

NATURAL RESOURCES DATA MANAGEMENT SYSTEM (NRDMS)

MONTHLY ACTIVITY REPORT

April - July 2025

Submitted by

**District NRDMS Centre
Zilla Panchayat, Bengaluru South
(Ramanagara)**



Submitted to

**Karnataka State Council of Science and
Technology
(KSCST)**

**Indian Institute of Science Campus,
Bengaluru - 560012**

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1. Basic Information of Bengaluru South District

District Name: Bengaluru South

Division: Bengaluru

District Establishment Year:2007

Headquater: Ramanagara Corporation City

Current CPO : Chikka Subbaiah M, Chief Planning Officer, Zilla Panchayat, Bengaluru South.

Current CEO: Anmol Jain, IAS, Chief Executive Officer, ZP Office, Bengaluru South.

2. Background of District NRDMS Centre, Bengaluru South

Bengaluru South district was new district Formed out Four Taluk from Bengaluru Rural District, in the year 2007.After that in 2019 Kanakapura Taluk has been Split and create Harohalli Taluk.Right now Bengaluru South District have five taluks.NRDMS Centre was established in the year 2007-08 at Zilla Panchayat Office. District NRDMS Centre is been actively involved in providing Geospatial support to Zilla Panchayat office, District administration, Police Department and All other line departments of the districts for better planning and execution of development work.

3. Geographical Features

A. Location & Boundaries

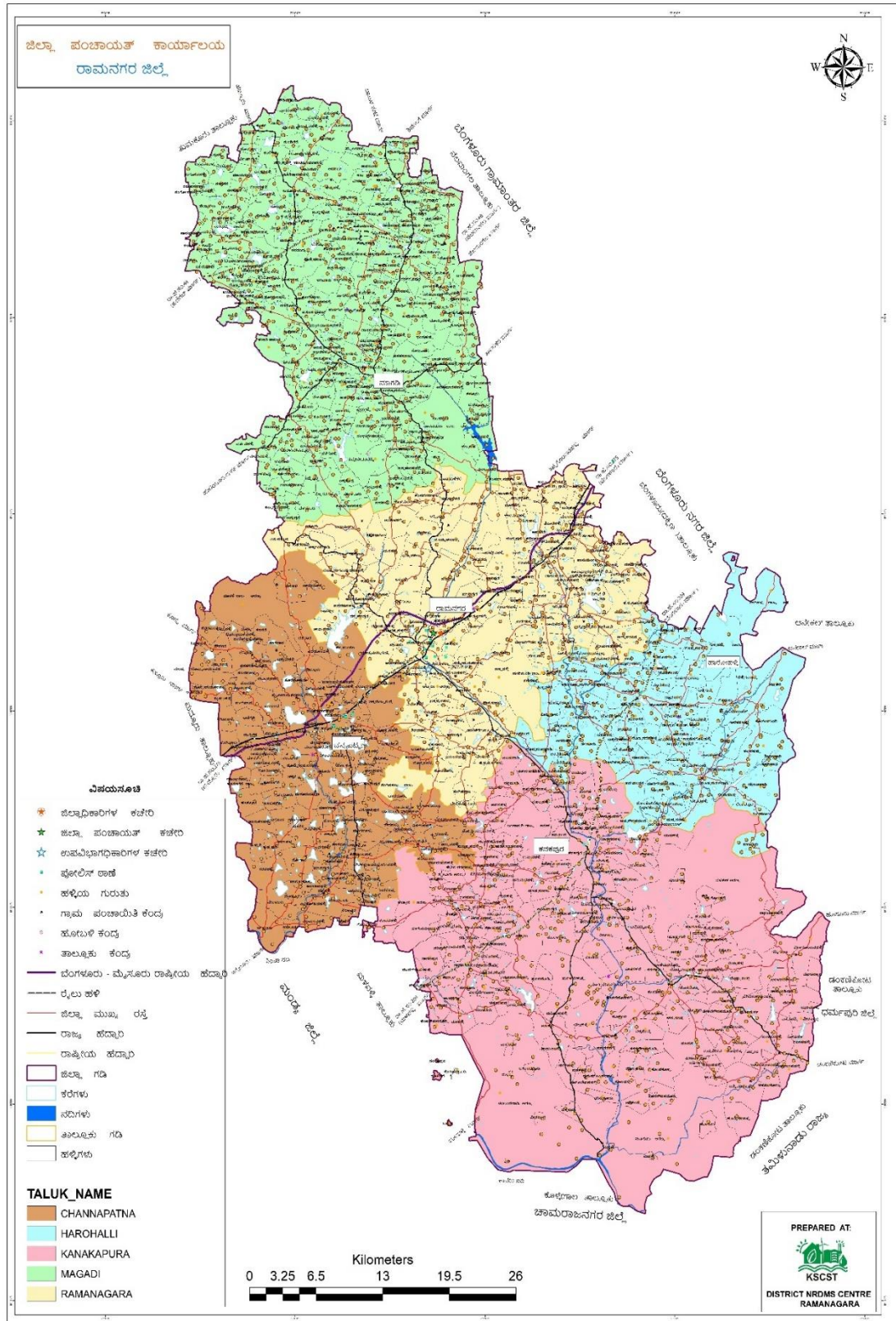
Bengaluru South District is located in Latitude 12°24' and 13°09' N And Longitude 77°06' and 77°34' E the southern Indian state of Karnataka, approximately 50 km southwest of the state capital, Bengaluru. Its boundaries are with Bangalore Urban and Bangalore Rural districts to the east and northeast, Tumakuru district to the northwest, Mandya district to the west, and the state of Tamil Nadu (specifically Krishnagiri district) to the south

Boundaries & Adjoining Regions

- **North-East:** Borders Bangalore Rural District.
- **East:** Touches Bangalore Urban District.
- **North-West:** Shares a boundary with Tumakuru District.
- **West:** Adjoins Mandya District.
- **South:** Borders Tamil Nadu, specifically the Krishnagiri district.
- **South-West:** Borders Chamarajanagara district

Map-1.

For administrative convenience Bengaluru South district has been divided into 5 taluks with 876 Villages. Bengaluru South district consists of 18 Hoblies, 6 Urban Local bodies and 126 Gram Panchayats. The details are given below in **Table-1**.



Map 1: Location map of Bengaluru South District.

Table - 1 showing administrative details of Bengaluru South district.

SL No	Taluk	No of Villages	No of Hoblis	No of GP's	No of ULB's
1	Ramanagara	144	4	20	2
2	Channapatna	140	3	32	1
3	Magadi	288	5	32	1
4	Kanakapura	209	4	31	1
5	Harohalli	95	2	11	1
Grand Total		876	18	126	5

B. Topography

The Topography of Bengaluru South District is defined by its unique landscape of rocky granite hills, vast undulating plains, and forested areas. As a key part of the Deccan Plateau in southern Karnataka, the district's terrain is rugged and scenic, shaped by the ancient "Closepet granites".

Key Topographic features

Granite outcrops and hills

The most prominent feature of Bengaluru South District's topography is its belt of granite rock formations that run in a north-south direction.

- **Monoliths and boulders:** The landscape is dotted with giant granite boulders and steep rock faces, creating a rugged and wild terrain. This has made Bengaluru South District's a popular destination for rock climbers and trekkers.
- **Famous hills:** The district is known for several famous hills, or "bettas," including:

- Ramadevarabetta

: A well-known hill within the city limits, famously used as a filming location for the Bollywood movie *Sholay*.

- Savandurga

: One of Asia's largest single-rock monoliths, located in the Magadi taluk.

- SRS Betta

(Sri Revana Siddeshwara Betta): Another significant hill known for its temple and trekking routes.

Plains and lowlands

Beyond the rocky uplands, the Topography transitions to plains and low-lying areas.

- **Pediapains:** Large parts of the district consist of pediapains, which are gently sloping, maturely dissected low-relief areas underlain by gneissic and granitic rock. These areas are covered by red soil of varying thickness.
- **Valleys:** Alluvial valleys can be found in some areas, such as the Kanva plain, which features a low relief of 600–650 meters above mean sea level.

Drainage and waterways

The district's topography is shaped by the river basins that drain it.

- River basins: Bengaluru South lies within the Cauvery river basin, and the area is drained by the Cauvery, Arkavathi, and Kanva, Shimsha, Vrushabhavati rivers.
- Waterways: Streamlets dissect the landscape, generally flowing southwards

Soil and vegetation

The terrain and underlying geology influence the soil and vegetation patterns.

- Soil: Soil types vary, with red soil being prominent in the pediplain areas.
- Vegetation: The landscape features scrub forests and dry deciduous forests, particularly on the hills and rocky uplands. The plains are characterized by agricultural farmlands.

C. Climate

Bengaluru South District experiences a tropical savanna climate with three main seasons: summer, monsoon, and winter. The best time to visit is during the winter when the weather is most pleasant.

Temperature

Maximum: Up to 34°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 30°C.

Rainfall

Average annual rainfall is approximately 822 mm.

Most precipitation occurs during the southwest monsoon (June to September) and, to a lesser extent, the northeast monsoon (October to November).

The district lies in a rain-shadow region, resulting in relatively low rainfall compared to Seasons of Bengaluru South district is explained as below.

Summer (March to May): Hot and dry, with temperatures often exceeding 34°C.

Monsoon (June to September): Moderate rainfall, with the southwest monsoon bringing the bulk of the precipitation.

Winter (December to February): Cool and pleasant, with temperatures dropping to 16–20°C at night.

Humidity and Wind: Humidity levels are moderate, higher during the monsoon season (69–87%) and lower in summer (42–44%).

D. Natural Resource

Bengaluru South District has rich natural resources, including mineral deposits, significant water sources, forests, and fertile soils. These resources form the foundation of the district's economy, supporting agriculture, sericulture, and industry.

Soil Resources:

The district's soil composition includes red, sandy loam, and black soils, which support various crops.

Water Resources

Rivers: The Cauvery, Arkavathi, and Kanva, Shimsha, Vrushabhavati Rivers Passes in the District are used for irrigation and water supply. The rivers support agriculture and provide water for domestic use.

Reservoirs and Tanks: The district has multiple reservoirs, such as the Byramangala, Kanva, and Manchanabele reservoirs, its very helpful for which are crucial for irrigation and Drinking Water in the District.

Groundwater: Bengaluru South also relies on groundwater, accessed through numerous borewells, to irrigate crops. Available in Good to moderate quantities, though overexploitation in some areas has led to concerns about sustainability.

Mineral Resources

- Granite: The district is known for its extensive granite sites, including the prominent "Closepet granites" from the Lower Proterozoic era. While valuable for construction and export, extensive granite quarrying has led to land degradation and environmental concerns.
- Dolomite: Dolomite is another mineral resource found in the district.
- Iron-manganese and gold ores: The district's geological features also include iron-manganese ores and gold-bearing schist belts in certain areas
-

Forest Resources

- Forests cover approximately 69,946 in Hectares area, Forest area: A significant portion of the district's total geographical area is covered by forests.
- Medicinal plants: The forests, particularly around Savandurga in Magadi taluk, are known for their rich diversity of medicinal plants. However, some of these species are endangered, highlighting the need for conservation.
- Wildlife: The Ramadevara Betta and Ramanagara Reserve Forest are home to diverse flora and fauna

Agricultural Resources

The district's fertile soils and water resources enable the cultivation of crops are grown.

- Crops: Major agricultural crops grown include ragi, maize, and paddy. Commercial crops like mulberry, coconut, and mango are also cultivated extensively.
- Sericulture: The climate and resources make Bengaluru South a major hub for sericulture, earning it the nickname "Silk City." It hosts one of Asia's largest cocoon markets.

E. Major Rivers/Water Resource

Bengaluru South district relies on a combination of rivers, reservoirs, and other water sources for its water supply, primarily for agriculture, drinking, and industrial purposes. Below is a detailed overview of the major rivers, reservoirs, and water sources in district,

The three primary rivers flowing through the district are the Arkavathi, the Kanva, and the Cauvery.

- Arkavathi River

: A tributary of the Cauvery, the Arkavathi flows through Ramanagara and joins the Cauvery at Sangama in the Kanakapura taluk. The Manchanabele Dam is built across the Arkavathi.

- Kanva River

: A tributary of the Arkavathi and Cauvery, the Kanva River has the Kanva Reservoir built across it.

- Cauvery River

: Flowing through the Kanakapura taluk, the Cauvery is the ultimate destination for the district's river systems

Reservoirs

Several reservoirs and irrigation projects are critical to the district's water supply:

- Kanva Reservoir

: Located near Channapatna, this is a man-made lake built in 1946 for both irrigation and drinking water.

- Manchanabele Reservoir

: Built on the Arkavathi River, it provides water for irrigation and also supplies drinking water to the Magadi town.

- Byramangala Reservoir

Situated in the Bidadi Hobli, this reservoir is located on the Vrishabhavathi River, a tributary of the Arkavathi.

- Igglur Reservoir Project

: This project, along with the Arkavathi Reservoir Project, is designed to enhance the district's irrigation potential.

Groundwater

Groundwater from wells and borewells is a major source of irrigation, though its availability can be inconsistent, especially during drier years.

- Aquifers: The district has both weathered and fractured granite aquifer systems.
- Groundwater depletion: Some taluks, like Bengaluru South, are categorized as "critical" regarding groundwater availability due to high usage

Cauvery water project

The district is in the process of implementing a major Cauvery water project to supply drinking water. The project, including pipeline works and tunnel construction, aims to complete by December 2025.

I hope this provides a comprehensive overview of the water sources in Ramanagara. If you'd like to dive deeper into any specific water source, such as the upcoming Cauvery project or the groundwater challenges

4. Spatial & Non-Spatial Data

DATABASE STATUS FOR THE YEAR-2025

Status Code : Meaning

CC	:	Computerised.
ND	:	Not Digitized
NA	:	Not Procured
NR	:	Not Relevant
NF	:	Not Finalised

Name	:	Madhu G
Name of the District Centre	:	Bengaluru South District
Database status as on date	:	11/09/2025
Year of Establishment	:	2007 - 08

SPATIAL DATABASE

Sector / Subsector	Scale	Source	Survey / Publn. Year	Area covered	Status Code	File Format
1. Natural Resources						
<i>Land</i>						

1. Topography						
Contour Map	30 Mtr	ASTER DEM		District	CC	.Shp
Slope Map	1:50,000	KRSAC		District	CC	.Shp
2. Geology – A						
Rock features	1:50,000	KRSAC		District	CC	.Shp
Structural features	1:50,000	KRSAC		District	CC	.Shp
3. Geology – B						
Rock features		NA				
Structural features		NA				
4. Mineral Resources		NA				
5. Geomorphology	1:50,000	KRSAC		District	CC	.Shp
6. Land use	1:50,000	KRSAC		District	CC	.Shp
7. Waste Lands		NA				
8. Soils	1:25,000	NBSS & LUP		District	CC	.Shp
9. Forest & Wildlife						
Forest type	1:50,000	KFD		District	CC	.Shp
Crown Density						
Forest Category						
Forest admn.	1:50,000	KFD		District	CC	.Shp
Wild Life						
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 & KRSAC		District	CC	.Shp
3.Climate						

Sector / Subsector	Scale	Source	Survey / Publn. Year	Area covered	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		NA				

3.Socio Economy						File Format
Industry		NA				
Developmental activity		NA				
4.Agro Economy						
Land Utilisation						
Private Land		NA				
Common property		NA				
Land Ownership pattern						
General scenario		NA				
Farmer's holdings		NA				
Principal crops		NA				
Irrigation						
<i>Minor irrigation</i>						
Canals	1:50,000	DLR & SS	District	CC	.Shp	
Tube wells		NA				
Dug wells		NA				
Tanks	1:50,000	DLR & SS		District	CC	.Shp
Lift irrigation		DLR & SS		NA		
<i>Major irrigation</i>						
Reservoirs	1:50,000	DLR & SS		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 covered	Status Code	File Format
5.Infrastructure						

Communications						
Post offices		NA				
Telecommunication		NA				
Drinking water		NA				
Educational facilities	1:50,000	DDPI		District	CC	.Shp
Electricity		Land Records				
Financial institutions		NA				
Markets		NA				
Health	1:50,000	DHO		District	CC	.Shp
NGO's		NA				
Tourism		NA				
Transport	1" = ...miles	NA				
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 with settlement	1:50,000	SOI/KSRAC		District	CC	.Shp
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	1:7980	SSLR & KRSAC	District	CC	.Shp
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Non-Spatial Database

Sector / Subsector	Source	Survey / Publ. Year	Area covered	Status Code	File Format
1. Natural Resources					
Land					
1. Topography					
Contour				NR	

Slope				NR	
2. Geology – A					
Rock Features				NR	
Structural features				NR	
3. Geology – B					
Rock features				NR	
Structural features				NR	
4. Mineral Resources				NR	
5. Geomorphology				NR	
6. Land use				NR	
7. Waste Lands				NR	
8. Soils				NR	
9. Forest & Wildlife					
Forest type				NR	
Crown Density				NR	
Forest Category				NR	
Forest admn.				NR	
Wild Life				NR	
Water					
Ground water					
Hydro Geology				NR	
Hydro chemistry				NR	
Ground water budget				NR	
Surface water					
Drainage				NR	
Surface water bodies				NR	
Climate					

2. Demography					File Format
Population					
Tehsil boundary	DLR & SS			CC	XLS
District boundary					
Current popln. distbn.	DES			CC	XLS
Literacy					File Format
Levels of education				NA	
Occupation					
Village boundary	DES			NA	
Employment					
District scenatio	EO			NA	

Employment exchange	EO			NA	
Assets & Expenditure					
Migration					
Destitutes					

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

4. Agro Economy					File Format
Land Utilisation					
Private Land				NA	
Common property				NA	
Land Ownership pattern					
General scenario				NA	
Farmer's holdings				NA	
Principal crops				NA	
Irrigation					
<i>Minor irrigation</i>					
Canals				NA	
Tube wells				NA	
Dug wells				NA	
Tanks				NA	
Lift irrigation				NA	
<i>Major irrigation</i>					
Reservoirs				NA	
Anicuts				NA	
Agricultural implements	Ag Census			NA	
Animal husbandry	AH&VS			CC	XLS
Pisciculture	Fisheries			NA	
Plantation				NA	
Horticulture	HD			NA	
Sericulture	SD			NA	
				NA	

Sector / Subsector	Source	Survey / Publn. Year	Area covered	Status Code	File Format
5. Infrastructure					

Communications					
Post offices	SSPO/ DES		Village	NA	
Telecommunication	TDM / DES			NA	
Drinking water	ZPE			NA	
Educational facilities	DDPI			NA	
Electricity	Census			NA	
Financial institutions	LEAD bank			NA	
Markets	FACS			NA	
Health	DHO			NA	
NGO's	DRS			NA	
Tourism	KSTDC			NA	
Transport					
Roads	PWD			NA	
Rail network	ZPED			NA	
Air transport/HELIPAD	PWD			NA	
Vehicle census	RTO			NA	
Inland & coastal waterways				NA	
Veterinary services					
Veterinary facilities	AHVS			CC	XLS
Other veterinary serv.	AHVS				
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			NA	
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	

- **Hardware:**

Dell All in One Desktop: Intel Core i7, 16GB RAM, 1 TB SSD

HP Laptop: Intel Core i5, 8GB RAM, 1 TB SSD

HP Smart Tank 520 – 540 Series A4 Colour Printer.

Image PROGRAF TM – 5200 A1 Size Plotter

1 TB External Hard disk (Defunct)

- **Software:**

ARCMAP-10.8

QGIS 1.8

Auto Cad 2018

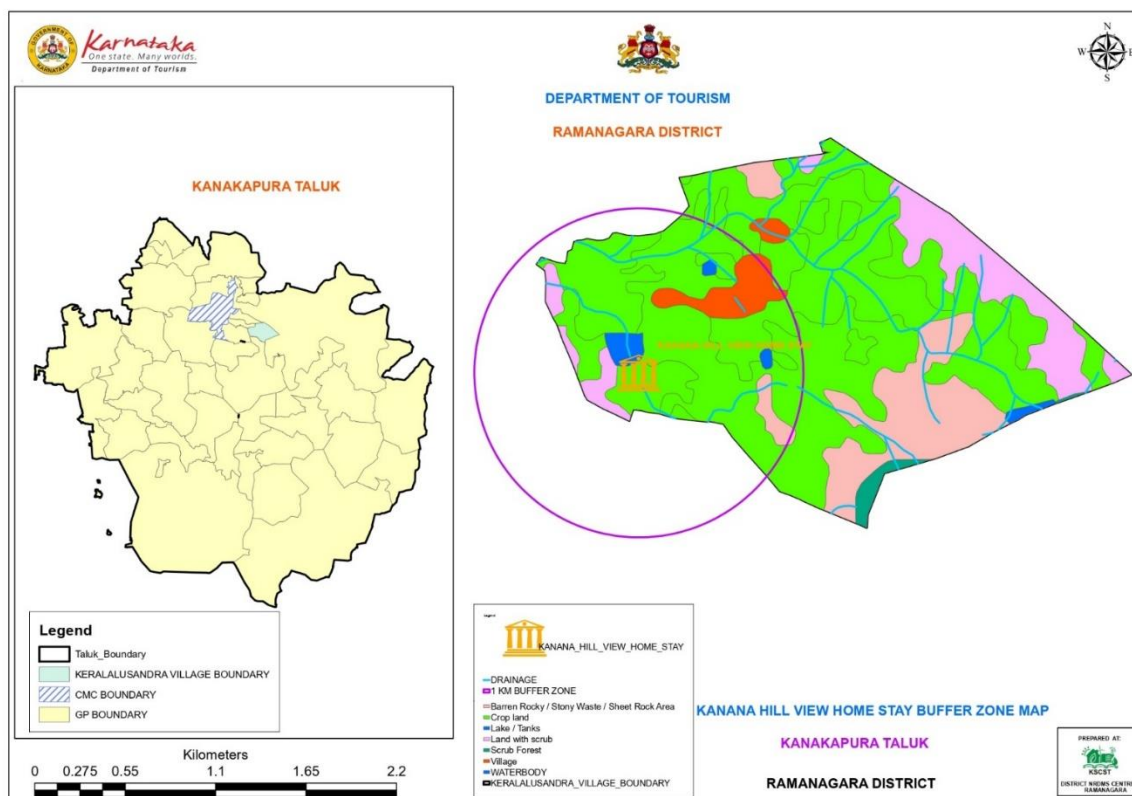
Windows 11 Home.

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

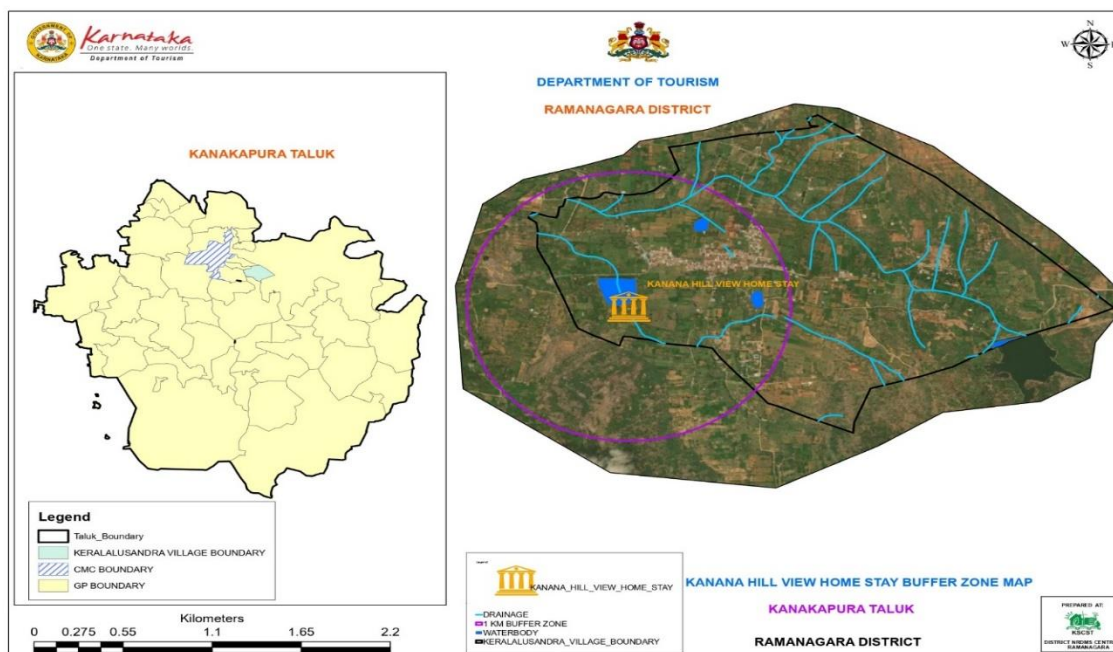
Activity: 1

Title of work	Homestay Maps for Resorts (New Homestay Permission)
Department Name	Tourism Department, Bengaluru South
Objectives	Data Collection of working Homestay and Praposal Homestay is Location is Elizible as per Govt.criteria
Data Used	Drainage line, LULC Layer, Village Boundary, Habitation.Praposal Homestay GPS Location
Data Process	Extracted maps based on Micro Village Boundary, were generated. extracted using clip option and provided to Assistent Director Tourism Office, Bengaluru South District.
Type of Data Provided	PDF and JPEG Maps (Map-2 & 3).

Map 2: Kanana Hillview Homestay Map



Map 3: Kanana Hillview Homestay Map (Google Earth)

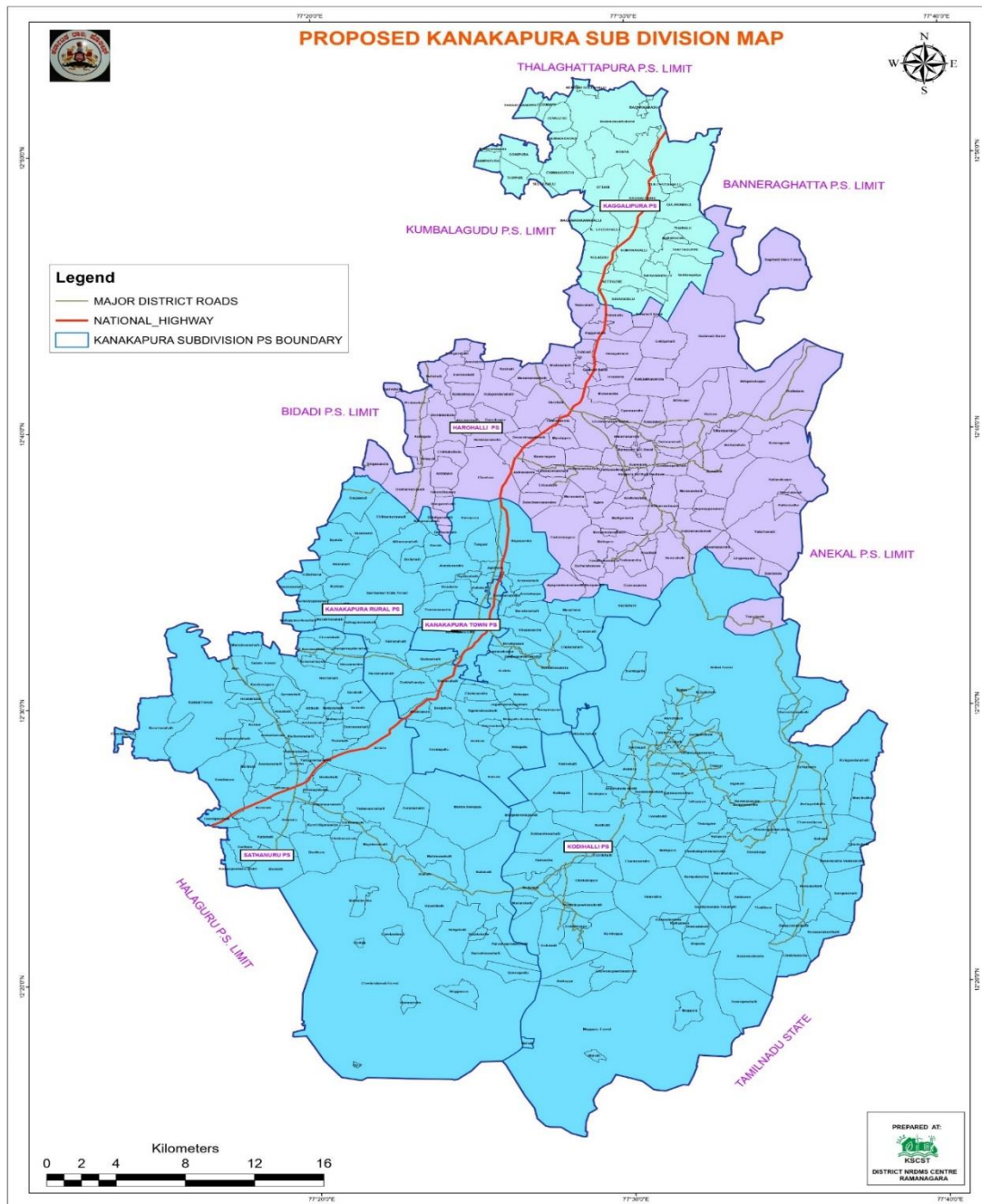


Activity -2

Title of work	Map Showing Proposal Kanakapura Sub Division Police Station
Department Name	Police Department
Objectives	Praposal for Kanakapura Sub Division Police Station to State Govt.

Data Used	Village Boundary, Taluk Boundary, Major District Roads and National Highway
Data Process	Using Clip option for create Kanakapura Sub Division Police Station Administration covered Villages by Sub Division Boundary.
Type of Data Provided	PDF and JPEG Maps (Map-4)

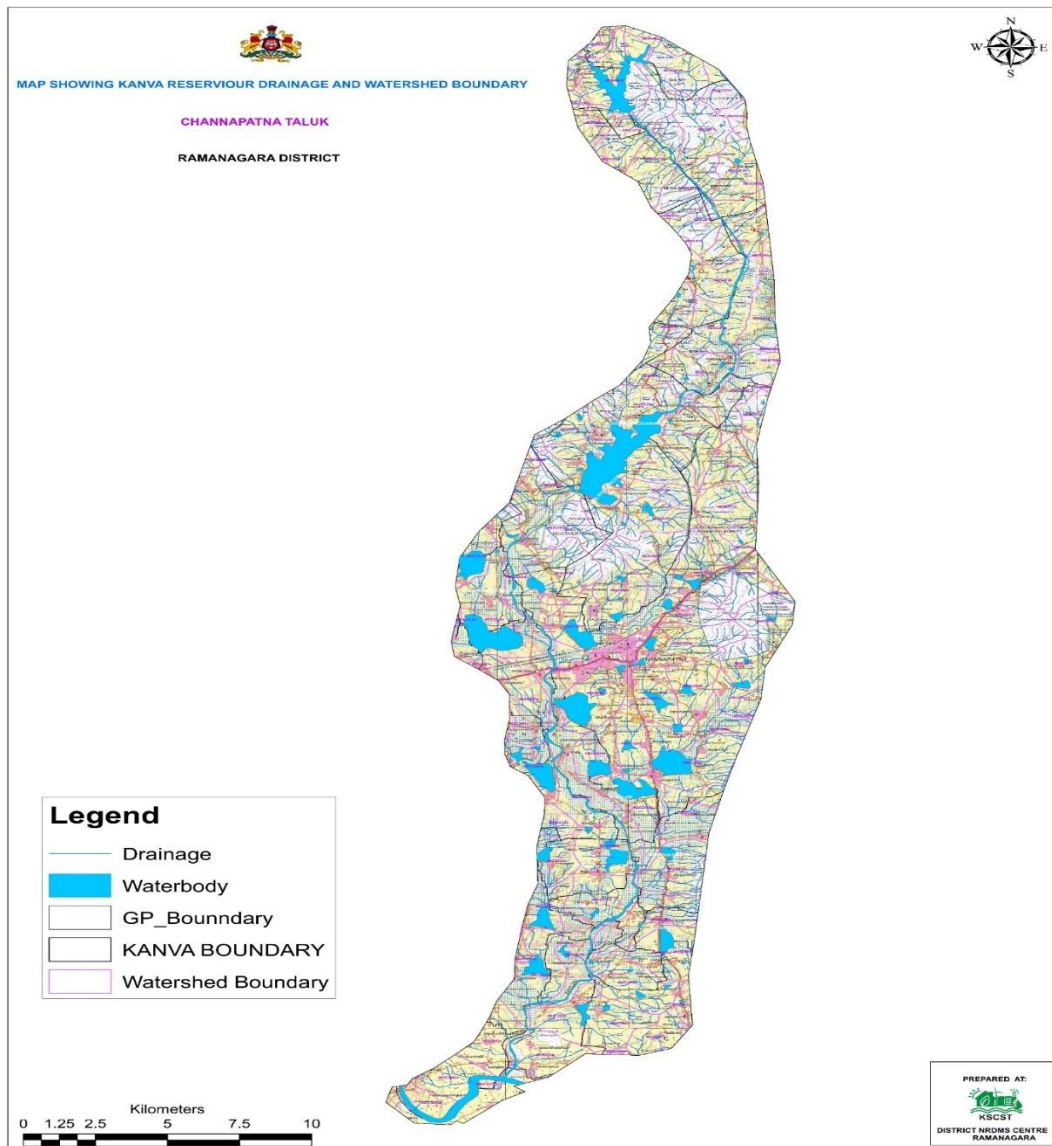
Map 4: Proposed Kanakapura Sub Division Police Station Map.



Activity -3

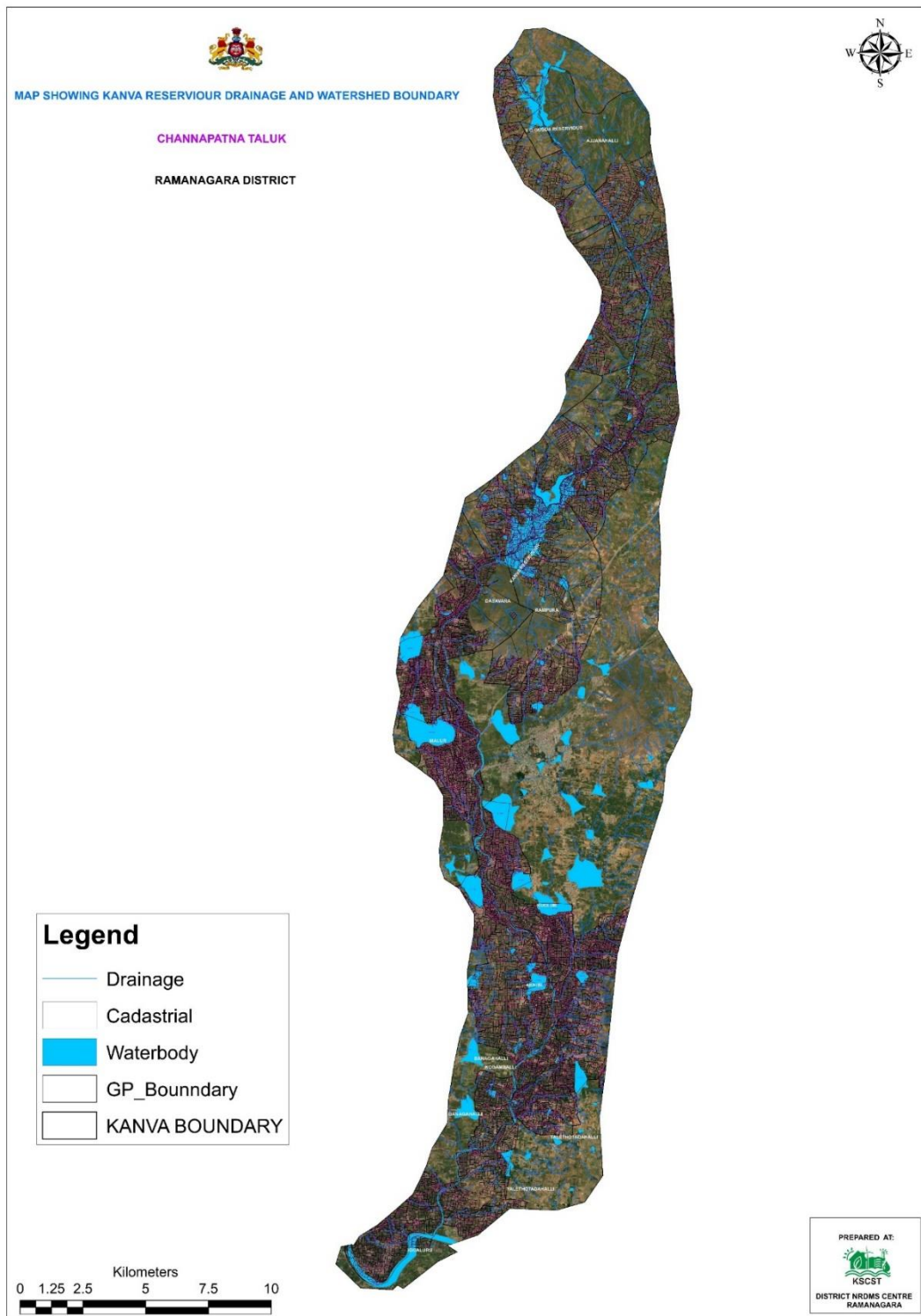
Title of work	Map Showing Kanva Reservoir and Watershed Area
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Department Name	Zilla Panchayath
Objectives	To Find the Kanva river inlets and How to Rejuvanation for Kanva River
Data Used	GP Boundary, Drainage and Waterbody Layer.Waretshed Layer,Geo Referenced Toposheet,Cadastral Layer.
Data Process	location using Geoprocessing toll, and Clip the Kanva river Adjoining Survey Numbers and then generated the proposal Rejuvanation Area.
Type of Data Provided	PDF and JPEG Map (Map-5 and 6) was provided.



Map 5: Proposed Kanva River Rejuvanation Map.

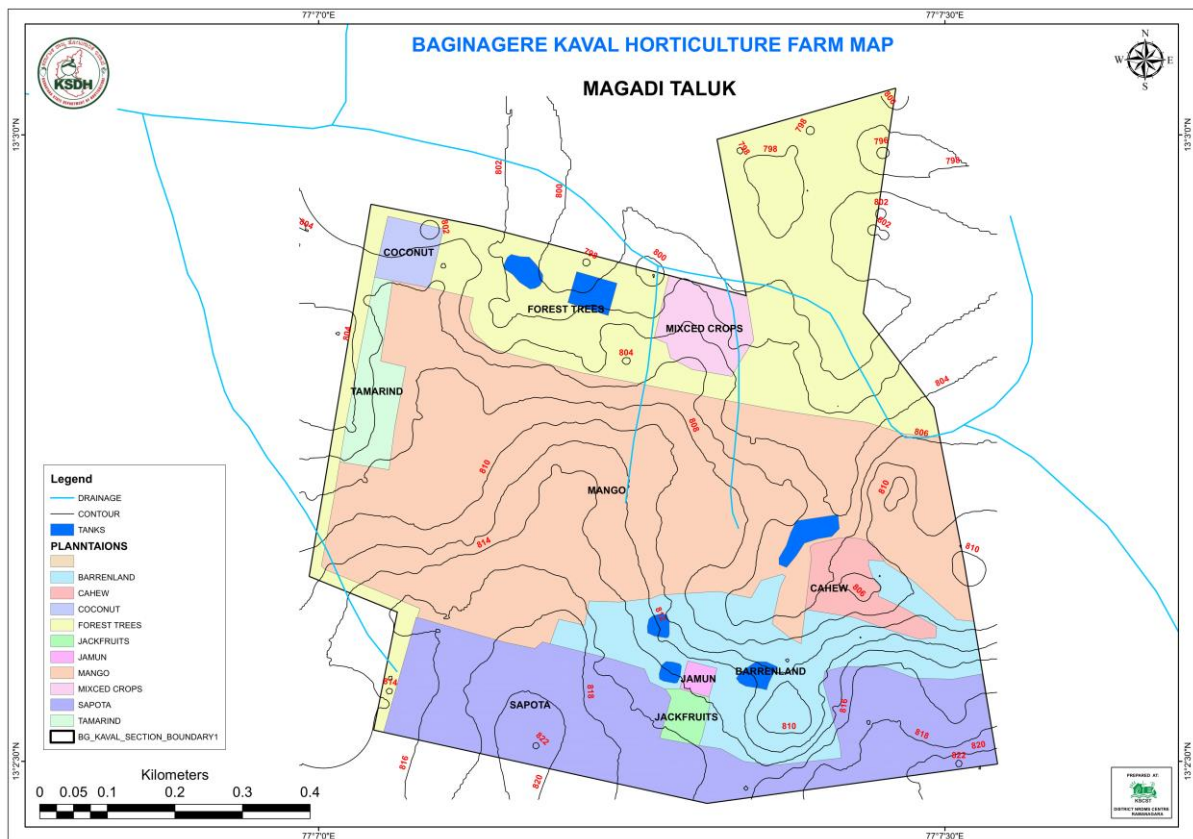
Map 6: Proposed Kanva River Rejuvanation Map.(Google Earth)



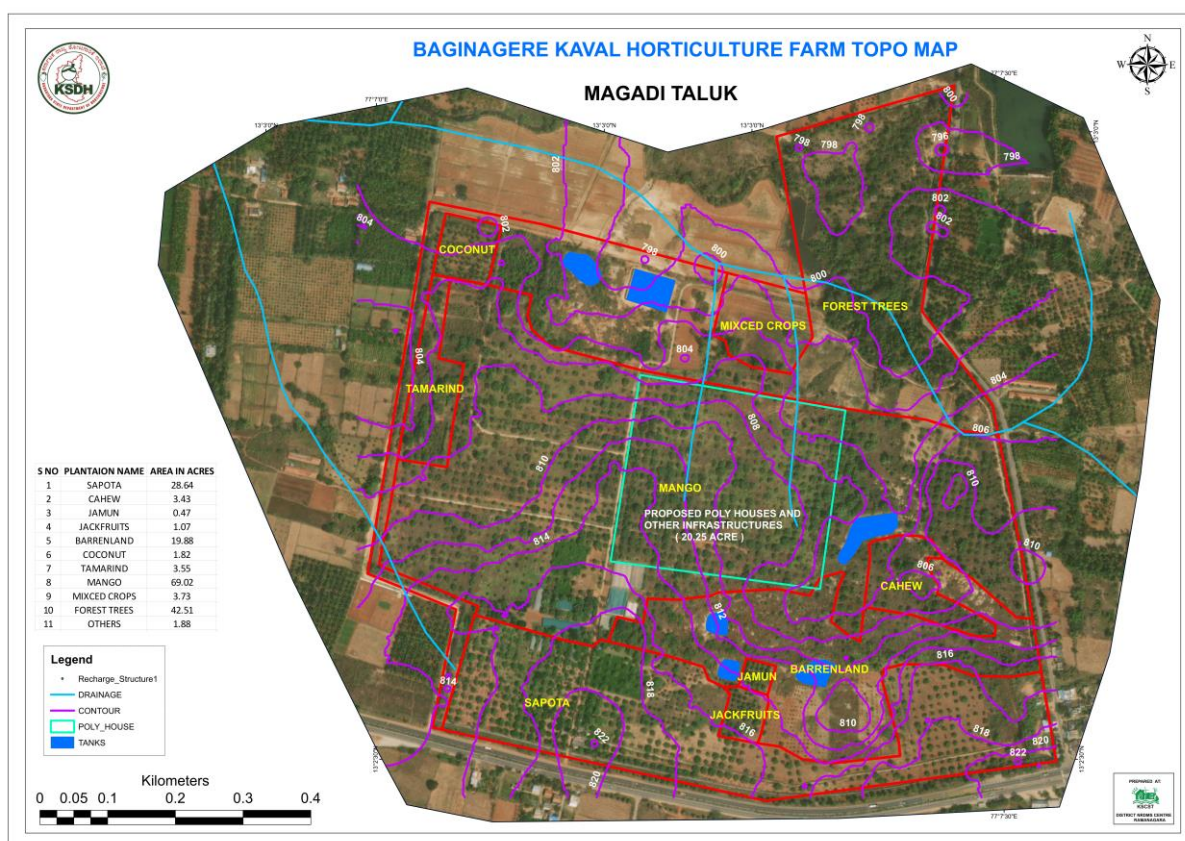
Activity: 4

Title of work	Baginagere Kaval Horticulture Form Proposed Development Map
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Department Name	Horticulture Department
Objectives	Baginiger Kaval Horticulture Form Analysis Study and Report Preparation for Development and Plantation
Data Used	LULC Layer,Drainage Layer,Contour Layer,Waterbody Layer
Data Process	Draw the Polygons each Plantation (Acre wise)and then using Symbology tool and Prepared Maps.
Type of Data Provided	PDF and JPEG Maps (Map-07 & 08)



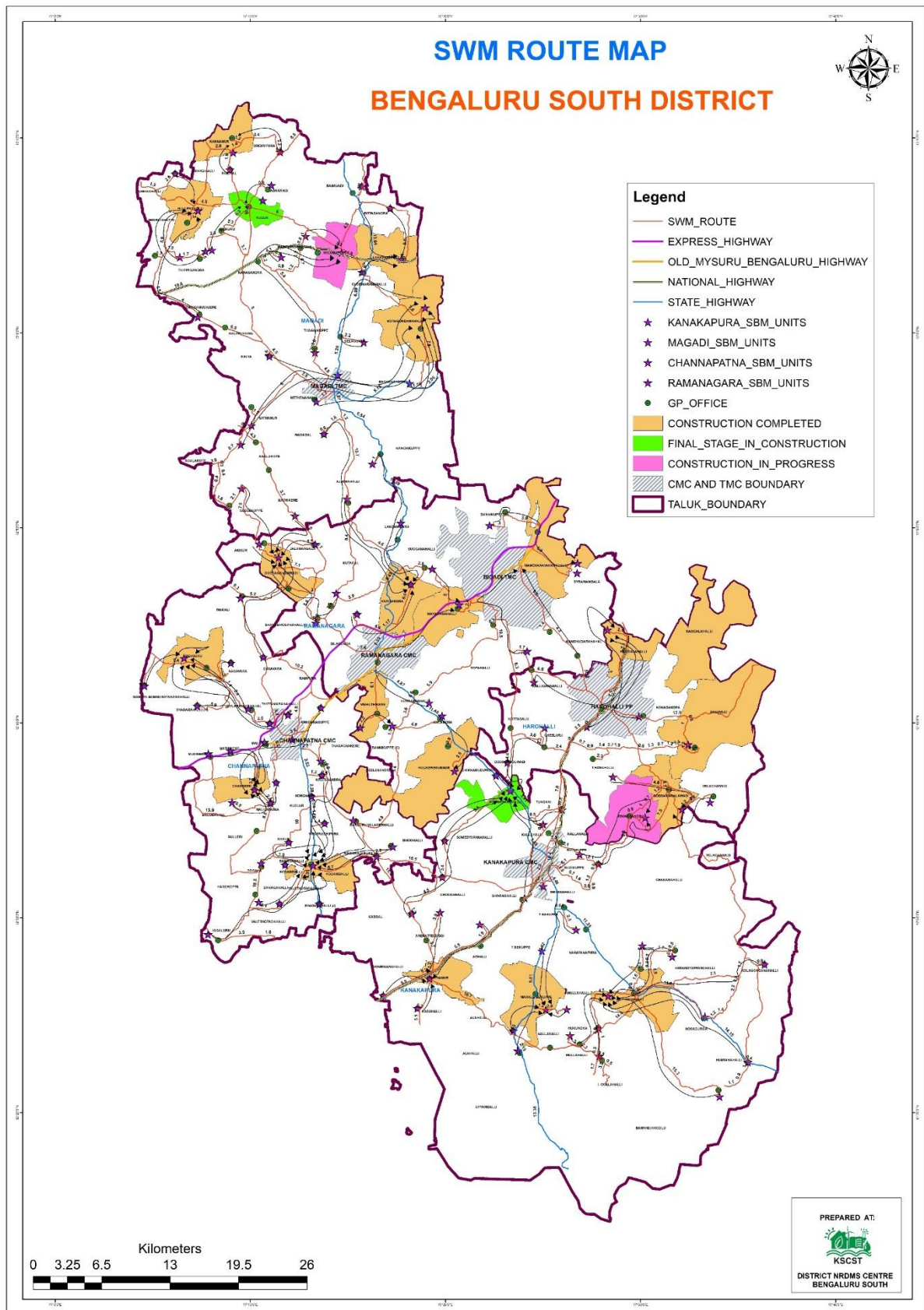
Map 7: Baginiger Kaval Form Development Map



Map 8: Baginigere Kaval Form Development Map (Google Earth)

Activity: 5

Title of work	SWM Route Map (For Waste Collection in All GP)
Department Name	Zilla Panchayath (SBM Section)
Objectives	Collection of All Waste Collection from Grama Panchayaths and Segregates,And Then that all things transfer for SWM unit.
Data Used	District Boundary,Taluk Boundary, Road Network,GP Location and CMC and TMC Boundary
Data Process	Drawing Routes for Waste Collection Vehical using by Road Network with Distance of KM
Type of Data Provided	PDF and JPEG Maps (Map-09)



Map 9 : SWM Route Map.

6. Training Programmes Attended

1. Attend one day workshop on Geospatial Applications for District-Level planning at JN Tata auditorium, IISc, Bengaluru on 28-04-2025.
2. Attended one day training program conducted by MGNREGA & KSRSAC on 09-05-2025 at KSRSAC, Bengaluru regarding KGIS Portal for Road Side Plantation (Hasiru Patha).
3. Attended 5 day training program conducted by ATI at Mysuru, regarding “District Disaster Management” from 23 – 06 – 2025 to 27 – 06 – 2025.

7. Training Imparted to Line Department

1. Hands on Training given to Selected Linemans (BESCOM) how Collect GPS in Field for Transfermers, and Department Assests.
2. Provided training to Forest department staff regarding KGIS Portal for Road Side Plantation in Bengaluru South District.

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 Bengaluru South provided various Maps, data and report to Zilla Panchayat Office, Deputy Commissioner Office, Police Department 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 Bengaluru South 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 Bengaluru South district.

List of Maps:

Map 1: Location map of Bengaluru South District.

Map 2: Kanana Hillview Homestay Map

Map 3: Kanana Hillview Homestay Map (Google Earth)

Map 4: Proposed Kanakapura Sub Division Police Station Map.

Map 5: Proposed Kanva River Rejuvenation Map

Map 6: Proposed Kanva River Rejuvenation Map.(Google Earth)

Map 7: Baginigere Kaval Form Development Map

Map 8: Baginigere Kaval Form Development Map (Google Earth)

Map 9 : SWM Route Map.
