NATURAL RESOURCES DATA MANAGEMENT SYSTEM (NRDMS)

MONTHLY ACTIVITY REPORT April - July 2025



Submitted by District NRDMS Centre Zilla Panchayat, Ballari



Submitted to

Karnataka State Council for Science and Technology (KSCST)

Indian Institute of Science Campus, Bengaluru – 560012

1. Basic Information of Gadag District:

District Name: Ballari.

Division: Gubarga.

District Establishment Year: 1921. In 2014, Ballari was officially renamed Ballari,

Headquater: Ballari City.

Current CPO: M. Vageesh Shivacharya,, Chief Planning Officer, Zilla Panchayat, Ballari.

Current CEO: MD Haris Sumair, IAS, Chief Executive Officer, Zilla Panchayat, Ballari.

2. Background of District NRDMS Centre, Ballari:

The NRDMS Centre for Ballari district was established during the 2000 - 2001 at Office of the Zilla Panchayat office, Ballari. with financial support from Department of Science and Technology, Govt. of India, Implemented by K.S.C.S.T, Bangalore with active support from Dept. of Science & Technology, Govt. of Karnataka. The main objective of the centre is to create the digital database on Natural resources, Demography, Agro & Socio economy and infrastructure facilities of the District to provide analyzed information to the district administrators, Zilla Panchayat, line departments, Academic institutions and NGOs in Natural resources management and rural development planning with the help of GIS and other advanced scientific technologies.

NRDMS programme aims to analyze the evolution of methodologies and techniques for formulating development strategies. In a scenario of large diversity of data sets, data users and data generating agencies, the programme aims at developing and demonstrating the use of spatial decision support tools for integrated planning and management of resources at the local level.

District NRDMS Centre is been actively involved in providing Geospatial support to Zilla Panchayat office, District administration and line departments of the districts for better planning and execution of development work.

3. Geographical Features:

A. Location & Boundaries:

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Ballari district is spread from southwest to northeast and is situated on the eastern side of Karnataka state. The district is 15° 30′ and 15°50′ north latitude and 75° 40′ and 77° 11′ east longitude. The geographical area is 4267 km2.

This district is bounded by Raichur District on the north, Koppal District, Vijayanagara district on the west, Chitradurga District and Davanagere District on the south, and Anantapur District and Kurnool District of Andhra Pradesh on the east.

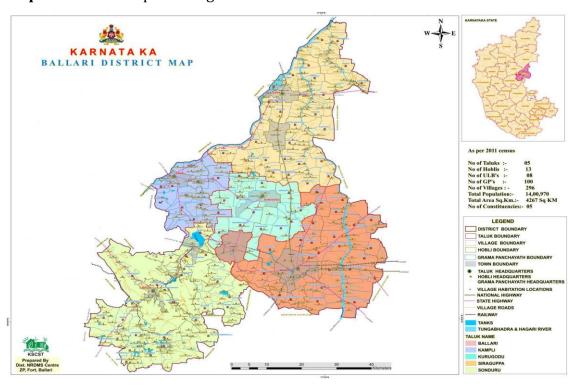
Map-1.

For administrative convenience Ballari district has been divided into 5 talukas with 296 Villages. Gadag district consists of contains 13 Hoblies, 8 Urban Local bodies and 100 Gram Panchayats. The details are given below in **Table-1**.

Table - 1 showing administrative details of Gadag district.

SL No	Taluk	No of Villages	No of Hoblis	No of GP's	No of ULB's
1	Ballari	74	3	25	2
2	Siruguppa	84	4	27	2
3	Sandur	87	3	26	2
4	Kurugodu	25	2	12	1
5	Kampli	26	1	10	1
Grand	Total	296	13	100	8

Map 1: Location map of Gadag District.



B. <u>Topography:</u>

Ballari has a hot, semi-arid climate due to the Western Ghats' rain shadow effect, resulting in a climate of scorching summers and long, warm winters. Topographically, the city is known for its association with rich mineral resources, particularly iron ores, found in the banded magnetite quartzite and haematite deposits atop ridges and hillocks.

• Mineral-Rich Landscape:

Ballari is characterized by its rich iron ore deposits, which are found in the banded magnetite quartzite and hematite deposits within the Precambrian eruptive rocks.

Hillocks and Ridges:

The iron ores are found on the top of ridges and hillocks, which are of great magnitude and feature weathered haematite that has altered to limonite, goethite, and laterite at places.

• Sedimentary and Weathering Processes:

The ores were deposited through sedimentary resources, followed by leaching, oxidation by surface water, and re-cementation.

Climate:

Ballari's climate is hot and semi-arid, characterized by warm, dry summers, a pleasant winter, and light rainfall during the monsoon season from June to September. The area falls under a subtropical climate, experiencing a post-monsoon period from October to December as well.

Key Characteristics: Hot and Semi-Arid:

The region's climate is hot, with a semi-arid classification (BSh) due to the rain shadow effect of the Western Ghats.

Seasons:

- Ballari experiences four main seasons:
- Winter (January-February): Generally a pleasant and cool period.
- Summer (March-May): Warm and dry conditions are typical.
- Southwest Monsoon (June-September): Light rain occurs throughout the year but increases slightly during this season and into the autumn.
- Post-Monsoon (October-December): The period after the monsoon.

Temperature:

Ballari has a hot, semi-arid climate with high temperatures, especially from March to June, when highs can exceed 100°F (38°C). Summers are dry and scorching, while the cool season, from late June to January, is long and warm, with average highs below 90°F (32°C). Winters are mild, with temperatures ranging from 59°F to 77°F (15–25°C).

Maximum: Up to 42°C during peak summer months (April and May).

Minimum: Around 16°C in winter, particularly in December and January.

Average annual temperature ranges between 20°C and 35°C.

Rainfall:

To show variation within the months and not just the monthly totals, we show the rainfall accumulated over a sliding 31-day period centered around each day of the year. Ballari experiences significant seasonal variation in monthly rainfall. The rainy period of the year lasts for 7.8 months, from April 1 to November 27, with a sliding 31-day rainfall of at least 0.5 inches. The month with the most rain in Ballari is September, with an average rainfall of 3.7 inches.

The rainless period of the year lasts for 4.2 months, from November 27 to April 1. The month with the least rain in Ballari is January, with an average rainfall of 0.1 inches.

Summer (March to May): Progressively hotter temperatures, with highs increasing from about 98°F (37°C) in March to 103°F (39°C) in April and cooling slightly to 96°F (36°C) in May

Monsoon (June to September): The Ballari Monsoon refers to the Southwest Monsoon season in Ballari, which runs from June to September, bringing increasing rainfall and cloud cover after the dry summer months

Winter (December to February): is a pleasant season with clear skies and low humidity. Temperatures are mild, with average highs around 31°C (88°F) in December and lows near 16°C (61°F). This period offers cool mornings and evenings, making it an ideal time for exploring the region.

Humidity:

We base the humidity comfort level on the dew point, as it determines whether perspiration will evaporate from the skin, thereby cooling the body. Lower dew points feel drier and higher dew points feel more humid. Unlike temperature, which typically varies significantly between night and day, dew point tends to change more slowly, so

while the temperature may drop at night, a muggy day is typically followed by a muggy night.

Ballari experiences extreme seasonal variation in the perceived humidity. The muggier period of the year lasts for 7.2 months, from April 24 to November 30, during which time the comfort level is muggy, oppressive, or miserable at least 25% of the time. The month with the most muggy days in Ballari is August, with 28.8 days that are muggy or worse. The month with the fewest muggy days in Ballari is February, with 0.5 days that are muggy or worse.

Wind:

This section discusses the wide-area hourly average wind vector (speed and direction) at 10 meters above the ground. The wind experienced at any given location is highly dependent on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly averages.

The average hourly wind speed in Ballari experiences extreme seasonal variation over the course of the year. The windier part of the year lasts for 3.3 months, from May 25 to September 2, with average wind speeds of more than 11.9 miles per hour. The windiest month of the year in Ballari is July, with an average hourly wind speed of 16.5 miles per hour. The calmer time of year lasts for 8.7 months, from September 2 to May 25. The calmest month of the year in Ballari is October, with an average hourly wind speed of 7.2 miles per hour.

Natural Resource:

Ballari district is extremely rich in natural resources, especially minerals, with significant deposits of iron ore and manganese. However, the area also has valuable water resources from the Tungabhadra River, agricultural land, and protected wildlife sanctuaries.

Mineral resources:

Iron ore: Ballari holds 25% of India's iron ore reserves and has a high concentration of metallic minerals in the taluks of Sanduru, Hosapete, and Ballari. The region has attracted major steel industries like Jindal Vijayanagar Steel and Sathavahana Ispat to use its abundant mineral reserves.

Manganese ore: The Sandur taluk contains rich deposits of manganese ore. Sandur Manganese & Iron Ores Limited (SMIORE), one of India's largest private-sector manganese producers, operates mines in the district.

Non-metallic minerals: Other non-metallic minerals found in Ballari include: Andalusite, Asbestos, Clay, Dolomite, Limestone, Quartz, Red ochre.

Mineral mining history: The area has a long history of intensive mining, which has also been linked to major illegal mining scams and subsequent environmental damage. Past Supreme Court bans on mining were implemented due to extensive violations of environmental laws.

Water resources:

Rivers: The district is well-endowed with surface water from rivers such as the Tungabhadra, Hagari, and Chikkahagari.

Irrigation: The Tungabhadra Dam provides the main source of water for irrigation through an extensive canal network. However, many areas rely on groundwater from bore and open wells.

Groundwater quality: While most groundwater is potable, some areas have high concentrations of fluoride and nitrates, potentially caused by poor drainage and fertilizer use in agricultural fields.

Forest and wildlife resources:

Forests: The forest cover in Ballari is primarily composed of dry, mixed deciduous and thorny scrub types. The Sandur forests contain some of the best patches of deciduous forest in the area.

Protected areas: The district has several wildlife sanctuaries and conservation reserves: Daroji Sloth Bear Sanctuary,

- Gudekote Sloth Bear Wildlife Sanctuary,
- Ankasamudra Bird Conservation Reserve,
- Tungabhadra Otter Conservation Reserve,
- Critically endangered species: The Critically Endangered Great Indian Bustard can be found in the Siruguppa taluk, which serves as its only habitat in the state of Karnataka.

Agricultural Resources:

Soils: The soil in the region varies, with red soil found in elevated areas and black soil in irrigated land.

Crops: Agriculture is the primary occupation, with a significant portion of the workforce depending on it for a living. Major crops include: Cotton, Jowar (sorghum), Groundnuts, Rice, Sunflower, Byadagi Chilli. Mige.

Government Support: The presence of a Krishi Vigyan Kendra (KVK) (Agricultural Science Centre) in Ballari indicates government efforts to improve agricultural practices and output.

Technological Innovation: The KVK Ballari supports cutting-edge technology and innovation to enhance agricultural productivity in the region.

Farmer Education: The KVK also offers training programs to help farmers learn and adopt new technologies.

Soil Resources:

Ballari soil resources include black soils, found in irrigated areas, and red soils, dominant in elevated regions, alongside sandy loam soils along riverbeds

Key Characteristics of Ballari's Soils:

Types: Ballari soil composition varies across the region, with:

Black Soils: Found in irrigated lands, known for their high initial infiltration rates when dry but low permeability once wet.

Red Soils: Common in higher-elevation areas.

Sandy Loam Soils: Present along the beds of the Hagri and Tungabhadra rivers. **Parent Material:** The soils originate from local Granite, Gneiss, and Schistose rocks.

PH and Permeability: The soils generally exhibit a neutral pH and are characterized by high permeability, though black soils' infiltration can become low when wet.

Soil Thickness: The thickness of the soil layers can range from 0.2 to 1.00 meters.

Soil & Water Conservation Efforts:

Research and Extension: The Central Soil and Water Conservation Research and Training Institute (CSWCRTI) in Ballari was established to study soil and water conservation in low-rainfall, deep black soil regions.

Conservation Practices: Implemented techniques include, Contour cultivation, Strip cropping, Contour bunding, Terracing with rainwater harvesting and recycling, Gully plugging.

Watershed Programs: These programs have helped improve agricultural production and rural livelihoods, including enhancing the productivity of maize, cotton, and chilli crops.

Desertification: The region's climate, characterized by low rainfall and dryness, presents challenges related to desertification and soil degradation, making soil and water conservation critical.

Biodiversity:

Ballari (formerly Ballari) has diverse flora and fauna, with its biodiversity centered around the Daroji Sloth Bear Sanctuary and Gudekote Sloth Bear Wildlife Sanctuary,

which are home to various animals like sloth bears, peafowl, and tortoises. The Tungabhadra River is also a key ecological feature, with a dedicated Otter Conservation Reserve. The region's vegetation includes common medicinal plants, and an inventory of flora like dragonflies and other insects is documented in studies of the area.

Renewable Energy Potential

Ballari has significant renewable energy potential, with a target of 1.5 GW by 2030 and ongoing projects for wind, solar, and floating solar power, including an 813 MW wind project by NTPC and a floating solar plant at the Ballari Thermal Power Plant. The region also features in a national-level renewable energy focus area, with ongoing efforts to develop transmission infrastructure and support for the development of floating solar, wind farms, and green hydrogen production.

C. <u>Major Rivers/Water Resource:</u>

Ballari's primary water resource is the Tungabhadra River, along with its tributaries Hagari/Vedavathi, which form a significant part of the Krishna River Basin. The district's drainage system is primarily seasonal and depends on these rivers, with water availability also being supported by groundwater resources.

Tungabhadra River:

The Tungabhadra River, a major tributary of the Krishna River, flows along the southern boundary of Gadag district. It is formed by the confluence of the Tunga and Bhadra rivers in Shimoga district and flows through parts of Karnataka and Andhra Pradesh.

A Barrage has been constructed across river Tungabhadra in Hammagi Village in Mundaragi Taluka, the dan height is 509 Mts while storage capacity is limited to 507.5 Mts, this barrage supports irrigation in southern parts of the district through canal systems and reservoirs. The Tungabhadra Dam, located downstream, indirectly aids water management in the region.

Apart from above mentioned water source Gadag district is also mainly depended on Ground water for domestic, agriculture and industrial uses.

Hagari (Vedavathi):

A tributary of the Tungabhadra, the Hagari (also known as Vedavathi) and its own tributaries drain the southern part of the district, flowing northwards to meet the Tungabhadra.

Seasonal Streams:

In addition to the main rivers, the district is drained by minor streams that form a dendritic drainage pattern.

4. Spatial & Non-Spatial Data:

Status Code: Meaning

CC : Computerised.

ND : Not Digitized

NA : Not Procured

NR : Not Relevant

NF : Not Finalised

SPATIAL DATABASE

Sector / Subsector	Scale	Source	Survey / Publn. Year	Area covere d	Status Code	File For mat		
1. Natural Resource	1. Natural Resources							
Land								
1. Topography								
Contour Map	30 Mtr	ASTER DEM		District	CC	.Shp		
Slope Map	1:50,000	KSRSAC		District	CC	.Shp		
2. Geology – A			•					
Rock features	1:50,000	KSRSAC		District	CC	.Shp		
Structural features	1:50,000	KSRSAC		District	CC	.Shp		
3. Geology – B			•					
Rock features		NA						
Structural features		NA						
4. Mineral Resources		NA						
5. Geomorphology	1:50,000	KSRSAC		District	CC	.Shp		
6. Land use	1:50,000	KSRSAC		District	CC	.Shp		
7. Waste Lands		NA						
8. Soils	1:25,000	KSRSAC		District	CC	.Shp		
9. Forest & Wildlife								
Forest type		NA						
Crown Density		NA			,			
Forest Category		NA						

Forest admn.		NA			
Wild Life		NA			
Water					
1.Ground water					
Hydro Geology		NA			
Hydro chemistry		NA			
Ground water budget		NA			
2.Surface water					
Drainage	1:50,000	SOI	District	CC	.Shp
Surface water bodies	1:50,000	SOI & KSRSAC	District	CC	.Shp
3.Climate		NA			

Sector / Subsector	Scale	Source	Survey / Publn. Year	Area covere d	Status Code	File Format
2.Demography						
Population						
Tehsil boundary	1:50,000	SOI		District	CC	.Shp
District boundary	1:50,000	SOI		District	CC	.Shp
Current popln. distbn.	1:50,000	SOI		District	CC	.Shp
Literacy						
Levels of education		NA				
Occupation						
Village boundary	1:50,000	SOI		District	CC	.Shp
Employment						
District scenario		NA				
Employment exchange		NA				
Assets & Expenditure		NA				
Migration		NA				

Destitutes

3.Socio Economy						File Forma t
Industry		NA				
Developmental activity		NA				
4.Agro Economy						
Land Utilisation						
Private Land		NA				
Common property		NA				
Land Ownership pa	ittern	-		•	•	
General scenario		NA				
Farmer's holdings		NA				
Principal crops		NA				
Irrigation	•				•	
Minor irrigation						
Canals	1:50,000	DLR & SS (KSRSAC)	District	СС	.Shp	
Tube wells		NA				
Dug wells		NA				
Tanks	1:50,000	DLR & SS (KSRSAC	District	CC	.Shp	
Lift irrigation		NA				
Major irrigation						
Reservoirs	1:50,000	DLR & SS(KSRS AC)	District	CC	.Shp	

Anicuts		NA				
Agricultural implements						
Animal husbandry	1:50,000	AHVS	District	CC	.Shp	
Pisciculture		NA				
Plantation		NA				

Sector / Subsector	Scale	Source	Survey / Publn. Year	Area covere d	Status Code	File Forma t
5.Infrastructure						
Communications						
Post offices		NA			.Shp	
Telecommunication		NA				
Drinking water		NA				
Educational facilities	1:50,000	DDPI	District	CC	.Shp	
Electricity	1:50,000	GESCOM	District	CC	.Shp	
Financial institutions		NA				
Markets		NA				
Health	1:50,000	DHO	District	CC	.Shp	
NGO's		NA				
Tourism		NA				
Transport	1:50,000	PWD & SOI & PRED	District	CC	.Shp	
6.Miscellaneous						
District map with taluks	1:50,000	SOI	District	CC	.Shp	
District & taluk boundaries	1:50,000	SOI	District	CC	.Shp	
District map with hoblies	1:50,000	DLR & SS	District	CC	.Shp	
Village boundary	1:50,000	SOI/KSR	District	CC	.Shp	

with settlement		AC				
Police station details	1:50,000	SP	District	CC	.Shp	
Details on Assembly constituencies	1:50,000	DC	District	CC	.Shp	
Gram Panchayhs& Zilla Panchayaths, its jurisdiction for all taluks	1:50,000	DC	District	CC	.Shp	

Additional Data

Cadastral Boundary	NA				
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Non-Spatial Database

Sector / Subsector	Source	Survey / Publn. Year	Area covered	Status Code	File Format
1. Natural Resources					
Land					
1. Topography					
Contour				NR	
Slope				NR	
2. Geology – A					
Rock Features	KSRSAC			NR	
Structural features				NR	
3. Geology – B					
Rock features				NR	
Structural features				NR	
4. Mineral Resources	KSRSAC			NR	
5. Geomorphology				NR	
6. Land use				NR	
7. Waste Lands				NR	
8. Soils	KSRSAC			NR	
9. Forest & Wildlife					
Forest type				NR	

Climate	IMD	NR				
Surface water bodies		NR				
Drainage		NR				
Surface water	Surface water					
Ground water budget		NR				
Hydro chemistry		NR				
Hydro Geology	MGD	NR				
Ground water						
Water	Water					
Wild Life		NR				
Forest admn.		NR				
Forest Category		NR				
Crown Density		NR				

2. Demography			File Format
Population			
Tehsil boundary	DLR & SS	CC	XLS
District boundary		CC	XLS
Current popln. distbn.	DES	СС	XLS
Literacy			File Format
Levels of education		NA	
Occupation			
Village boundary	DES	NA	
Employment			
District scenario	EO	NA	
Employment exchange		NA	
Assets & Expenditure			
Migration			

	 ,	,	,	
D				
Destitutes				
Desitates				

3. Socio Economy				File Format
Industry	DIC		NA	
Developmental activity	DIC		NA	

4. Agro Economy				File Format
Land Utilisation				
Private Land	DSO	VILLAGE	NA	
Common property	DSO		NA	
Land Ownership p	attern			
General scenario	DSO		NA	
Farmer's holdings	Rev. Dept		NA	
Principal crops	JDA	Taluk	NA	
Irrigation				
Minor irrigation				
Canals	CADA		NA	
Tube wells	DSO		NA	
Dug wells	DSO		NA	
Tanks	MIC/ZPE		NA	
Lift irrigation	MID		NA	
Major irrigation				
Reservoirs	CE (N)		NA	
Anicuts	CE (N)		NA	
Agricultural implements	Ag Census		NA	
Animal husbandry	AH&VS		CC	XLS
Pisciculture	Fisheries		NA	
Plantation			NA	

Horticulture	HD		NA	
Sericulture	SD		NA	

Sector / Subsector	Source	Survey / Publn. Year	Area covered	Status Code	File Format
5. Infrastructure					
Communications					
Post offices	SSPO/ DES		Village	NA	
Telecommunicatio n	TDM / DES			NA	
Drinking water	ZPE			NA	
Educational facilities	DDPI			NA	
Electricity	Census			NA	
Financial institutions	LEAD bank			NA	
Markets	FACS			NA	
Health	DHO			CC	XLS
NGO's	DRS			NA	
Tourism	KSTDC			CC	XLS
Transport					
Roads	PWD & PRED			NA	
Rail network	ZPED			NA	
Air transport/HELIPA D	PWD			NA	
Vehicle census	RTO			NA	
Inland & coastal waterways				NA	
Veterinary service	es				
Veterinary facilities	AHVS			CC	XLS
Other veterinary	AHVS				

serv.				
Incidence of diseases	AHVS			
Anganwadi	D W&C		CC	XLS

Sector / Subsector	Source	Survey / Publn. Year	Area covered	Status Code	File Format
6. Miscellaneous					
Administration	DC office				
Dt. & Subdivsns.	DC office			NA	
Dt., with tehsils	ZP			NA	
Dt., with panchayat	DC			NA	
Tq., with census vil.	DC			NA	
Prices & wages				NA	
Environment				NA	

5. Major Activities Carried Out during the period of April-July 2025:

Activity -1

m:u c l	Location Map of Villages affected by Mines (5, 10, 15, 20,25. KM
Title of work	Buffer) in Ballari District
Department Name	Zilla Panchayat, Ballari
	As per requisition of mineral deportment has given the request to
	NRDMS to Prepare Maps regarding Map showing the 5 Km radius
	from miner minerals and 10km, 15km, 20km, and 25km radius
01.1	from major minerals of Ballari district area in Vijayanagara district
Objectives	with Village wise details. Therefore, we collected the data from
	M&G department (Mineral) consolidated the data using Arc GIS &
	prepared map as shown below. As this data was required for
	effective implementation of District Mines Fund (DMF) effectively.
Data Used	Taluk Boundary, Village Location, Mine Location (Provided by
Data USEU	DMG, Ballari) and 5 KM Buffer of Mine Location.
	5 KM Buffer was generated for mine location using Geoprocessing
Data Process	toll, and Village falling under 5, 10, 15, 20,25.km jurisdiction was
	extracted using clip option.
Type of Data	JPEG & Pdf Map((Maps-1,2,3 and 4) was provided along with list
Provided	of Villages was provided in Excel format.(Table-2)

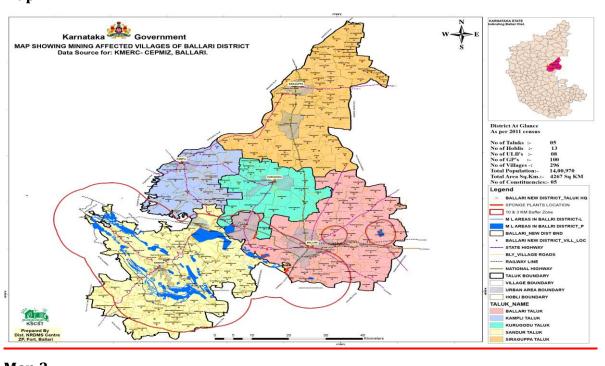
Table 2: Villages List affected by Mines (5 TO 20KM from Mine Site)

TALUK				
NAME	VILLAGE NAME	GP NAME	LAC_CODE	LAC_NAME
BALLARI	MINCHERI	SANJEEVARAYANAKOTE	93	BELLARY (ST)
BALLARI	SANJEEVARAYANAKOTE	YETTINABUDIHAL	93	BELLARY (ST)
BALLARI	BELAGALLU	BELAGALLU	93	BELLARY (ST)
BALLARI	HONNAHALLI	HALAKUNDI	93	BELLARY (ST)
BALLARI	HALAKUNDI	HALAKUNDI	93	BELLARY (ST)
BALLARI	HARAGINADONE	BELAGALLU	93	BELLARY (ST)
BALLARI	JANIKUNTE	BELAGALLU	93	BELLARY (ST)
BALLARI	BURRANAYAKANAHALLI	YETTINABUDIHAL	93	BELLARY (ST)
BALLARI	BOBBUKUNTA	SHANKARABANDA	93	BELLARY (ST)
BALLARI	YETTINABUDIHAL	YETTINABUDIHAL	93	BELLARY (ST)
SONDURU	SOMALAPUR	YESWANTHANAGAR	95	SANDUR (ST)
SONDURU	DONIMALAI (F)	NARASINGAPUR	95	SANDUR (ST)
SONDURU	SANDUR (TMC)	SANDUR (TMC)	95	SANDUR (ST)
SONDURU	ANKAMMANAHAL	KALINGERI	95	SANDUR (ST)
SONDURU	HULIKUNTA 73	NIDUGURTHI	95	SANDUR (ST)
SONDURU	NORTH EASTERN BLOCK(F)	KRISHNANAGAR	95	SANDUR (ST)
SONDURU	SUSEELNAGAR	SUSEELNAGAR	95	SANDUR (ST)
SONDURU	LINGADAHALLI	ANTAPUR	95	SANDUR (ST)

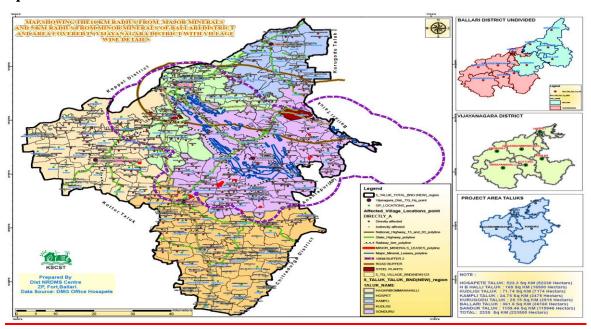
SONDURU	55 MALLAPURA	RAJAPUR	95	SANDUR (ST)
SONDURU	TALUR	TALUR	95	SANDUR (ST)
SONDURU	GOLLALINGAMMANAHALLI	GOLLALINGAMMANAHALLI	95	SANDUR (ST)
SONDURU	KANAKAPUR .B.C.	GOLLALINGAMMANAHALLI	95	SANDUR (ST)
SONDURU	DOWLATPUR	KRISHNANAGAR	95	SANDUR (ST)
SONDURU	EMMIHATTI	SUSEELNAGAR	95	SANDUR (ST)
SONDURU	MURARIPUR	BHUJANGANAGAR	95	SANDUR (ST)
SONDURU	THUMATI	VITTALAPUR	95	SANDUR (ST)
SONDURU	APPALAPUR	ANTAPUR	95	SANDUR (ST)
SONDURU	YERABANAHALLI	ANTAPUR	95	SANDUR (ST)
SONDURU	GUNDLAHALLI	METRIKI	95	SANDUR (ST)
SONDURU	NAGALAPUR	BANNIHATTI	95	SANDUR (ST)
SONDURU	VITTALAPUR	VITTALAPUR	95	SANDUR (ST)
SONDURU	RAJAPUR	RAJAPUR	95	SANDUR (ST)
SONDURU	DEOGIRI	SUSEELNAGAR	95	SANDUR (ST)
SONDURU	JODIBOMMIAHNAHALLI	BOMMAGATTA	95	SANDUR (ST)
SONDURU	DEVARAMALLAPUR	KALINGERI	95	SANDUR (ST)
SONDURU	GOWRIPUR	BOMMAGATTA	95	SANDUR (ST)
SONDURU	JIGINAHALLI	YERRIAHANAHALLI	95	SANDUR (ST)
SONDURU	JODIKASINAYAKANAHALLI	BOMMAGATTA	95	SANDUR (ST)
SONDURU	KRISHNANAGAR	KRISHNANAGAR	95	SANDUR (ST)
SONDURU	NARASINGAPUR	NARASINGAPUR	95	SANDUR (ST)
SONDURU	TARANAGAR	TARANAGAR	95	SANDUR (ST)
SONDURU	VITTALNAGAR	NARASINGAPUR	95	SANDUR (ST)
SONDURU	TARANAGAR	ANTAPUR	95	SANDUR (ST)
SONDURU	AYYANAHALLI	TARANAGAR	95	SANDUR (ST)
SONDURU	AVINAMADUGU	VITTALAPUR	95	SANDUR (ST)
SONDURU	JOGA	TALUR	95	SANDUR (ST)
SONDURU	MARUTALA	ANTAPUR	95	SANDUR (ST)
SONDURU	METRIKI	METRIKI	95	SANDUR (ST)
SONDURU	CHIKKAKERIYAGINAHALLI	HIREKERIYAGINAHALLI	95	SANDUR (ST)
SONDURU	KALINGERI	KALINGERI	95	SANDUR (ST)
SONDURU	YERRIAHANAHALLI	YERRIAHANAHALLI	95	SANDUR (ST)
SONDURU	BHUJANGANAGAR	BHUJANGANAGAR	95	SANDUR (ST)
SONDURU	JAISINGAPUR	SUSEELNAGAR	95	SANDUR (ST)
SONDURU	NARAYANAPUR	DEVAGIRI	95	SANDUR (ST)
SONDURU	YESWANTHANAGAR	YESWANTHANAGAR	95	SANDUR (ST)
SONDURU	ANTAPUR	ANTAPUR	95	SANDUR (ST)
SONDURU	BANNIHATTI	BANNIHATTI	95	SANDUR (ST)
SONDURU	GOWRIPUR	TARANAGAR	95	SANDUR (ST)
SONDURU	MALAPUR	VITTALAPUR	95	SANDUR (ST)
SONDURU	SHRO.GANGALAPUR	BANNIHATTI	95	SANDUR (ST)
SONDURU	RAMANMALAI BLOCK (F)	SUSEELNAGAR	95	SANDUR (ST)

SONDURU	TONISIGERI	GOLLALINGAMMANAHALLI	95	SANDUR (ST)
SONDURU	RANJITPUR	NARASINGAPUR	95	SANDUR (ST)
SONDURU	SIDDAPUR	SUSEELNAGAR	95	SANDUR (ST)
SONDURU	CHIKKANTAPUR	ANTAPUR	95	SANDUR (ST)
SONDURU	GANGALAPUR	VITTALAPUR	95	SANDUR (ST)
SONDURU	UBBALAGUNDI	RAJAPUR	95	SANDUR (ST)
BALLARI	ALADAHALLI	BALLARI (M CORP.)	93	BELLARY (ST)

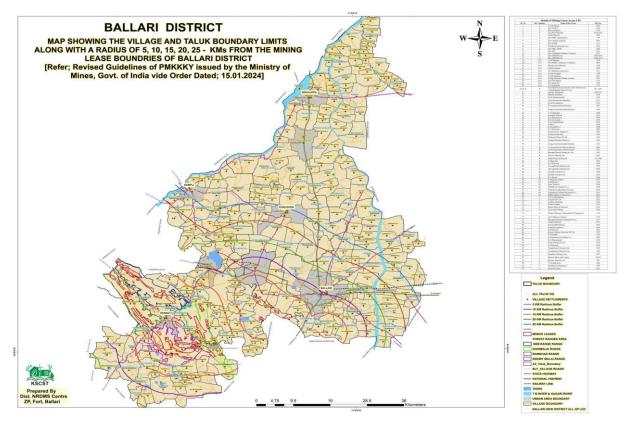
Map 2:



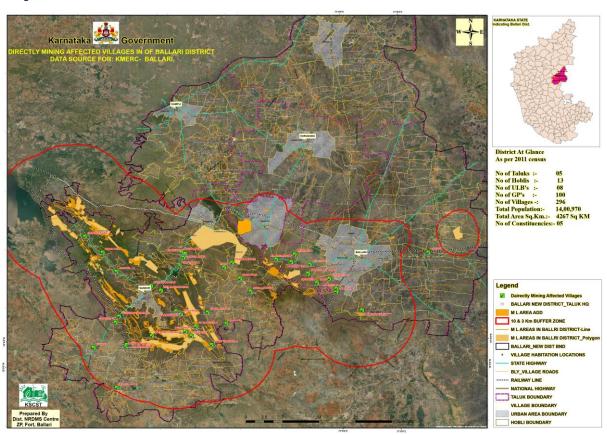
Map 3



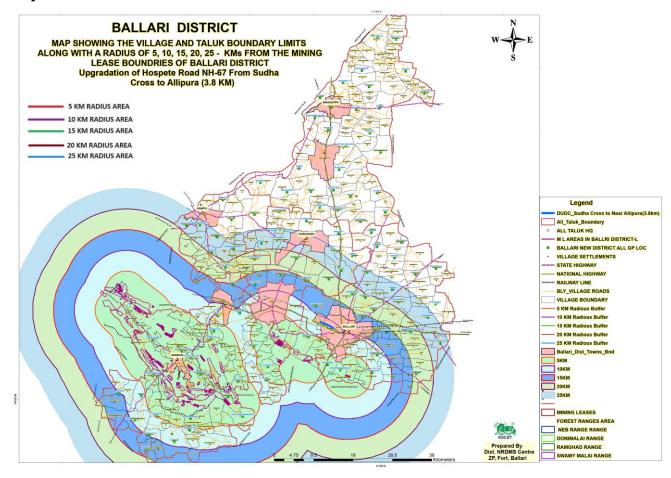
Map 4



Map 5



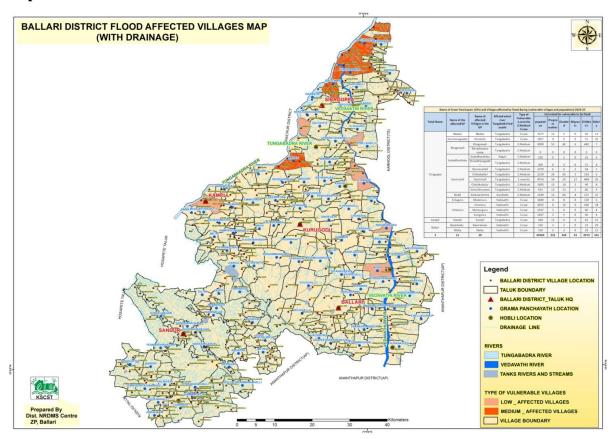
Map 6



Activity -2

T:41 C1-	Map Showing the Village wise flood affected map of Ballari
Title of work	District.
Department Name	District Disaster Management, DC Office, Ballari.
Objectives	As per the instructions of the District Commissioner, plan to control flood the Tungabhadra and Hagari river basin areas in Ballari district, comprising 15 villages, have been identified as flood-prone villages. These villages have been categorized into two groups: Low Affected Villages and Medium Affected Villages. The data was collected from the District Commissioner's office, Disaster Management Centre, and the thematic map was prepared and submitted as per their instructions. The data provided by the aforementioned department was compiled and consolidated using Arc GIS application, and the map was prepared as shown below.
Data Used	All Taluk Boundary, Drainage line and Drainage Poly, Flood Affected Village Boundary data provided by DDM DC Office department.
Data Process	Identification of flood-prone villages in Tungabhadra and Hagari river basin areas Categorization of villages into Low Affected and Medium Affected areas Preparation of thematic map using Arc GIS application Data collection from District Commissioner's office, Disaster Management Centre
Type of Data Provided	JPEG & PDF Maps (Map-5)

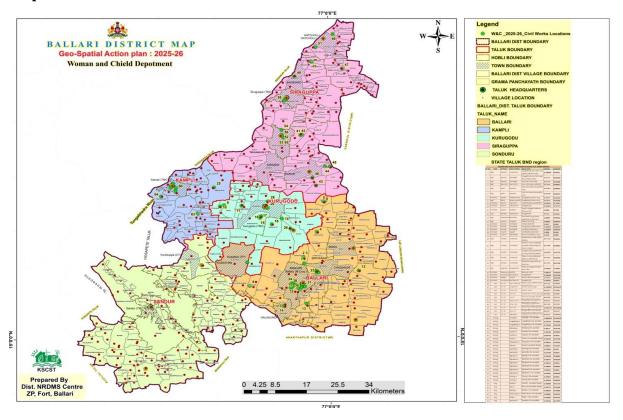
Map: 7



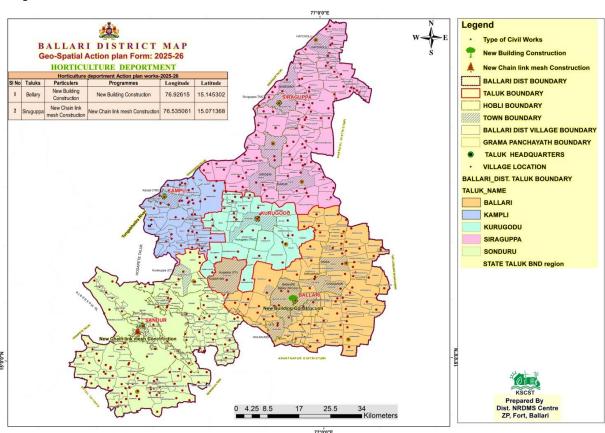
Activity: 3

Title of work	Woman Child Dept. Geo-Spatial action plan Map of Ballari Dist 2025 26 AHVS Dept. Geo-Spatial action plan Map of Ballari Dist2025 26 Health Dept, Geo-Spatial action plan Map of Ballari Dist202- 25	
Department Name	Planning Section, Zilla Panchayat Office, Ballari.	
Objectives	For Preparation of report on Action Plan of Ballari district	
Data Used	District Boundary, Taluk Boundary, Village Boundary, W&C Deportment Anganawadi GPS locations civil works, and AHVS GPS Civil Works Locations and village wise data provided by Woman and Child dept. & Animal Husbandry and veterinary services & Health Dept.	
Data Process	Village wise data (Excel) provided by department was joined to Village boundary data (.shp) and category wise map was generated and data provided to Line departments.	
Type of Data Provided	JPEG & PDF Maps (Map-6, 7 & 8)	

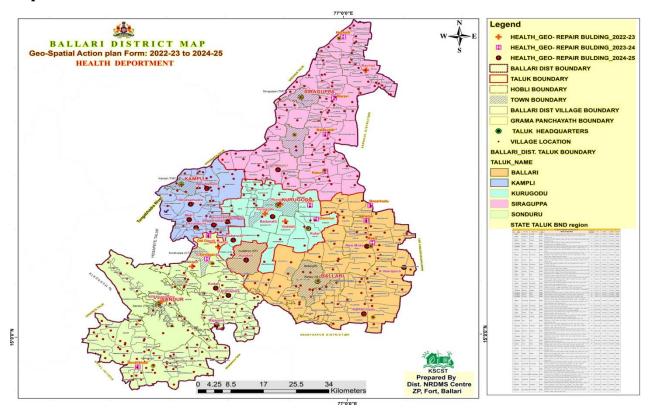
Map: 8



Map 9



Map 10



Activity: 4

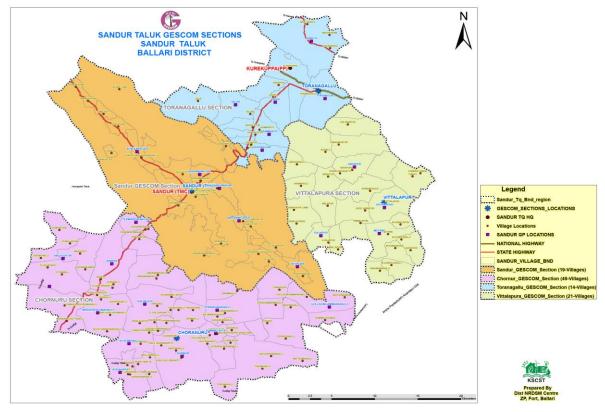
Title of work	Ballari Taluk GESCOM Proposal and Existing Section Boundary	
THE OF WOLK	Map	
Department Name	GESCOM Exicutive Engneer Office Ballari Taluk	
Objectives	As per the request of the GESCOM Executive Engineer, to facilitate easy section-wise supervision, each taluk was divided into 4 and 5 sections. Based on the data provided by the department, the sections were categorized and a map was prepared using the Arc GIS application and submitted to the department. Details:- Section-wise division of each taluk - Preparation of map using Arc GIS application - Submission of map to the department This work was carried out as per the instructions of the GESCOM Executive Engineer, and a useful map was provided to the department.	
Data Used	Taluk Boundary, GESCOM Section Boundary, Village Boundary, GP Location, Village Habitation, Roads & Highways	
Data Process	Initially, the taluks provided were selected and the villages were listed section-wise as per their instructions. Then, data was applied to each village, and section boundaries were created. All section boundaries were combined, and different colors were applied to each section boundary to prepare the map. This process involved the following steps: 1. Selection of taluks and listing of villages section-wise	

	2. Applying data to each village
	3. Creating section boundaries
	4. Applying different colors to each section boundary
	The map prepared in this manner clearly shows section-wise
	details.
Type of Data	JPEG & PDF Maps (Map-9, 10 &11) and Excel Sheet Showing
Provided	Village Wise List extent of area to be affected.

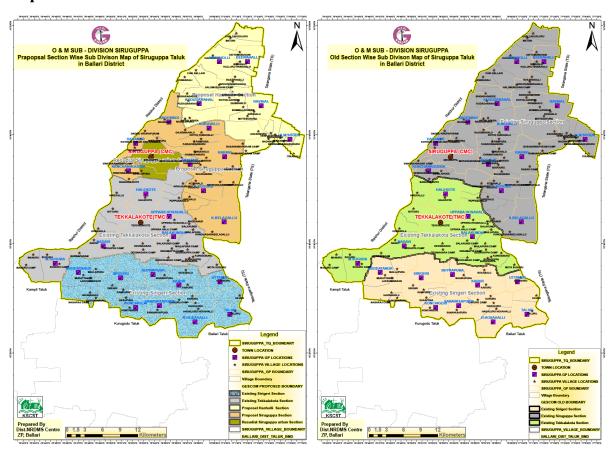
Map: 11



Map: 12

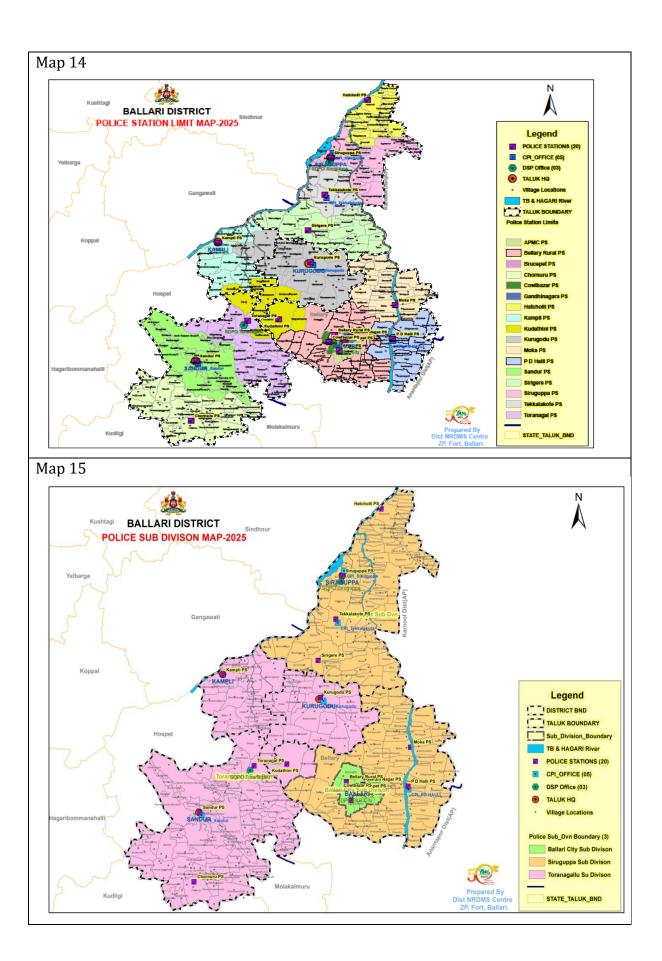


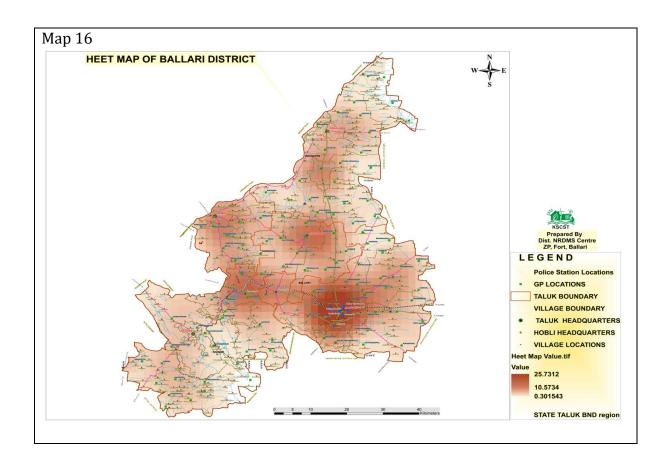
Map: 13



Activity: 5

Title of work	Taluk Wise Police Jurisdiction Mapm & Police Sub Division Map and Police Heat Map.
Department Name	District Superdendent of police (SP) Ballari.
Objectives	As per the request of the District Police Department, a Police Station-wise Jurisdiction map was prepared to facilitate easy administration. The map was prepared and submitted to the Police Department. This map helps in:- 1. Identifying police station jurisdictions 2. Easy administration and management. An Accident Zone Heat Map is a visual representation of accident data in a specific geographic area. It uses colors to indicate the intensity of accidents in different locations, helping authorities identify high-risk areas. Heat maps display accident data using colors, with darker colors indicating higher accident rates. The map was prepared using geospatial data and submitted to the police department as per their request.
Data Used	Police Jurisdiction Village list, Taluk Boundary, Police Station Locations and accident zone area data & Village habitation.
Data Process	The village-wise police station jurisdiction data related to the police department was obtained from the police department. The data was applied to the village boundaries, and a taluk police station map was prepared and submitted to the department. Details: 1. Obtaining data from the police department 2. Applying data to village boundaries. ArcGIS: A popular GIS platform used for accident mapping and analysis. Tableau: A data visualization tool used to create interactive heat maps and accident dashboards.
Type of Data Provided	JPEG Maps (Map-12& 13)

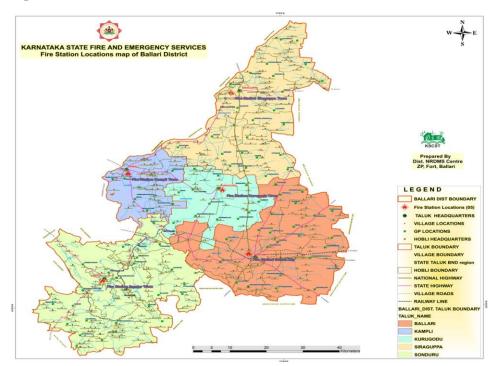




Activity: 6

Title of work	Ballari Distrcit Fire station location map
Department Name	Dist. Fire station Deportment. Ballari.
Objectives	As Fire station Deportment. As they wanted to know villages cover under taluk jurisdiction from the FS location. with showing villages coming under its jurisdiction.
Data Used	District Boundary, Taluk Boundary, Village Boundary, Village Location all Fire station locations data.
Data Process	 GIS Analysis: Use GIS software (e.g., ArcGIS, QGIS) to perform spatial analysis and determine which villages fall within the taluk jurisdiction from the Fire Station location. Buffer Analysis: Create a buffer zone around the Fire Station location to determine the coverage area. Spatial Join: Perform a spatial join between the village boundary data and the taluk boundary data to determine which villages fall within the taluk jurisdiction.
Type of Data	JPEG Maps (Map-14)
Provided	

Map: 17

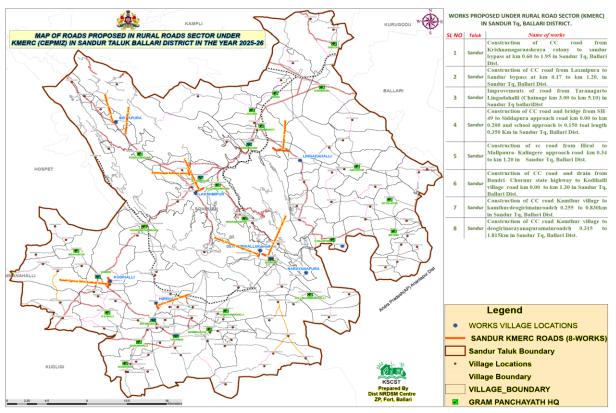


Activity: 7

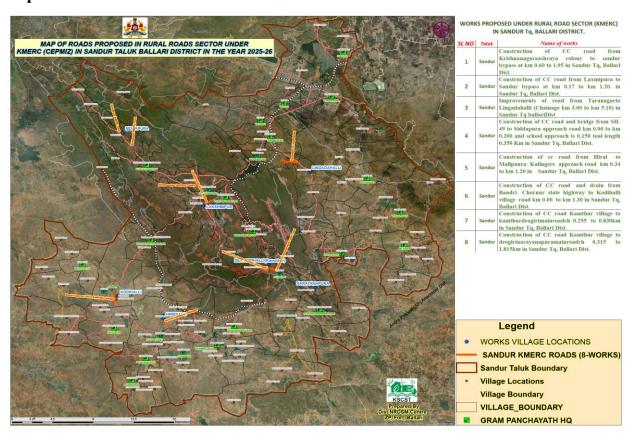
Activity. 7	
Title of work	Map of Proposed in Rural Roads Sector Under KMERC(CEPMZ) in
	Sandur taluk Ballari District in year -2025-26
Department Name	PWD and PRED Deportment, Ballari
Objectives	The Public Works Department (PWD) and PRED (Planning and Research Engineering Department) are collaborating to prepare a plan for proposed road sectors under the Karnataka Municipal Reforms and Electronic Governance (KMERC) initiative in the Sandur and Ballari taluks. To support this effort, various maps have been prepared and provided as per the requisition of the PWD and PRED Executive Engineer (EE). These maps likely include: 1. Road Network Maps: Showing existing and proposed road infrastructure in the Sandur and Ballari taluks. 2. Taluk Boundary Maps: Outlining the administrative boundaries of the Sandur and Ballari taluks. 3. Road Sector Maps: Highlighting specific road sectors proposed under the KMERC initiative. The preparation of these maps is crucial for: 1. Infrastructure Planning: Identifying areas requiring road infrastructure development and improvement. 2. Resource Allocation: Allocating resources effectively for road development and maintenance projects. 3. Project Implementation: Facilitating the implementation of road development projects under the KMERC initiative. By providing these maps, the PWD and PRED aim to support informed decision-making and efficient project planning for road

	infrastructure development in the Sandur and Ballari taluks.
Data Used	Taluk Boundary, District Boundary, Village Boundary, Proposed roads kml file and existing roads Village Habitations, and GP Locations
Data Process	Data Processing: 1. GIS Analysis: Use GIS software (e.g., ArcGIS, QGIS) to perform spatial analysis and identify areas requiring road infrastructure development. 2. Network Analysis: Perform network analysis to identify optimal road routes, connectivity, and accessibility. 3. Data Integration: Integrate road network data with taluk boundary data, land use/land cover data, and socio-economic data. Map Preparation: 1. Road Network Maps: Create maps showing existing and proposed road infrastructure in the Sandur and Ballari taluks. 2. Taluk Boundary Maps: Create maps outlining the administrative boundaries of the Sandur and Ballari taluks. 3. Road Sector Maps: Create maps highlighting specific road sectors proposed under the KMERC initiative. Data Visualization: 1. Thematic Mapping: Use thematic mapping to visualize road network data, land use/land cover data, and socio-economic data. 2. Color Coding: Use color coding to differentiate between existing and proposed roads, road types, and land use/land cover categories. Data Output: 1. Maps: Provide maps in digital format (e.g., PDF, JPEG) or printed format. 2. Data Tables: Provide data tables with road network data, taluk boundary data, and socio-economic data. 3. Reports: Prepare reports summarizing the findings and recommendations for road infrastructure development. Tools and Software: 1. GIS Software: ArcGIS, QGIS, or other GIS software can be used for spatial analysis and map preparation. 2. Mapping Libraries: Libraries like Leaflet or OpenLayers can be used for web-based mapping applications. 3. Database Management: Database management systems like PostgreSQL or MySQL can be used to store and manage road network data and other relevant data. By following this data process, the PWD and PRED can prepare maps and reports to support informed decision-making for road infrastructure development in the Sandur and Ballari taluks.
Type of Data Provided	JPEG, PDF and Google Images Maps (Map-16, 17, 18, 19 & 20)

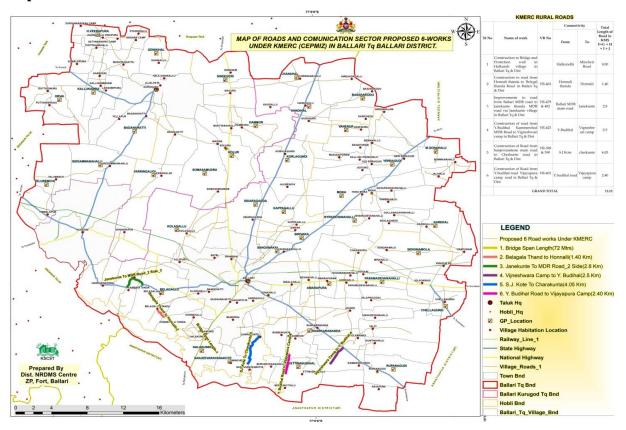
Map: 18



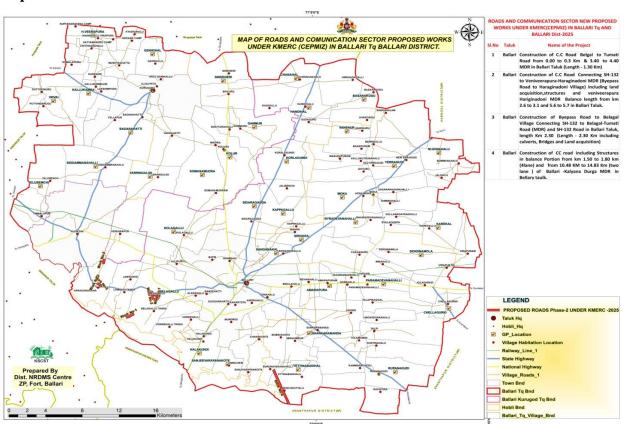
Map: 19



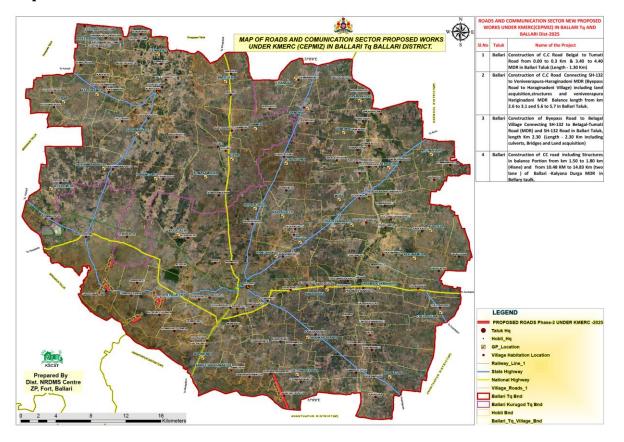
Map: 20



Map: 21



Map: 22

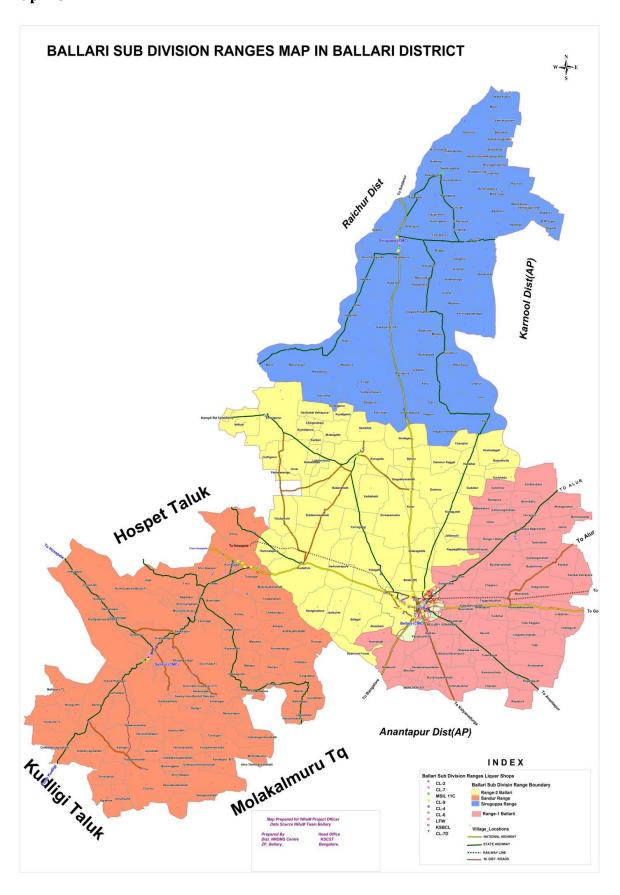


Activity: 8

Title of work	Ballari Sub Division Ranges map of Ballari District
Department	Excise Deputy Commissioner Office, Ballari.
Name	
Objectives	The Excise Deputy Commissioner (EDC) is preparing a plan to demarcate excise subdivisions and identify liquor shop locations in the district. To support this effort, the following has been done: 1. Subdivision Maps: Maps have been prepared for each excise range, showing the boundaries and details of excise subdivisions. 2. Excise Range-Wise Maps: Excel sheets have been prepared, containing data on each excise range, including liquor shop locations. 3. Liquor Shop Locations: The maps and data include information on the locations of various liquor shops within each excise range. These maps and data have been provided to the Excise DC office as per the instructions of the EDC, Ballari. This exercise is likely aimed at: *Administrative Planning: Improving administrative efficiency and planning for excise operations.

	*Regulatory Compliance: Ensuring compliance with excise
	regulations and monitoring liquor shop operations.
	*Revenue Management: Tracking revenue collection and
	managing excise-related activities.
	By preparing these maps and data, the Excise Department
	can make informed decisions and effectively manage its
	operations
	Taluk Boundary, District Boundary, Village Boundary, Excise
Data Used	Sub division boundary, and liquor shop locations, Village
	Habitation, data
	Data Processing:
	1. GIS Mapping: Use GIS software to create maps of excise
	ranges and subdivisions. 2. Data Integration: Integrate liquor
	shop location data with excise range and subdivision data. 3.
	Data Analysis: Analyze data to identify trends, patterns, and
	insights on liquor shop locations and excise revenue.
	Map Preparation: 1. Excise Range Maps: Create maps
	showing excise range boundaries and liquor shop locations.
	2. Subdivision Maps: Create maps showing excise
	subdivision boundaries and liquor shop locations.
	3. <i>Thematic Mapping:</i> Use thematic mapping to visualize
	data on liquor shop density, revenue collection, and other
	relevant metrics.
	Data Output: 1. Maps: Provide maps in digital format (e.g.,
Data Process	PDF, JPEG) or printed format. 2. Excel Sheets: Provide Excel
	sheets containing data on liquor shop locations, excise
	ranges, and subdivisions. 3. Reports: Prepare reports
	summarizing findings and insights on liquor shop locations
	and excise revenue.
	Tools and Software: 1. GIS Software: ArcGIS, QGIS, or other
	GIS software can be used for mapping and spatial analysis.
	2. Microsoft Excel: Used for data analysis and creating Excel
	sheets.
	3. Database Management: Database management systems
	like PostgreSQL or MySQL can be used to store and manage
	excise-related data.
	By following this data process, the Excise Department can
	create maps and reports to support informed decision-
	making and effective management of excise operations.
Type of Data	IPEG & PDF Maps (Map-21)
Provided	,
IIOVIACA	

Map: 23

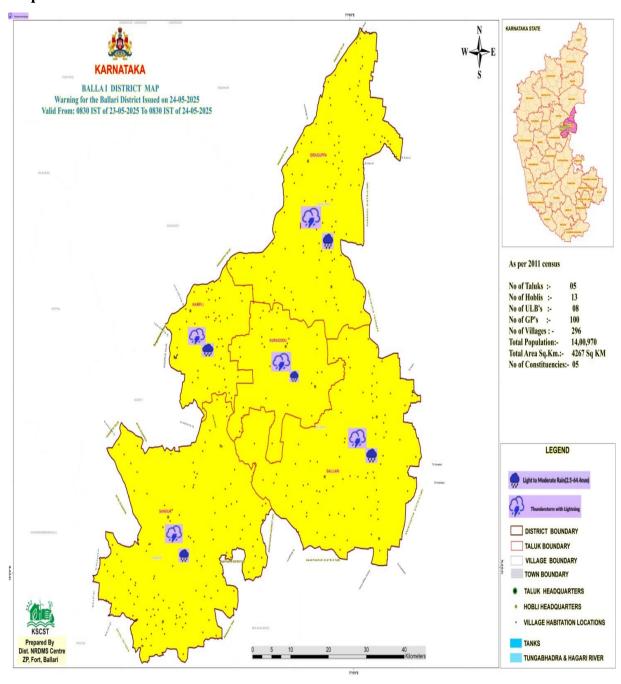


Activity: 9

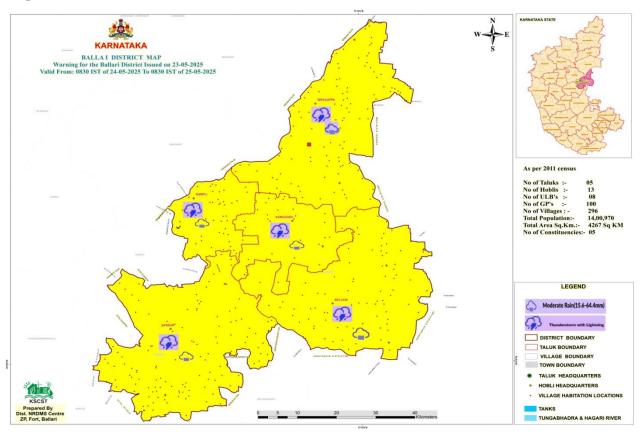
Title of work	Map of Rain fall and thunder storm map a on date 25-05-2025
Department Name	Deputy commissioner officer, Ballari.
Objectives	As per the instructions of the Ballari District Commissioner, a map was prepared incorporating taluk-wise rainfall data and storm data, and submitted to the District Commissioner's office. The map likely includes: 1. Taluk-wise rainfall data: Showing rainfall patterns and intensity across different taluks in the district. 2. Storm data: Including storm tracks, intensity, and impact areas. The purpose of preparing this map is likely to: 1. Support disaster management: Helping the district administration to prepare for and respond to flood and storm-related disasters. 2. Inform decision-making: Providing valuable insights for decision-making and resource allocation. 3. Enhance situational awareness: Improving understanding of weather-related events and their impact on the district. The map was likely prepared using: 1. GIS technology: Geographic Information System (GIS) software was used to create the map and analyze spatial data. 2. Remote sensing data: Satellite imagery and other remote sensing data may have been used to gather information on rainfall and storm patterns.3. Weather forecasting data: Weather forecasting models and data may have been used to predict storm tracks and intensity.
Data Used	Taluk wise Rain fall location data, & TQ wise thunder storm data
Data Process	Data Processing 1. Data Cleaning: Clean and preprocess the data to ensure accuracy and consistency. 2. Data Integration: Integrate rainfall and storm data with taluk boundaries and other relevant spatial data. 3. Data Analysis: Analyze the data to identify patterns, trends, and correlations between rainfall and storm events. Map Preparation: 1. GIS Mapping: Use GIS software to create a map showing talukwise rainfall data and storm tracks. 2. Thematic Mapping: Use thematic mapping techniques to visualize the data, such as:- Choropleth maps for rainfall data, Line symbols for storm tracks 3. Map Layout: Design the map layout to effectively communicate the information, including: Map Submission 1. Map Submission: Submit the map to the District Commissioner's office, either in: - Digital format (e.g., PDF, JPEG) Tools and Software: 1. GIS Software: ArcGIS, QGIS, or other GIS software can be used for mapping and spatial analysis. 2. Data Analysis Software:

	Software like Excel, R, or Python can be used for data analysis and visualization. 3. Mapping Libraries: Libraries like Leaflet or OpenLayers can be used for web-based mapping applications. By following this data process, the map can be prepared efficiently and effectively, providing valuable insights for decision-making and disaster management.
Type of Data Provided	JPEG & PDF Maps (Map-22)

Map: 24



Map: 25



6. Training Programmes Attended:

- 1. Attended 1 day workshop conducted by EMPRI on 08/05/2025 at Ballari regarding Climate Change.
- 2. Attended 1 day training program conducted by MGNREGA & KSRSAC on 09/05/2025 at KSRSAC, Bengaluru regarding KGIS Portal for Road Side Plantation.
- 3. Attended 5 days training program conducted by ATI Mysore on 15/07/2025 to 19-07-2025 at ATI, Mysore regarding District Disaster management Training Programme

7. Training Imparted to Line Department:

- 1. Provided training to Forest department staff regarding KGIS Portal for Road Side Plantation in Ballari district on 30/05/2025
- 2. one-day GIS workshop was conducted for newly appointed Village Accountants by the NRDMS Project Associates on 30-8-2025

8. Science Outreach Activities:

No Science Outreach Activities were conducted during this period.

9. Conclusion:

A) Summary of Activities under Take.

During this period district NRDMS center, ZP Ballari provided various Maps, data and report to Zilla Panchayat Office, Deputy Commissioner Office and various line department, pertaining to implementation of various activities and assist district administration in disaster management.

B) Commitment to Improve NRDMS Activities.

District NRDMS Centre ZP Ballari is committed to provide quality and scientific assistance to department for implementation of developmental activities in district.

District NRDMS center is also committed to update the existing data base as up to date to enhance its performance and to assist the departments.

Centre is also committed to learn and update ourself to latest GEO SPATIAL technology and other software to improve our efficiency.

10. Annexures:

List of Tables:

Table 1: Showing administrative details of Ballari district.

Table 2: Villages List affected by Mines (5 to 20 KM from Mine Site)

Table 3: Police Station Limit, Jurisdiction wise Village List, Police Dept.

List of Maps:

Map 1: District at a glance map of Ballari District.(Location Map of Ballari Dist.)

Map 2: Location Map of Villages affected by Mines (3 & 10,km Buffer)in Ballari District.

Map 3: Location Map of Villages affected by Mines (5, KM Buffer) in Ballari District.

Map 4: Location Map of Villages affected by Mines (5,10,15,20,25.KM Buffer) in Ballari District.

Map 5: Location Map of Villages affected by Mines (Google Image) (3 and 10 km Buffer)

in Ballari District.

Map 6: Location Map of Villages affected by Mines (5,10,15,20,25.km Buffer color indication)

in Ballari District.

Map 7: Ballari Dist. Village wise Flood Affected Map

Map 8: Geo-Spatial Action plan Map(Woman & Chaild Dept. of Ballari District.

Map 9: Geo-Spatial Action plan Map(Horticulture Dept). of Ballari District.

Map 10: Geo-Spatial Action plan Map(Health Dept.) of Ballari District.

- Map 11: Proposel GESCOM Sections map of Ballari Taluk in Ballari Dist.
- Map 12: Proposel GESCOM Sections map of Sandur Taluk in Ballari Dist.
- Map 13: Proposel & Existing GESCOM Sections map of Siruguppa Taluk in Ballari Dist.
- Map 14: Police station limit and PS Location map of Ballari Dist.
- Map 15: Police Sub Division and PS Location map of Ballari Dist.
- Map 16: Police Heat map of Ballari Dist.
- Map 17: Fire Station Location map of Ballari District.
- Map 18: Map of Proposed in Rural Roads Sector Under KMERC in Sandur taluk Ballari District.

in year -25-26

Map 19: Map of Proposed in Rural Roads Sector Under KMERC in Sandur taluk(Google image)

Ballari Dist. in year -25-26

Map 20: Map of Roads & Comunication sector Proposed 6-works under KMERC in Ballari taluk.

Ballari District.

Map 21: Map of Roads & Comunication sector Proposed 4-works under KMERC in Ballari taluk

Ballari District.

Map 22: Map of Roads & Comunication sector Proposed 4-works under KMERC in Ballari taluk

(Google Image) Ballari District.

- Map 23: Ballari Excise Sub division range map of Ballari District
- Map 24: Map of Rain fall map a on date 25-05-2025
- Map 25: Map of thunder storm map a on date 25-05-2025
