

# Geospatial Technologies for informed decision making – Karnataka Experience



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**Fellow and PI – NRDMS & KSSDI**

**02 January, 2015**

# AGENDA

- About Karnataka State Council
- NRDMS Program
- Urban Mapping - Planning
- Karnataka Geoportal – Phase 1
- Approach to SDI Development in Karnataka (KSSDI)
- Karnataka GeoPortal – Phase 2
- Future

# KSCST - The Organisation

- ★ FIRST state council to be formed in the country in the year 1975.
- ★ A Registered Society - Registered under Karnataka State Societies Registration Act 1960.
- ★ Recognised as an Autonomous Organization of the Department of Science and Technology, Government of Karnataka.
- ★ Receives annual grant from DST-GoI and DST-GoK.
- ★ Generates funds through scientific services, sponsored projects, scientific consultancy.
- ★ Operates through a compact Secretariat and Technical staff.
- ★ Council operates within the framework of rules approved by its Executive Committee.
- ★ Derives technical support from IISc. & close linkages with R & D and academic institutions, NGO's, Government Agencies and Industries.
- ★ Implements projects and programs in a network mode within the State.



# KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

## ORGANISATIONAL CHART OF THE KSCST

vide G.O. No. ವಿಯಇ 159 ವಿತ್ರಮ 2012 ದಿನಾಂಕ 2-11-2012  
for a period of 3 years w.e.f. 1-8-2012

### COUNCIL

**PRESIDENT**

(Chief Minister of Karnataka)

**Vice-President**

(Finance Minister – GOK)

**Vice-President**

(Director, IISc.)

**Vice-President**

(S&T Minister – GOK)

+ 38 MEMBERS

### EXECUTIVE COMMITTEE

**CHAIRMAN** (Director, IISc.)

**MEMBER SECRETARY + 12 MEMBERS**

(including representatives from the GoK)

### SECRETARIAT

**EXECUTIVE SECRETARY**

**SCIENTIFIC &  
TECHNICAL PERSONNEL**

**FINANCE**

**ADMINISTRATION**

# MANDATE OF KSCST

- Advise the State Government on Contemporary and futuristic problems confirmed by the society and suggest S & T solutions.
- Improvement of infrastructure, amenities, livelihood and environment through Science and Technology intervention.
- Playing a pro-active role in the application of S & T with the involvement of Academia, Industry and Research Institutions.
- Extend assistance in promotion of quality Science and Engineering education to produce quality Human Resource.
- Confidence and Capability building on issues linked to sustainable development / conservation of natural resources and in decision making process.

# Linkages and Collaboration with other Departments / Institutions

## ACTIVITIES

Survey, Data collection and analysis

Guide Project formulation & Implementation

Awareness, Training and Capacity building

Promotion of new concepts / devises  
(Lab to Society)

Support Formulation of S&T Policy

## DEPARTMENTS

DST - GOK & GOI

Rural Development & Panchayat Raj Institutions

Education

Health

New and Renewable Energy

Environment

Housing

Urban Development

## INSTITUTIONS

Indian Institute of Science

Universities including Agriculture & Veterinary Science

National Laboratories

Engineering Colleges

NGOs

Corporate Houses

Urban Local Bodies

# Karnataka NRDMS Program

## **NRDMS Program**

- Karnataka NRDMS - Establishment and Growth - Present status
- District centres activities
- Applications developed supporting governance & development planning
- Integrated database and state level applications - atlas and other projects

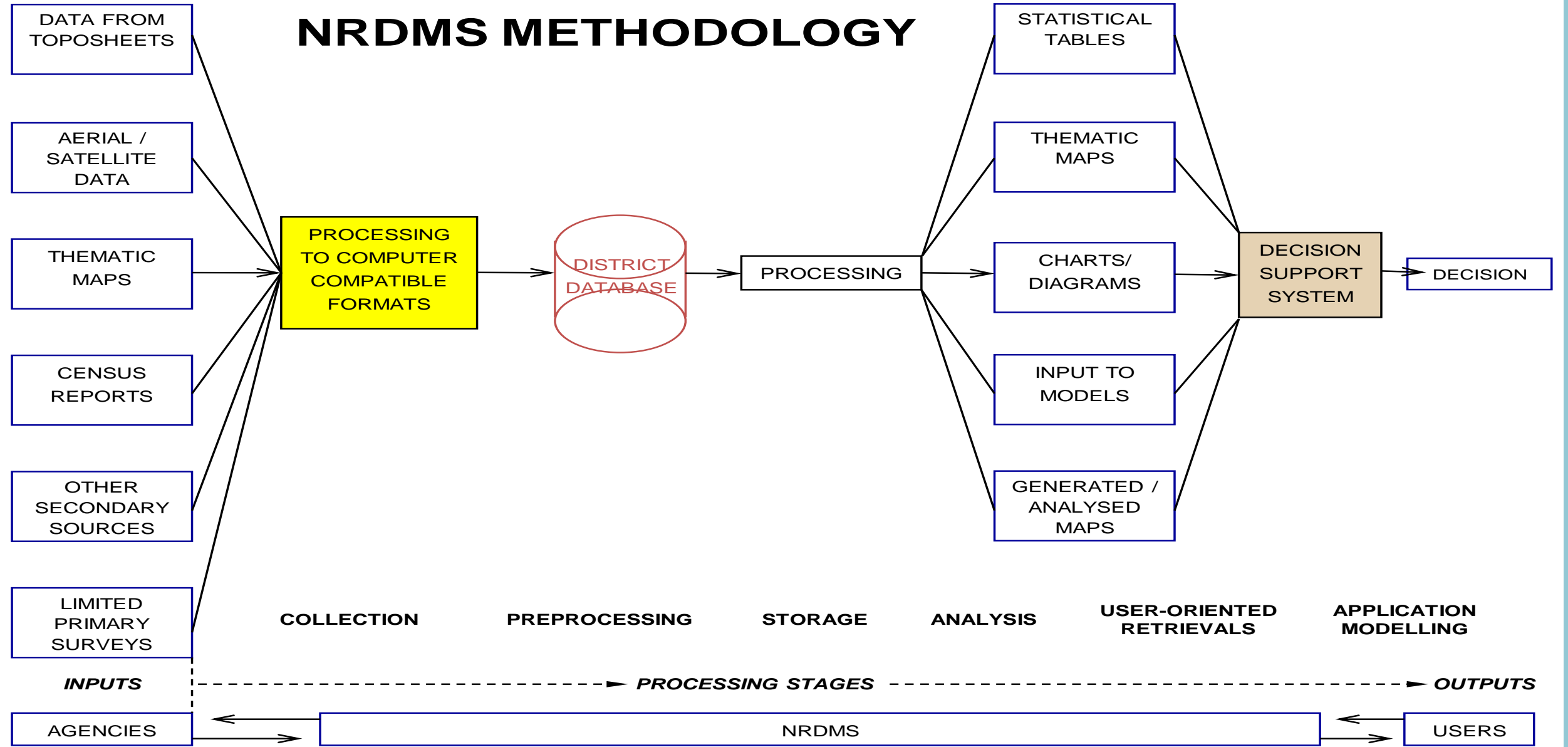
## **NRDMS to Karnataka Geoportal**

- Policies of Government with regard to data generation & sharing
- State Spatial Data Infrastructure
- Mobile Applications, Cloud Computing and Crowd sourcing
- Karnataka GIS - the need

## **Pathway - E Governance to G Governance**

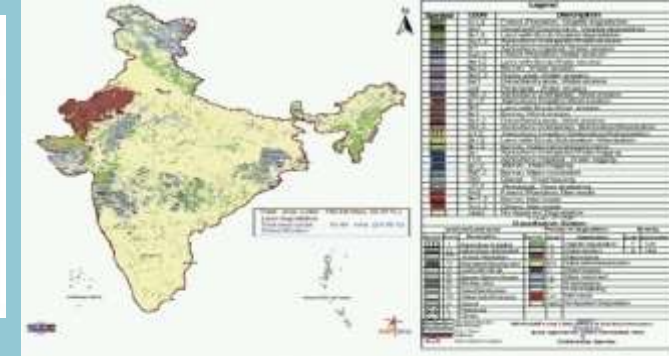


# NRDMS METHODOLOGY



# National/State Survey and Mapping Organisations

- Survey of India
- Indian Meteorological Department
- Census of India
- Geological Survey of India
- National Bureau of Soil Sciences & Land-use Board
- Forest Survey of India
- National Remote Sensing Establishment
- Research Data – publications, reports etc.
- State Remote Sensing Centre's
- Survey Settlement and Land Records
- **Google/GPS – being used for updation and data capture**



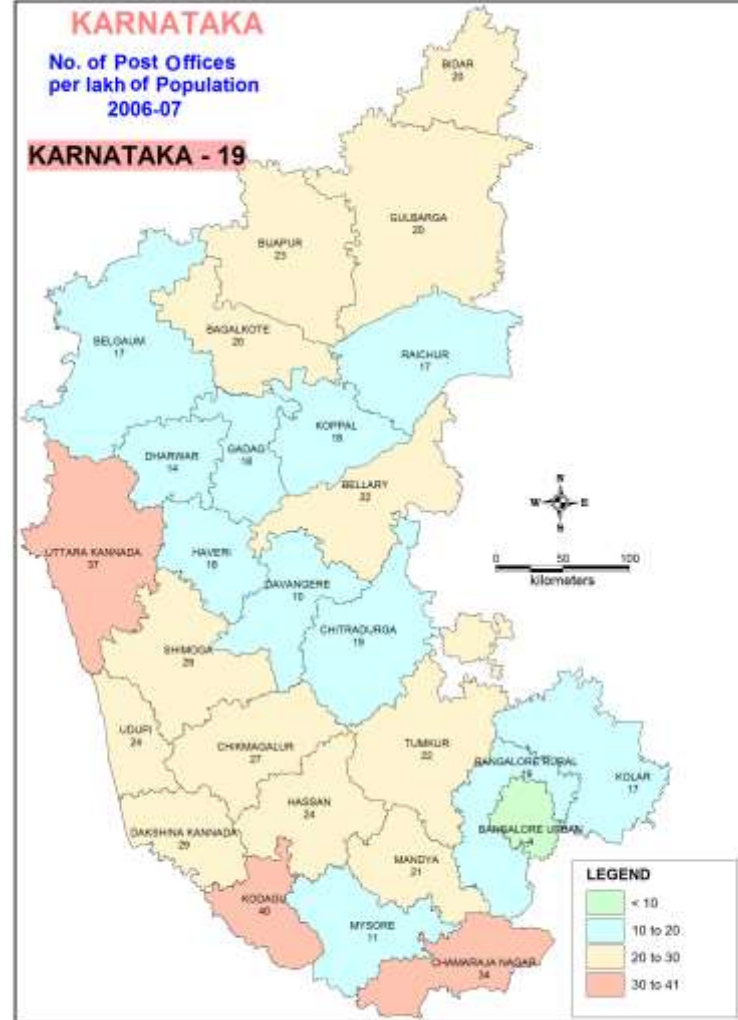
# Planning Atlas

(Information available on Inter state/district – 38/71 parameters)

## Literacy



## Post Office



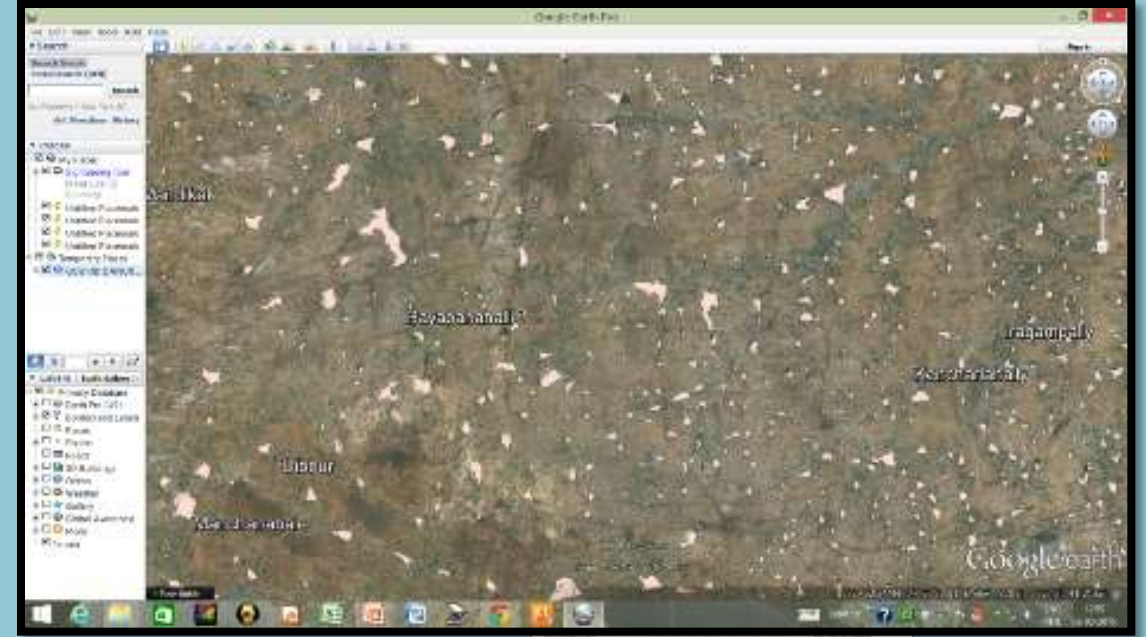
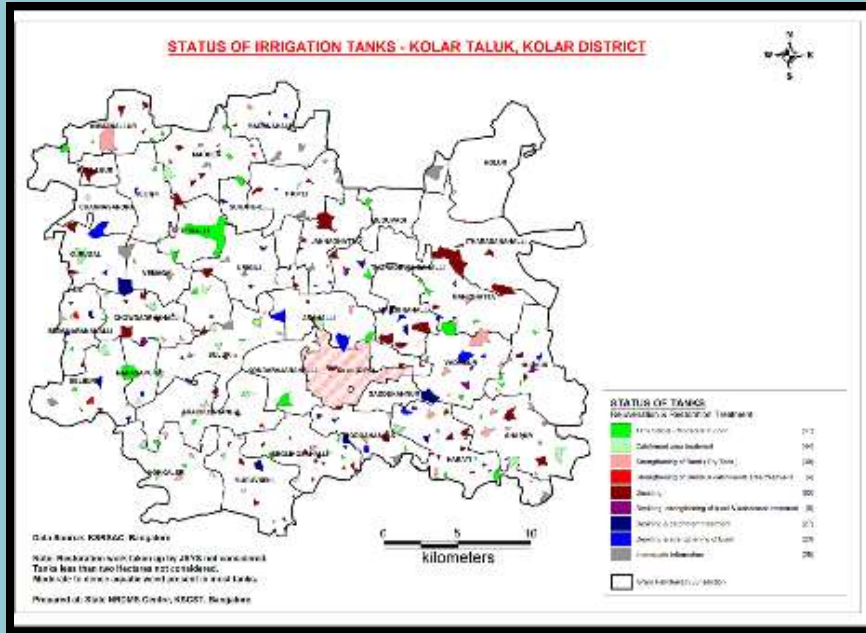
## Pupil-Teacher Ratio







# Prioritisation of for minor irrigation tanks in Karnataka State using geospatial technologies – RDPR, GOK



Karnataka has over 36,000 MI Tanks. Decline in tank irrigation made Government to invest in restoration & rejuvenation of tanks.

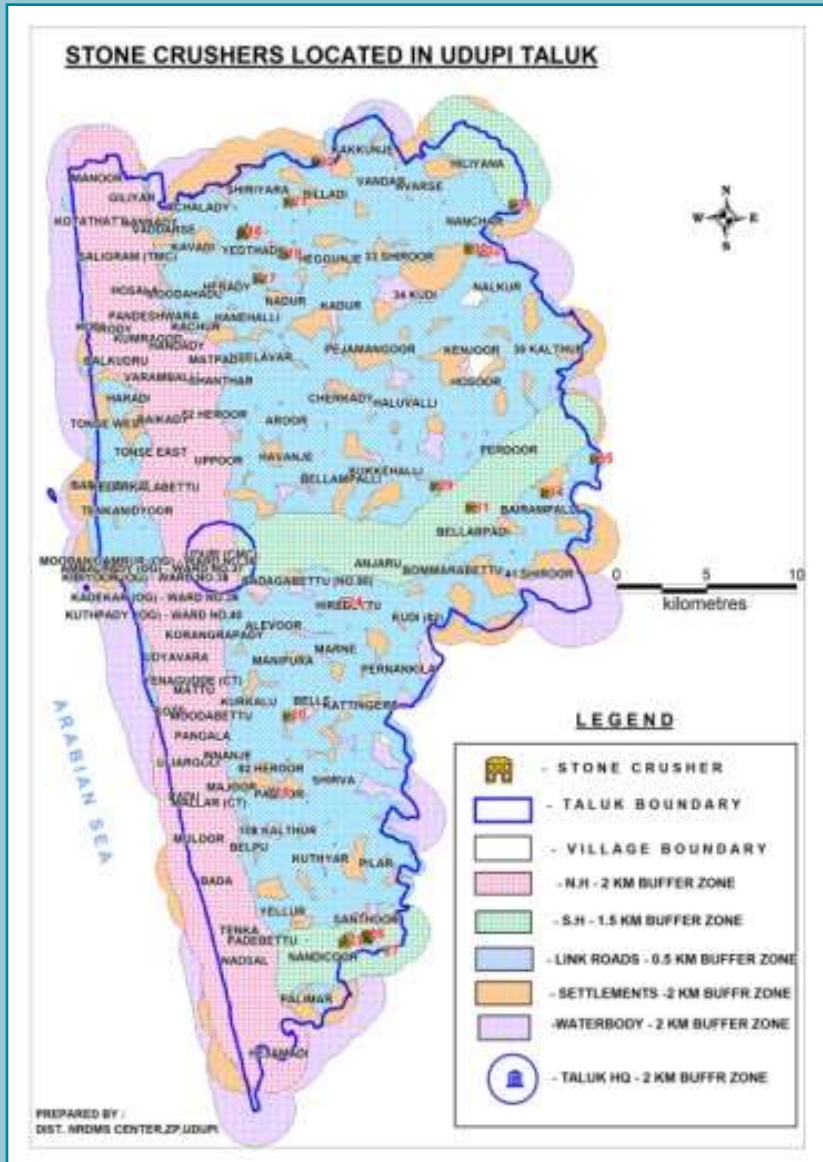
Tanks classified for treatment based on GIS data i.e., mainly in

1. Strengthening of bunds & canals
2. Desilting
3. Catchment area treatment

**Taluk and Assembly constituency wise report for implementation.**



# Environment Relocation of Stone Crushers



DR. M. T. REJU, I.A.S.

Deputy Commissioner & District Magistrate

Udupi District



☎ : (0820) 2574925 (01), 2512700 (02)  
2514826 (03)  
Mobile : 94466 20637  
Email : doc.udupi@gmail.com  
rcj.empty@gmail.com  
Rejotadri, Manipal  
UDUPI - 576 104, Karnataka.  
Date: 05/07/2017.

UDC PS.01/2017-18

To,

The Executive Secretary,  
Secretary of State Council for Science and Technology,  
Indian Institute of Science Campus,  
Bangalore 560 012.

Dear Sir,

This is to acknowledge the efficient work done by Sr. Vikram R, Project Associate, District NRDMs Center in evaluating and assessing the number of stone crushers in Udupi District. This work was taken up as per the directions of the Hon'ble Supreme Court to identify safe zones for Stone Crusher units in the district. This work entailed, detailed GIS Positioning and identification of all existing stone crushers, both formal and informal in the district of Udupi and involved mapping of all roads, habitats, temples, Schools, Rivers, and other infrastructure facilities. GIS analysis involved buffering around existing facilities to identify safe stone crusher zones.

Sr. Vikram R, Project Associate, NRDMs Center, Udupi has completed this work efficiently and submitted the report in-time, as advised to him. We appreciate his effort and interest in successfully submitting the report.

Thanking you,

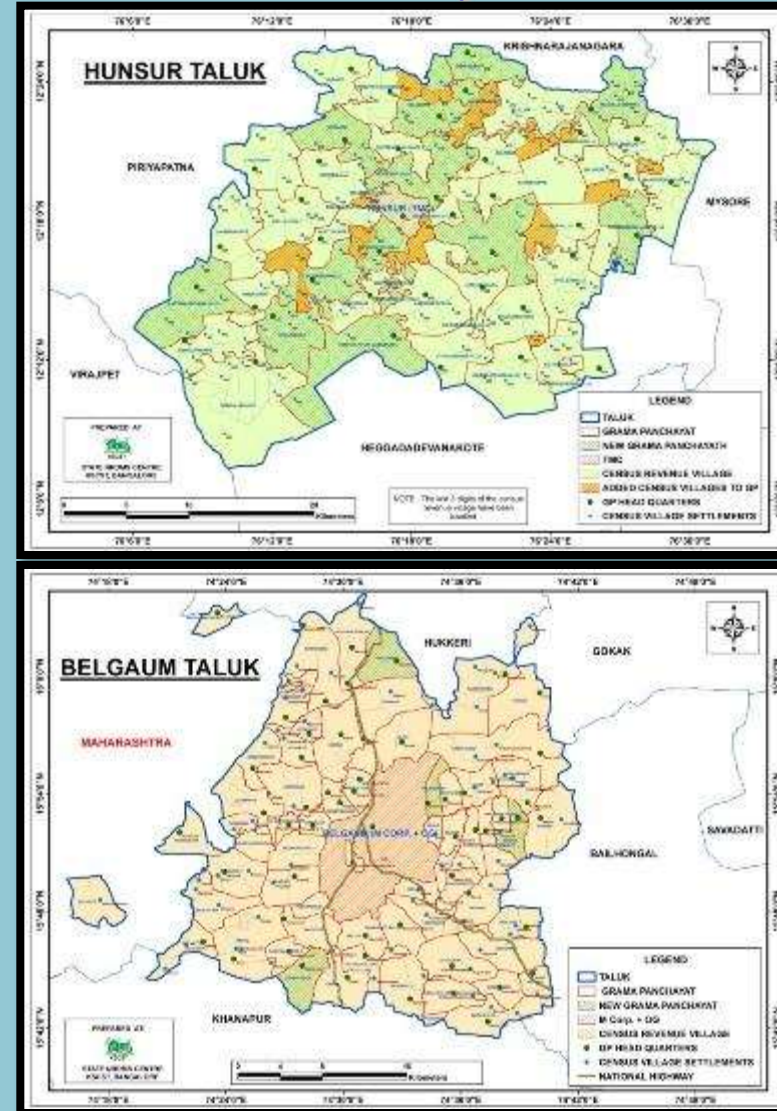
Yours faithfully,

Dr. M. T. Reju  
Deputy Commissioner,  
Udupi District, Manipal

✓ Identification of safe zones for location & relocation of stone crushing units based on State/Centre guidelines.

# Delimitation of Gram Panchayaths

- ✓ The Government of Karnataka set up a GP Delimitation Committee to look into formation, revision and delimitation of Gram Panchayaths.
- ✓ The state NRDMS centre supported and prepared new GP maps for the Karnataka on the request of the committee based on spatial proximity, population and request from concerned stakeholders including citizens.
- ✓ Population criteria -
  - **Malnad: 2500- 5000**
  - **Rest of Karnataka: 5000 – 7000**
- ✓ The report was released in the month October, 2014 by the committee. Deputy Commissioners were entrusted with the responsibility of finalizing the list.



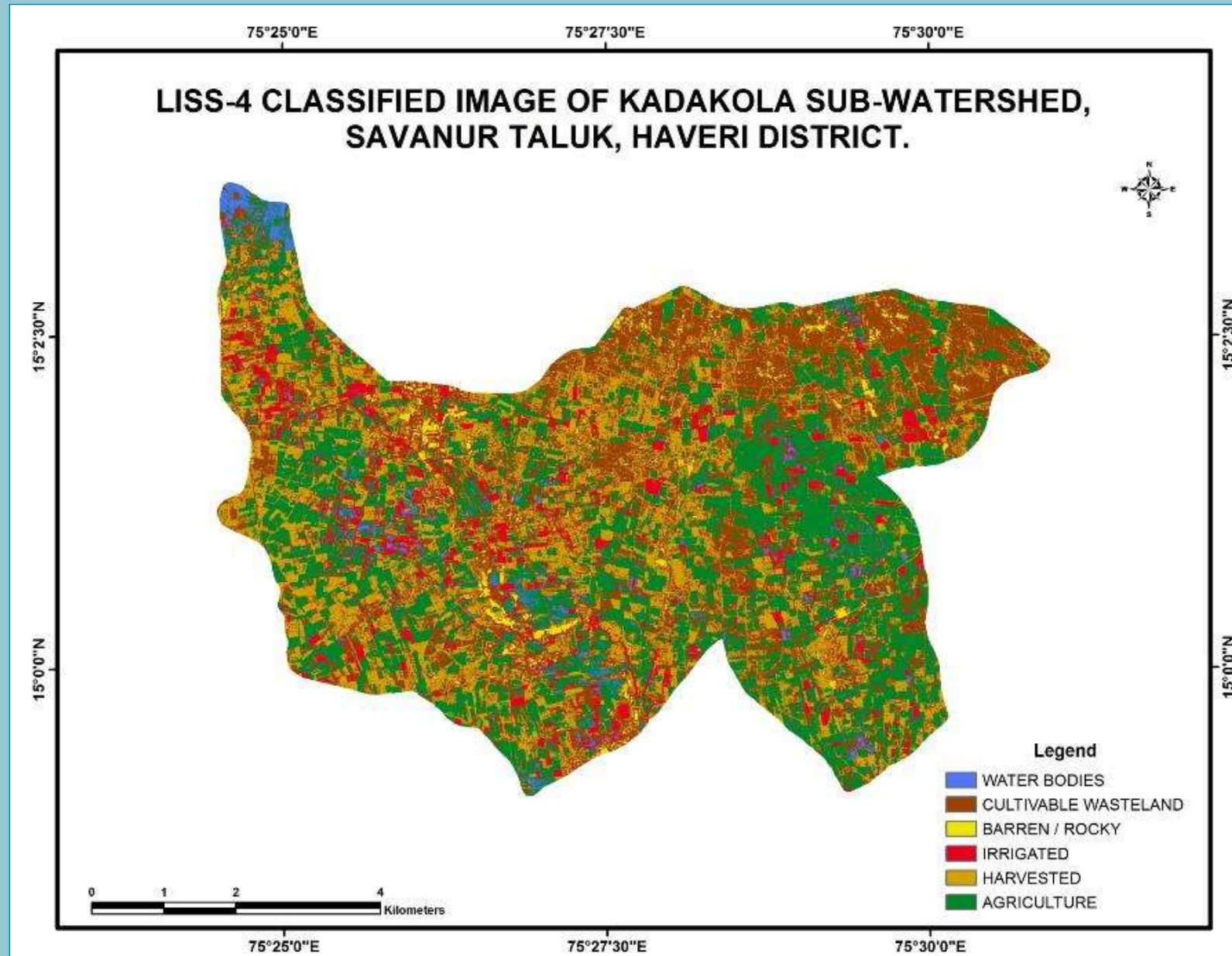
Proposed GPs – 6068, New GP's – 439, Existing - 5629





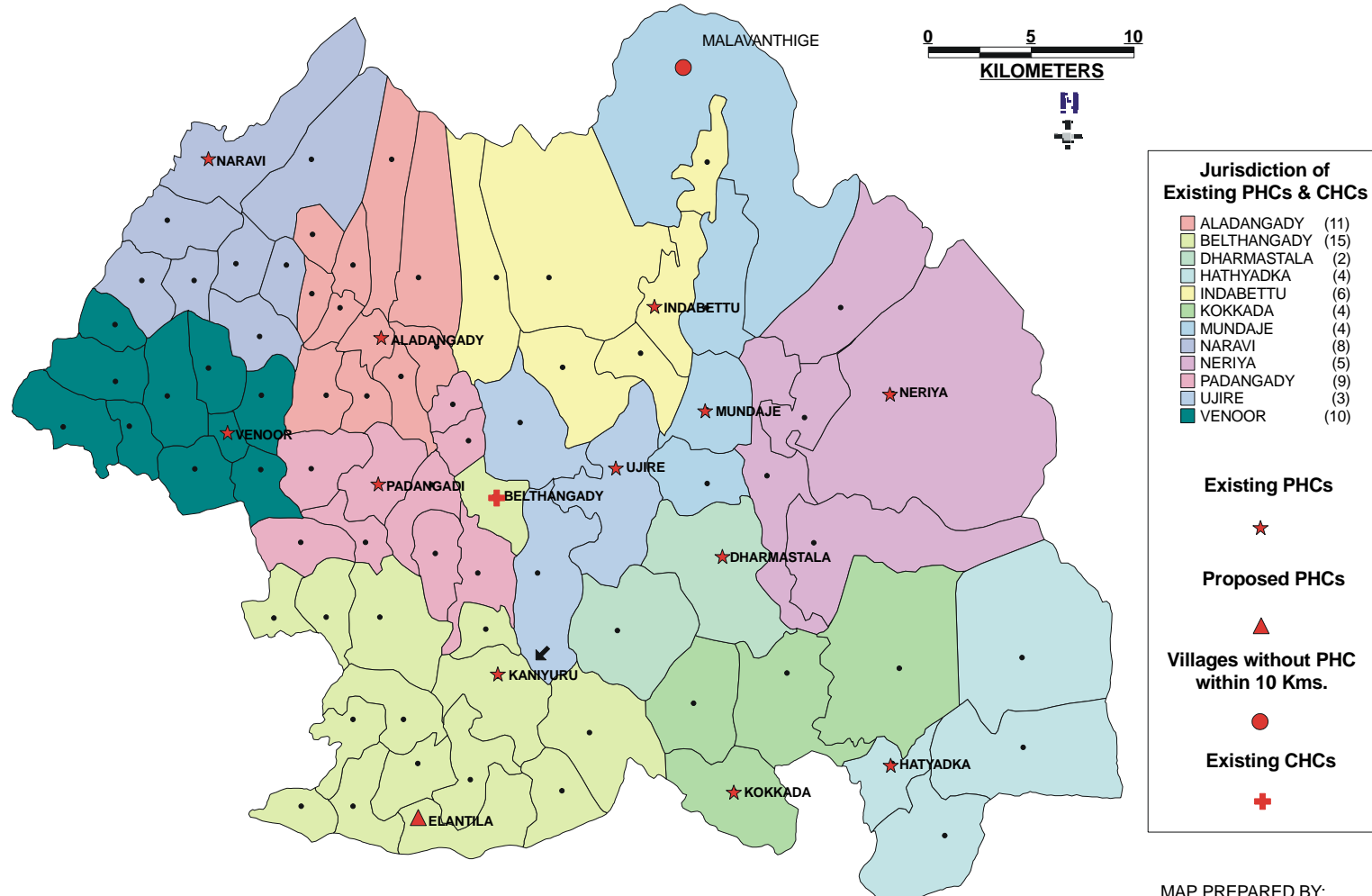


# Change detection - watersheds



# Location/allocation of Health Facilities

EXISTING AND PROPOSED HEALTH FACILITIES ( PHC & CHC) IN BELTHANGADY TALUK WITH JURISDICTION OF EXISTING PHCS AND CHCS



**Jurisdiction of Existing PHCs & CHCs**

ALADANGADY	(11)
BELTHANGADY	(15)
DHARMASTALA	(2)
HATHYADKA	(4)
INDABETTU	(6)
KOKKADA	(4)
MUNDAJE	(4)
NARAVI	(8)
NERIYA	(5)
PADANGADY	(9)
UJIRE	(3)
VENOOR	(10)

**Existing PHCs**  
★

**Proposed PHCs**  
▲

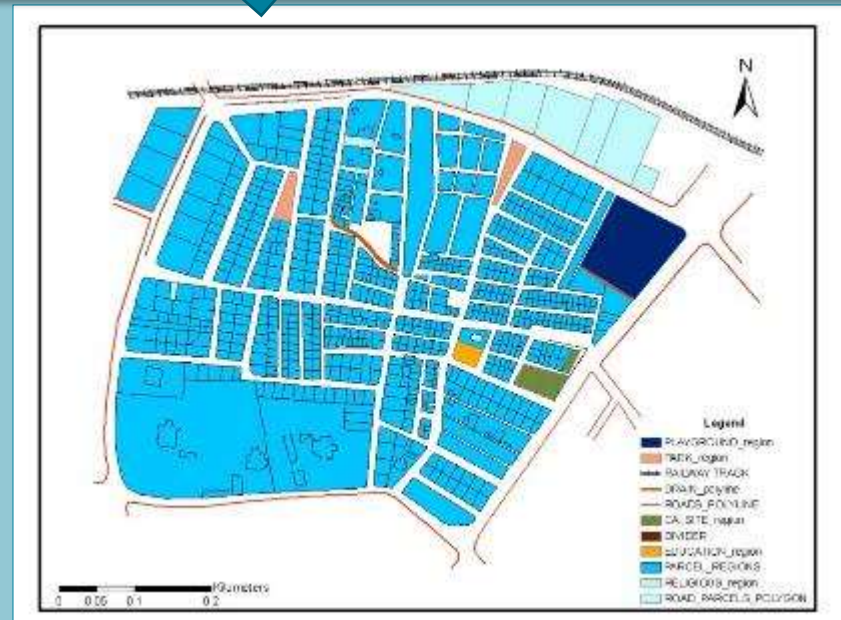
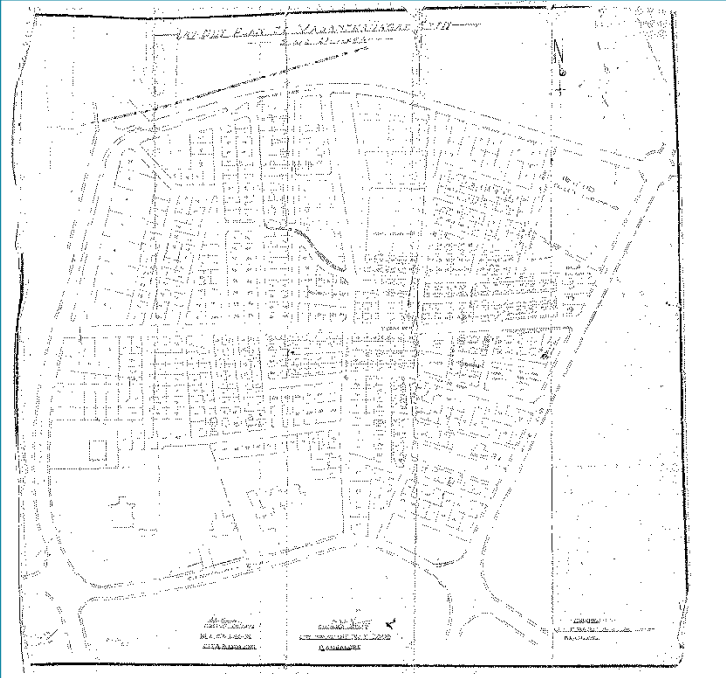
**Villages without PHC within 10 Kms.**  
●

**Existing CHCs**  
+

NOTE: ✎ SHOWS PHC KANIYURU WHICH IS SANCTIONED BUT NOT STARTED. HENCE NO SEPERATE JURISDICTION IS GIVEN FOR THE SAME

MAP PREPARED BY:  
DK NRDMS  
MANGALORE

# Urban Mapping - Planning



**Conversion of hard copy layout maps (BDA) into GIS ready digital layers.**

Conversion of hard copy maps into digital layers for access, search, discovery and updation of spatial data of urban local bodies by using latest geospatial techniques and high resolution satellite imageries.



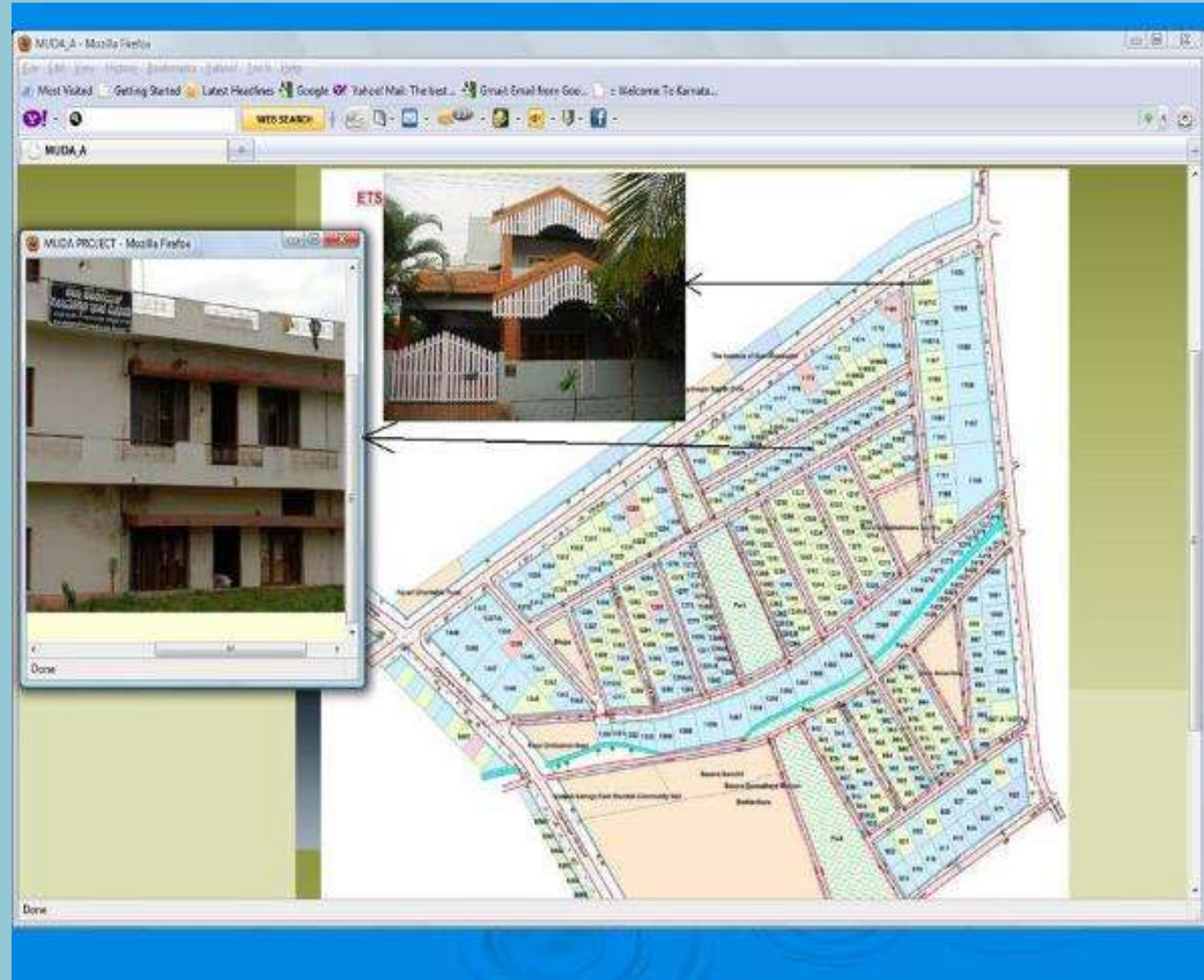
# Urban Infrastructure mapping - Mysore (MUDA)

## Feature captured

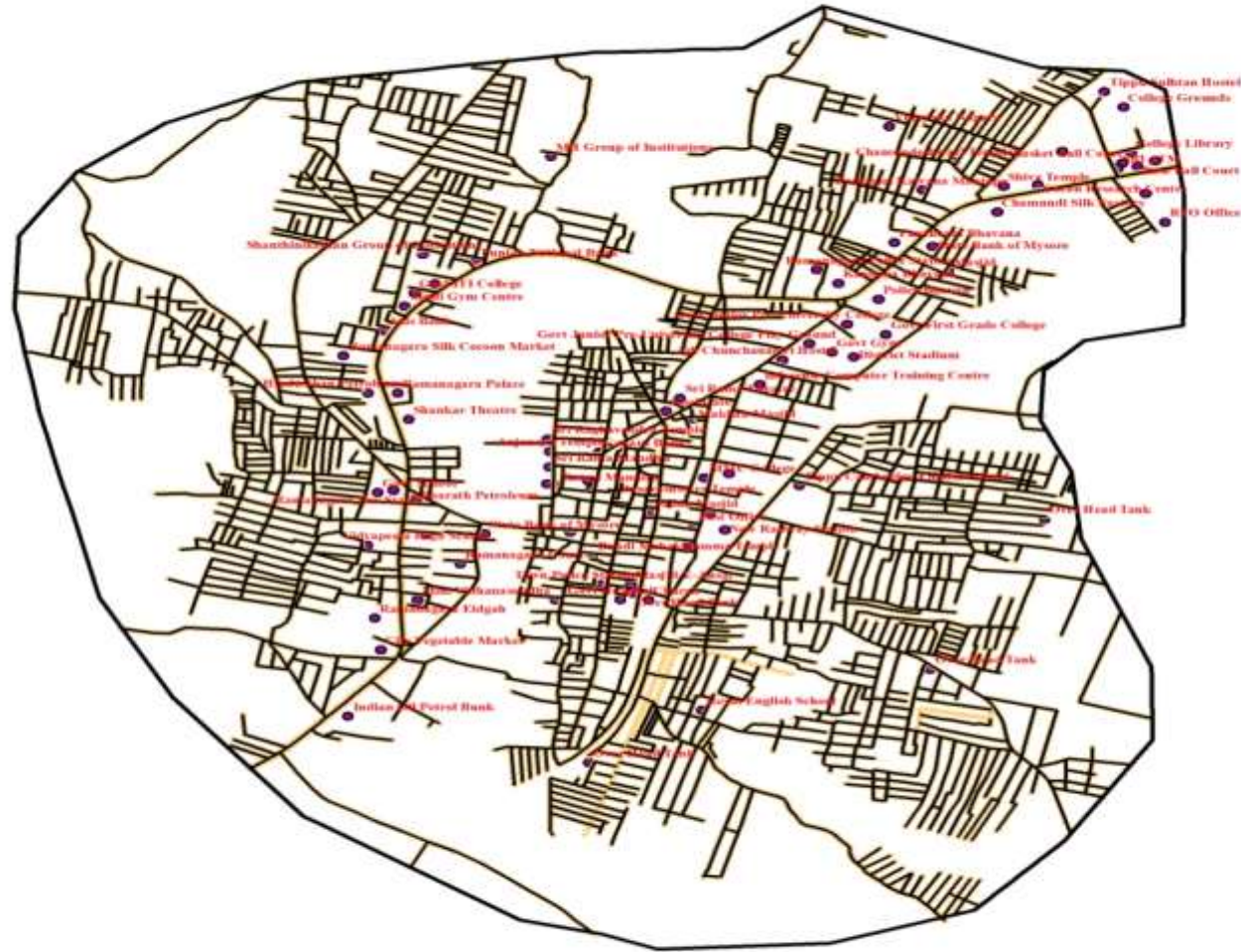
- Property Information- Owner details, Area details
- Roads- Type, Physical details
- Water supply lines- Valves
- Sewer lines-Man holes,
- Electric lines & Poles
- Telephone line & Poles

## Technologies Used:

ETS, GPS, GIS and Remote Sensing



# CITY MAP - RAMANAGARA

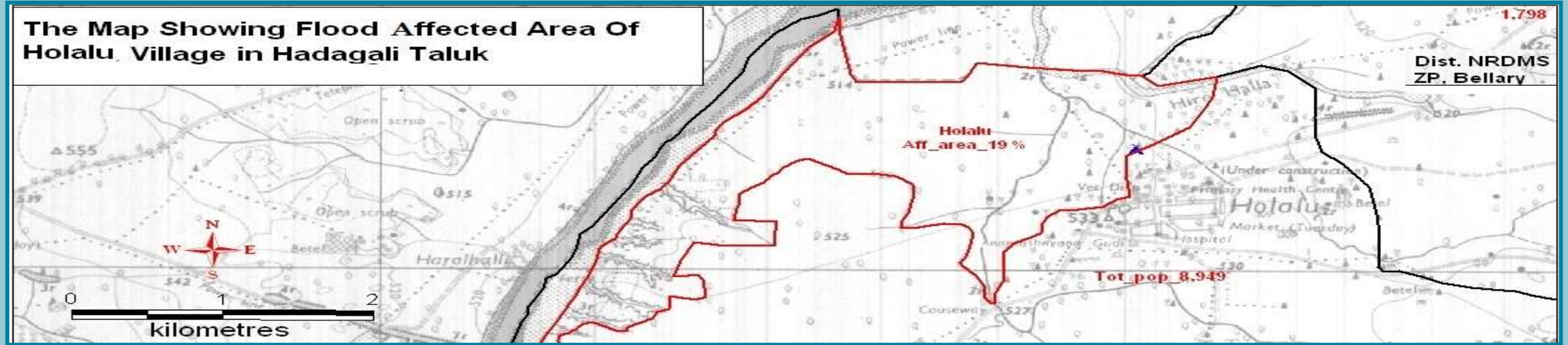


- Legend**
- CITY BOUNDARY
  - ROADS
  - ROAD BUFFER
  - LANDMARKS

Prepared By: District NRDMS Centre,  
Zilla Panchayath, Ramanagara.



# Natural Disaster Monitoring - Floods



**Flood affected area of Holalu Village in Hadagali Taluk**







# Karnataka Geoportal

- Strength of Karnataka NRDMS program formed the basis for setting up of 1<sup>st</sup> State SDI of the country.
- **Funding : Central: State (75:25)**
- Developed a web based Geo Portal to acquire, process, store, distribute and improve the utilization of geo spatial data
- **Statewide, standardised, seamless GIS database for selected layers**
- Use of global standards making the data sets accessible from a variety of GIS packages at districts



**Release of Portal during NSDI-9 conference**





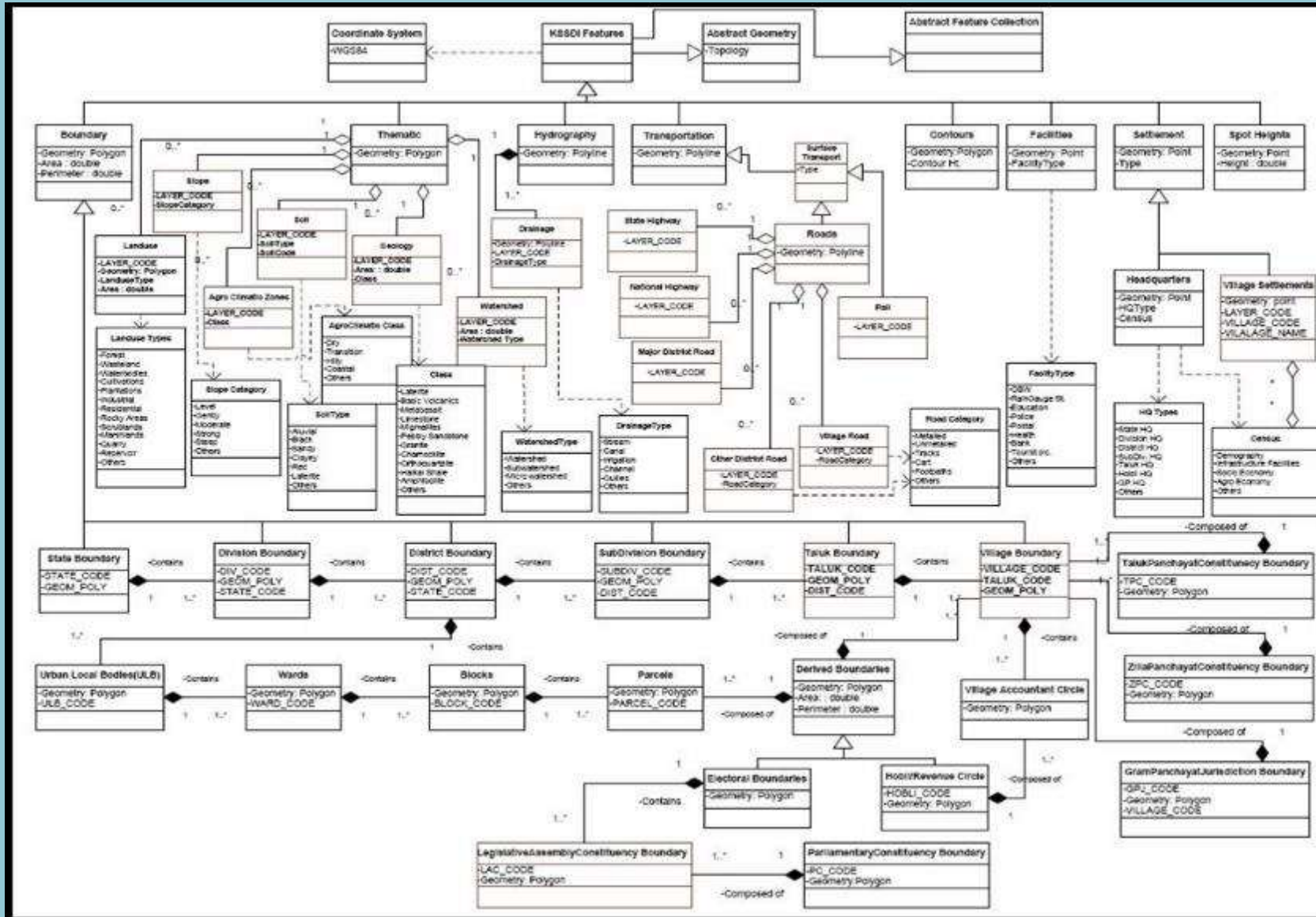
# Karnataka GeoPortal Services:

- Map viewer - Web Map Service (WMS),
- Product catalogue/metadata - Catalogue Service on Web (CS-W),
- Services specific service/ feature data sets - Web Feature Service (WFS),
- Simple Applications (Query based decision support)
- Coverage services/images - Web Coverage Service (WCS)
- Search and Discovery
- Help/support

# Information available in Karnataka Geoportal

State Boundary	India Meteorological Department Station
Division Boundary	Rain gauge Station
Subdivision Boundary	Drainage
District Boundary	Land use Land cover
Taluk Boundary	
Parliamentary Boundary	State Head Quarters
Legislative Assembly Constituency Boundary	Division Head Quarters
Hobli Boundary	Subdivision Head Quarters
Zilla Panchayath Boundary	District Head Quarters
Taluk Panchayath Boundary	Taluk Head Quarters
Gram Panchayath Boundary	Gram Panchayath Head Quarters
Village Boundary	Hobli Head Quarters
Agro-climatic Boundary	Zilla Panchayath Head Quarters
Basin Boundary	Taluk Panchayath Head Quarters
Catchment Boundary	Settlements
Geology Boundary	Forest
Sub-catchment Boundary	
Sub-watershed Boundary	Micro watershed
National Highway	Slope
State Highway	Soil
Major District Road	Watershed
Railway	Banking facilities
Village Roads	Drinking Water facilities
Islands	Educational facilities
Reservoirs	Medical facilities
Rivers	Post, Telegraph and Telephone facilities
Tanks	Communication facilities
Un metalled Roads	Credit Societies
Grid	Recreational and Cultural facilities

# Karnataka Geoportal – Data Model



# Requirements for Geospatial Governance:

- ✓ Perform multi-spatial-attribute queries i.e., geospatial services (WPS).
- ✓ Mobile compatibility
- ✓ Crowd sourcing - to allow crowd sourced data through various devices.
- ✓ Viewing information over publicly available portals eg., Google, Bing, OSM, Bhuvan, etc.
- ✓ Online editing of data (WFS-T): Authorized departments to be made responsible for online editing of data.
- ✓ Integration of existing MIS data.
- ✓ Provision to view versioned raster data as time-series
- ✓ Multi-lingual
- ✓ Policy and coordination among departments.

# **Approach to SDI Development in Karnataka (KSSDI)**

# 2<sup>nd</sup> phase activities

## Geospatial services (GIS-DSS) for governance



- ✓ Watershed Development Department (GIS integrated with MIS)
- ✓ Directorate of Health and Family Welfare

# Approved OGC Standards (most of them have been incorporated in KSSDI)

## Catalogue Services

- CS Core
- CS-W ebRIM
- CS-W 19115/19119
- CS-W ebRIM for EO

## Processing Services

- OpenLS Core Services
- Sensor Planning Service (SPS)
- Web Processing Service (WPS)
- Coordinate Transformation Service (CTS)
- WCS Processing (with WCS)

## Data Services

- Simple Features (SQL)
- Web Coverage Service (WCS)
- WCS Transactional
- Sensor Observation Service (SOS)
- Table Join Service (TJS)
- Web Feature Service (WFS)

## Encodings

- Geography Markup Language (GML)
  - CityGML
  - GML Simple Features
- Filter Encoding (FE)
- GML in JPEG 2000
- KML
- NetCDF
- Observations & Measurements (O&M)
- Open GeoSMS
- Sensor Model Language (SensorML)
- Symbology Encoding (SE)
- Styled Layer Descriptor (SLD)
- SWE Common
- Web Map Context (WMC)

## Portrayal Service

- Web Map Service (WMS)
- Web Map Tiling Service

## Others

- GeoXACML
- GeoAPI, OWS Common



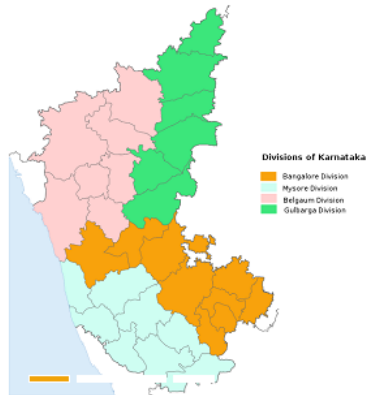
# Login

Wednesday, August 20, 2014 8:06:32 AM

## ಕರ್ನಾಟಕ ಜಿಯೋಪೋರ್ಟಲ್ KARNATAKA GEOPORTAL

Joint Programme of Department of Science and Technology, Government of India and Government of Karnataka

[Feedback](#) | [Contact](#) | [English](#)



### Welcome to Karnataka Geoportal

Karnataka Geoportal is an Internet based Geo Spatial Data Directory for the state that allow the users of the system to share and explore the information related to political and administrative boundaries, state geography, demography, agro & socio economy, resources, infrastructure facilities with attributes.

Spatial datasets generated, maintained and provided by various concerned Departments of the State Government, academia, private or civil society organizations of Karnataka are proposed to be made accessible through the project data clearinghouse mechanism.



The Portal will essentially be used for the following objectives:

- Bringing together geo spatial knowledge and information under a common platform, which till date has existed as a disparate system and unknown to quite a wider section of the society, institutions, scientific community and government departments.
- Gateway for various data generating agencies to share the information across various government departments, NGOs, academies, industries and scientific organisation.
- Provides spatial data dictionary and map directory for the state
- Analysing the needs of various government programmes
- Facilitate decision support system and helps in local level planning
- Eventually can be used for the data sale and purchase, which can be part of the state revenue generation

### Login as Registered User

User id

Password

Captcha  
  2414E 

Remember me  Forgot password

[Login as Guest User](#)

[Signup](#)

[News](#) | [Events](#)





# Home Page for Registered user

The screenshot shows the home page of the Karnataka GeoPortal. The browser address bar displays [www.karnatakageoportal.in/KSSDI/MenuPage](http://www.karnatakageoportal.in/KSSDI/MenuPage). The page header features the text "ಕರ್ನಾಟಕ ಜಿಯೋಪೋರ್ಟಲ್" (Karnataka GeoPortal) in Kannada and "KARNATAKA GEOPORTAL" in English, accompanied by the state emblem. A user profile for "kssdiadmin (ADMINISTRATOR)" and a "Logout" link are visible in the top right corner.

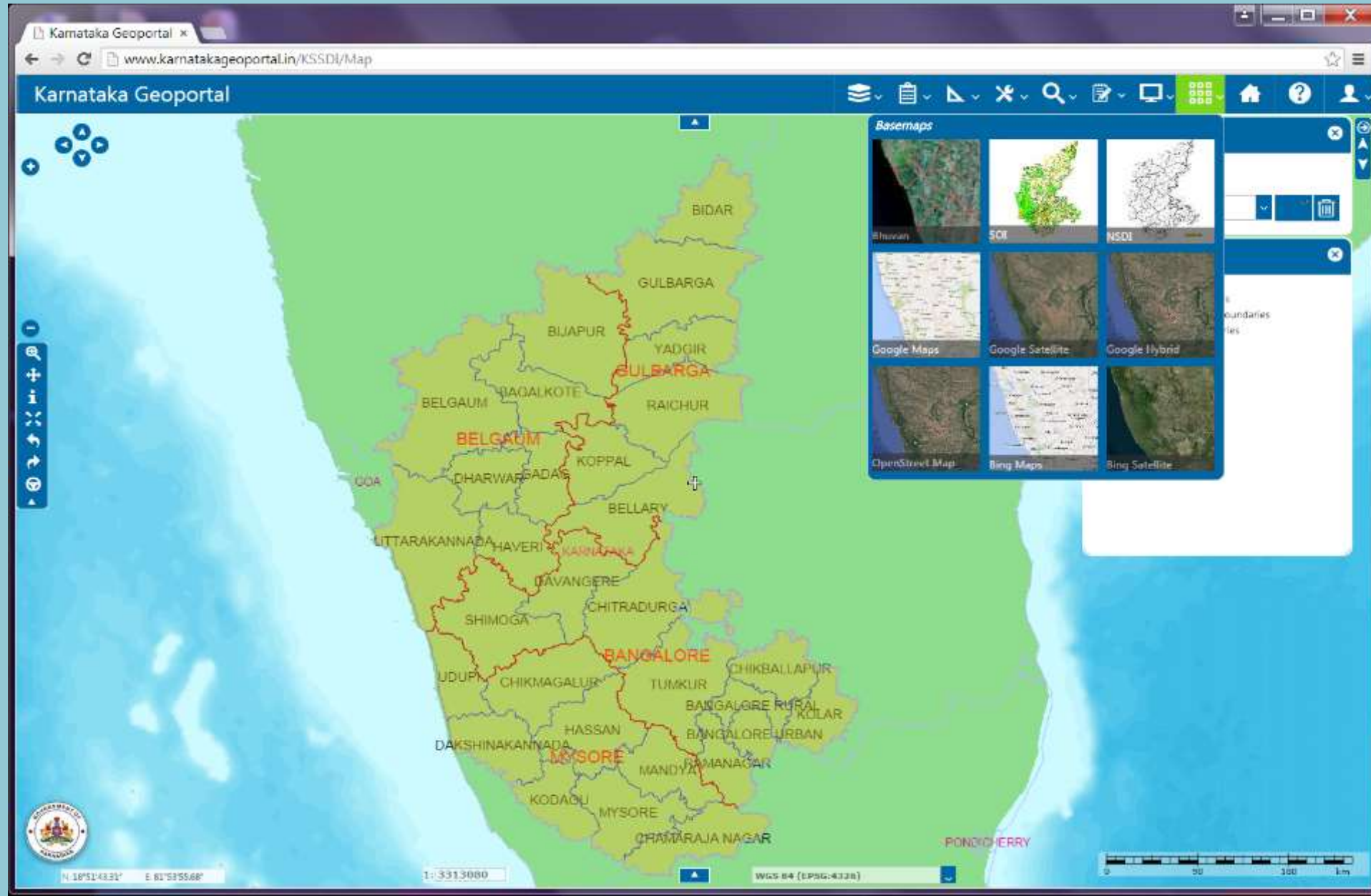
The main content area contains several interactive tiles:

- KSSDI Administrator**: A grey tile for administrative functions.
- View/Edit Profile**: A red tile for user profile management.
- Service Request**: A blue tile for submitting service requests.
- Catalogue**: A dark red tile for accessing the product catalogue.
- Map Viewer**: A blue tile for viewing geospatial data.
- Education Management Information System**: A green tile for educational data.
- Shopping Cart**: An orange tile for purchasing administrative boundaries.
- Help**: A blue tile for user guides.

A green sidebar on the right contains a "Welcome to Karnataka GeoPortal" message and a detailed description of the system as an Internet-based Geo Spatial Data Directory for the state, listing various data types and future expansion plans.

The footer includes the copyright notice: "Copyright © 2014 Karnataka State Council for Science and Technology." The Windows taskbar at the bottom shows the system date as 15-01-2014 and time as 1:56.

# Overlay of publicly available WMS



# Simple Queries – Using dropdown on administrative/PRI/Electoral

The screenshot displays the Karnataka Geoportal interface. The main map area shows administrative boundaries in green and orange, with labels for regions like HALIYAL, YELLAPUR, MUNDGOO, and HANGAL. A central orange region is highlighted with a crosshair. The right sidebar contains a 'Query' panel with three sections: 'Administrative Boundaries', 'Panchayath Raj Institutions', and 'Electoral Boundaries'. Each section has dropdown menus and 'Go' buttons for filtering data. The 'Administrative Boundaries' section has 'Division' set to 'Belgaum', 'District' set to 'Uttarakannada', and 'Taluk' set to 'Select'. The 'Panchayath Raj Institutions' section has 'Zilla Panchayath' set to 'Indaar'. The 'Electoral Boundaries' section has 'Parliamentary Constituency' set to 'Select'. At the bottom, there is a scale bar and a north arrow.

Karnataka Geoportal

www.karnatakageoportal.in/KSSDI/Map

Layerlist

Query

Administrative Boundaries

Division: Belgaum Go

District: Uttarakannada Go

Taluk: Select Go

Hobli: Go

Panchayath Raj Institutions

Zilla Panchayath: Indaar Go

Taluk Panchayath: Go

Gram Panchayath: Go

Village: Go

Electoral Boundaries

Parliamentary Constituency: Select Go

Legislative Assembly Constituency: Go

Clear Reset

Uttarakannada

WGS 84 (EPSG:4326)

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

1m



# Attribute Query

## Electoral boundaries LAC for General Constituency type

The screenshot displays the Karnataka Geoportal interface. The main map area shows the state of Karnataka with its electoral boundaries highlighted in orange. The map is surrounded by neighboring states: Maharashtra to the north, Andhra Pradesh to the east, and Pondicherry to the south. The sea is visible to the west and south.

The interface includes a top navigation bar with the text "Karnataka Geoportal" and a URL "www.karnatakageoportal.in/KSSDI/Map". A toolbar on the left side contains navigation controls like zoom in, zoom out, and pan. A "Layerlist" panel on the right side shows a list of layers, including "ElectoralBoundaries 1", "Analysis #14 (KENDATTE.LAC)", "ElectoralBoundaries", "CD", "SS 2", "SS 1", "SS", "AG 5", "AG 4", "AG 3", "AG 2", "AG 1", "AO", "Admin Boundaries", "Panchayath Raj Boundaries", and "Electoral Boundaries".

An "Attribute Query" panel is open on the right side. It contains a search box, a "Create new" button, and a "Select features in:" dropdown menu set to "KENDATTE.LAC". Below this, there is a "Where Filter is:" section with a "Simple" radio button selected. There are also buttons for "EDIT", "IF", "UNIKRAT", and "AND". The "Display as:" section shows "Analysis #14 (KENDATTE.LAC)". At the bottom of the panel, there is a "With style" checkbox and "Clear" and "Execute" buttons.

# Portal - Biogas installation status

Karnataka Geoportal

Location Search

Enter Location:

Layerlist

Biogas

Biogas Report

Year: 2010-11

District: Davangere

Taluk: Basavanur

Gram: Agasava

Panchayat: Agasava

Village: Agasava

Clear Reset

Result

District wise No. Of Plants	4286	<a href="#">Details</a>
Taluk wise No. Of Plants	1743	<a href="#">Details</a>
Gram Panchayat wise No. Of Plants	53	<a href="#">Details</a>
Village wise No. Of Plants	64	<a href="#">Details</a>

S NO	IDENTITY	BGP	MARK	BENEFICIARY NAME	BENE FATHER	HUSBAND
5315	ZP/2010-11	TK	RI/1910	Shamma Mallappa Nayak @ H.No. 45 Molinara	Mallappa Nayak	
5910	ZP/2010-11	TK	PLD/2513	Amranya Mallappa Patil @House No. 454 Agasava	Mallappa Patil	
5911	ZP/2010-11	TK	PLD/2514	Amranya Shivaganga Shivamoli @ House No.8 Agasava	Shivaganga Shivamoli	
5912	ZP/2010-11	TK	PLD/2515	Dhadappa Basappa Hospi @House No.53 Agasava	Basappa Hospi	
5913	ZP/2010-11	TK	PLD/2516	Jayappa Chennappa Patil @House No.581 Agasava	Chennappa Patil	
5914	ZP/2010-11	TK	PLD/2517	Kallappa Basavanna Godiker @Agasava Malagonda	Basavanna Godiker	
5915	ZP/2010-11	TK	PLD/2518	Chennabasappa Patil @House No. 212 Agasava	Chennabasappa Patil	
5916	ZP/2010-11	TK	PLD/2519	Parvati Basappa Marital @House No. 52 Agasava	Basappa Marital	
5917	ZP/2010-11	TK	PLD/2540	Prabhakar Gopal Lohar @ House No.382 Agasava	Gopal Lohar	
5918	ZP/2010-11	TK	PLD/2541	Shantappa Siddappa Patil @ House No.500 Agasava	Siddappa Patil	
5919	ZP/2010-11	TK	PLD/2532	Suresh Chandra Desai @House No.56 Agasava	Chandra Desai	



# Proof of concept for NSDI – IRCTC (similar to spot the train concept)

Karnataka Geoportal

Layerlist

- Admin. Boundaries
- Panchayath Raj Boundaries
- Electoral Boundaries
- Colleges
- Water Map
- OpenStreet Map

Station Name	SURGACHI
Train Name	AI JAN SHATABDI
Train Number	12066
Arrival Time	09:00
Departure Time	00:00

Train Query

Route Enquiry

Train Name:

Train Number:

1 77° 01' 37" E 12° 20' 20" N 1: 549979

© OpenStreetMap contributors

0 20 km

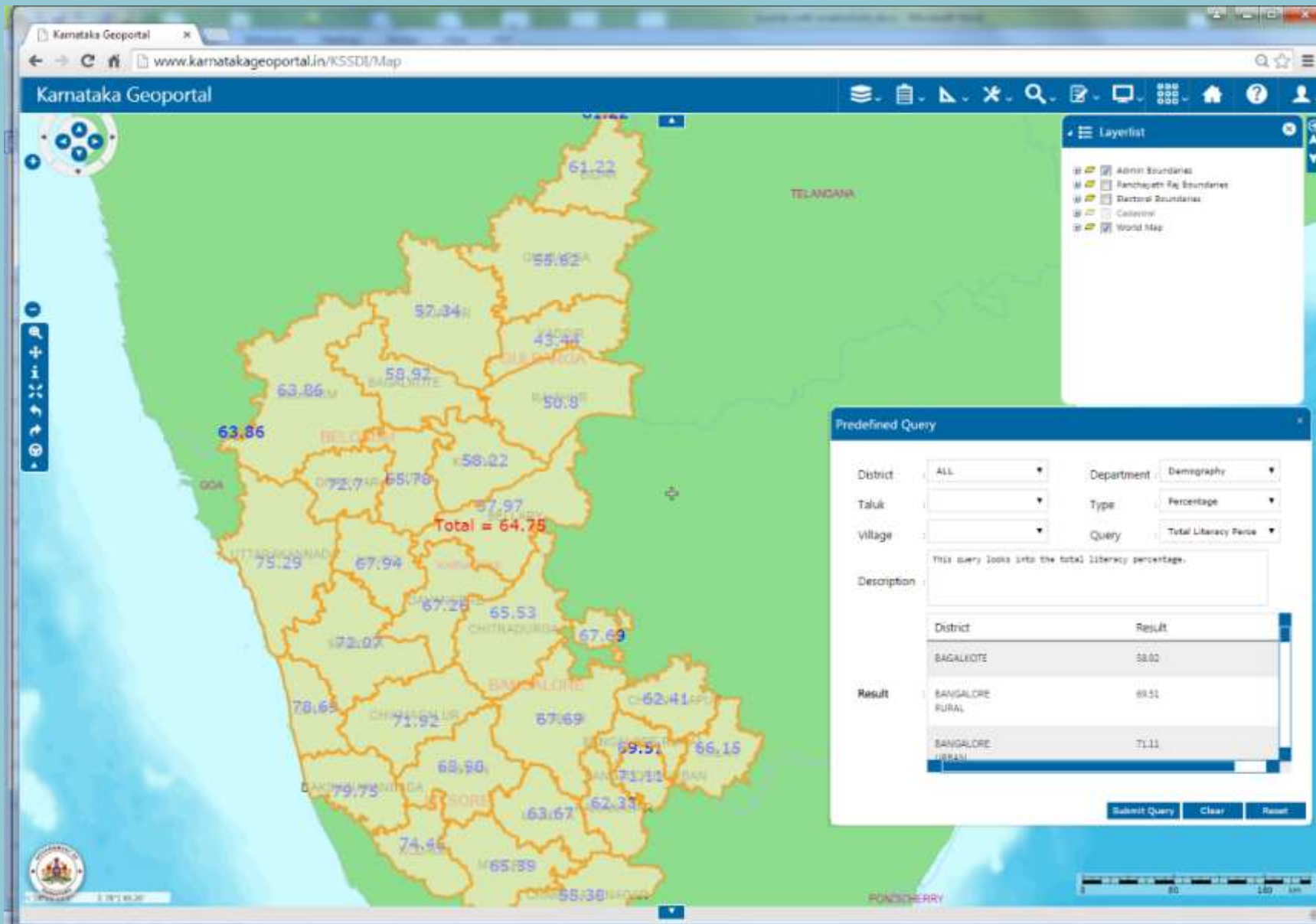
# Predefined Queries

The screenshot displays the Karnataka Geoportal interface. The main map shows the state of Karnataka with various districts labeled, including BELGAUM, DHDARWAR, GADAG, KOPPAL, BELLARY, HAVERI, KARNATAKA, DAVANGERE, CHITRADURGA, SHIMOGA, BANGALORE, CHIKBALLAPUR, CHIKMAGALUR, TUMKUR, BANGALORE RURAL, KOLAR, BANGALORE URBAN, MANDYA, RAMANAGAR, HASSAN, MYSORE, DAKSHINAKANNADA, and BIDAR. A 'Predefined Query' dialog box is open, featuring the following fields:

- District: Bagalkote
- Department: Demography
- Taluk: ALL
- Type: Select
- Village: (empty)
- Query: No. Per Something
- Description: (empty)
- Result: (empty)

Buttons for 'Clear' and 'Reset' are located at the bottom of the dialog box. A green circle highlights the 'Query' dropdown menu. The website's header includes 'Karnataka Geoportal' and a navigation bar with various icons. The browser's address bar shows 'www.karnatakageoportal.in/KSSDI/Map'. The system tray at the bottom indicates the date as 02-03-2015 and the time as 10:28.

# Predefined Queries – Eg., Total literacy






# Uploading of geotagged time-stamped photos with attributes – through desktop and mobile devices

The screenshot displays the Karnataka Geoportal interface. The main map shows the state of Karnataka with various districts labeled, including Bidar, Gulbarga, Belgaum, and Bangalore. A 'Layerlist' panel on the right shows several layers, with 'Citizen Point Layer' selected. An 'Edit Data' form is open in the foreground, allowing users to input metadata for a photo. The form includes fields for PHOTOURL, UPLOADED BY, UPLOADED TIME, COMMENTS, and HABITATION. The current values are: PHOTOURL: C:\Users\HP\Desktop\Bidar; UPLOADED BY: Admin; UPLOADED TIME: 5:30pm; COMMENTS: Historical Place to visit; HABITATION: (empty). The form also features buttons for 'Select Feature', 'Insert Feature', 'Edit Feature', and 'Clear'. At the bottom of the form, a status message reads 'Record is being submitted for approval. Please wait...' and there are 'Update' and 'Reset' buttons. The map interface includes a search bar, navigation tools, and a scale bar at the bottom.

Field	Value
PHOTOURL	C:\Users\HP\Desktop\Bidar
UPLOADED BY	Admin
UPLOADED TIME	5:30pm
COMMENTS	Historical Place to visit
HABITATION	

# Viewing of uploaded image by registered user

The screenshot displays the Karnataka Geoportal web application. The browser address bar shows the URL [www.karnatakageoportal.in/KSSDU/Map#](http://www.karnatakageoportal.in/KSSDU/Map#). The page title is "Karnataka Geoportal". A "View/Upload Photos" dialog box is open, showing a list of photo metadata. The metadata table is as follows:

Name	Value
PID	15
PHOTOURL	 Click on image to view
DISTRICT	Belgaum
TALUK	Belgaum

The dialog box also includes a "Select Layer" dropdown menu set to "Citron Point Layer" and a "Load Layer" button. Below the metadata table is a "Reset" button. The background shows a map with a large photo viewer window displaying a landscape image. The map interface includes a "Location Search" panel on the right and a scale bar at the bottom right. The system tray at the bottom shows the date and time as 1:29 PM on 15-01-2015.

# State Government used portal for uploading BCM hostel info

The screenshot shows a web browser window displaying the Karnataka Geoportal. The main content is a map of Karnataka with various districts labeled. A photo of a white building with a blue door is overlaid on the map. The photo is titled "View/Upload Photos" and includes a metadata table.

Uploaded By: NRDMS\_VIJAY

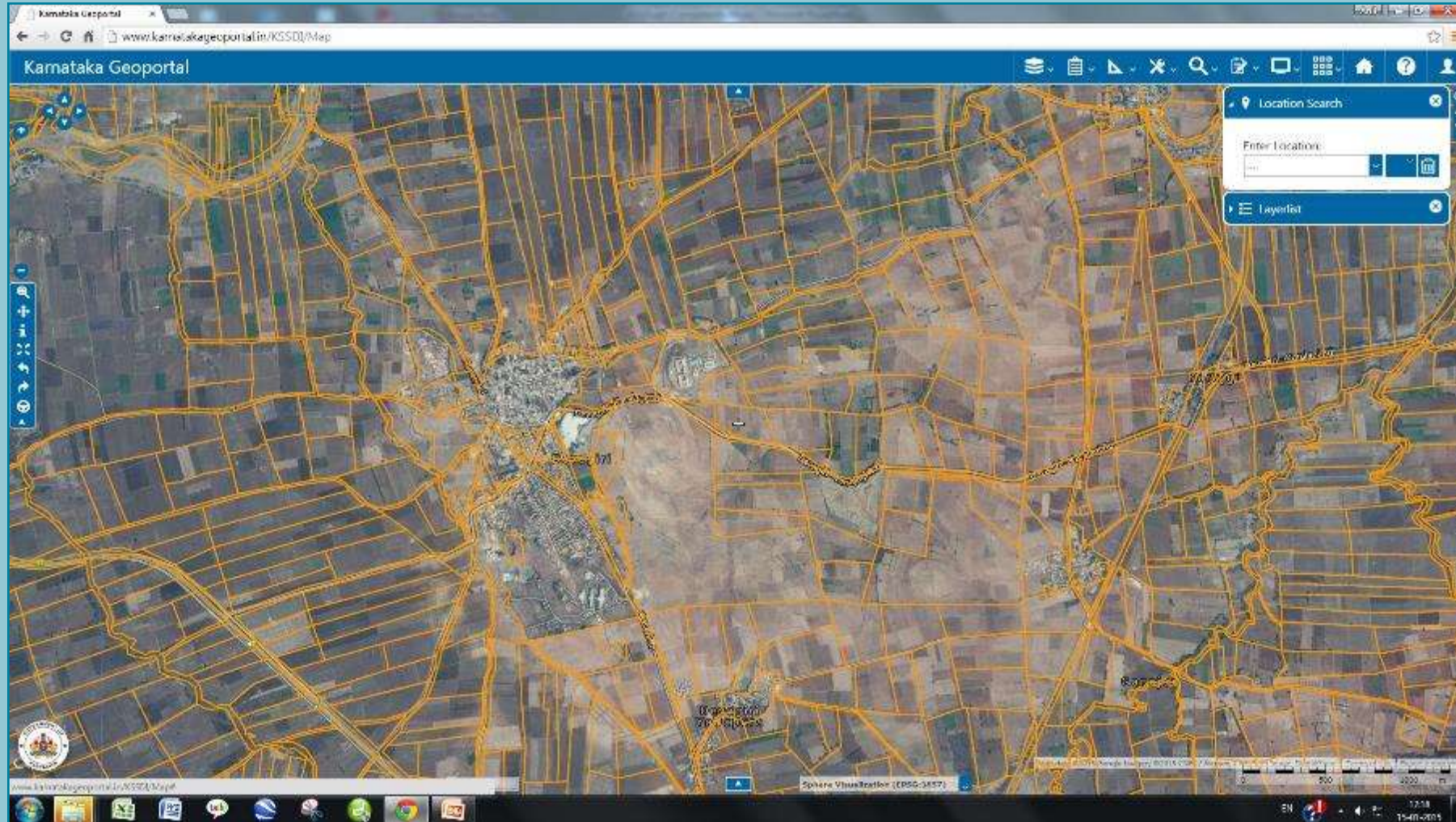
Select Layer: Citizen Point Layer

Name	Value
PID	220
PHOTOURL	
DISTRICT	Bijapur
TALUK	Muddebihal

ENG 11:36  
INTL 26-02-2015



# Cadastral info on Bhuvan/Google for Dashboard





# Cadastral info on Bhuvan for Watershed Dashboard

The screenshot displays the Karnataka Geoportal web application. The main area shows a satellite map with a grid of cadastral information overlaid. The grid cells are labeled with "Bhuvan: ISRO/NRSC". The interface includes a search bar, a layerlist, and a taskbar at the bottom.

**Location Search:**

Enter Location:

**Layerlist:**

- Admin Boundaries
- Panchayat Raj Boundaries
- Sectoral Boundaries
- Cadastral
- World Map
- Bhuvan Maps
- Copyright
- Bhuvan

**Context Menu:**

- Fit Layer
- Locatable
- Transparency
- Format
- Scale Bands
- Rename
- Remove

**Taskbar:**

- Desktop
- ENG
- 18:13
- INTL
- 05-02-2015

# The Old Tabular method





# The Old Tabular method

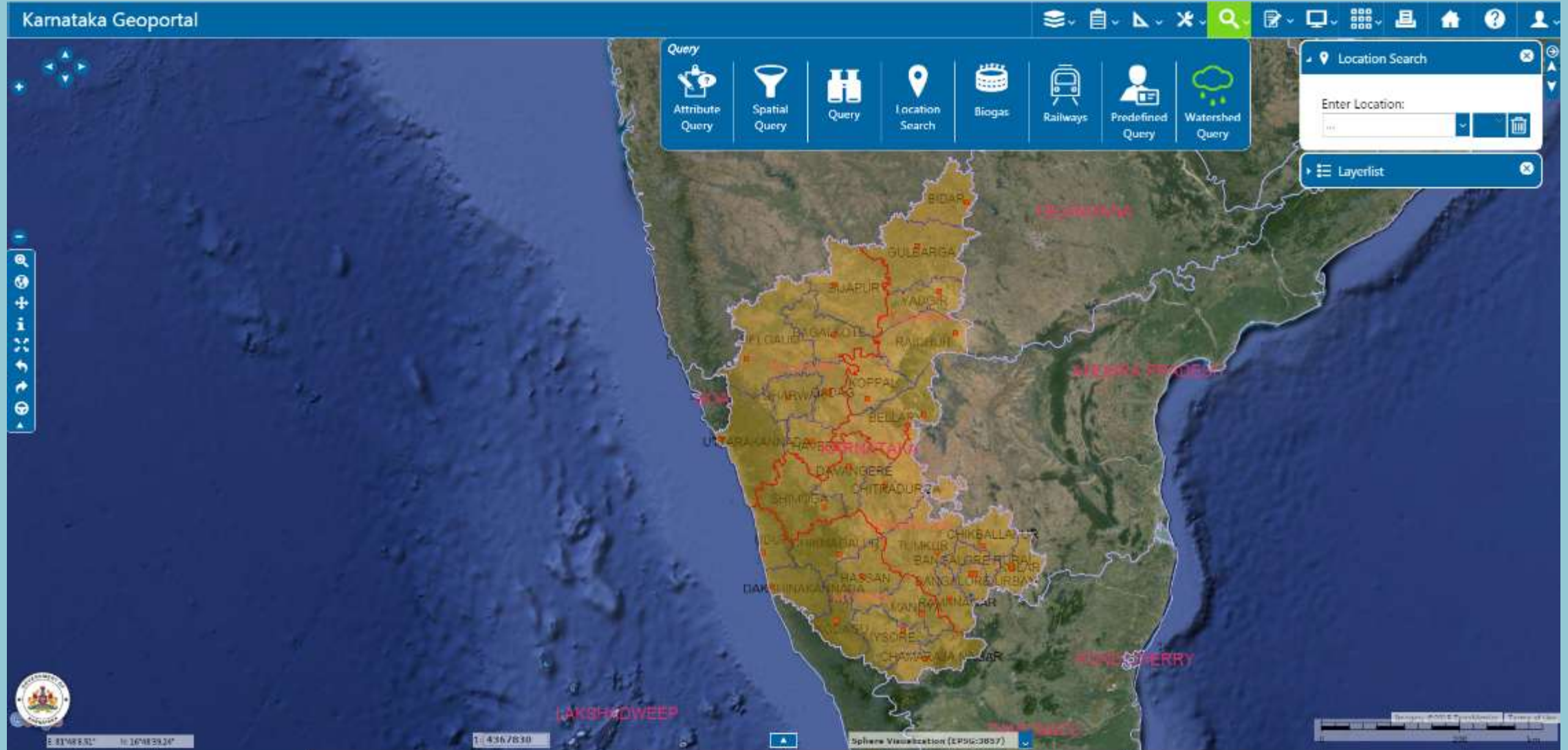
District: Erode  
Tahsil: Srirangar  
Name of the Project: IWMP-200-10  
Project Level Private Land IWMP Activity Details

Report Date: 24-02-2015 16:37:16

Ben.Code	Ben.Name	Father's Name	Class	Category	Survey No.	Latitude	Use Group	Activity	Type/Variety	Dimensions	Dist	Water Storage Capacity (CL.MTR)	Phy	Fin	Status	Latitude	Longitude	Voucher No.	Voucher Date	Photo1	Photo2	Photo3
Kannadambal Grama Panchayath Details																						
434AS-6-4 Microwatershed Details																						
Agnaselli Village Details																						
1	Kannabara Chinnambal	Chinnabavappa	Others	Small Farmer	183	Upper	Acadambur	irriga	Waste Water	1.76 acre (1.76/207.3450)	No	0.00	1899.74	Completed	14-08-08	75-42-23	24	Feb 12th 2015				
2	Harappa Chinnambal	Nagappa	Others	Marginal Farmer	182a	Upper	Acadambur	irriga	Shading	Block & Canal Sola/10a Bnd-9.430)	Dist	28.00	1810.78	Completed	14-08-09	75-42-48	24	Feb 12th 2015				
3	Nagappa Chinnambal	Ganapadappa	Others	Small Farmer	182b	Upper	Acadambur	irriga	Shading	Block & Tail Sola/10a Bnd-9.430)	Dist	29.00	2193.24	Completed	14-07-08	75-40-28	24	Feb 12th 2015				
3	Nagappa Chinnambal	Ganapadappa	Others	Small Farmer	182b	Upper	Acadambur	irriga	Waste Water	1.76 acre (1.76/207.3450)	No	0.00	1899.74	Completed	14-07-08	75-40-28	24	Feb 12th 2015				
4	Yasakudayya Chinnambal	Kannabavappa	Others	Small Farmer	183	Upper	Acadambur	irriga	Shading	Block & Tail Sola/10a Bnd-9.430)	Dist	64.00	2193.24	Completed	14-07-08	75-40-28	24	Feb 12th 2015				
5	Ganapadappa Chinnambal	Nagappa	Others	Small Farmer	184	Upper	Acadambur	irriga	Shading	Block & Tail Sola/10a Bnd-9.430)	Dist	22.00	2221.88	Completed	14-08-08	75-40-18	24	Feb 12th 2015				
6	Yasappa Kurali	Nagappa	Others	Others	185	Upper	Acadambur	irriga	Shading	Block & Tail Sola/10a Bnd-9.430)	Dist	28.00	1859.72	Completed	14-08-08	75-40-28	24	Feb 12th 2015				
6	Yasappa Kurali	Nagappa	Others	Others	185	Upper	Acadambur	irriga	Waste Water	1.76 acre (1.76/207.3450)	No	0.00	1899.74	Completed	14-08-08	75-40-28	24	Feb 12th 2015				
7	Nagappa Chinnambal	Ganapadappa	Others	Others	186	Upper	Acadambur	irriga	Shading	Block & Tail Sola/10a Bnd-9.430)	Dist	28.00	1859.72	Completed	14-07-08	75-40-28	24	Feb 12th 2015				
8	Yasakudayya Chinnambal	Kannabavappa	Others	Small Farmer	187	Upper	Acadambur	irriga	Shading	Block & Tail Sola/10a Bnd-9.430)	Dist	40.27	1745.72	Completed	14-08-08	75-42-28	24	Feb 12th 2015				
9	Bhargava Babbar	Mudalappa	Others	Small Farmer	188a	Upper	Acadambur	irriga	Shading	Block & Tail Sola/10a Bnd-9.430)	Dist	36.00	1859.72	Completed	14-08-08	75-40-28	24	Feb 12th 2015				
10	Silveya Kalladara	Falkeappa	Others	Small Farmer	189b	Upper	Acadambur	Miscellaneous	Cocunut	Tail	No	40.00	4295.00	Completed	14-08-08	75-28-4	1	Feb 12th 2015				
11	Silveya Kalladara	Shadabharappa	Others	Small Farmer	189c	Upper	Acadambur	irriga	Shading	Block & Tail Sola/10a Bnd-9.430)	Dist	9.00	410.75	Completed	14-08-09	75-46-28	25	Feb 12th 2015				
12	Harappa Babbar	Mudalappa	Others	Small Farmer	189	Upper	Acadambur	irriga	Shading	Block & Tail Sola/10a Bnd-9.430)	Dist	87.10	1260.44	Completed	14-07-08	75-46-28	24	Feb 12th 2015				
12	Harappa Babbar	Mudalappa	Others	Small Farmer	188	Upper	Acadambur	irriga	Waste Water	1.76 acre (1.76/207.3450)	No	0.00	1899.74	Completed	14-07-08	75-46-28	25	Feb 12th 2015				
13	Kannabara Chinnambal	Chinnabavappa	Others	Small Farmer	1810	Upper	Acadambur	irriga	Shading	Block & Tail Sola/10a Bnd-9.430)	Dist	24.00	1458.48	Completed	00-00	0-0-0	28	Feb 12th 2015				
14	Chinnabavappa Chinnambal	Nagappa	Others	Small Farmer	1810.1	Upper	Acadambur	irriga	Shading	Block & Tail Sola/10a Bnd-9.430)	Dist	18.00	780.88	Completed	14-08-09	75-44-12	28	Feb 12th 2015				
14	Chinnabavappa Chinnambal	Nagappa	Others	Small Farmer	1810.1	Upper	Acadambur	irriga	Waste Water	1.76 acre (1.76/207.3450)	No	0.00	1899.74	Completed	14-08-09	75-44-12	28	Feb 12th 2015				

More than 1000 beneficiaries in each watershed projects.

# The new portal based access







# WATERSHED PORTLET

The screenshot displays the Karnataka Geoportal interface. The main map area shows the state of Karnataka with various watershed basins outlined in red. The basins are labeled as follows:

- GODAVARI BASIN
- KRISHNA BASIN
- WEST FLOWING RIVER BASINS
- NORTH PENNAR
- SOUTH PENNAR (PONNAIYAR)
- PALAR BASIN
- CAUVERY BASIN

The interface includes a search bar on the right with the text "Enter Location:" and a "Layerlist" panel on the right side. The layerlist contains the following items:

- Haveri IWMP
- Haveri\_CAD\_BATCH1
- Haveri\_VILLAGE
- Administration
- Panchayath Raj institutions
- Electoral Constituencies
- Cadastral
- Geology
- Transportation
- Water Resources
- Weather Climate
- World Map

The bottom of the screen shows a scale bar (0 to 180 km), a coordinate display (N 13°57'28.81" E 81°8'55.68"), and a search bar with the text "Search Windows".

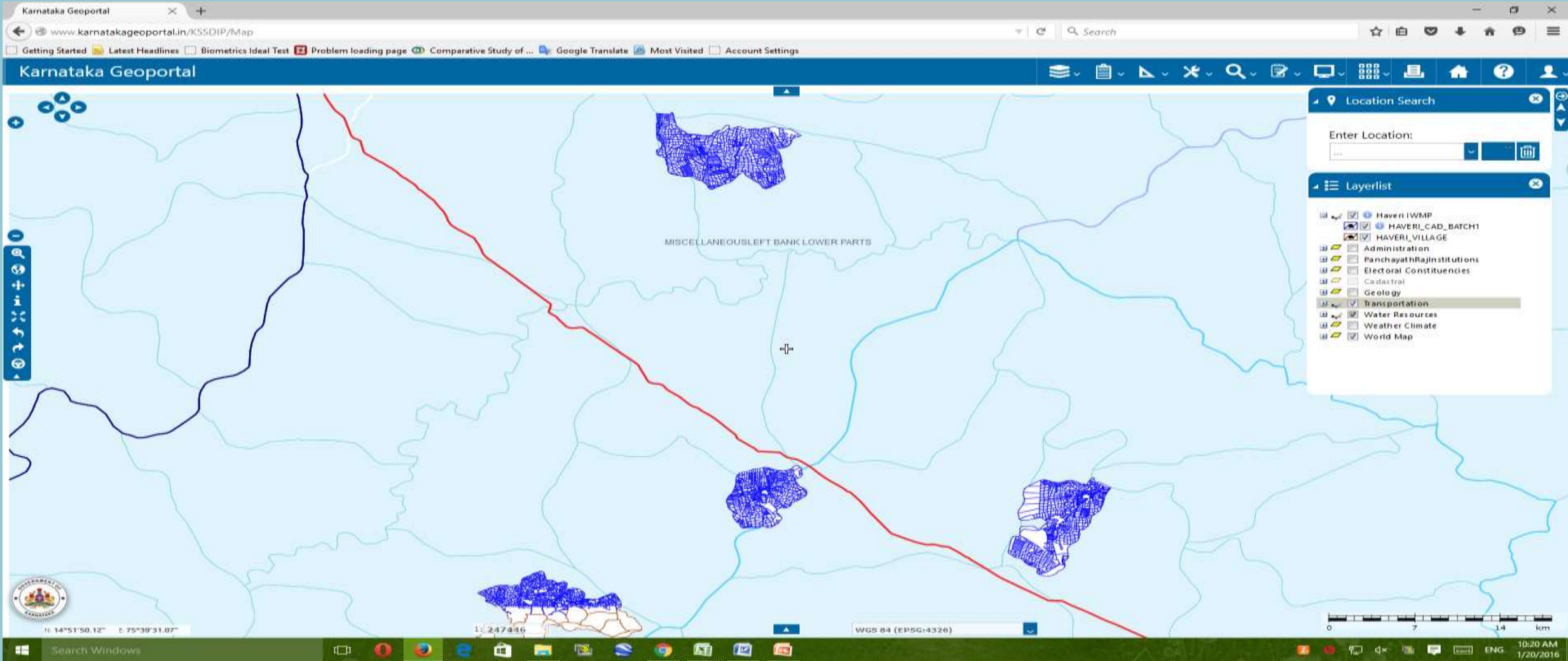
# IWMP PARAMETERS

Sl. No	ID
1	SURVEY NO.
2	SURVEY 1
3	BEN_CODE
4	BATCH
5	VILLAGE_NAME
6	VILLAGE_CODE
7	GP_NAME
8	GP_CODE
9	TALUK_NAME
10	TALUK_CODE
11	DISTRICT_NAME
12	DISTRICT_CODE
13	DIVISION_NAME
14	DIVISION_CODE
15	PROJECT_CODE
16	SUBWD_CODE
17	MWS_CODE
18	BEN_NAME
19	FATHERS NAME

20	CASTE
21	CATEGORY
22	LOCATION
23	USER GROUP
24	ACTIVITY
25	TYPE/VARIETY
26	DIMENSIONS
27	UNIT
28	WATER_SC_(CUM)
29	AREA_HECTARE
30	PHY
31	FIN
32	STATUS
33	LATITUDE
34	LONGITUDE
35	VOUCHER NO.
36	VOUCHER DATE
37	IMAGE_1
38	IMAGE_2
39	IMAGE_3



# Treated watershed overlaid with cadastral info





# Karnataka Geoportal Services:

- Map viewer - Web Map Service (WMS),
- Product catalogue/metadata - Catalogue Service on Web (CS-W),
- Services specific service/ feature data sets - Web Feature Service (WFS),
- Simple Applications (Query based decision support)
- Coverage services/images - Web Coverage Service (WCS)
- Web processing Service (WPS)
- Transactional Web Feature Service (WFS-T)
- Mobile Mapping
- Multi-spatial and multi-attribute query and analysis
- Multi-lingual
- Help/support

# Planned activities

- **To develop NRDMS applications using WMS/WFS/WFS-T**
- **R&D collaboration with other institutions**
- **Crowd sourcing of data through NRDMS/line departments**
- **Karnataka Geoportal data asset management plan for select layers.**
- **Linkages with KGIS**
- **PPP model for development of Apps**
- **Formulation of Date Data sharing and Accessibility policy**

**Thank You**