NATURAL RESOURCES DATA MANAGEMENT SYSTEM (NRDMS)

MONTHLY ACTIVITY REPORT
August – November 2025

Submitted by

District NRDMS Centre
Zilla Panchayat, Kalaburagi

Submitted to

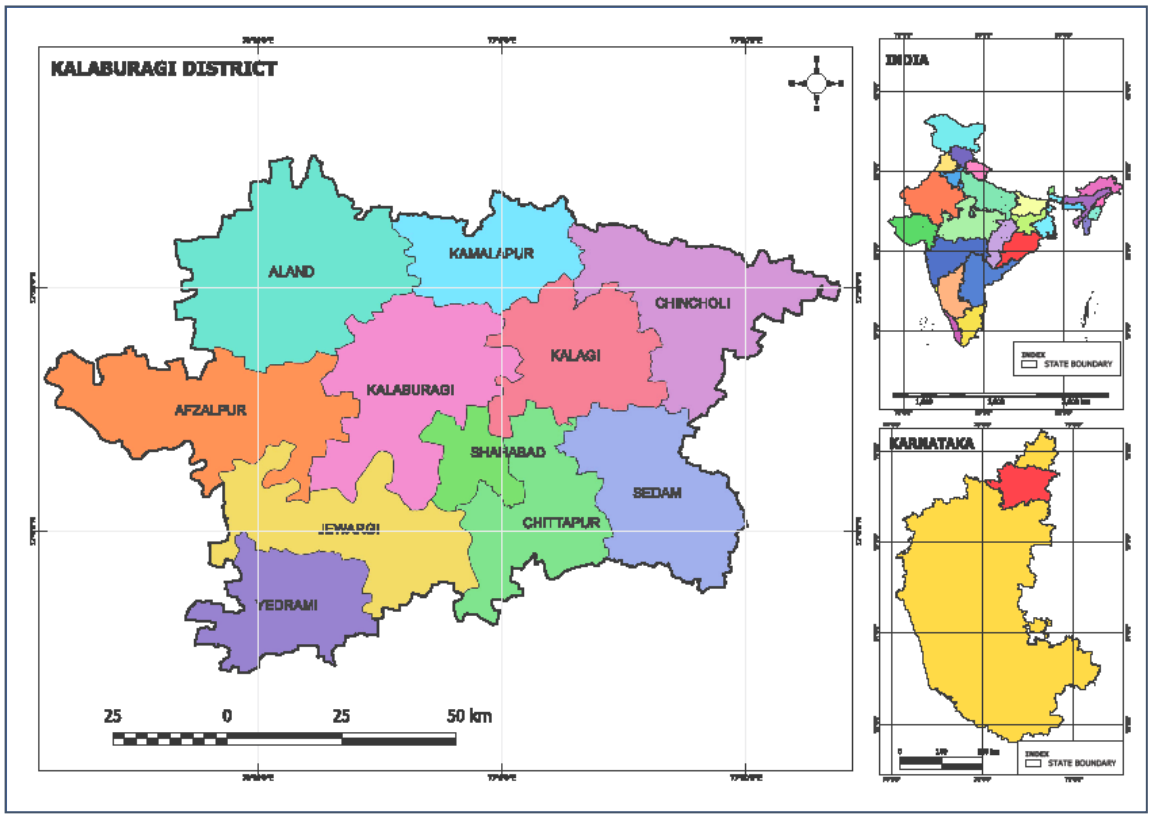
Karnataka State Council for Science and Technology (KSCST)

Indian Institute of Science Campus,
Bengaluru – 560012

CONTENT

1. Basic information of the district:

District Name: Kalaburagi District
Division: Kalaburagi Division
District NRDMS Centre Establishment Year: 1993-1994
Headquarter: Kalaburagi
Chief Planning Officer: Shri SS Mathapathi
Chief Executive Officer: Bhanwar Singh Meena IAS



Map: Kalaburagi district location map

Kalaburagi (also known as Gulbarga) is a district located in the northern part of the Indian state of Karnataka. The district headquarters is located in the city of Kalaburagi.

The district is currently divided into 11 taluks, which are administrative subdivisions. The taluks of Kalaburagi district are: Afzalpur, Aland, Chincholi, Chitapur, Kalaburagi, Jevargi, Sedam, Shahabad, Kalagi, Kamalapur & Yedrami. Each taluk is further divided into several villages and towns. Kalaburagi taluk is the most populous and serves as the district headquarters.

Geographically, Kalaburagi district is situated in the Deccan plateau and is characterized by its flat terrain with occasional low hills. The district is spread over an area of 10,990 square

kilometers and is bordered by the districts of Bidar in the north, Yadgir in the east, Raichur in the south, and Bijapur in the west.

The population of Kalaburagi district is approximately 25 lakhs people, according to the 2011 census. The major language spoken in the district is Kannada, although Urdu is spoken by a significant minority.

Agriculture is the main source of livelihood for the people of Kalaburagi district, with crops such as jowar, Tur, and cotton being the major ones.

Kalaburagi is a historical city and has been ruled by various dynasties such as the Chalukyas, the Bahmanis, and the Adil Shahis. It is home to several historic monuments, including the Sharana Basaveshwara Temple, the Khwaja Banda Nawaz Dargah, and the Gulbarga Fort. The district also has several wildlife sanctuaries, including the Great Indian Bustard Sanctuary and the Bhima River Wildlife Sanctuary.

Kalaburagi district of Karnataka state has a semi-arid to arid climate. The district experiences hot and dry summers, with temperatures ranging from 35°C to 45°C, and cool winters with temperatures ranging from 15°C to 30°C. The monsoon season lasts from June to September, with an average annual rainfall of around 600-800 mm.

The agro-climatic conditions in the district are suitable for the cultivation of crops such as pulses, oilseeds, and cotton. The predominant cropping systems in the region are rain fed agriculture and dry land farming. The soil in the district is mostly red to black cotton soil, which is suitable for the cultivation of these crops. The district is home to the Krishna river basin and the Bhima river basin, and irrigation facilities are mainly dependent on these river basins. The district also has a few small reservoirs and tanks, which are used for irrigation purposes.

2. Geographical Features:

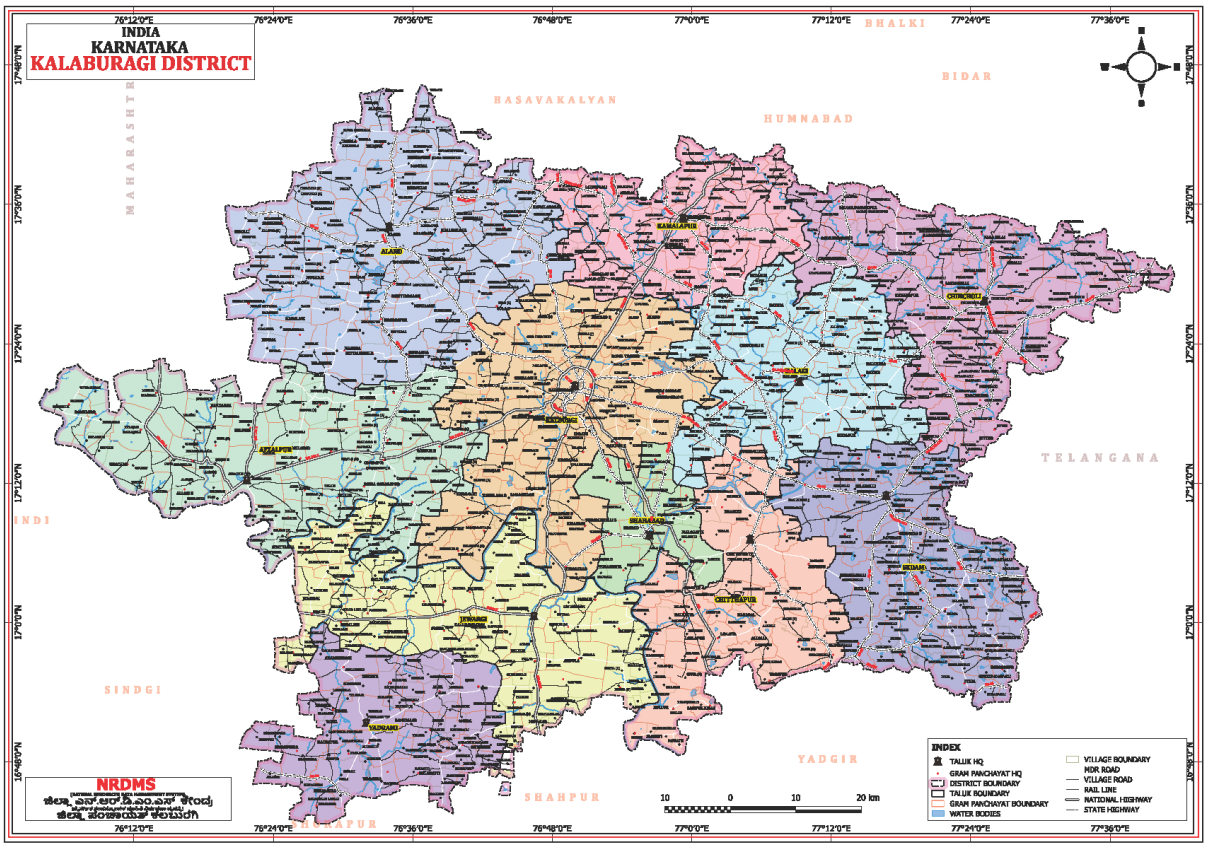
A. Location & Area

- Located in the northeastern part of Karnataka, bordering Maharashtra and Telangana.
- Spread over an area of 10,951 sq. km, making it one of the larger districts in the state.
- Lies between 17.12°N – 17.46°N latitude and 76.04°E – 77.42°E longitude.

Table - 1 showing administrative details of Kalaburagi district. Taluk-wise Administrative Setup

Sl No	Taluk	No. of Gram Panchayats	No. of Villages	Hoblis
1	Afzalpur	28	84	3
2	Aland	42	123	5

3	Chincholi	29	101	4
4	Chittapur	22	95	3
5	Gulbarga	28	110	4
6	Jewargi	25	87	3
7	Kalagi	18	58	2
8	Kamalapur	18	51	2
9	Sedam	27	95	4
10	Shahabad	7	35	1
11	Yadrami	17	79	2
Total	-	**261**	**918**	**33**



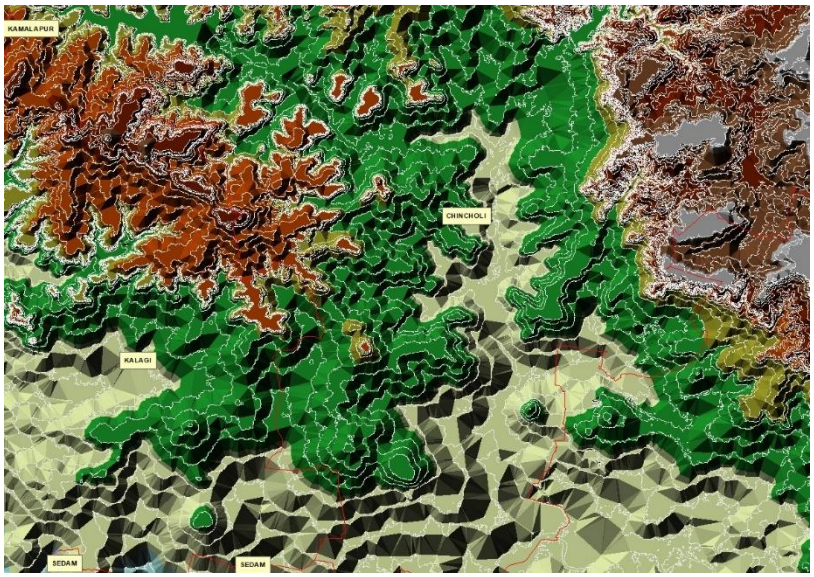
Map : District map with administration boundaries and road network.

B. Topography:

- Situated on the Deccan Plateau with undulating plains and low-lying hills.

- Average elevation: ~454 meters above sea level.

- The land is mostly flat but slightly sloping towards the southeast.



Map: Digital Elevation map

C. Soils:

- Predominant across the district, this fertile soil is ideal for crops like cotton, groundnut, jowar, wheat, and pulses, which are major agricultural outputs.

- Patches of red soil and lateritic soil found in higher terrain.

D. Rivers & Water Bodies:

- Major river: Bhima River, flowing west to east; supports irrigation and drinking water.

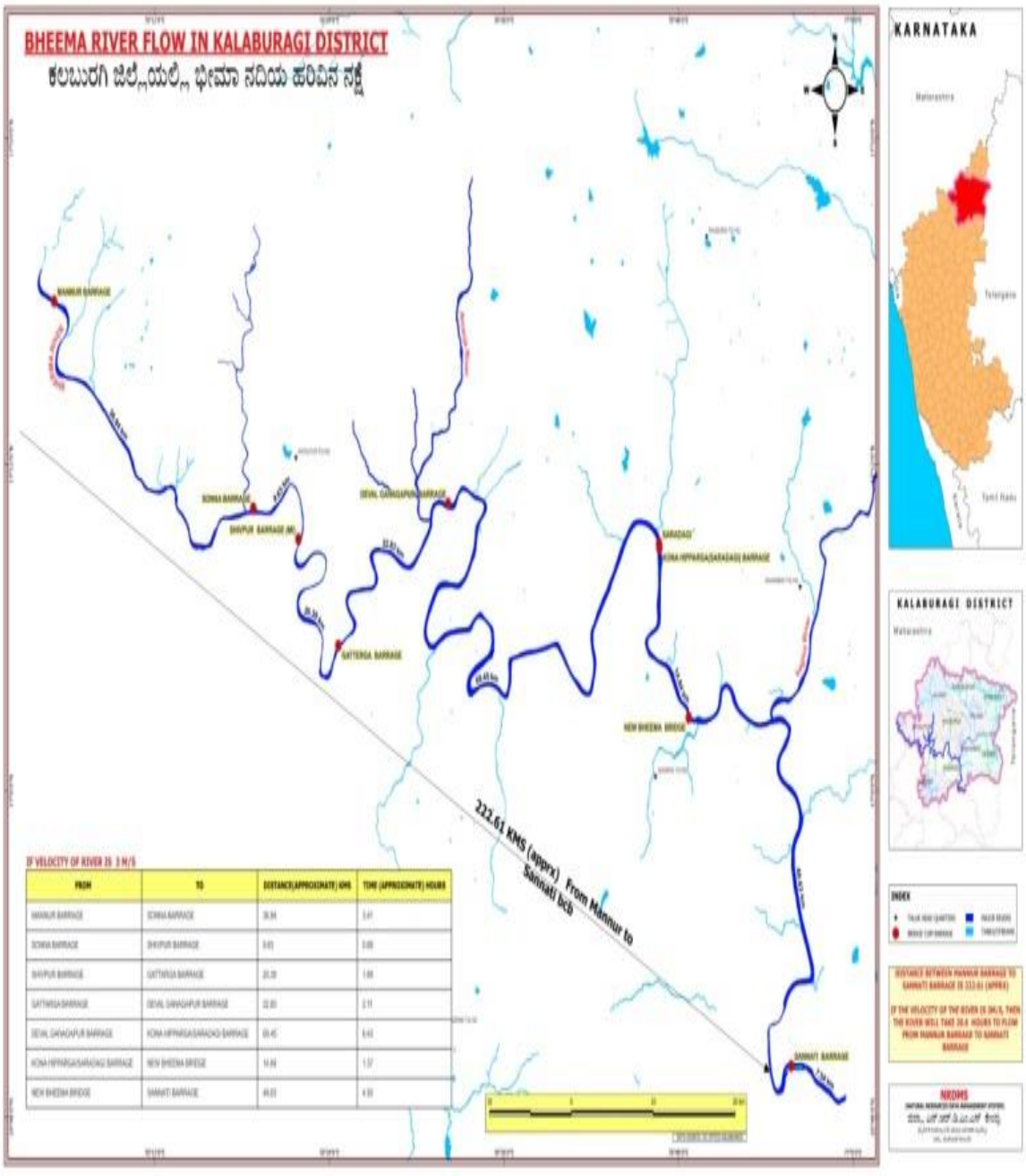
- Other rivers: Kagina, Amarja, and Bennithora—mostly seasonal.

Kalaburagi district is located in the Krishna River basin and the Bhima River basin. The district is drained by several streams and tributaries of these rivers, which originate from the surrounding hills and flow towards the plains. The major rivers in the district are the Bhima and the Kagina.

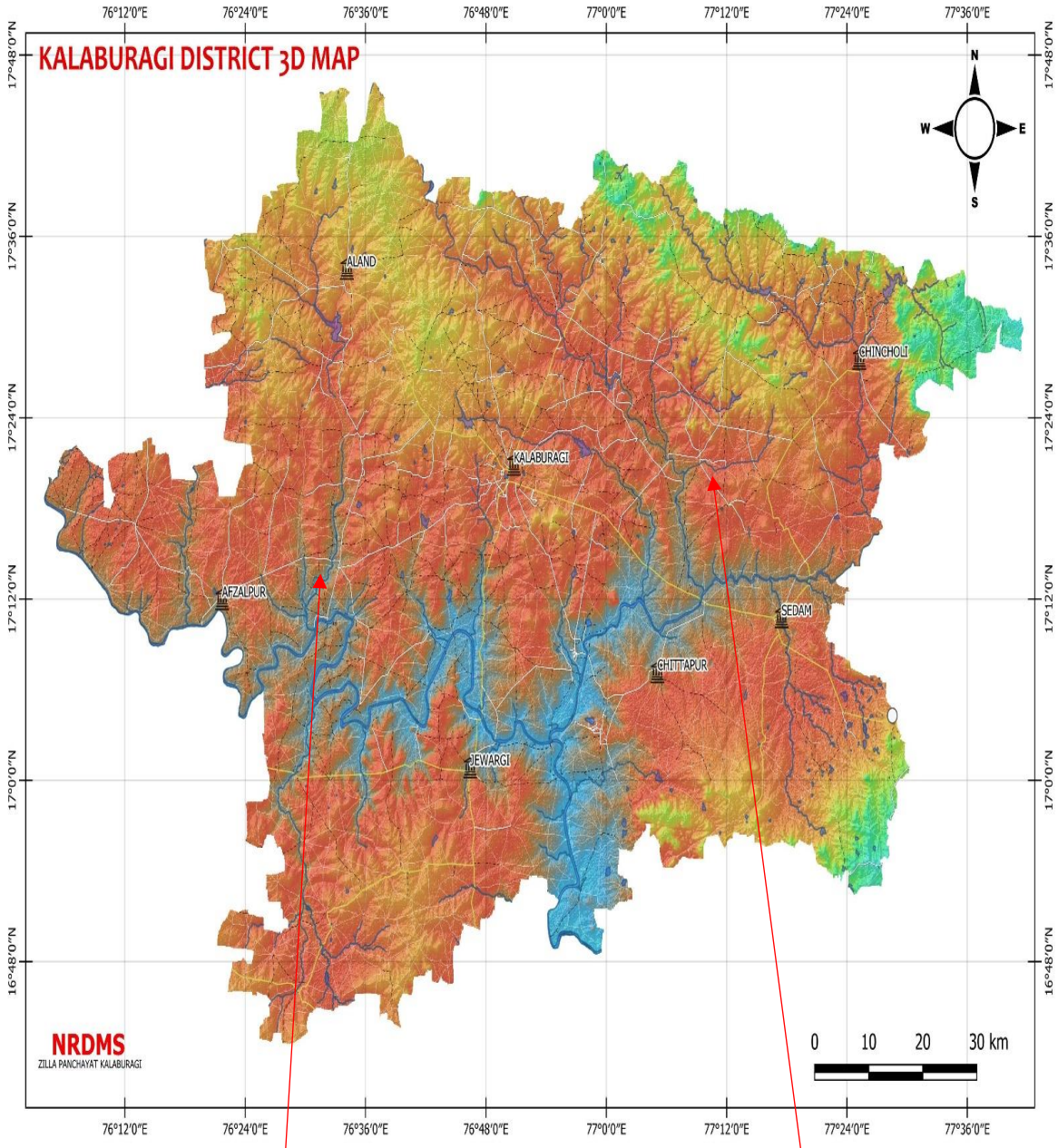
The Bhima River is the largest river in the district and originates from the Bhima Shankar hills in Maharashtra. The river enters Kalaburagi district near Sedam and flows for about 94 km within the district before joining the Krishna River in Andhra Pradesh. The river receives most of its water during the monsoon season, and its flow is highly variable depending on the rainfall. The river also provides water for irrigation purposes in the district.

The Kagina River is a tributary of the Bhima River and originates from the hills near Chincholi in the district. The river flows for about 50 km before joining the Bhima River near Jevargi. The river is a seasonal stream and is mostly dry during the summer months.

Apart from the rivers, the district also has several small reservoirs, tanks, and check dams that are used for irrigation and water supply purposes. The groundwater in the district is mostly confined to the weathered and fractured zones of the hard rock formations, and the aquifer is generally shallow and unconfined.



Map: Showing Bheema river flow in kalaburagi district. This is the major river in the district.



Map: 3D map showing hillshade and rivers flowing in the kalaburagi district

Bhima River

Kagina River

E. Climate:

- Semi-arid climate with distinct summer, monsoon, and winter seasons.

- Summer: Hot and dry, often exceeding 40°C.

- Monsoon: June–September; average annual rainfall ~777 mm.

- Winter: Mild and dry, temperature drops to around 15°C.

🌩 **Average Annual Rainfall by Taluk**

Taluk	Normal (mm)
Afzalpur	692
Aland	713
Chincholi	963
Chittapur	771
Kalaburagi	794
Jewargi	805
Sedam	791
Kalagi	766
Kamalapura	687
Yadrami	758
Shahbadha	758

Table - 2 showing talukwise average rainfall

F. Mineral Resources:

- Rich in limestone, quartz, and fuller's earth.

- Presence of cement industries due to limestone availability.

- Minor presence of bauxite and granite.

G. Seismic & Environmental Aspects:

- Located in seismic zone II – considered a low-risk zone.

- Prone to droughts due to irregular rainfall and high evapotranspiration.

3. NRDMS Background of the District:

The **National Resource Data Management System (NRDMS)** is a program initiated by the Government of India to facilitate the collection, analysis, and dissemination of spatial and non-spatial data for effective planning and management of natural and man-made resources.

In **Kalaburagi District**, the NRDMS Centre was established to provide **GIS-based solutions and decision support systems** for district administration, line departments, and local governance bodies. The centre focuses on integrating modern technologies such as **Remote Sensing, Geographic Information Systems (GIS), and database management** to strengthen planning and development activities.

Major activities of NRDMS in Kalaburagi District

1. **Support to Revenue Department**
   - Updating administrative boundaries (Taluks, Hoblis, Villages) and cadastral maps.
   - Providing spatial data for land records, land use planning, and revenue management.
   - Identifying flood-prone villages and areas for emergency response.

2. **Support to Police Department**
   - GIS-based mapping of police jurisdictions, stations, and resources.
   - Facilitating crime mapping and location analysis for better law enforcement planning.
   - Integration of police data with other administrative resources for rapid decision-making.

3. **Support to All Line Departments of Zilla Panchayat**
   - Water Supply & Irrigation: Prioritization of rural water supply projects, rejuvenation of minor irrigation tanks, watershed planning.
   - Health & Education: Mapping of schools, hospitals, health centers, and monitoring of service delivery.
   - Urban & Rural Infrastructure: Mapping roads, public utilities, and village assets for efficient planning and resource allocation.
   - Tourism & Environment: GIS-based monitoring of tourist spots, forest cover, natural resources, and environmental planning.

4. **Disaster Management and Emergency Planning**
   - Flood-prone area mapping and identification of relief centers.
   - GIS-based decision support for rapid response during natural calamities.

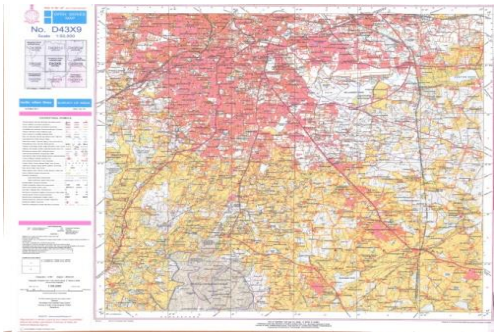
5. **Capacity Building & Outreach**
    - Training Zilla Panchayat staff and line department officials in GIS and spatial data applications.
    - Conducting science outreach activities in schools with KSCST support.

6. **Decision Support & E-Governance**
    - District-wide resource and infrastructure profiling for integrated planning.
    - Support for election management systems and administrative planning.

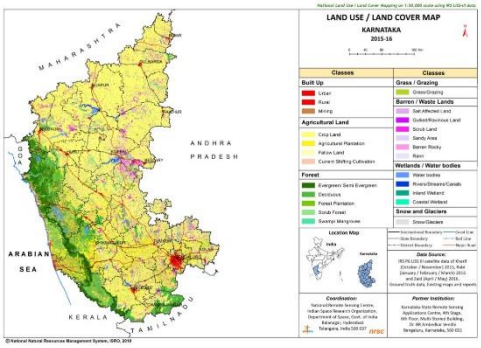
The NRDMS Centre in Kalaburagi acts as a central hub for resource management and planning, providing critical support to Revenue, Police, and all line departments of the Zilla Panchayat, ensuring data-driven governance and efficient service delivery.

We use Geospatial Data from various National/State Survey and Mapping Organisations

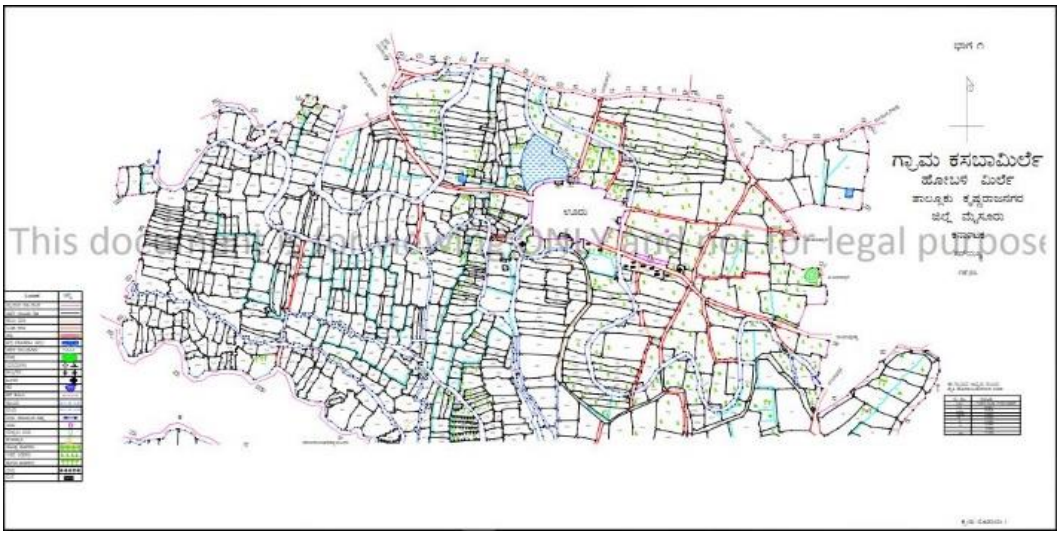
✓ **Survey of India – Base maps (Scale 1:50k)**



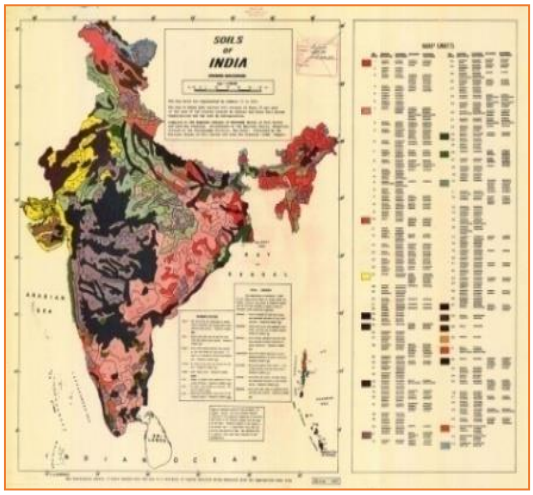
✓ **NRSC/SRSC - Thematic maps (Scale 1:50k, 1: 25k,1: 10k)**

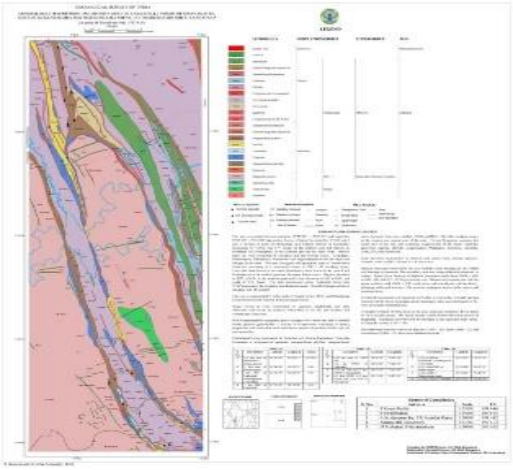


✓ **Survey Settlement and Land Records - cadastral (Scale 1: 7920)**



✓ **Non-spatial (Census & MIS of line departments)**





✓ **GSI/NBSSLUP/FSI etc. – Specific themes**

✓ **POI/Asset mapping – (line departments & NRDMS)**
✓ **Satellite imageries/GPS – being used for updation and data capture**
✓ **KSNDMC/IMSD – Climate/weather etc.**
✓

Major Databases Maintained at NRDMS Centr Kalaburagi

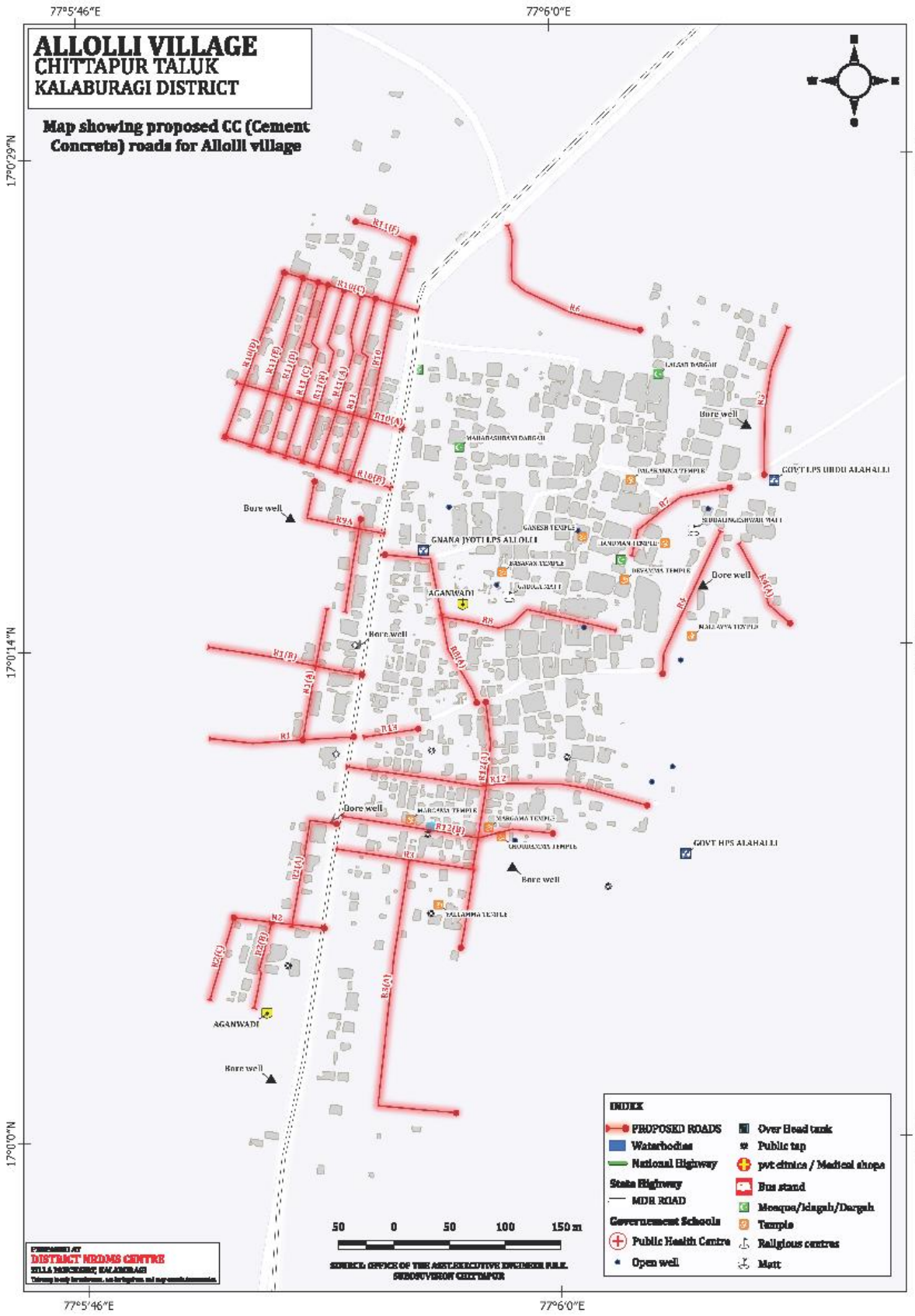
• **Natural Resources** – Drainage – Waterbody – Geology – Soil – Lineaments • **Thematic Data** – Geomorphology – Land Use/Land Cover (LULC) – Slope – Groundwater prospectus	• **Rural drinking water supply** – Borewell locations – Wells, Kalyani's and Kunte locations – Jack well locations – overhead tank locations • **Police department infra** – Police Stations jurisdiction – Commissionerate jurisdiction – Police station locations – Beat jurisdictions

– Lithology, etc. • **Administrative Boundary** – District – Taluk – Hobli – Gram Panchayat – Village – City / Towns – Wards • **Constituency Boundary** – LAC (Legislative Assembly Constituency) – PC (Parliamentary Constituency) – Zilla Panchayat – Taluk Panchayat – Gram Panchayat • **Watershed Levels** – Basin – Catchment – Sub catchment – Watershed – Sub watershed – Micro watershed • **Transportation** – National highway – State Highway – MDR Roads – Railway – Village Roads – Residential Roads (City & towns) etc.	– Traffic police stations jurisdictions • **Spatial Information on Infrastructure** – Hostels – Schools – Colleges – Anganwadi – MI tanks – PRE tanks – Cold Storages – Religious place's locations – Major industry's locations (cement factories, sugar factories) – Major quarries – Check dams, BCB and Farm Ponds locations etc. • **Headquarters** – District – Taluk – Hobli – Village Settlements – TP (Town Panchayat) – ZP (Zilla Panchayat) – Tanda's locations • **Health Department & Veterinary Department** – Government hospitals – UPHC locations – PHC, CHC &Subcenters Locations – Animal Husbandry clinics – PHC & CHC Jurisdictions – Private clinics and hospital's locations – Veterinary Hospitals – Veterinary Dispensaries – Veterinary Clinics

1. Key Activities Undertaken during April 2025 to JULY 2025

ACTIVITY 1 : GIS map for concrete road infrastructure development in Allolli Village

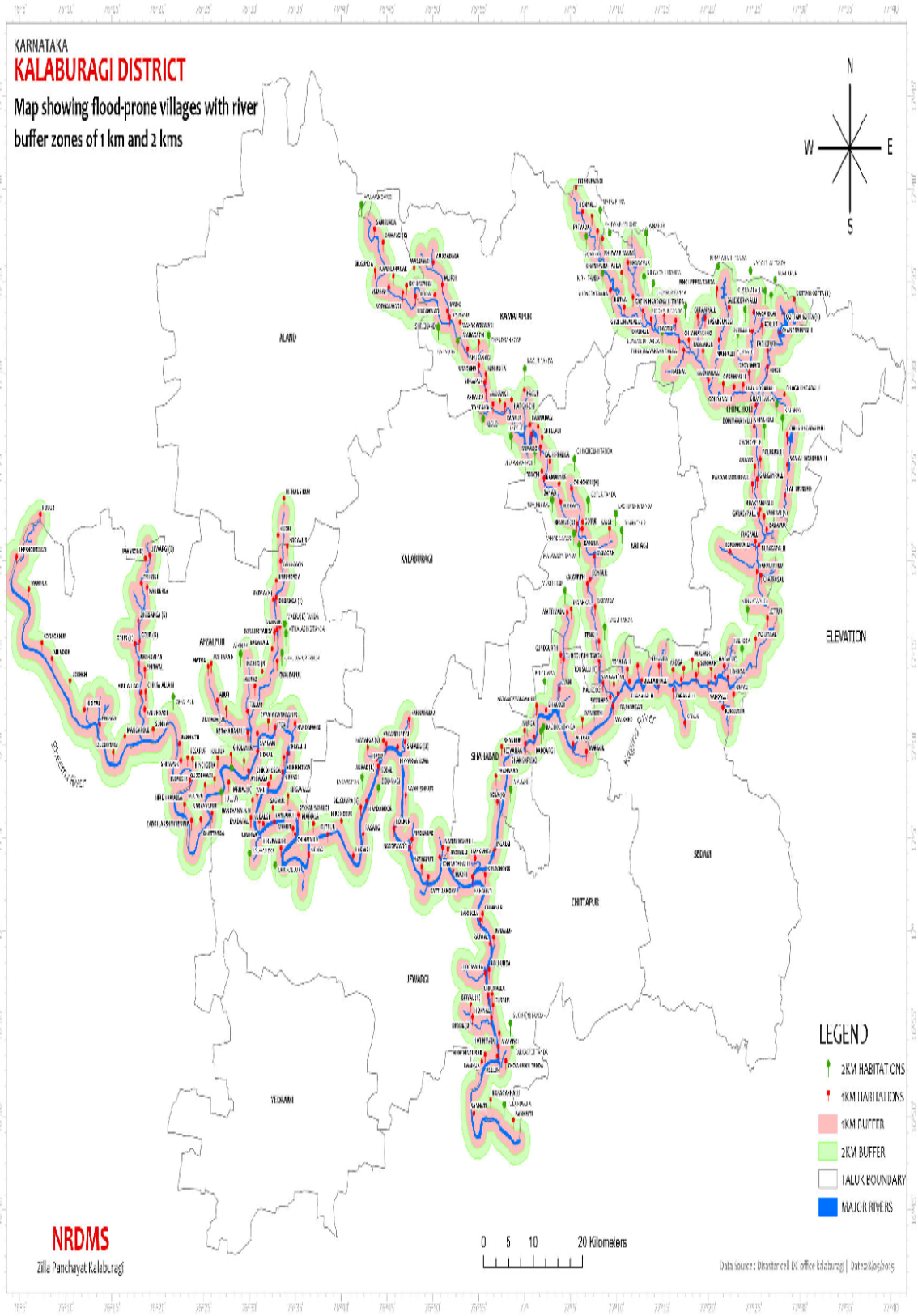
Title of work	A comprehensive GIS-based map for concrete road infrastructure development in Allolli Village has been prepared by identifying existing roads, proposed extensions, and connectivity gaps.
Department Name	PRED Kalaburagi
Objectives	To support sustainable and well-planned concrete road infrastructure development in Allolli Village by using GIS-based mapping to accurately document existing road networks, identify proposed extensions, and highlight connectivity gaps, enabling data-driven decision-making, improved accessibility, and efficient allocation of development resources.
Data Used	1. Village Boundary Layer: Defines the administrative extent of Allolli Village. 2. Existing Road Network Layer: Shows all current concrete, asphalt, and earthen roads. 3. Proposed Road Network Layer: Contains planned road extensions and new connectivity routes. 4. Settlement/Built-up Layer: Identifies houses, public buildings, and built-up clusters. 5. Drainage/Water Bodies Layer: Shows streams, ponds, and natural barriers affecting road planning
Data Process	Data Processing 1. **Data Collection:** Gathered village boundary maps, existing road data, GPS survey points, and satellite imagery. 2. **Data Import:** Imported all spatial and survey datasets into GIS software for organized layer-wise management. 3. **Geo-referencing:** Aligned satellite imagery and scanned maps to the correct coordinate system for accurate mapping. 4. **Digitization:** Digitized existing roads, proposed roads, settlements, and drainage features to create clean vector layers. 5. **Data Cleaning & Integration:** Removed duplicates, corrected geometry errors, added attribute information, and integrated all layers into a unified geodatabase.
Type of Data Provided	PDF & JPEG File.



Map: Map showing proposed cc roads in allolli village, Chittapur taluk.


ALLOLLI VILLAGE
CHITTAPUR TALUK
KALABURAGI DISTRICT
Map showing proposed CC (Cement Concrete) roads for Allolli village
77°5'46"E
77°6'0"E
17°0'29"N
17°0'14"N
17°0'0"N
INDEX
PROPOSED ROADS
Waterbodies
National Highway
State Highway
MDR ROAD
Government Schools
Public Health Centre
Open well
Over Head tank
Public tap
pvt clinics / Medical shops
Bus stand
Mosque/Idagah/Dargah
Temple
Religious centres
Matt
GOVT.HPS ALAHALLI
GOVT.LPS URDU ALAHALLI
GNANA JYOTI LPS ALLOLI
AGANWADI
Bore well
DISTRICT NRDMS CENTRE

ACTIVITY 2 : High Risk Flood Zone Mapping kalaburagi district.



Title of work	Risk Flood Zone Mapping kalaburagi district
Department Name	Disaster management cell district administration office kalaburagi.
Objectives	1. **To identify and map the flood-prone and flood-affected areas in Kalaburagi district.** 2. **To assess the extent and severity of flood damage using geospatial data.** 3. **To assist local authorities in flood risk management and planning.** 4. **To create a GIS-based flood vulnerability map for future use.**
Methodology	1. **Data Collection:** ○ **Rainfall and hydrological data from IMD and WRD.** ○ **DEM (Digital Elevation Models) to assess terrain.** 2. **Pre-processing:** ○ **Georeferencing and projection to match base maps.** 3. **Risk and Vulnerability Analysis:** ○ **Overlay of flood maps with population, infrastructure, and land use maps.**
USAGE OF MAPS:	1. **Disaster Management:** ○ **Quick response planning during floods.** ○ **Resource allocation for evacuation and relief.** 2. **Community Awareness:** ○ **Informing the public about flood-prone areas for preparedness.** ○ **Displaying flood risk zones in village and taluka offices.**
Type of Data Provided	PDF & JPEG File.

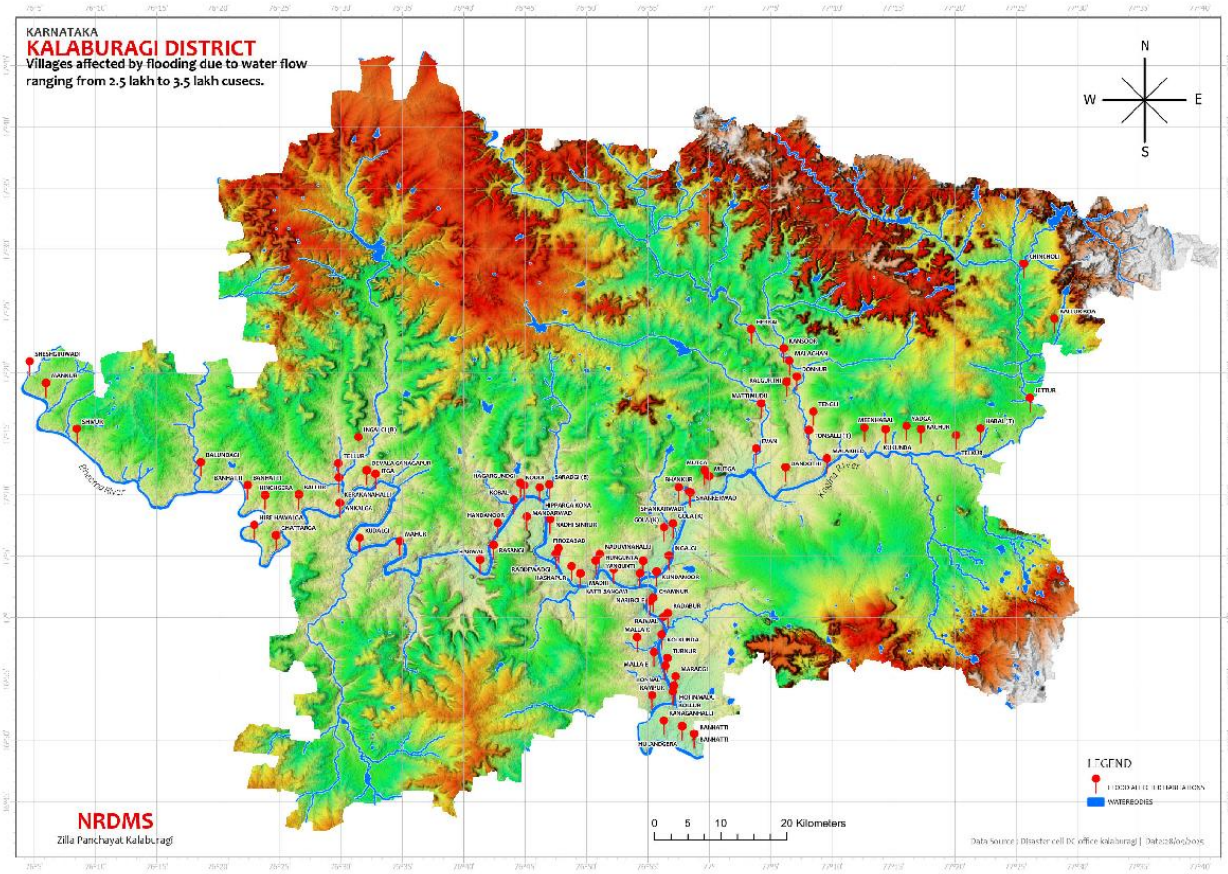
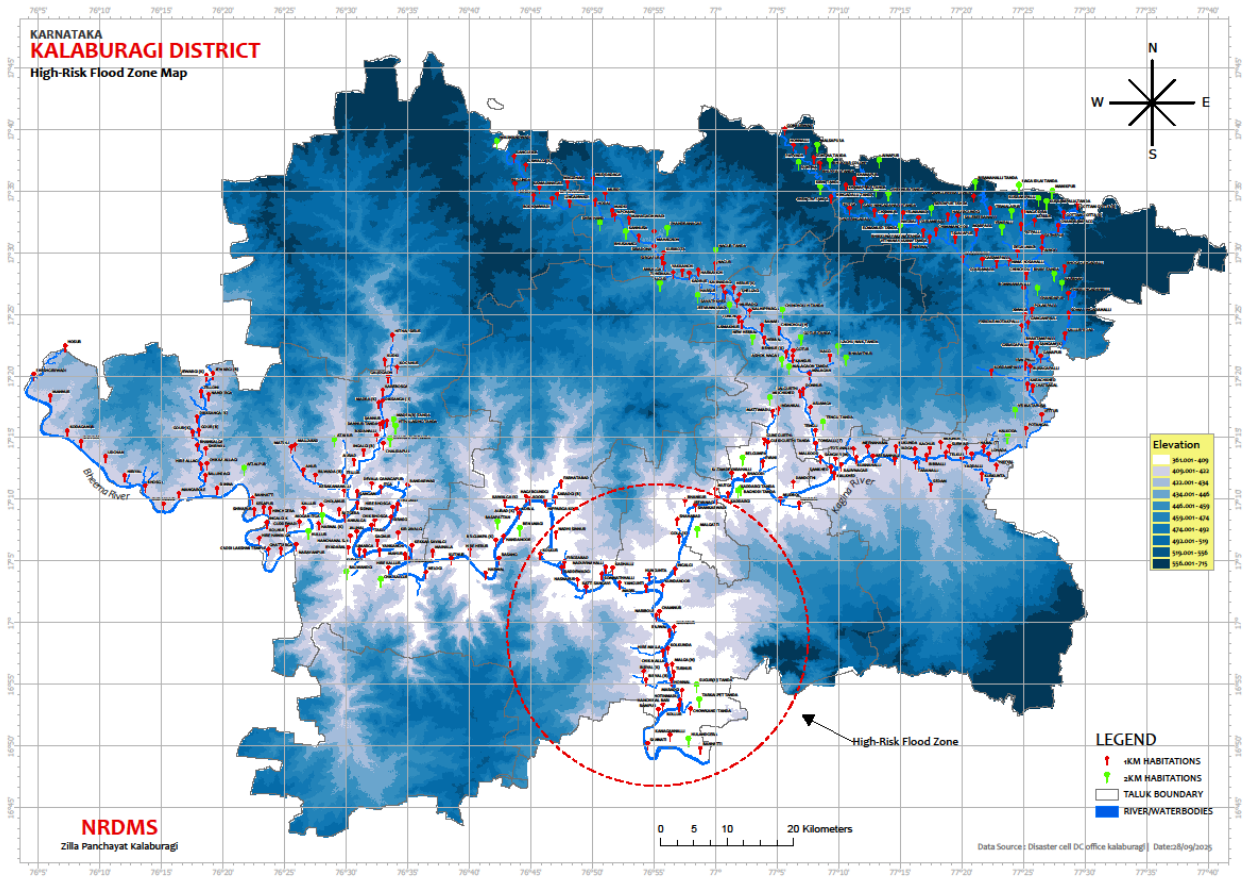


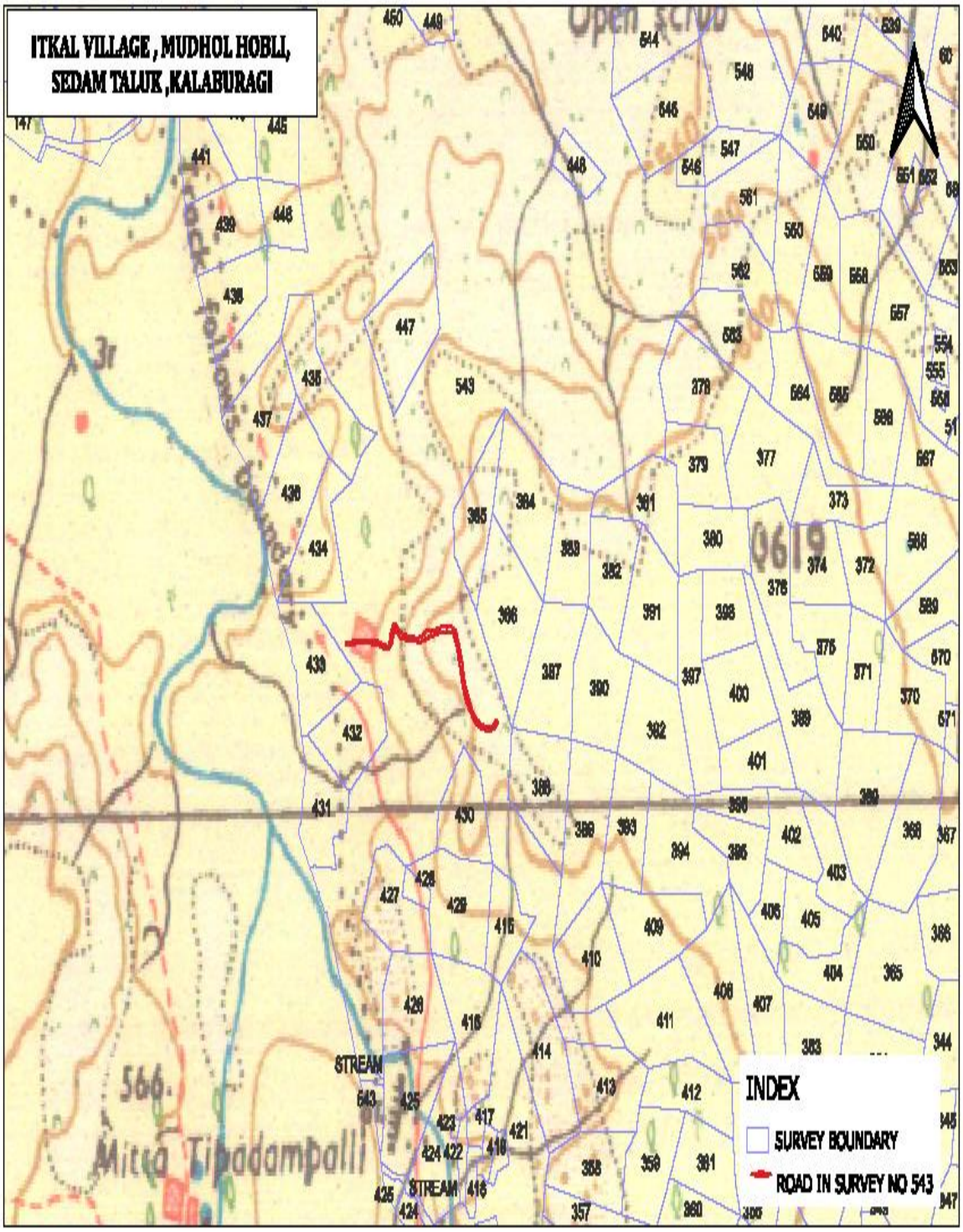
Image: Flood prone villages

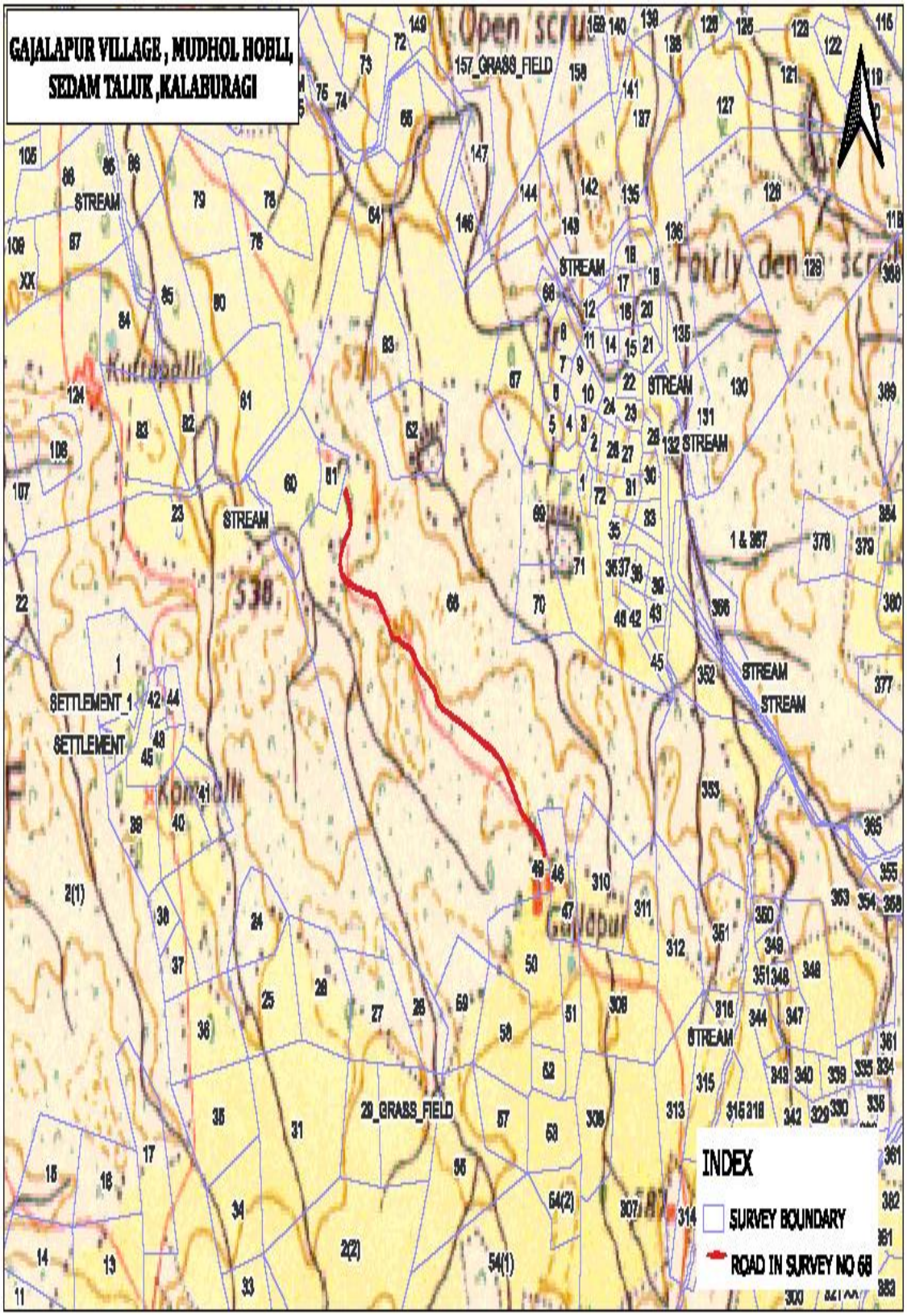


ACTIVITY 3 : Itkal And Gajalapur Village – Proposed Road Maps

Title of work	Itkal And Gajalapur Village – Proposed Road Maps
Department Name	PRED
Objectives	1. To prepare a simple road map in Survey No. 543 of itkal village and 66 of gajalapur village . 2. To show the survey boundary and nearby roads. 3. To combine cadastral details with the Survey of India toposheet for better reference. 4. To provide a basic map for planning and review.
Methodology	• Collected the village cadastral map • Collected the relevant Survey of India toposheet. • Digitized and georeferenced the cadastral map. • Overlaid the survey boundary on the SOI base map. • Identified and marked all nearby roads and access paths. • Prepared a simple draft map for reference.
Usage Of maps	• Useful for understanding land access and road connectivity. • Helpful for basic planning, development proposals, and field inspection. • Can support administrative decisions and verification work.
Type of Data Provided	PDF & JPEG File.

Map : Proposed road in Itkal village, sedam taluk (for Land acquisition).

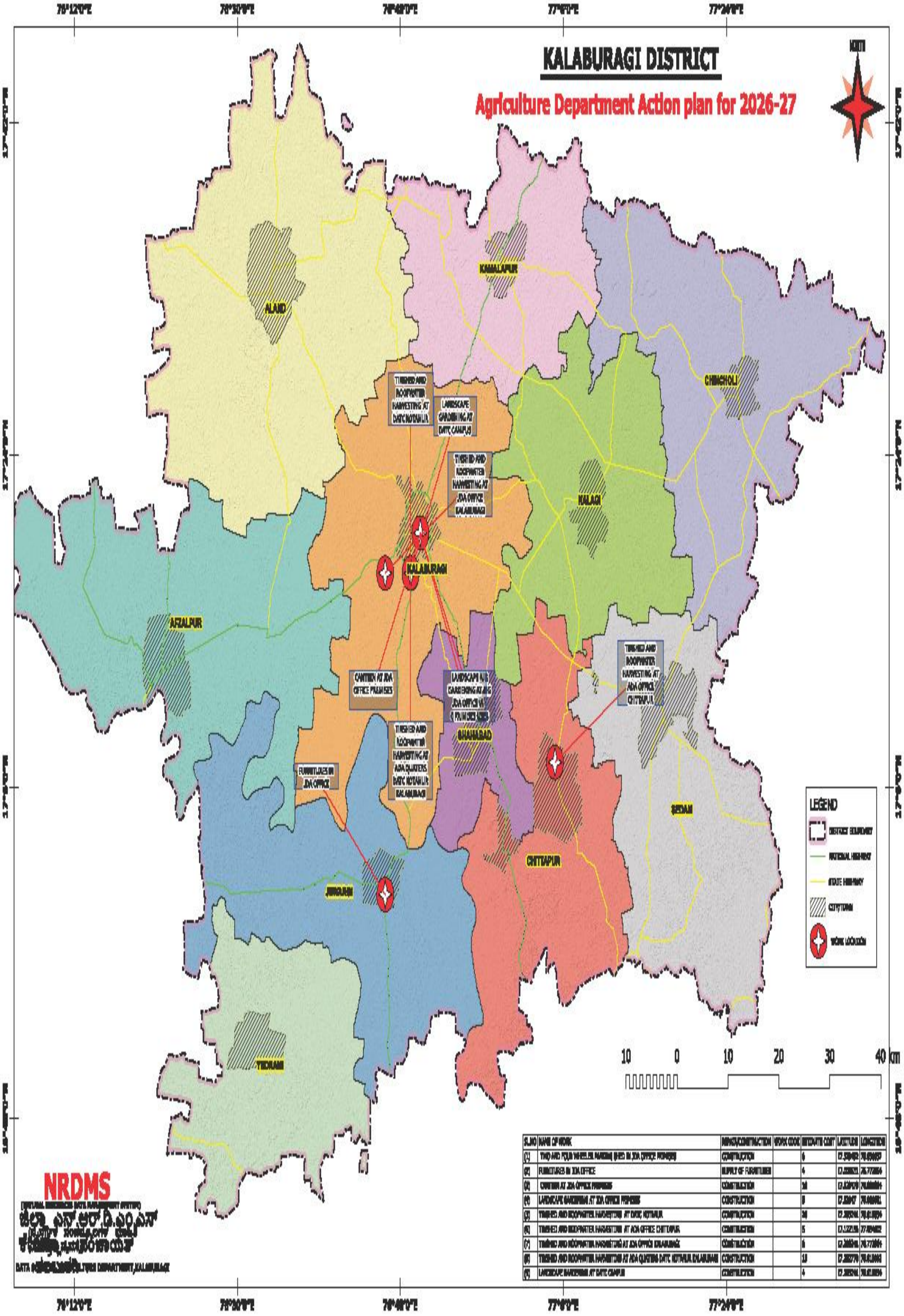




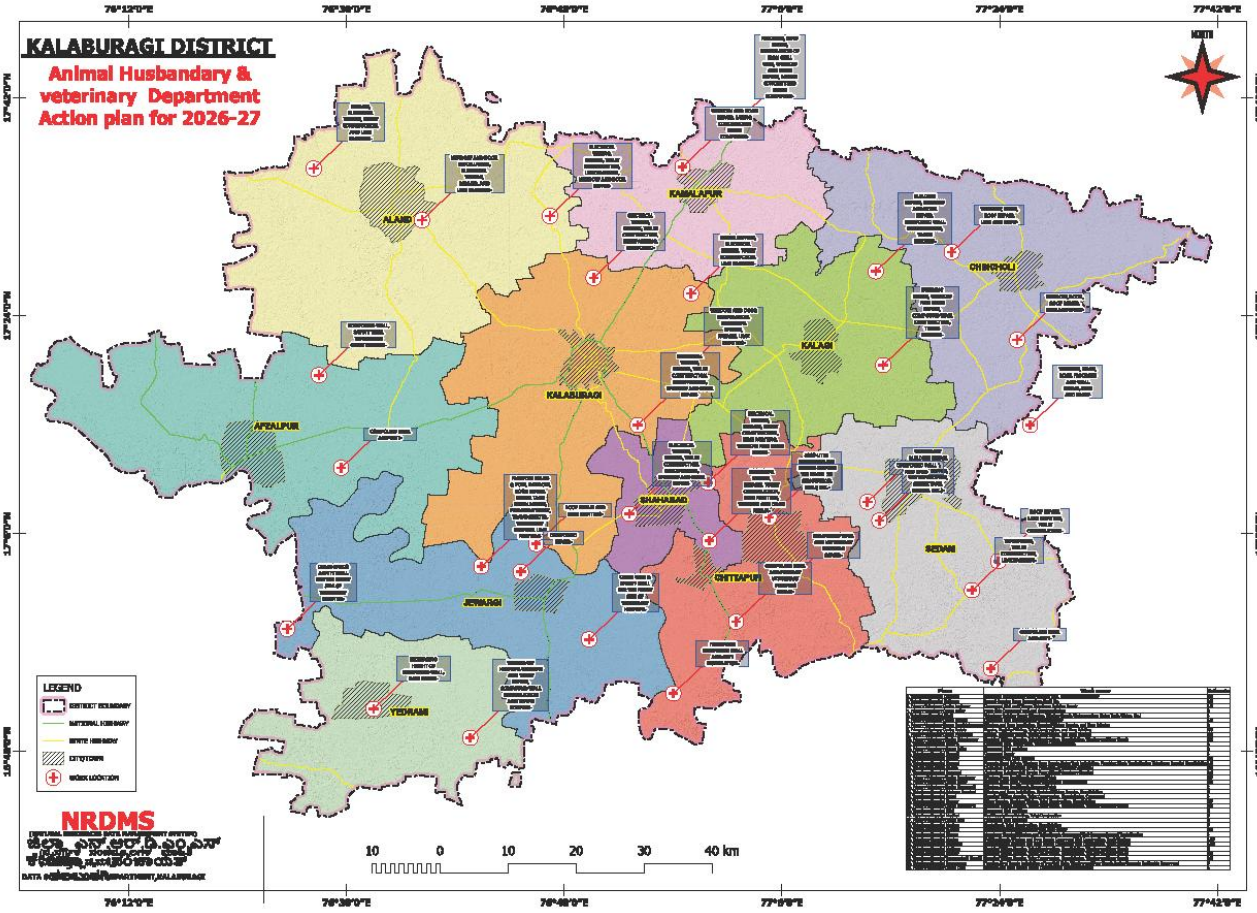
Map : Proposed road in Gajalapur,sedam taluk (for Land acquisition).

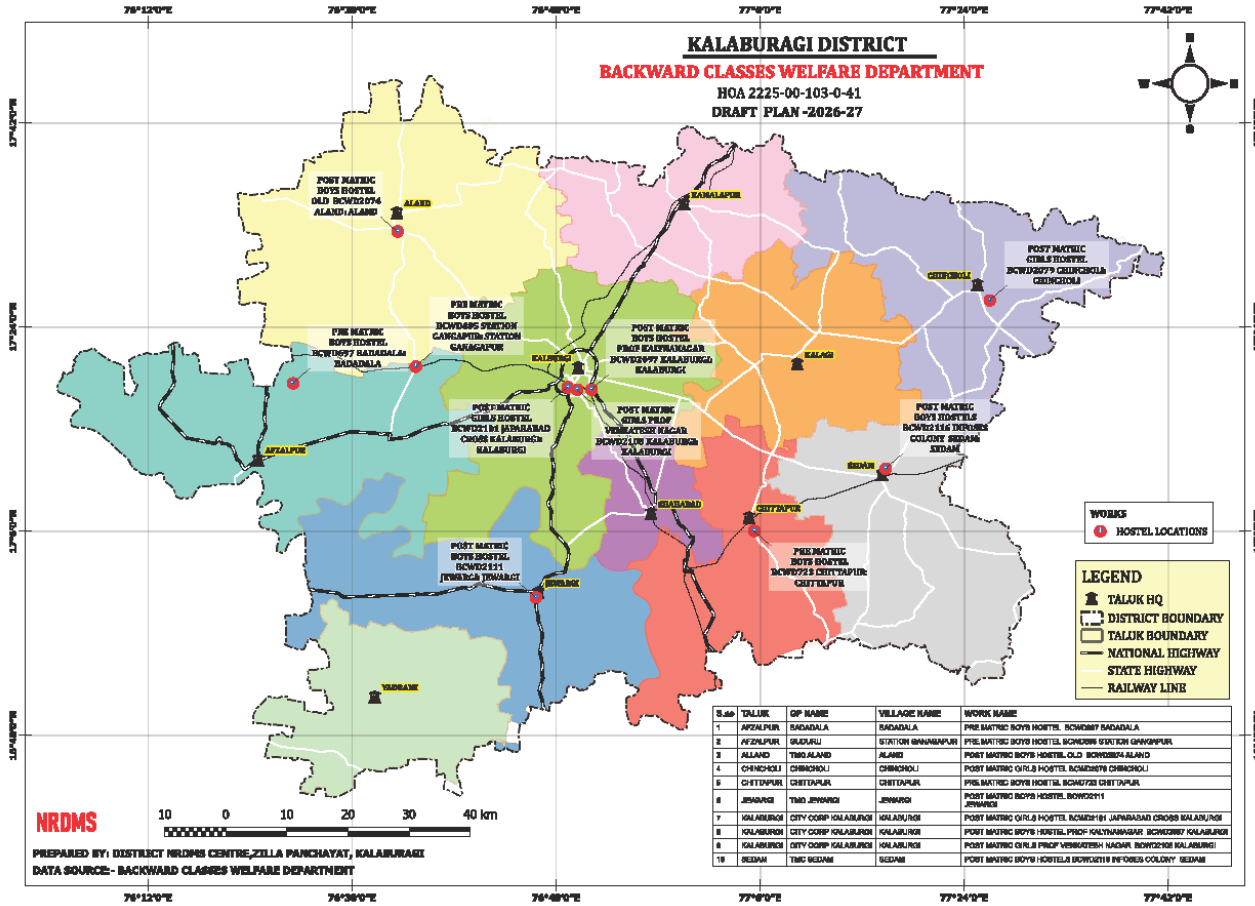
ACTIVITY 4 : <u>ACTION/DRAFT PLAN MAPS 2026-2027</u>

Title of work	**<u>ACTION/DRAFT PLAN MAPS 2026-2027</u>**
Department Name	Planning department.
Objectives	Since many years, the NRDMS Centre has been preparing and submitting action plan maps to the Planning Department, Government of Karnataka. These maps are essential for visualizing civil works, ensuring equitable distribution of infrastructure, and supporting evidence-based planning and transparency. The main objectives are • Identify and prioritize repair and new construction works. • Integrate departmental projects into a single spatial framework. • Strengthen resource allocation and budget justification. • Enhance monitoring, accountability, and disaster resilience.
Methodology	Methodology 1. Collect base maps and departmental infrastructure data. 2. Categorize works into repair, new construction, and supply. 3. Overlay departmental layers on district maps using GIS. 4. Analyze gaps, overlaps, and priority zones. 5. Draft department-wise and integrated maps. 6. Validate with departments and finalize for implementation.
Use	Usage • Guide administrative planning and sanctioning of works. • Justify budgets with spatial evidence.
Type of Data Provided	PDF & JPEG File.

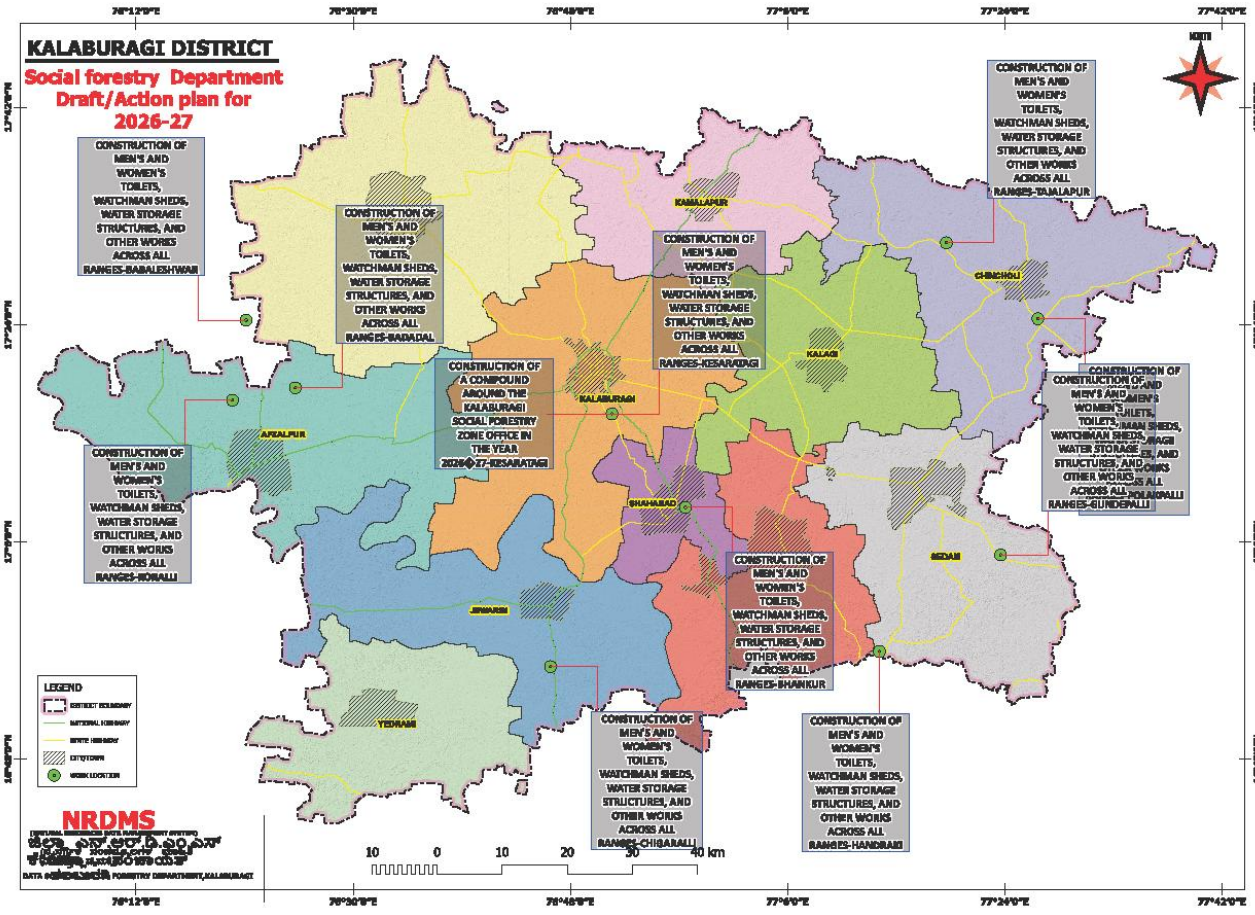


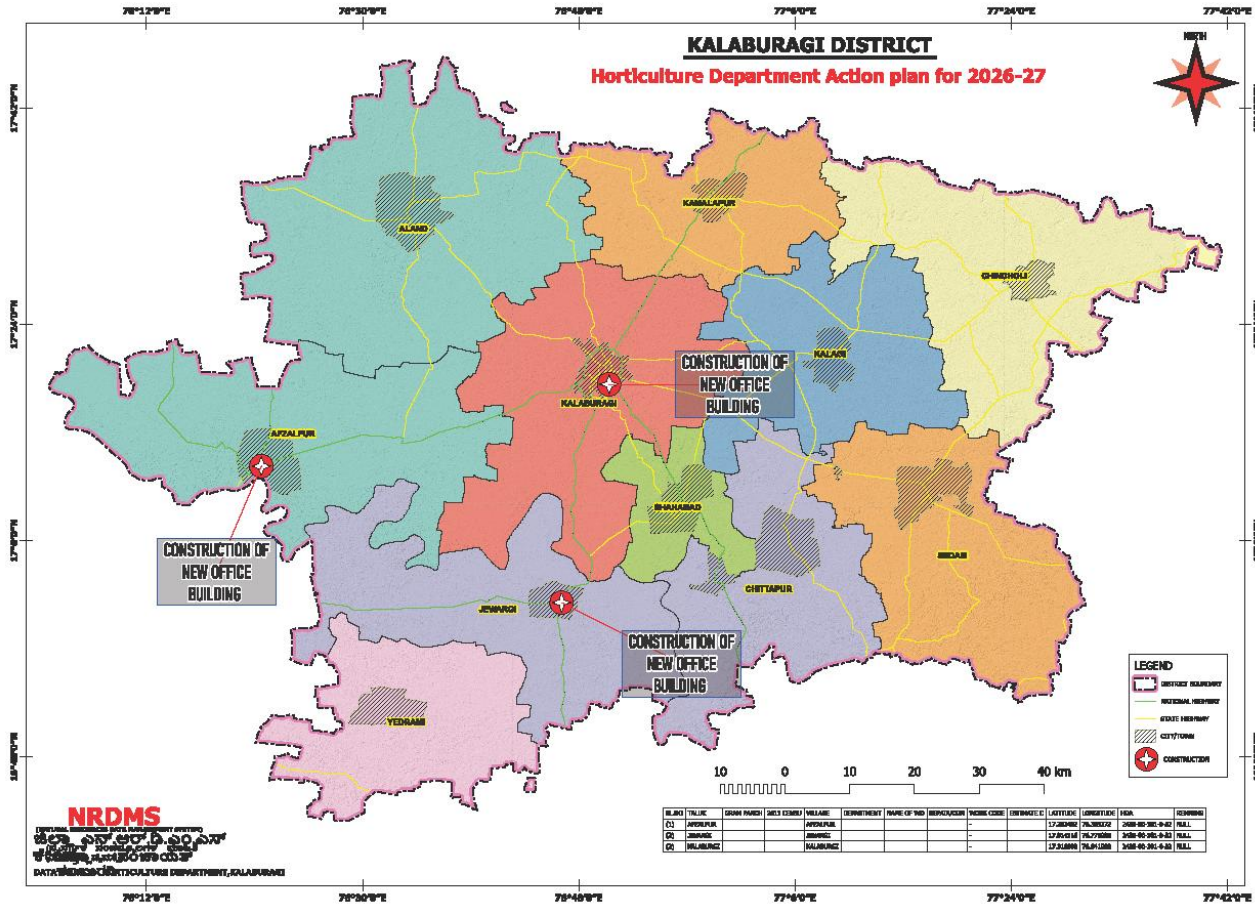
S.NO	NAME OF WORK	REPAIR/CONSTRUCTION	WORK CODE	ESTIMATE COST	LATITUDE	LONGITUDE
(1)	TWO AND FOUR WHEELER PARKING SHED IN JDA OFFICE PREMISES	CONSTRUCTION		6	[illegible]	[illegible]
(2)	FURNITURES IN JDA OFFICE	SUPPLY OF FURNITURES		4	[illegible]	[illegible]
(3)	CANTEEN AT JDA OFFICE PREMISES	CONSTRUCTION		[illegible]	[illegible]	[illegible]
(4)	LANDSCAPE GARDENING AT JDA OFFICE PREMISES	CONSTRUCTION		[illegible]	[illegible]	[illegible]
(5)	[illegible] AND ROOFWATER HARVESTING AT DATC KOTNUR	CONSTRUCTION		[illegible]	[illegible]	[illegible]
(6)	[illegible] AND ROOFWATER HARVESTING AT ADA OFFICE CHITTAPUR	CONSTRUCTION		5	[illegible]	[illegible]
(7)	[illegible] AND ROOFWATER HARVESTING AT JDA OFFICE KALABURAGI	CONSTRUCTION		6	[illegible]	[illegible]
(8)	[illegible] AND ROOFWATER HARVESTING AT ADA QUATERS DATC KOTNUR KALABURAGI	CONSTRUCTION		13	[illegible]	[illegible]
(9)	LANDSCAPE GARDENING AT DATC CAMPUS	CONSTRUCTION		4	[illegible]	[illegible]

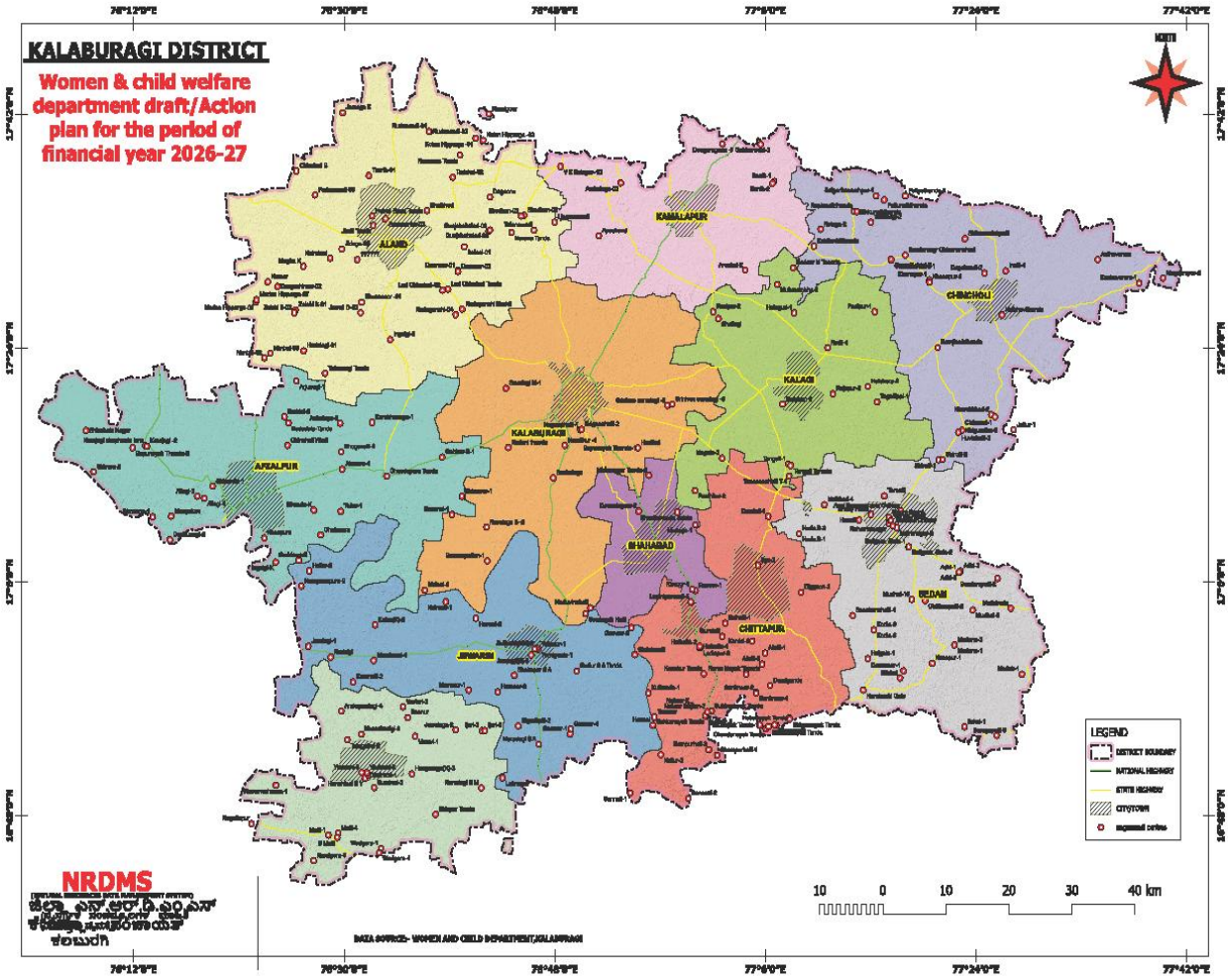




S.no	TALUK	GP NAME	VILLAGE NAME	WORK NAME
1	AFZALPUR	BADADALA	BADADALA	PRE MATRIC BOYS HOSTEL BCW0697 BADADALA
2	AFZALPUR	GUDURU	STATION GHANNAPUR	PRE MATRIC BOYS HOSTEL BCW0695 STATION GHANGPUR
3	ALAND	TMC ALAND	ALAND	POST MATRIC BOYS HOSTEL OLD BCW020274 ALAND
4	CHINCHOLI	CHINCHOLI	CHINCHOLI	POST MATRIC GIRLS HOSTEL BCW120279 CHINCHOLI
5	CHITTAPUR	CHITTAPUR	CHITTAPUR	PRE MATRIC BOYS HOSTEL BCW0720 CHITTAPUR
6	JEWARGI	TMC JEWARGI	JEWARGI	POST MATRIC BOYS HOSTEL BCW02111 JEWARGI
7	KALABURGI	CITY CORP KALABURGI	KALABURGI	POST MATRIC GIRLS HOSTEL BCW121M1 JAPARABAD CROSS KALABURGI
8	KALABURGI	CITY CORP KALABURGI	KALABURGI	POST MATRIC BOYS HOSTEL PROF KALYANAKAR BCW120277 KALABURGI
9	KALABURGI	CITY CORP KALABURGI	KALABURGI	POST MATRIC GIRLS PROF VENKATESH NAGAR BCW121108 KALABURGI
10	SEDAM	TMC SEDAM	SEDAM	POST MATRIC BOYS HOSTELS BCW120116 INFOSIES COLONY SEDAM


KALABURAGI DISTRICT
Social forestry Department
Draft/Action plan for
2026-27
CONSTRUCTION OF MEN'S AND WOMEN'S TOILETS, WATCHMAN SHEDS, WATER STORAGE STRUCTURES, AND OTHER WORKS ACROSS ALL RANGES-BABALESHWAR
CONSTRUCTION OF MEN'S AND WOMEN'S TOILETS, WATCHMAN SHEDS, WATER STORAGE STRUCTURES, AND OTHER WORKS ACROSS ALL RANGES-BADADAL
CONSTRUCTION OF MEN'S AND WOMEN'S TOILETS, WATCHMAN SHEDS, WATER STORAGE STRUCTURES, AND OTHER WORKS ACROSS ALL RANGES-TAALAPUR
CONSTRUCTION OF MEN'S AND WOMEN'S TOILETS, WATCHMAN SHEDS, WATER STORAGE STRUCTURES, AND OTHER WORKS ACROSS ALL RANGES-KESARATAGI
CONSTRUCTION OF A COMPOUND AROUND THE KALABURAGI SOCIAL FORESTRY ZONE OFFICE IN THE YEAR 2026-27-KESARATAGI
CONSTRUCTION OF MEN'S AND WOMEN'S TOILETS, WATCHMAN SHEDS, WATER STORAGE STRUCTURES, AND OTHER WORKS ACROSS ALL RANGES-RONALLI
CONSTRUCTION OF MEN'S AND WOMEN'S TOILETS, WATCHMAN SHEDS, WATER STORAGE STRUCTURES, AND OTHER WORKS ACROSS ALL RANGES-BUNDENALLI
CONSTRUCTION OF MEN'S AND WOMEN'S TOILETS, WATCHMAN SHEDS, WATER STORAGE STRUCTURES, AND OTHER WORKS ACROSS ALL RANGES-BHANKUR
CONSTRUCTION OF MEN'S AND WOMEN'S TOILETS, WATCHMAN SHEDS, WATER STORAGE STRUCTURES, AND OTHER WORKS ACROSS ALL RANGES-CHIGARALLI
CONSTRUCTION OF MEN'S AND WOMEN'S TOILETS, WATCHMAN SHEDS, WATER STORAGE STRUCTURES, AND OTHER WORKS ACROSS ALL RANGES-HANDRAKI
KAMALAPUR
CHINCHOLI
KALAGI
KALABURAGI
AFZALPUR
BHAHABAD
SEDAM
JEWARGI
YEDRAMI
LEGEND
NORTH
10 0 10 20 30 40 km
NRDMS


KALABURAGI DISTRICT
Horticulture Department Action plan for 2026-27
CONSTRUCTION OF NEW OFFICE BUILDING
CONSTRUCTION OF NEW OFFICE BUILDING
CONSTRUCTION OF NEW OFFICE BUILDING
ALAND
KAMALAPUR
CHINCHOLI
KALAGI
KALABURAGI
AFZALPUR
BHAHABAD
SEDAM
JEWARGI
CHITTAPUR
YEDRAMI
LEGEND
CONSTRUCTION
NORTH
10 0 10 20 30 40 km
NRDMS



4. Training Programmes Attended:

5. Training Imparted to Line Department:

1. Provided training to TA's and TC's regarding YUKTADHARA PORTAL

6. Science Outreach Activities:

No Science Outreach Activities were conducted during this period.

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