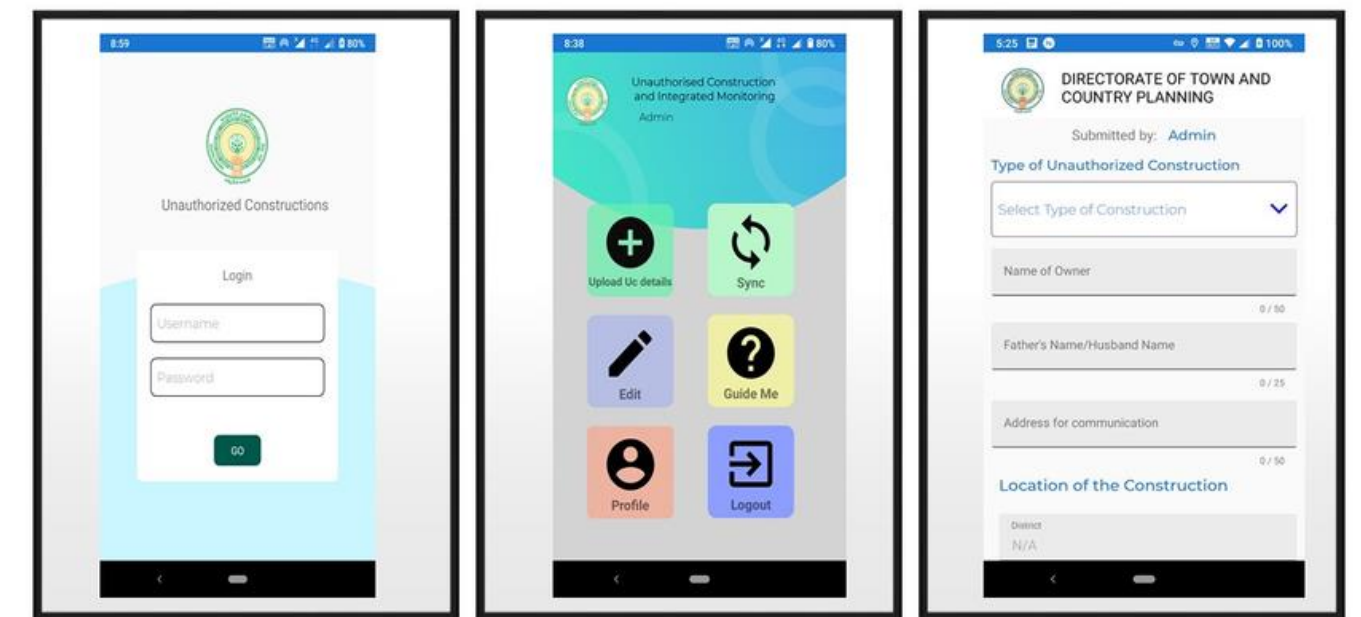
Challenges

- Detecting unauthorized construction and deviations from approved plans in all ULBs and UDAs.
- Ensuring timely monitoring and action across the state.
- Consolidating these functions into a single, user-friendly portal for efficient oversight.



Implementation

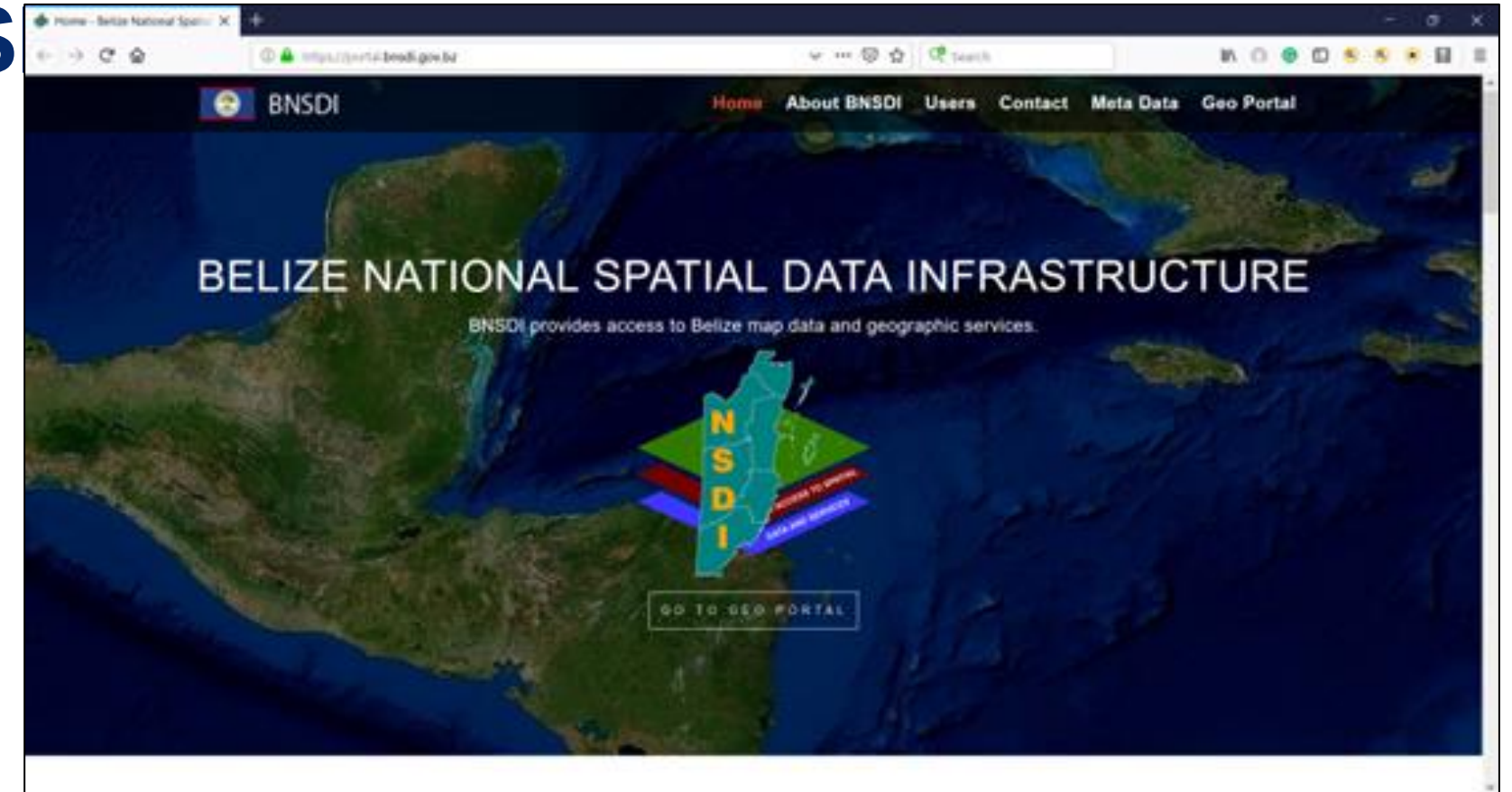
- **Identification:** Changed detection and identification through satellite imagery.
- **Field Survey for Data Collection:** The Master Plan Survey Mobile App enables surveyors to collect property information efficiently.
- **Data Upload:** Collected data is uploaded to a centralized server for secure storage.
- **Workflow:** Workflow for notifying the unauthorized builder for demolition
- **WebGIS Display:** Data is displayed on a WebGIS platform along with a statistical dashboard for a comprehensive overview.
- **Data Access:** Administrators can download and review the data as needed.



Spatial Data Management – Belize NSDI

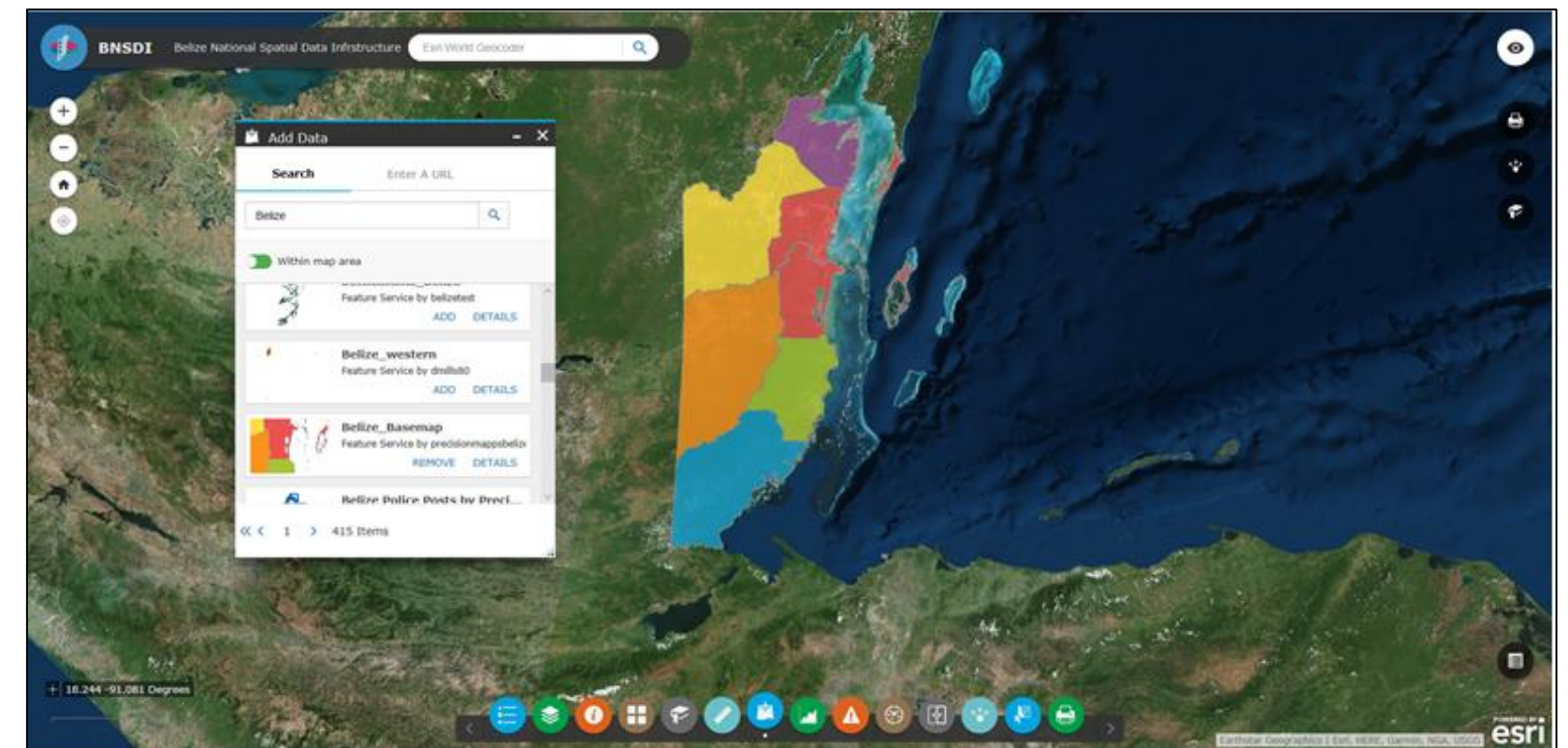
Challenges

- Lack of centralized geospatial data for various sectors.
- Inefficiencies in data sharing and access.
- High costs of creating and maintaining individual datasets.
- Limited interoperability between existing systems.
- Need for enhanced decision-making support across government agencies.



Implementation

- **Development:** Creation of a centralized NSDI geoportal for unified data access.
- **Mapping:** Use of **WebGIS** for mapping and spatial analysis.
- **Integration:** Connection with mobile apps for real-time data collection.
- **Collaboration:** A platform enabling cross-agency data sharing.
- **Training:** Programs for government staff to enhance NSDI utilization.

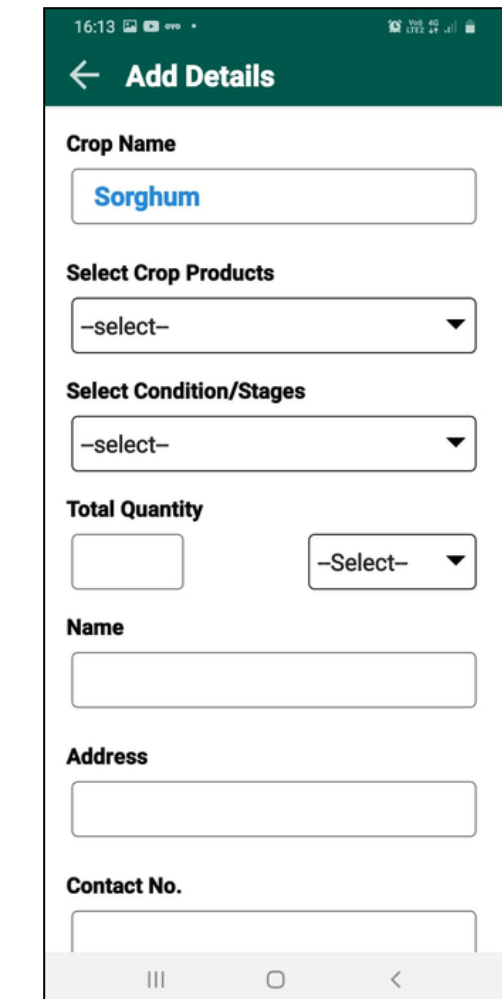


Agriculture and Forestry Case Studies

Market Linkage - Millet Farmers in India

Challenges

- **Limited Market Access:** Difficulty in reaching larger or more profitable markets due to inadequate transportation and distribution networks.
- **Lack of Market Information:** Insufficient access to real-time data on market prices, trends, and demand, which hampers farmers' ability to make informed decisions.
- **Middlemen Dependency:** Reliance on intermediaries often reduces farmers' profit margins as middlemen take significant cuts.
- **Inadequate Infrastructure:** Poor storage, processing, and transportation infrastructure can lead to post-harvest losses and decreased product quality.



Implementation

1. **Real-Time Market Prices:** The mobile app provided farmers with real-time updates on market prices and demand trends.
2. **Direct Sales Platform:** Features were integrated for farmers to connect directly with buyers, reducing reliance on middlemen.
3. **Logistics Support:** The app offered logistics and transportation booking to facilitate better market access.
4. **Digital Payment Solutions:** Secure payment systems were included for seamless transactions between farmers and buyers.
5. **GPS Tracking:** The GPS-based system for tracking farmer and customer locations.

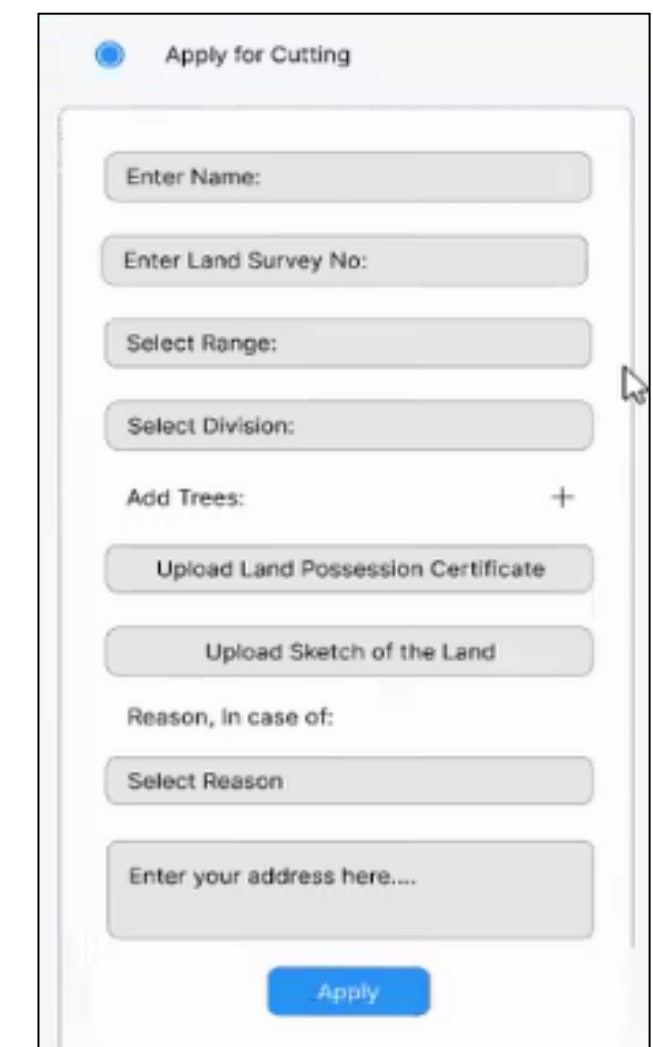
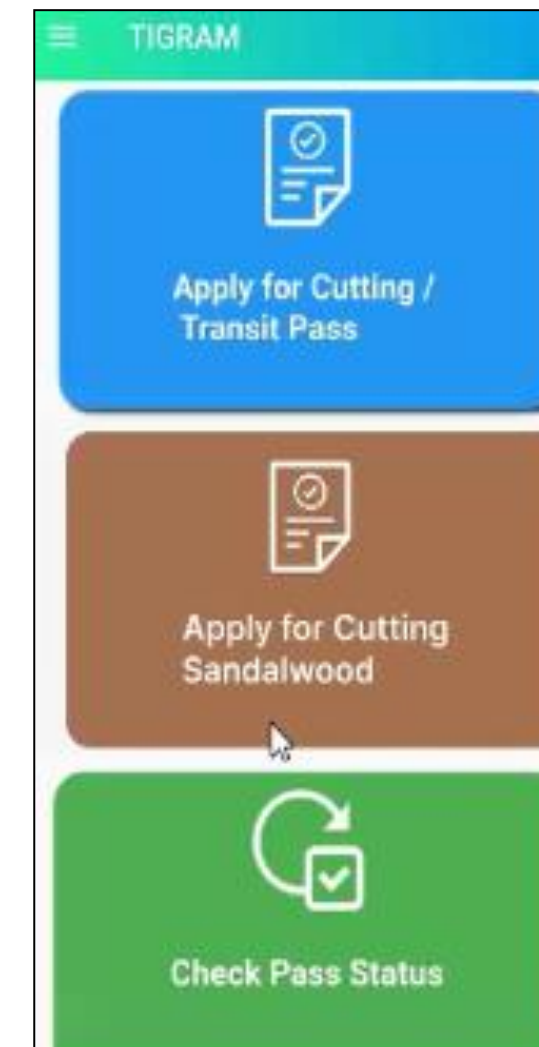
Forest Management and Conservation and Monitoring and Tracking Forest Resources - Govt. of Kerela, India.

Challenges

- Addressing the need for comprehensive timber traceability with real-time tracking and online payments.
- Integrating advanced WebGIS for geocoordinate management at forest check posts.
- Ensuring seamless connectivity between mobile and web platforms.
- Safeguarding data security and accuracy to prevent fraud and comply with forestry regulations.

Implementation

- 1. WebGIS Integration:** Implemented WebGIS for detailed Google map tracking of timber transit on the web portal.
- 2. Mobile Application Development:** Created a mobile app to scan QR codes on timber logs and transit passes, capturing GPS data.
- 3. Web Portal Enhancement:** Upgraded the web portal to facilitate secure and transparent interactions between timber buyers and sellers.



The screenshot shows the TIGRAM web portal dashboard. It features a green header with the TIGRAM logo and navigation links for 'Home' and 'Dashboard'. Below the header is a table with the following columns: 'Sl.No', 'Application No.', 'Application Date', 'Application Status', 'Current Status', 'Notified / Non-Notified Villages', 'Remark', 'Download Report', and 'Action'. The table contains four rows of data. The 'Action' column includes links for 'View Application', 'Apply for Transit Pass', and 'Apply for Transit Pass'.

| Sl.No | Application No. | Application Date | Application Status | Current Status | Notified / Non-Notified Villages | Remark | Download Report | Action |
|-------|----------------------|------------------|--------------------|---|----------------------------------|-----------------------|-----------------|--|
| 1 | TG/2024/7/225/137467 | July 15, 2024 | Approved | Range Officer Recommendation Pending After Filed Verification Completed | Notified | ok | Download | View Application, Apply for Transit Pass |
| 2 | TG/2024/7/225/137466 | July 15, 2024 | Approved | Range Officer Recommendation Pending For Field Verification | Non-Notified | N/A | Download | View Application, Apply for Transit Pass |
| 3 | TG/2024/5/225/137441 | May 20, 2024 | Approved | Deputy Range Officer Assigned for Field Verification | Non-Notified | it will ok to transit | Download | View Application, Apply for Transit Pass |
| 4 | TG/2024/5/225/137440 | May 20, 2024 | Approved | Range Officer Recommendation Pending After Filed Verification Completed | Notified | ok | Download | View Application, Apply for Transit Pass |

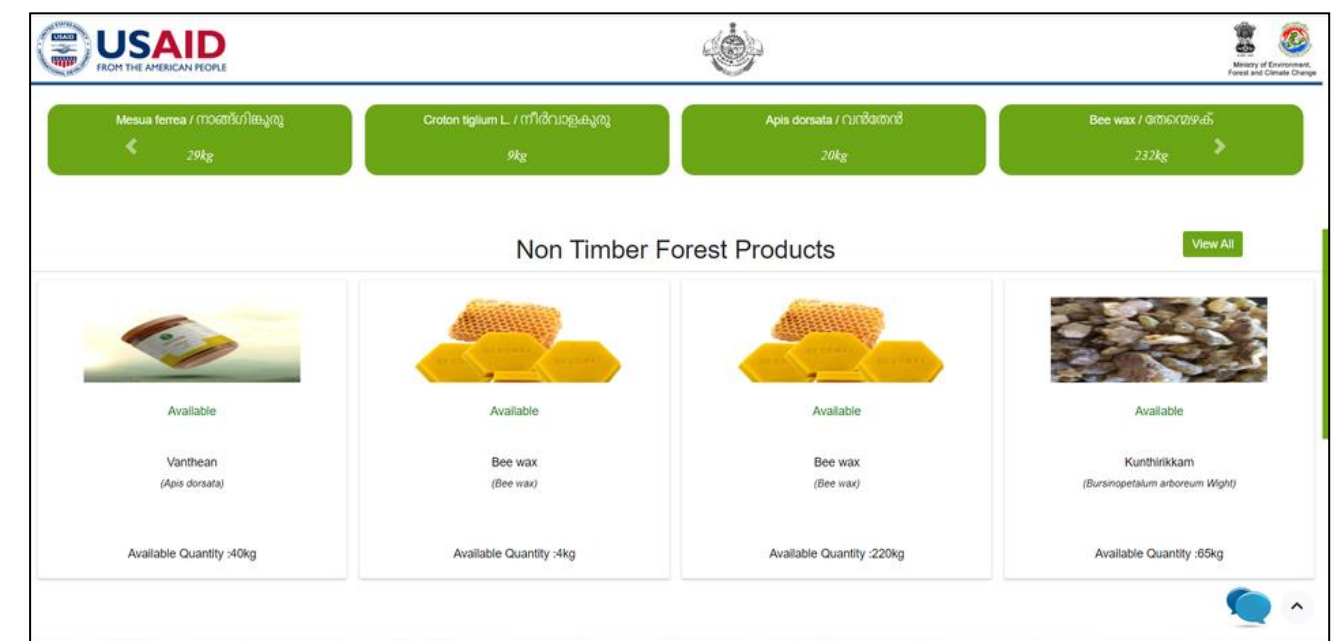
Forest Management & Conservation and Monitoring & Tracking Forest Resources and Supply Chain Management of Forest and Agricultural Products - Govt. of Kerala, India.

Challenges

- Integrating accurate, real-time data using WebGIS technology for NTFPs.
- Managing complex data from diverse sources with seamless updates on harvesting and sales.
- Providing user-friendly access for forestry officials and stakeholders with a scalable infrastructure for data-heavy operations and geospatial analysis.

Implementation

- 1.NTFP Platform Implementation:** Launched a comprehensive platform for NTFP management, streamlining processes from collection to marketplace engagement.
- 2.WebGIS Integration:** Integrated WebGIS for real-time visualization and tracking of NTFP locations, enhancing spatial decision-making.
- 3.Functionality Development:** Developed dynamic data entry, reporting, and online marketplace functionalities to support data-driven NTFP management.
- 4.Security Implementation:** Implemented advanced security measures to manage permissions for NTFP collection, sales, ensuring system integrity and stakeholder trust.



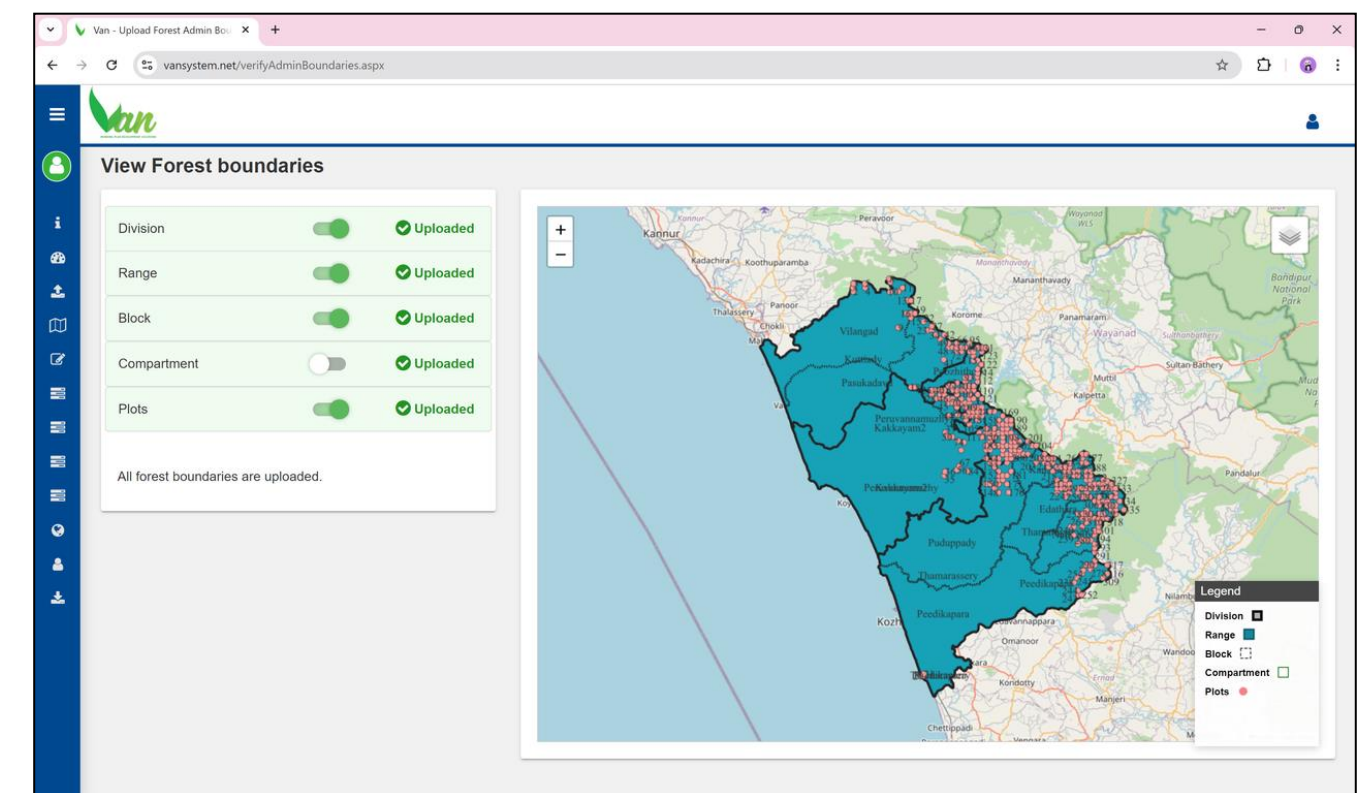
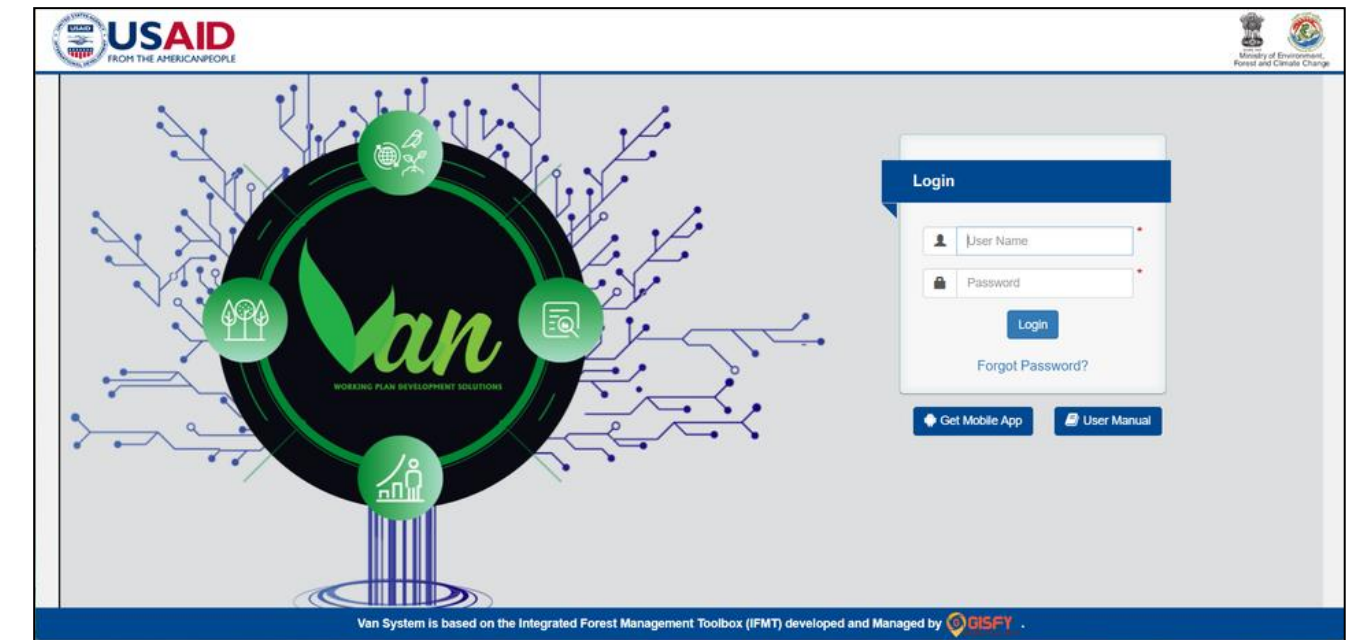
Forest Management and Conservation and Monitoring and Tracking Forest Resources and Carbon Estimation – Across India

Challenges

- Integrating complex ecosystem and tree inventory data into a single platform.
- Ensuring real-time data storage, retrieval, and analysis across mobile, cloud, and web components.
- Maintaining high data accuracy for diverse species and minimizing errors through strict validation.

Implementation

- 1.WebGIS Integration:** Enhanced forest inventory management with WebGIS for precise mapping and data analysis.
- 2.Mobile Application:** Developed an app with a detailed flora and fauna database to ensure accurate data entry and reduce typographical errors.
- 3.Cloud Storage Solution:** Implemented cloud storage for real-time, secure data repository of forest and ecosystem information.
- 4.Carbon Estimation Tool:** Integrated carbon estimation functionalities to track and report on carbon stocks for environmental assessments.



Water Resources Case Studies

Water Resources Management and Water Quality and Quantity Monitoring and Management – Across India

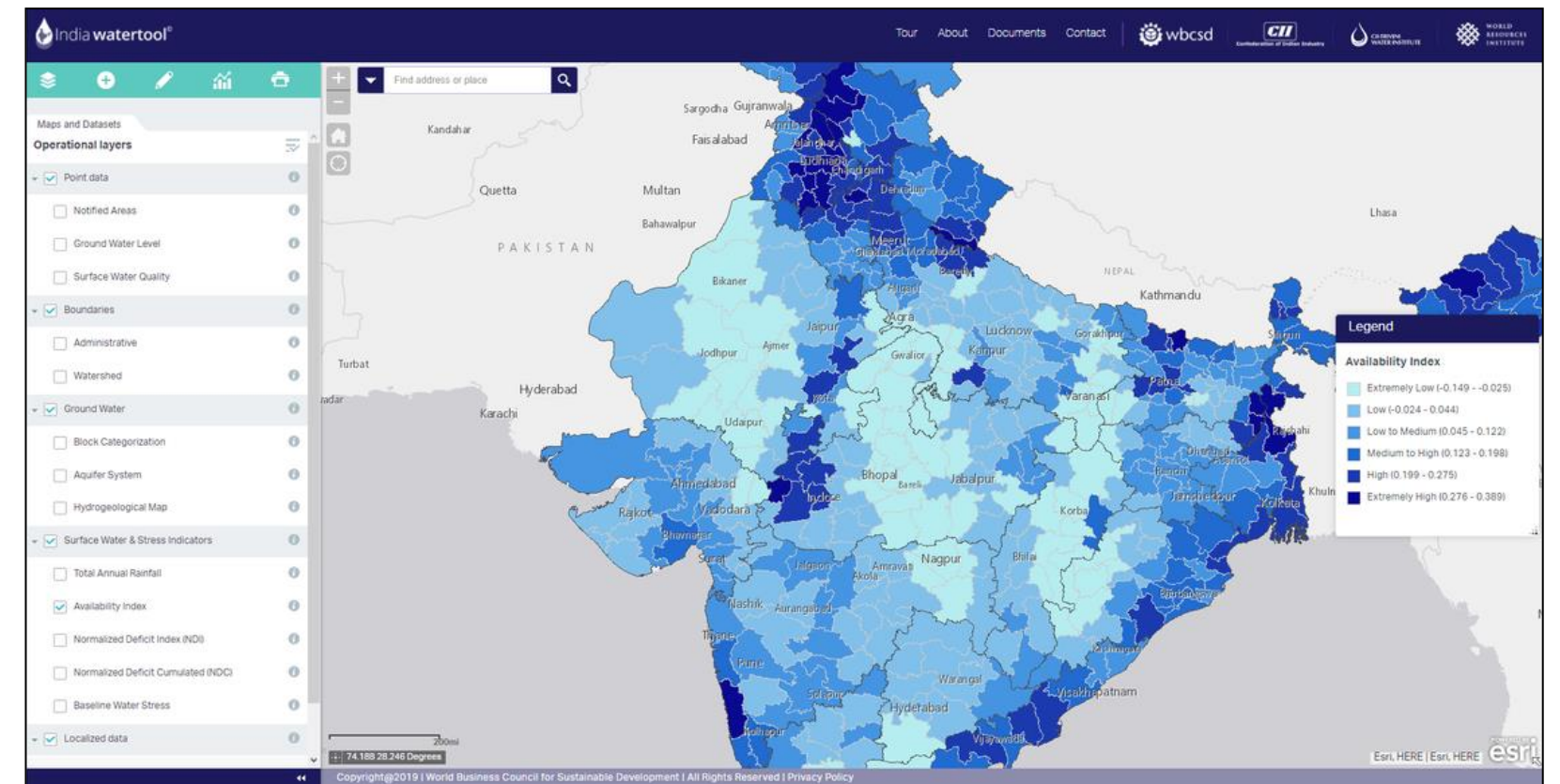
Challenges

- Industries and government institutions in India aim to assess water-related risks to safeguard resources.
- They seek to identify vulnerabilities in water availability, quality, and distribution.
- The goal is to plan effective interventions for sustainable water management practices.

Implementation

GISFY's IWT solution includes the following:

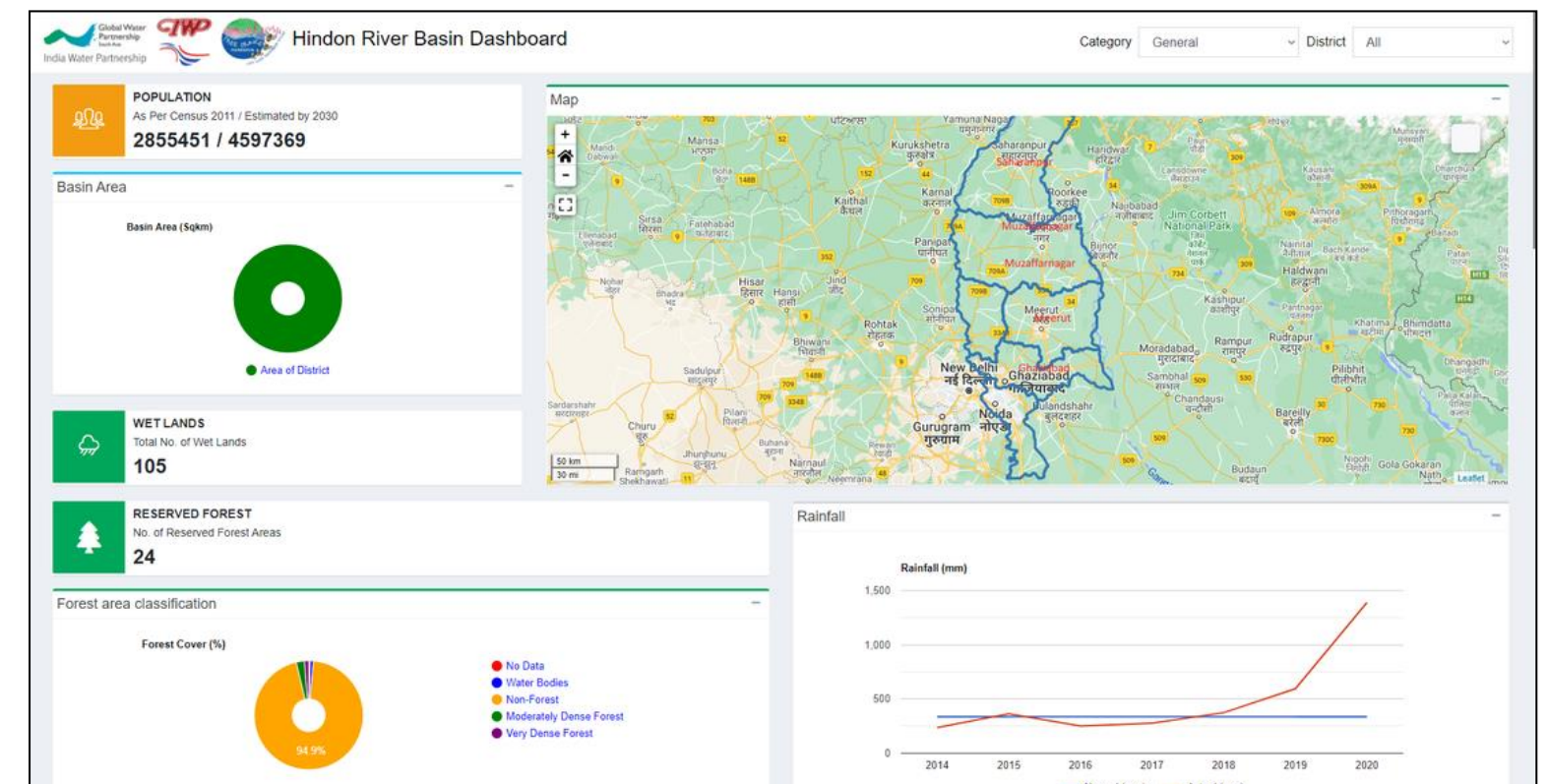
1. **WebGIS** that allows user to view various water quality and quantity related maps overlaid on satellite and street map.
2. Includes complete information of surface water and ground water.
3. Allow user to import their area of interest location and perform analysis for decision-making.



Pollution Assessment and Management – Hindon River, Delhi, India

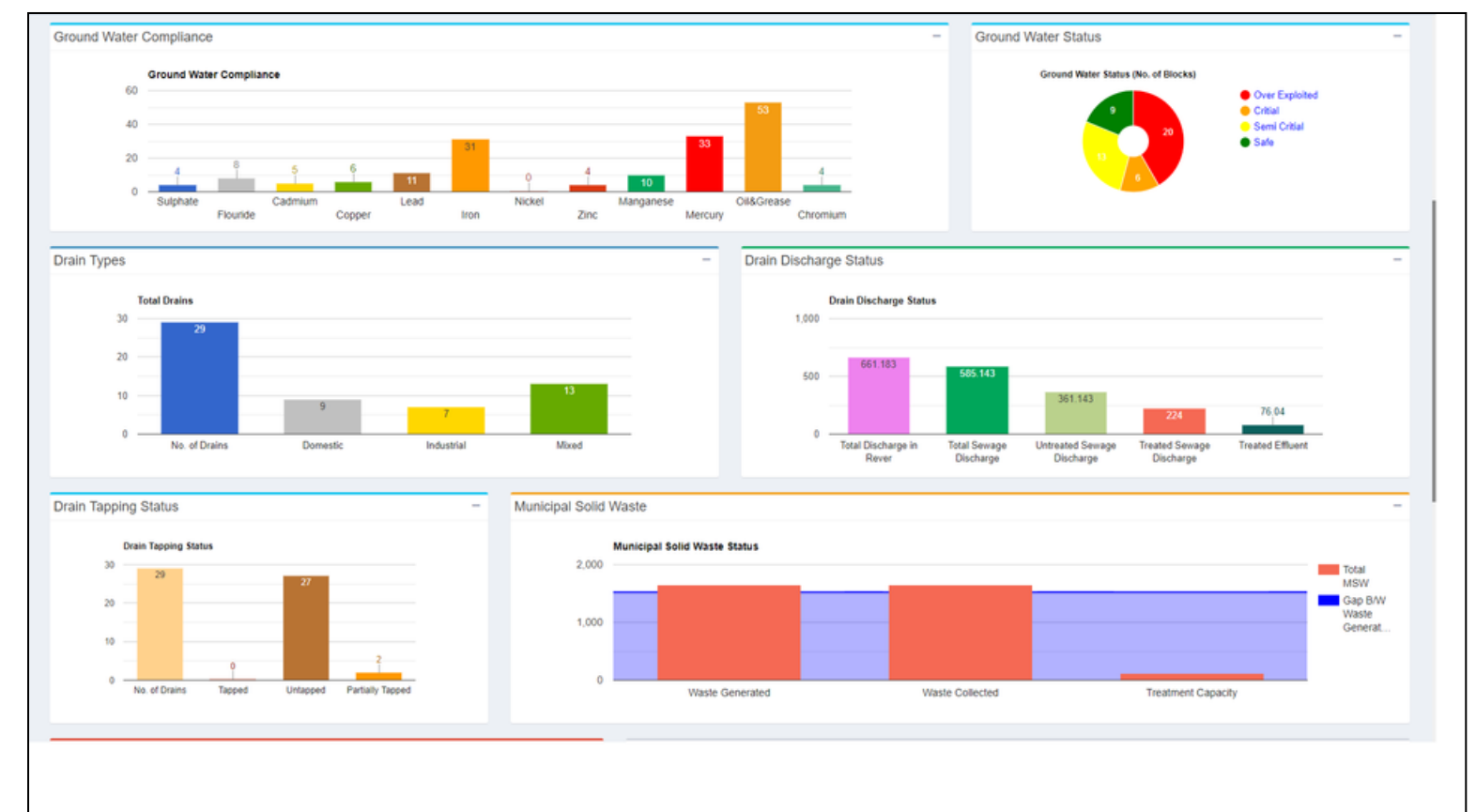
Challenges

- Monitoring water pollution in the Hindon River for effective intervention.
- Identifying and tracking pollution sources like sewage, industrial waste, and municipal discharge.
- Implementing and evaluating mitigation strategies to contain pollution levels.



Implementation

- 1.Comprehensive Datasets:** Include pollution and general indicators, such as sewage, industrial waste, population, and groundwater levels.
- 2.Analysis & Comparison Tools:** Track pollution levels and compare data over time to measure mitigation impact.
- 3.MIS & WebGIS:** Manage datasets and visualize data on a map for better decision-making.



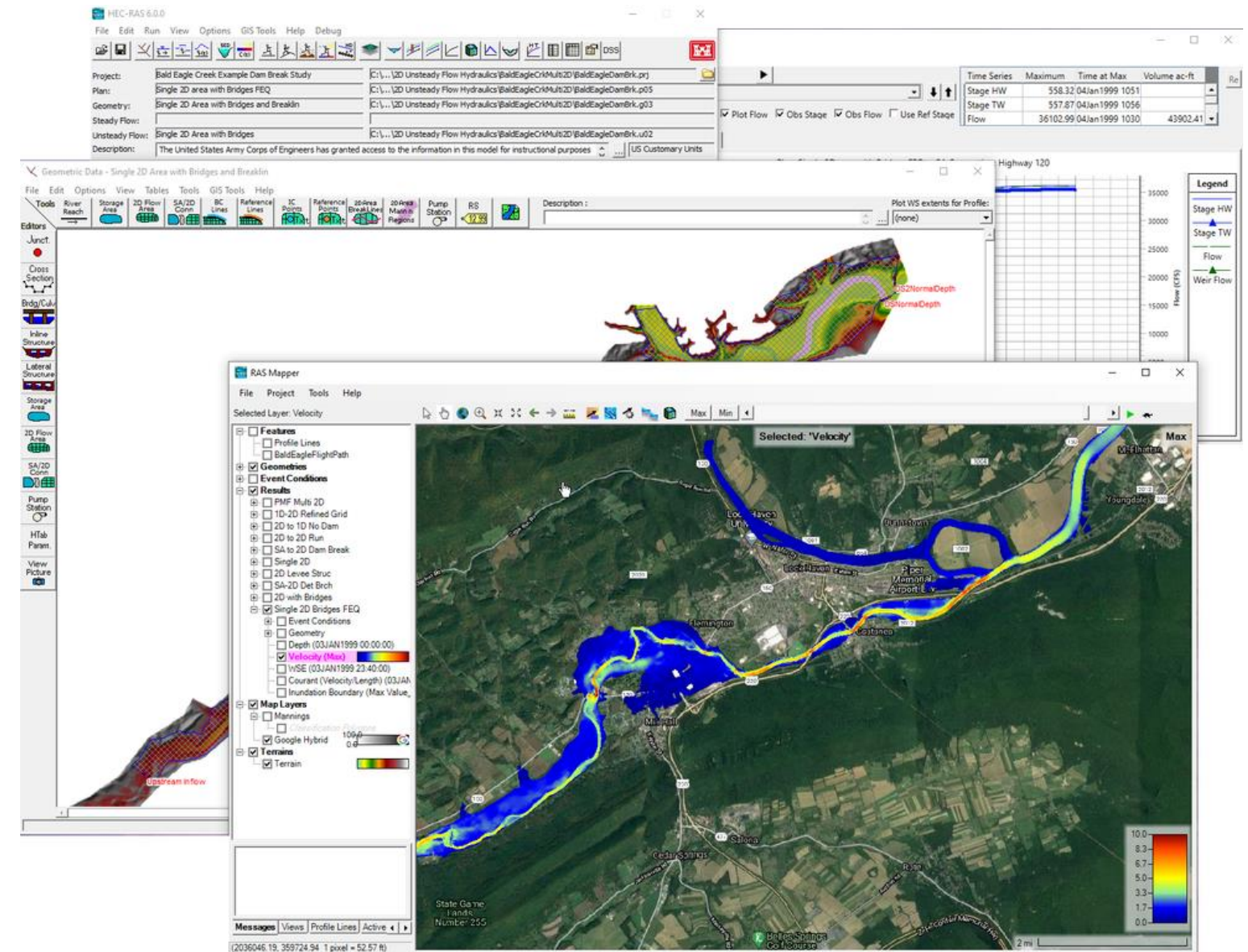
Disaster and Risk Management Case Studies

PREPAREDNESS

Preparedness through scenario analysis, forecasting, and a knowledge platform.

1. Scenario Analysis (Flood, Drought, Landslide & Typhoon):

- **Purpose:**
 - To anticipate possible disaster situations and their impacts, allowing for strategic planning and resource allocation.
- **Implementation:**
 - Developing various disaster scenarios using historical data, geographical factors, and potential hazards.
 - Assessing the likelihood and severity of events such as floods, droughts, and earthquakes.
- **Outcomes:**
 - Scenario analysis helps in understanding vulnerabilities and preparing response strategies tailored to different disaster types.



2. Forecasting:

Purpose: The purpose of forecasting in disaster and risk management is to proactively prepare for potential disasters, minimize their impact, and enhance the safety and resilience of communities. It aims to support decision-making processes, optimize resource allocation, and strengthen infrastructure and response plans to mitigate risks.

Implementation: The platform includes:

- **Data Collection and Analysis:** Gather and analyze meteorological, geological, and environmental data to predict potential disasters.
- **Early Warning Systems:** Develop and deploy systems that communicate timely alerts to authorities and the public.
- **Training and Simulations:** Implement training programs and simulation exercises for emergency response teams to ensure readiness.
- **Collaboration with Agencies:** Coordinate with government bodies, NGOs, and local authorities for integrated response planning.
- **Technology Integration:** Use GIS, remote sensing, and AI-based modeling tools for precise forecasting and real-time monitoring.

Outcomes: Outcomes include improved preparedness and response, reduced casualties and damage, efficient resource deployment, and strengthened community resilience, leading to better overall disaster risk management.

3. Knowledge Platform (Flood, Drought, Landslide & Typhoon):

Purpose: To serve as a centralized hub for storing, managing, and disseminating information and best practices related to disaster management. The platform facilitates knowledge sharing and collaboration among stakeholders, including government agencies, NGOs, researchers, and the public.

Implementation: The platform includes:

- **Centralized Repository:** A comprehensive collection of resources such as research papers, case studies, training materials, and data sets.
- **Collaboration Tools:** Features like forums, chat rooms, and workspaces for discussion and joint projects.
- **Interactive Learning Modules:** Courses, tutorials, and webinars to enhance skills in disaster management.
- **Search and Discovery:** Advanced search capabilities and content categorization for easy access to information.
- **User-Generated Content:** Encourages contributions from users, including articles and shared experiences.

Outcomes: The knowledge platform enhances disaster preparedness and response capabilities by providing access to up-to-date information and fostering a collaborative environment.

MITIGATION

1. Early Warning System:

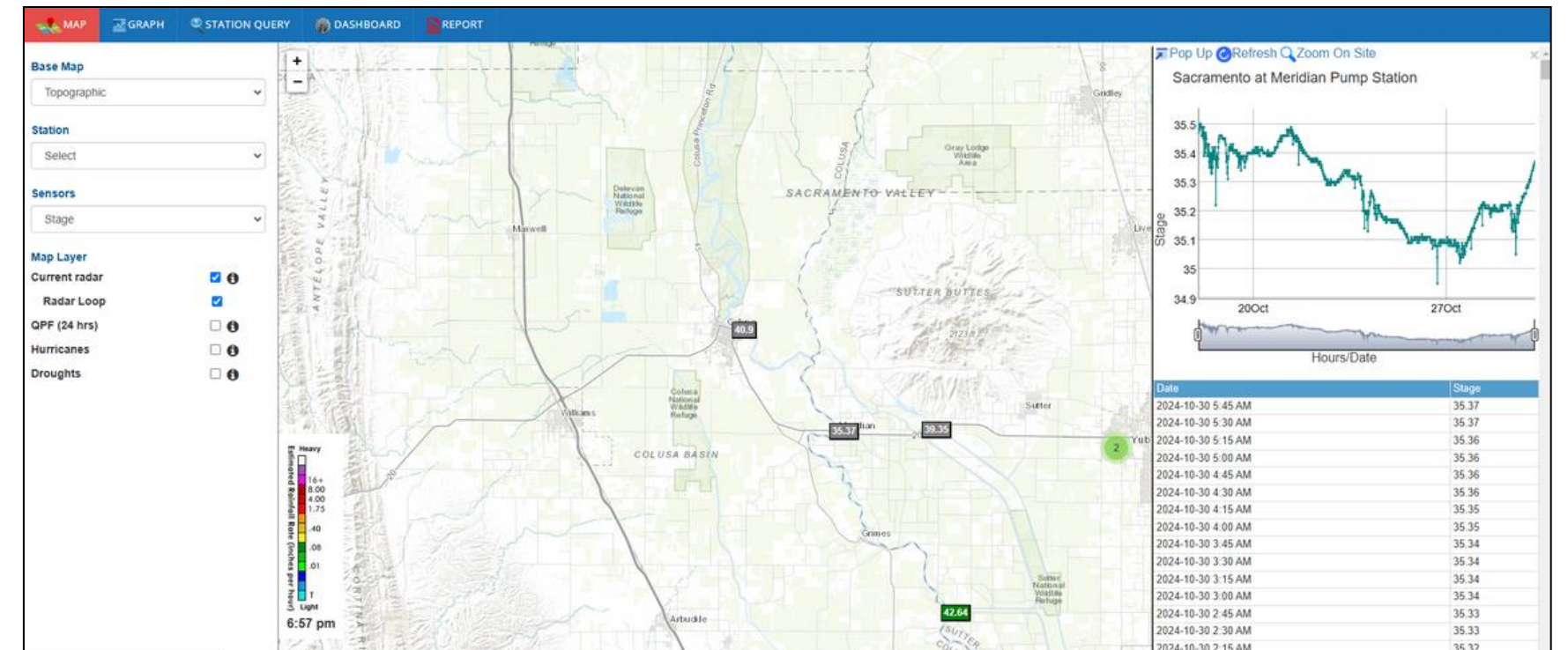
- **Purpose:**
 - To provide timely alerts about impending disasters to reduce risk and enable proactive measures.
- **Implementation:**
 - **System Setup:** Deploy sensors, data collection tools, and communication networks to monitor hazards.
 - **Data Integration:** Collect and analyze data from meteorological, hydrological, and seismic sources.
 - **Alert Mechanism:** Develop and distribute warnings through various channels (e.g., SMS, sirens, media) to affected areas.
- **Outcomes:**
 - Enhanced safety and improved response are achieved through timely alerts that enable communities to take protective measures and facilitate coordinated actions by emergency services and authorities.

SOLUTION WE DEVELOPED

Early Warning System - USA

We developed a comprehensive suite of software solutions for flood disaster management, including:

- **Station/Sensor Setup:** Define stations and their sensors.
- **Rating Table & Expression Builder:** Calibrate sensor data.
- **Alarm Setup:** Configure email & SMS alerts based on thresholds and rate of change.
- **Data Visualization:** View sensor data on maps, generate graphs, download data, query, and search sensor data.
- **Additional Features:** Numerous other functionalities for enhanced flood disaster management.



The 'Add Alarm' form is a multi-step process. Step 1 is active, showing configuration for 'Upper Mahogany Creek'. The 'Select Sensors' dropdown is set to 'Battery'. The 'Range from' and 'Range to' fields are set to 'dd/mm/yyyy'. The 'Select type' is 'Rate of Change', and the 'Condition' is '+'. The 'Value' field is '0.1' and the 'Deadband' is 'Deadband'. The 'Span min' is '60'. The 'Message' field contains 'ROC UMC +0.1 over 60min'. Navigation buttons 'Previous', 'Next', and 'Cancel' are at the bottom.

The 'Real-Time Event /Hourly Data' table shows a list of sensor readings for 'SF13 Downstream Lost Creek Reservoir'. The table includes columns for Date / Time, Water level (ft), Water Temp (C), Water Temp (F), Battery (v), Turbidity (ntu), pH, Conductivity, and Discharge (cfs). The data is for the period 2018-12-05 00:00 AM to 2018-12-05 02:30 AM.

| Date / Time | Water level (ft) | Water Temp (C) | Water Temp (F) | Battery (v) | Turbidity (ntu) | pH | Conductivity | Discharge (cfs) |
|---------------------|------------------|----------------|----------------|-------------|-----------------|------|--------------|-----------------|
| 2018-12-05 00:00 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.15 | 8.89 | 6.76 | |
| 2018-12-05 00:05 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.18 | 8.89 | 6.76 | |
| 2018-12-05 00:10 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 00:15 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 00:20 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 00:25 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 00:30 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 00:35 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 00:40 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 00:45 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 00:50 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 00:55 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 01:00 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 01:05 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 01:10 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 01:15 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 01:20 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 01:25 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |
| 2018-12-05 01:30 AM | 4.74 | 7.75 | 45.95 | 12.44 | 0.17 | 8.89 | 6.76 | |

The 'WX Visual' interface shows a 'List of Sensors' table with columns for Sensor Name, Description, and Actions. The table lists various sensors like Turb raw, Water level, Precipitation, Do raw, BathVot raw, Stage raw, Battery, Dissolved Oxygen, Turbidity, and Snow level.

| Sensor Name | Description | Actions |
|------------------|-------------|---------|
| Turb raw | | ✖ ✖ |
| Water level | | ✖ ✖ |
| Precipitation | | ✖ ✖ |
| Do raw | | ✖ ✖ |
| BathVot raw | | ✖ ✖ |
| Stage raw | | ✖ ✖ |
| Battery | | ✖ ✖ |
| Dissolved Oxygen | | ✖ ✖ |
| Turbidity | | ✖ ✖ |
| Snow level | | ✖ ✖ |

RESPONSE & RECOVERY

Overview

- We developed the **ICT App for Humanitarian and Emergency Response** to enhance disaster management, humanitarian response, and recovery operations.
- This robust and accessible platform is designed to:
 - Improve data collection, Enhance decision-making & Increase operational efficiency through advanced technological features.
- The app integrates multiple technologies to ensure timely and effective responses to emergencies:
 - Mobile apps, WebGIS, Social media, IVRS (Interactive Voice Response System), and SMS.

Implementation

The app integrates multiple functionalities to support comprehensive disaster management:

- **Data Capturing Process:**
 - Utilizes mobile apps, webGIS, social media, IVRS (Interactive Voice Response System), and SMS to capture data from diverse environments.
 - Features a dynamic survey question bank for adaptable data collection.
- **Cloud-Based Storage:**
 - Ensures global accessibility and robust data processing through cloud storage.
- **Decision-Making Tools:**
 - Offers advanced analytical features and automated dissemination processes to support decision-making.

- **Multi-Platform Accessibility:**
 - Accessible via Android apps (both online and offline), web interfaces, and SMS/IVRS systems.
- **Geotagging and Data Collection:**
 - Includes automated geotagging of locations/photos and various forms for data collection.
 - Features a QR code scanner and fingerprint scanner for enhanced data security and accuracy.
- **WebGIS Decision-Making Platform:**
 - Provides project-wise dashboards, administrative panels, and spatial analytics for comprehensive report generation.
 - Facilitates project creation, user assignment, and geographic coverage analysis.

Outcomes

- **Immediate Relief**
 - Basic Needs: Ensuring access to food, water, shelter, and medical care.
 - Safety and Security: Protecting affected populations from further harm.
- **Health and Well-being**
 - Medical Assistance: Providing emergency healthcare and psychological support.
 - Disease Prevention: Implementing measures to prevent the spread of diseases.

- **Rehabilitation and Reconstruction**
 - Infrastructure Repair: Restoring essential services like electricity, water supply, and transportation.
 - Housing Rebuild: Providing temporary and permanent housing solutions for displaced individuals.
- **Livelihood Restoration**
 - Economic Support: Offering financial assistance and employment opportunities.
 - Agricultural Aid: Supplying seeds, tools, and training to restore agricultural productivity.
- **Community Resilience**
 - Capacity Building: Training local communities in disaster preparedness and response.
 - Social Cohesion: Promoting community engagement and cooperation in recovery efforts.
- **Mental Health and Psychosocial Support**
 - Counseling Services: Providing mental health support to affected individuals.
 - Community Activities: Organizing activities to foster social interaction and emotional recovery.
- **Post-Distribution Monitoring:**
 - Post-distribution monitoring (PDM) is a vital process in disaster management to ensure aid reaches the intended beneficiaries effectively.
- **Knowledge Assessment and Practice:**
 - Knowledge assessment in disaster management involves systematically evaluating the understanding and skills of staff, volunteers, and community members.

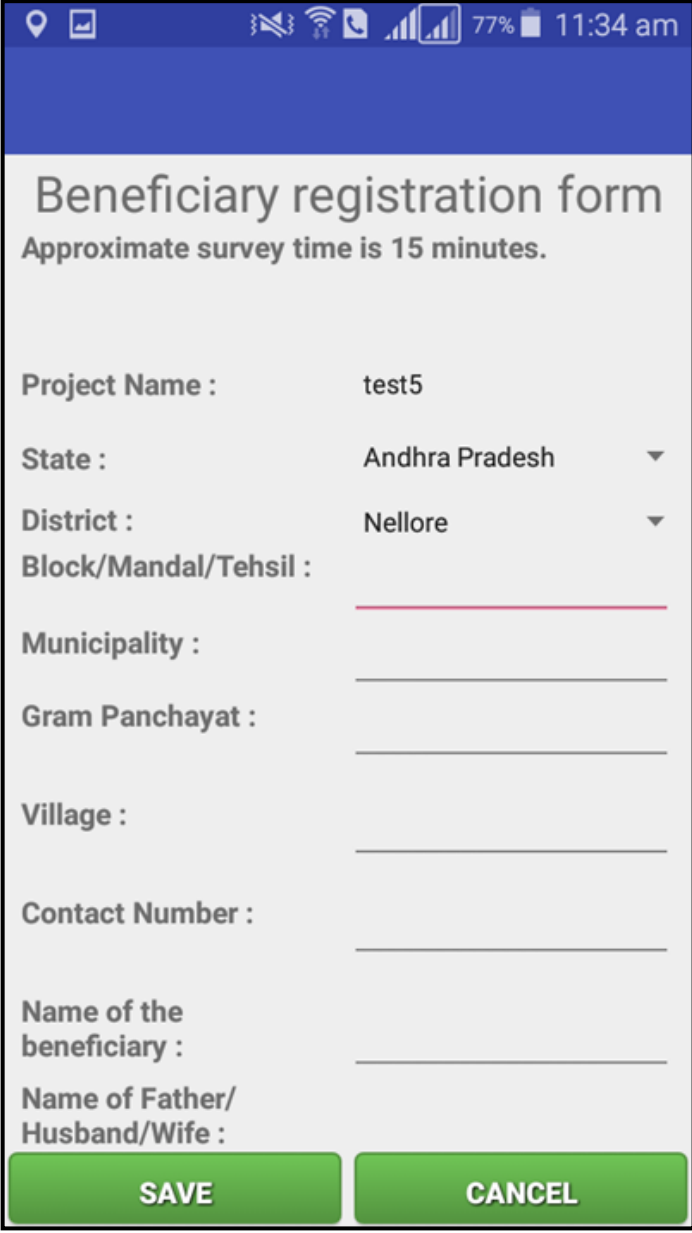
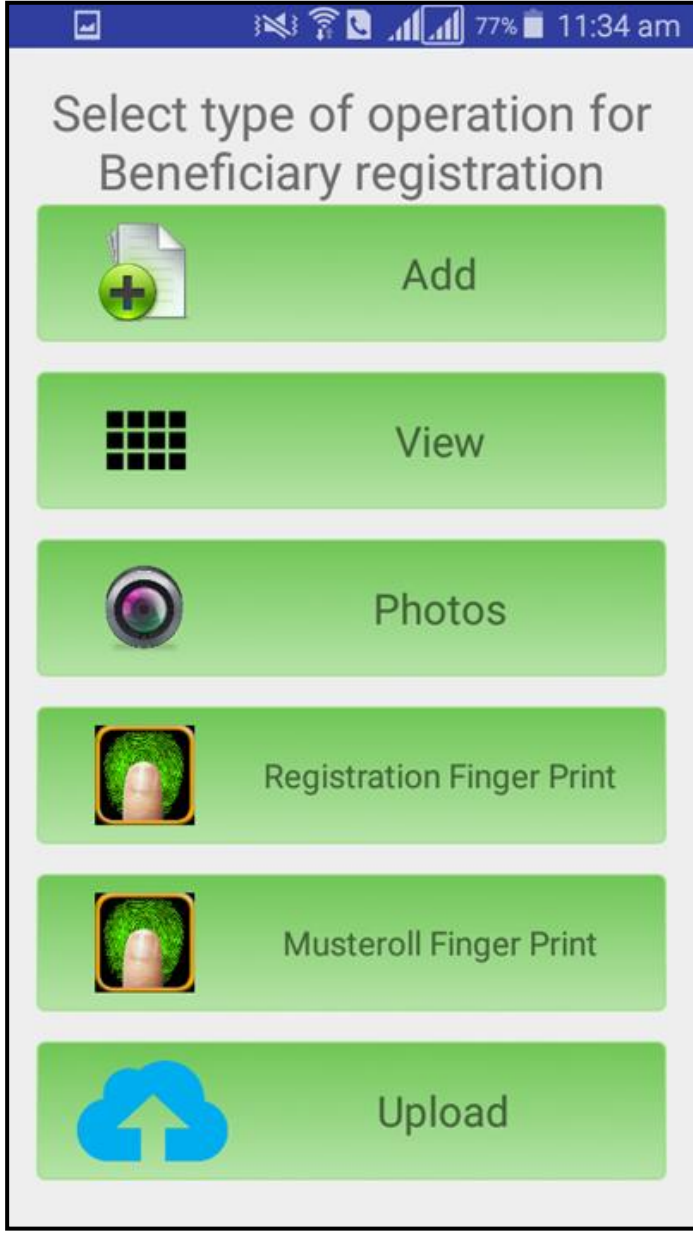
SOLUTION WE DEVELOPED OXFAM India



Selection of Activity




Features of Data Collection



Post Distribution Monitoring form
Approximate survey time is 30 minutes.

Project : test5 ▾



Beneficiary Id : _____

Beneficiary Name : _____

Surveyed On : 6-14-2017 : 11:42

Non Food Items

Unconditional Cash Transfer Utilisation pattern

SAVE **CANCEL**

Knowledge, Attitude and Practice Form
Approximate survey time is 30 minutes.

PART A: GENERAL INFORMATION

Project : test5 ▾

Type of Survey : Base Line ▾

1. Name of the hamlet: _____

1.a Name of the original village: _____

1.b GP: _____

1.c State : Andhra Pradesh ▾

1.d District: Nellore ▾

2. Name of the Interviewee (Beneficiary): _____

2.a Age : 0

2.b Sex : Male ▾

3. Name of the Head of _____

Select type of operation for project matrix
Approximate survey time is 15 minutes.

Project : test5 ▾

Name of village/ Neighbourhood (or name of the camps/ shelter) : _____

Total Households in villages/neighbourhod/ camp/shelter : _____

Chlorine tablet distribution : _____

Community Water filter installed : _____

Water tank installed : _____

Water tank disinfected (hospital) : _____

Water filter/treatment plant repaired (Hospital/ school) : _____

School Minor Repairig and White Washing : _____

Water, Sanitation and Hygiene (WaSH)

School Minor Repairig and White Washing : _____

Construction Form
Approximate survey time is 15 minutes.

Project : test5 ▾

Site Id : _____

Name of the owner : _____

Gender : Male ▾

Land Mark/Nearby Location : _____

State : Andhra Pradesh ▾

District : Nellore ▾

Block : _____

Gram Panchayat : _____

Village : _____

Status : Not Started ▾

Altitude : 0.0






Number of HH using : _____

Male : 0

Female : 0

Upload Construction Photo

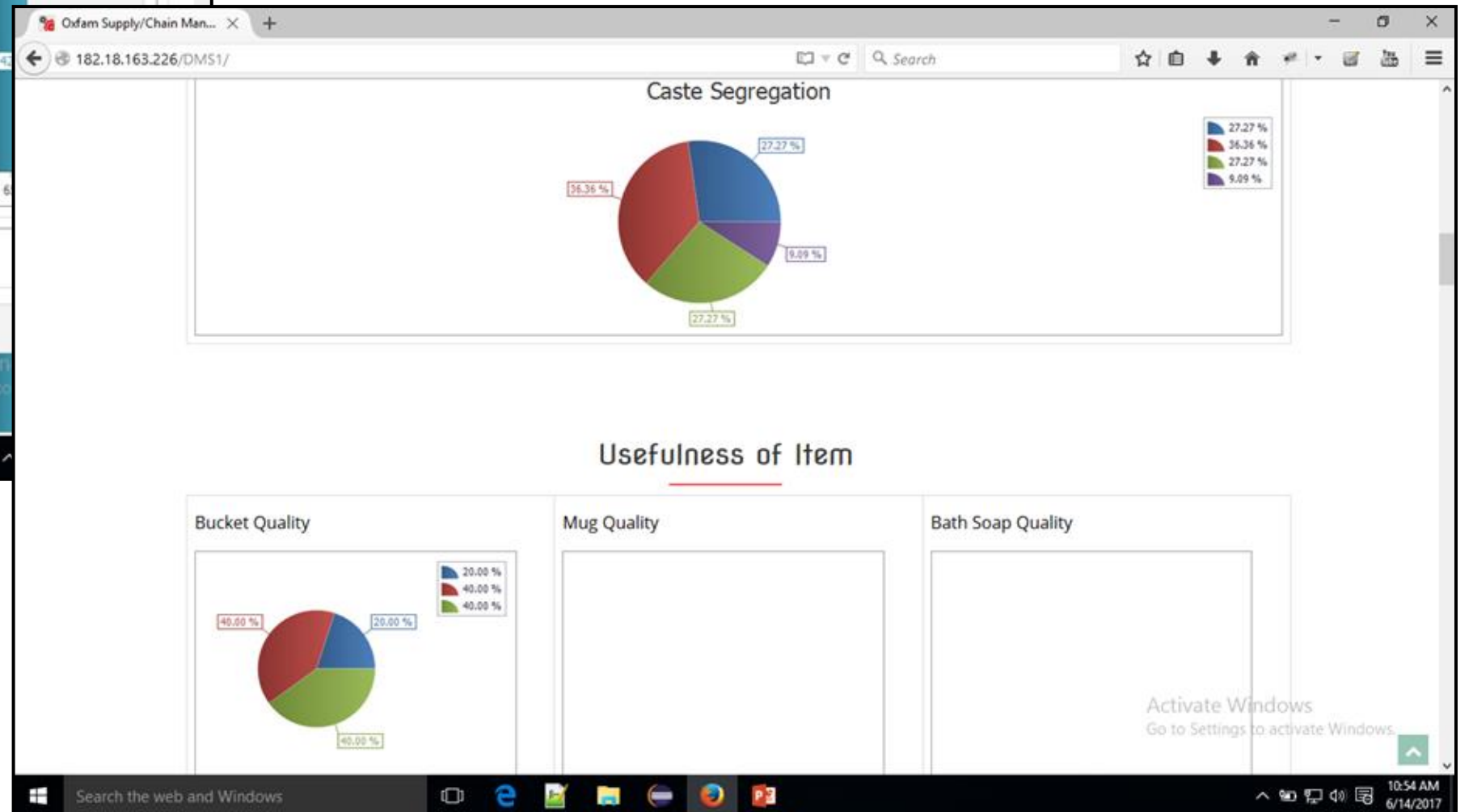
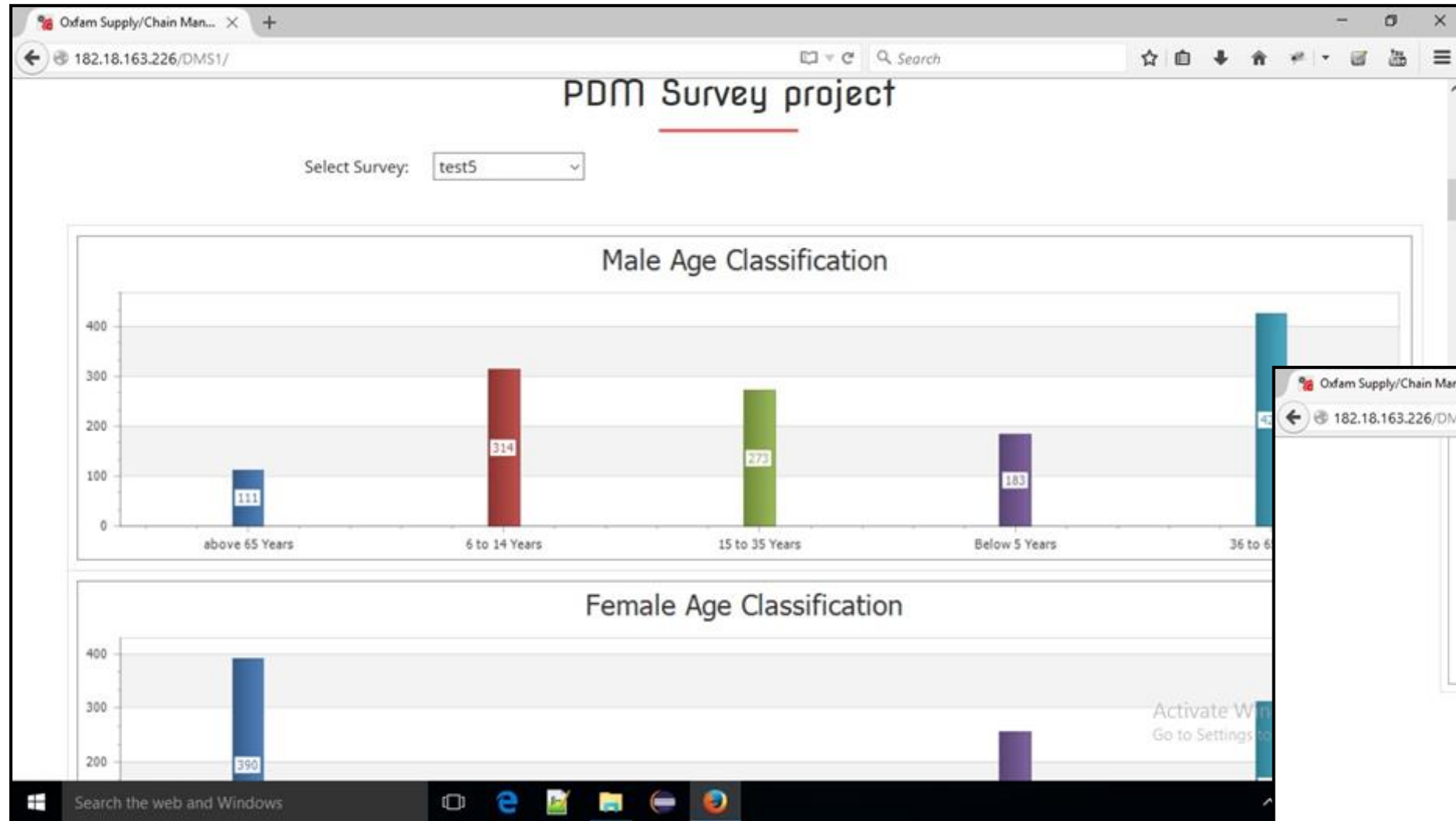
Click on button to capture image. Only four images allowed.

SAVE IMAGES

Various Forms of Data Collection

Construction Tracker



Disaster-Wise Dashboard

Emergency and Humanitarian Operations ver 1.0

Selection Project

Project: BFRP 2016

0 beneficiaries out of 204 registered beneficiaries received NFI.

Emergency and Humanitarian Operations

Beneficiary

Knowledge, Attitude and Practice

Post distribution Monitoring

Construction

Project Matrix

Needs

Summary Report

All Beneficiary

Knowledge, Attitude and Practice

Post distribution Monitoring

All Construction

All Project Matrix

Generate

Reports

Spatial distribution of
beneficiaries/survey
points

Beneficiary Information Report

| | |
|---|--|
| <p>Name: BJUNEQ12</p> <p>Guardian Name : thr</p> <p>Religion : Hinduism</p> <p>Age : 65</p> <p>Vulnerability Type : None</p> <p>Bank Account : 13246579812</p> <p>IFSC Code : sbin836hdhh</p> <p>State : Meghalaya</p> <p>District : East Khasi Hills</p> <p>Village : vilge</p> <p>Municipality : municip</p> <p>Block : blkmandal</p> <p>Gram Panchayat : gpzhhx</p> <p>Household Code : test5/OIN/Accenture/CCT/1115</p> | <p>Gender : Male</p> <p>Relationship : Father</p> <p>Caste : SC</p> <p>Disability Type : None</p> <p>Adult Males : 7</p> <p>Adult Females : 6</p> <p>Children Females : 03</p> <p>Children Males : 02</p> <p>Mode of Help : CCT-subct</p> <p>Amount Transferred : 963852</p> <p>Registration Date : 6-12-2017 : 18:43</p> <p>Transfer Date :</p> <p>Contact Number : 9876543210</p> |
|---|--|

NO IMAGE AVAILABLE

NO IMAGE AVAILABLE

NO IMAGE AVAILABLE

Spatial Distribution of Beneficiaries/Survey Points and Beneficiary Information Report

MusterRollUCT.pdf - Adobe Reader

File Edit View Window Help

1 / 366 83.5%

Tools Sign Comment

(SIFR 2016) Full Form
Beneficiary Muster Roll Report - UCT

| Sr. No. | Household Code | Beneficiary Name | Guardian Name | Relationship | Age | Gender | Religion | Cast | Vulnerability | BPL/APL | Type of Disability | No. of Female | No. of Male | No. of Female Child | No. of Male Child | Total Family Members | Bank A/C No. | IFSC Code | UCT Amount | Beneficiary Photo | State | District | Block | Municipality | Gram Panchayat | Village | Contact No. | Date of Regn | Beneficiary Finger Print (Regd.) | Beneficiary Finger Print (Muster Roll) | Date of Muster Roll |
|---------|----------------|------------------|---------------|--------------|-----|--------|----------|------|-------------------------------|---------|-----------------------|---------------|-------------|---------------------|-------------------|----------------------|-----------------|-------------|------------|--------------------|------------|----------|---------|--------------|----------------|---------|-------------|--------------------|----------------------------------|--|---------------------|
| 1 | 002/394 | Narayani | Wo Sampath | | 48 | Female | Hinduism | SC | Disable (main earning member) | | Physical Disabilities | 2 | 1 | 2 | 0 | 5 | 048702101140210 | CORP0000487 | 8000 | NO IMAGE AVAILABLE | Tamil Nadu | Chennai | chennai | Chennai | Satyasai Nagar | | 2016-11-03 | NO IMAGE AVAILABLE | NO IMAGE AVAILABLE | | |
| 2 | 002/394 | Narayani | Wo Sampath | | 48 | Female | Hinduism | SC | Disable (main earning member) | | Physical Disabilities | 2 | 1 | 2 | 0 | 5 | 048702101140210 | CORP0000487 | 8000 | NO IMAGE AVAILABLE | Tamil Nadu | Chennai | chennai | Chennai | Satyasai Nagar | | 2016-11-03 | NO IMAGE AVAILABLE | NO IMAGE AVAILABLE | | |

Windows Taskbar: 17:39 14-06-2017

Ready to use Muster roll report along with photographs and finger prints of the beneficiaries

Summary Report – Beneficiary Muster Roll

CITIZEN ENGAGEMENT

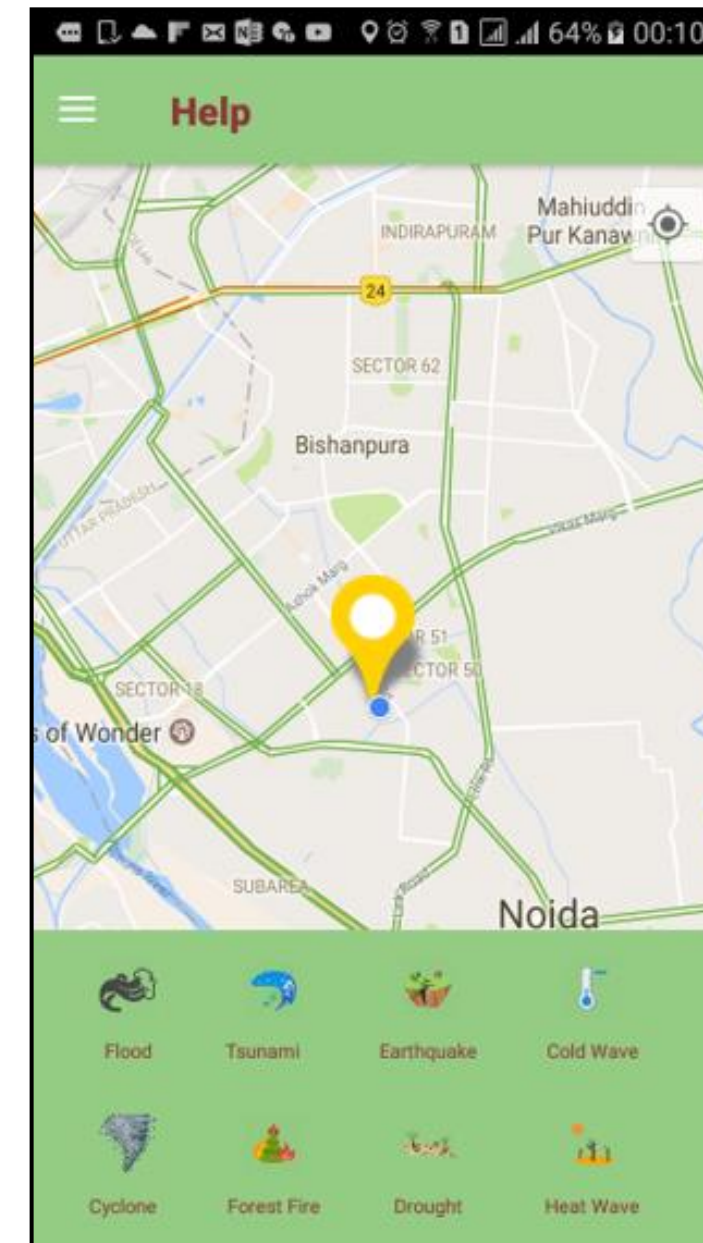
Purpose:

To empower citizens with real-time information, reporting tools, and resources to actively participate in disaster reporting and preparedness.

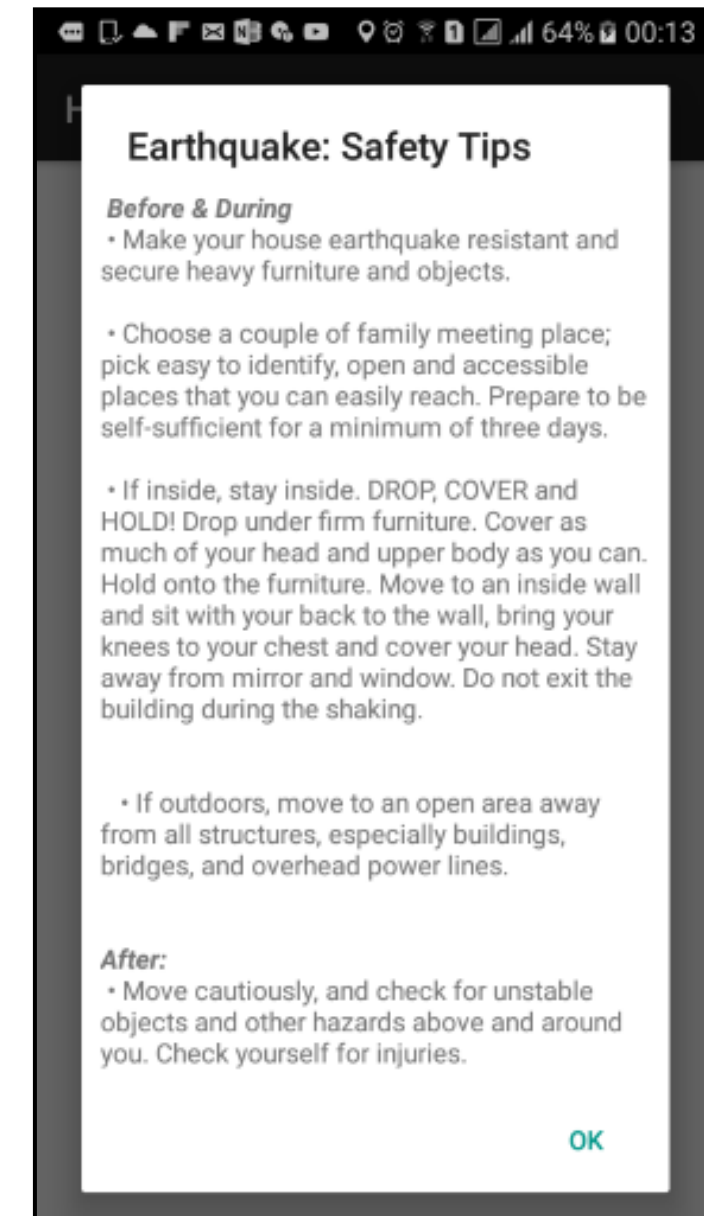
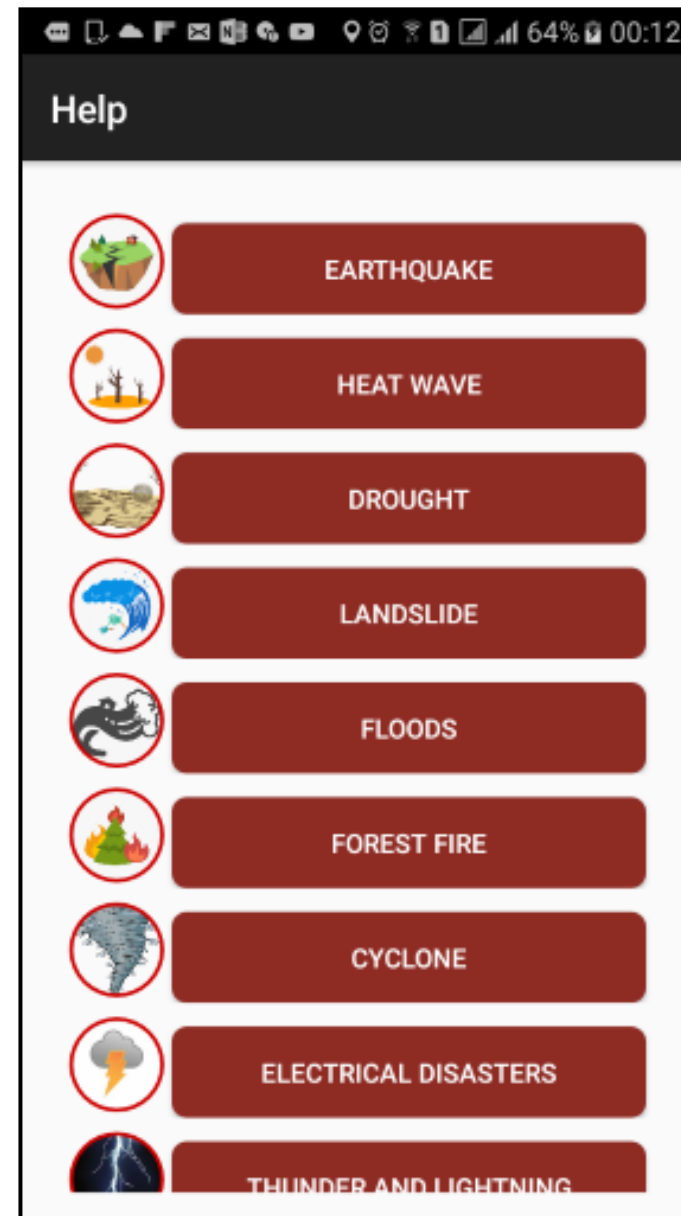
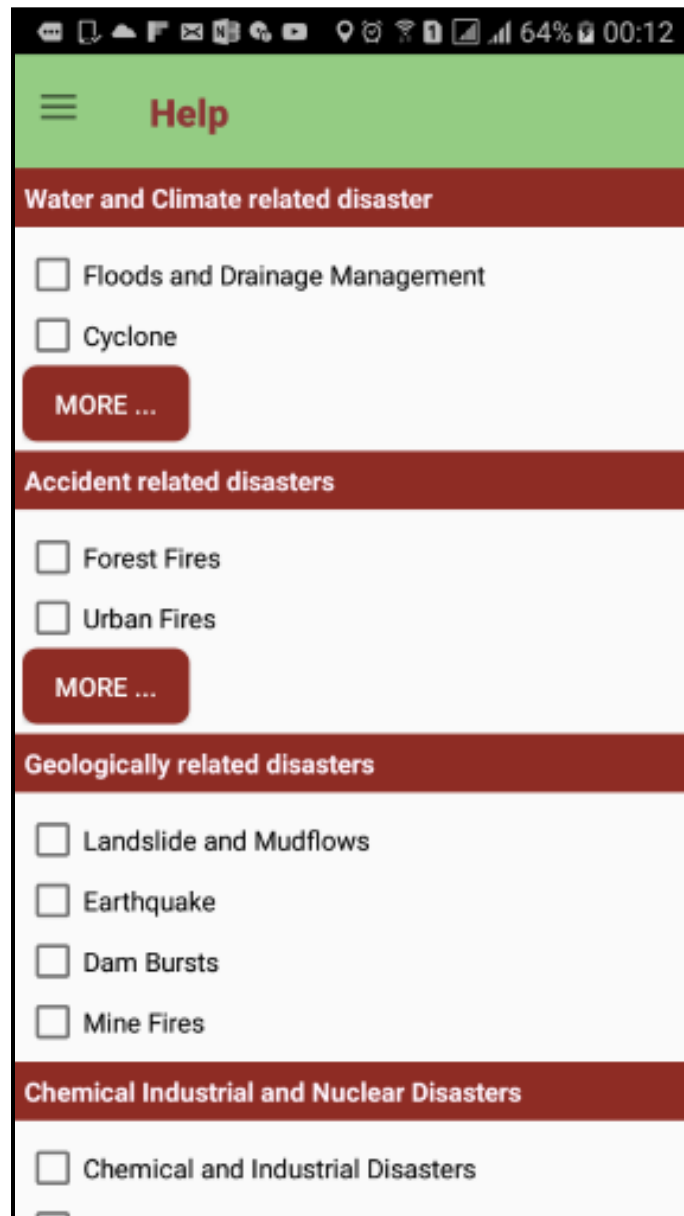
SOLUTION WE DEVELOPED
Across India



- **HELP:** To empower citizens, provide reporting tools, and resources, enabling active participation in disaster reporting and preparedness.
- It includes both a Mobile app and a **WebGIS** application.



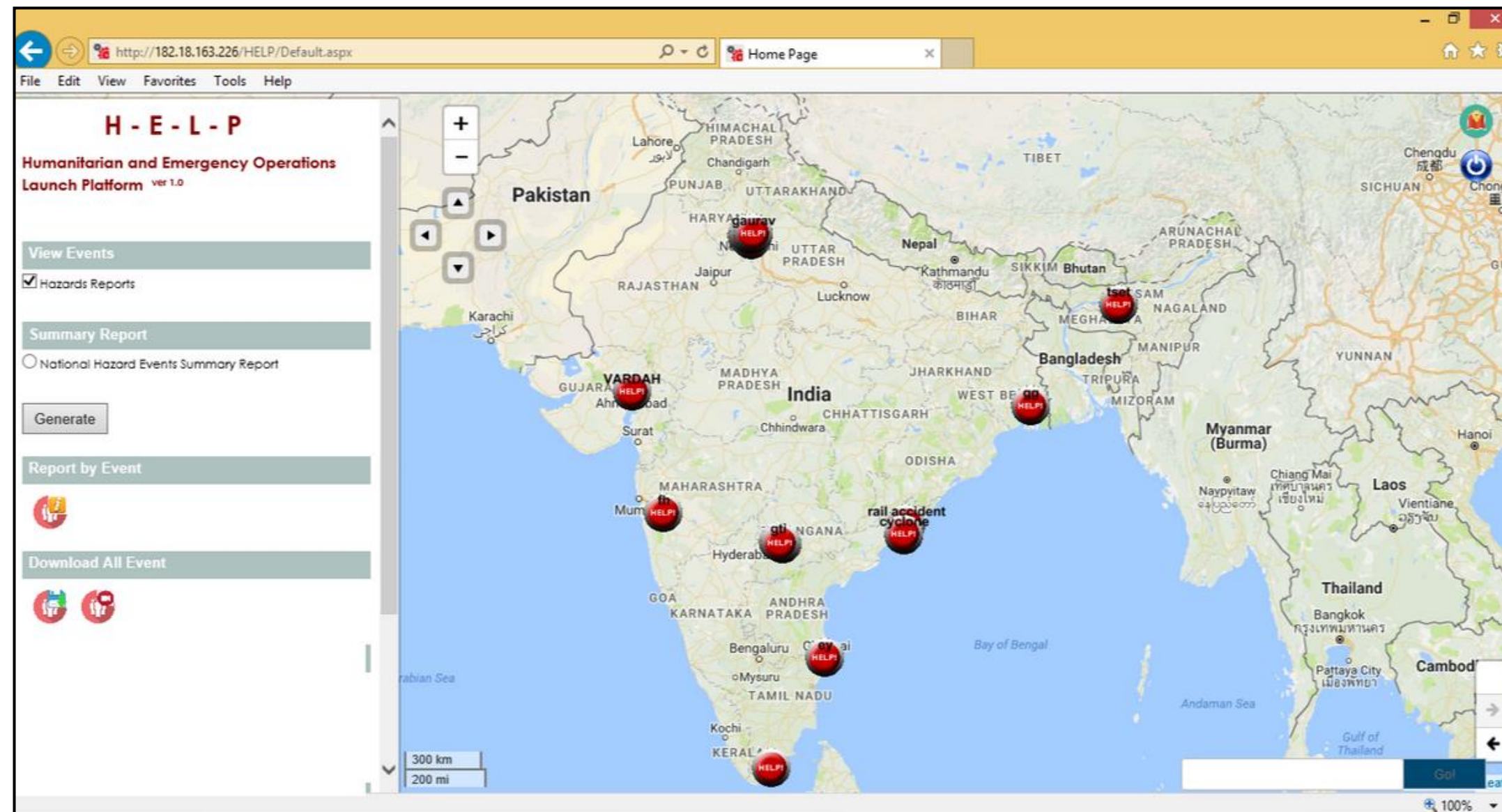
HELP Mobile Application



HELP Mobile Application Screens

HELP WebGIS Application:

- The HELP **WebGIS** application features a map of India and surrounding regions with marked emergency events. The left panel includes options to view hazard reports, generate summary reports, report events, and download all events.
- Various locations on the map are marked with "HELP" icons, indicating different types of emergencies.



HELP WebGIS Application

Q & A

Thank you

Contact Us

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