

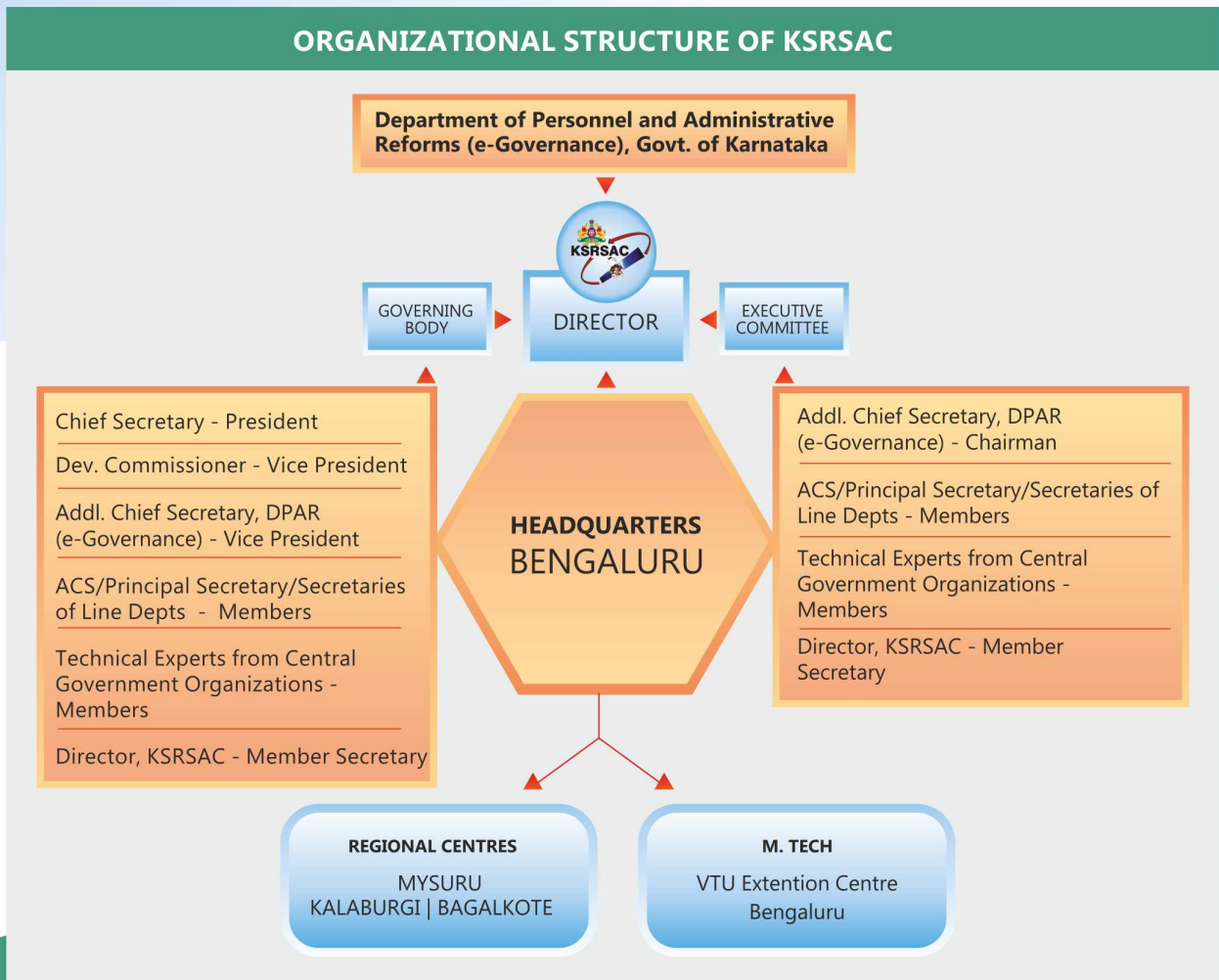
Karnataka State Remote Sensing Applications Centre

**Department of Personnel and Administrative
Reforms (e-Governance), Govt. of Karnataka**

Introduction

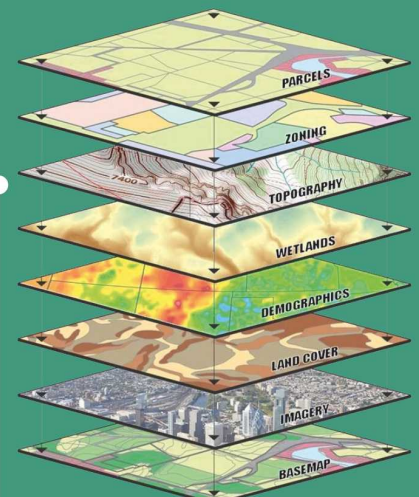
Karnataka State Remote Sensing Applications Centre (KRSAC) was established in the year 1986 and later, in the year 2002, the GoK designated as the Nodal Agency for the implementation of Remote Sensing and GIS including Photogrammetry programmes in the state. It is an autonomous organisation governed by a governing body and administered and guided by an executive committee. The Director is the head of the organization.

ORGANIZATIONAL STRUCTURE OF KRSAC



Mandate

- Undertake and act as the nodal agency for all Remote Sensing and GIS activities in the state
- Act as repository (data bank) of satellite data and other database relevant to the State departments
- Assist user departments in the implementation and evaluation of remote sensing applications
- Interact and collaborate with the Indian Space Research Organization and other National Organizations in the field of remote sensing and allied disciplines
- Organize training programmes, conferences and workshops for promotion of Remote Sensing and GIS technologies
- Disseminate the results of remote sensing and GIS investigations through annual reports, journal articles, project reports and Web.



Infrastructure

The Headquarters of the KRSAC is located in the GKV Campus and the regional centres at Mysuru, Kalaburagi and Bagalkote have sufficient built-up space to accommodate all the required facilities and manpower.



GEOSPATIAL LAB



APPLICATIONS DEVELOPMENT LAB

Geo-Informatics Laboratory

The geo-informatics laboratories established at the Head Office and Regional Centres at Mysuru, Kalaburagi and Bagalkote have advanced hardware and software facilities.



MYSURU



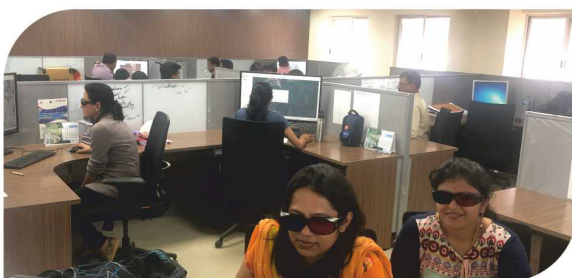
KALABURAGI

Photogrammetry Laboratory

The Photogrammetry laboratory at the headquarters is equipped with LEICA, Imaging Photogrammetric Suite (Software, Version 18.0) and Nuvision Spectra for Stereo Vision.



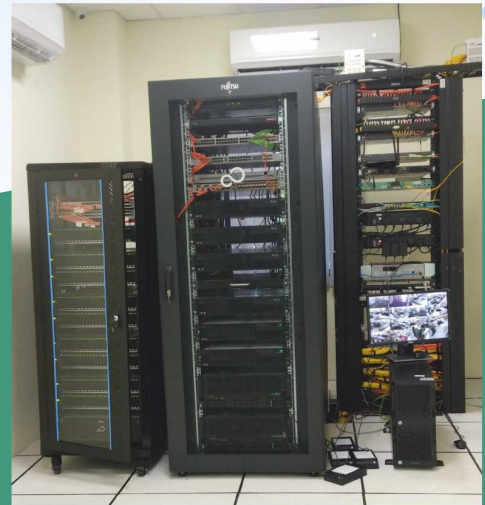
BAGALKOTE



PHOTOGRAMMETRY LAB

IT Infrastructure

KRSRAC has high-end servers and storage device to store the data generated in K-GIS and other projects. Dedicated network from data centre to K-GIS development centre and K-SWAN network is established. Also, the centre has relevant geospatial and database server software required for development and staging.



Geospatial Data

The storage server has the following data layers and they have been made available to users through K-GIS portal services.

- Base Map
- Boundary
- Infrastructure
- Hydrology
- Urban and Settlement
- Industrial & Content
- Forest
- Ecology & Environment
- Geological
- Land use Land cover
- Land Ownership
- Water spread area of tanks
- Soil Information
- Public Assets/ Amenities
- Point of Interest
- Graticules
- Images
- Terrain Information
- Weather Information

Accomplishments

Since establishment, the KRSRAC has successfully completed a wide array of remote sensing and GIS projects for various central and state government departments.

Soil Health Mission

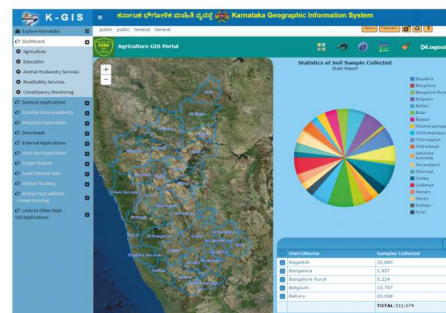
The mobile application developed under the scheme Soil Health Mission replaces analog positioning of the soil sampling location with digital positioning. It enables preloading of base map and cadastral map of area of interest with grids for locating the points of soil sample collection.



SOIL SAMPLE COLLECTOR
ANDROID MOBILE
APPLICATION

AgriGIS web portal

The KRSRAC has updated the AgriGIS web portal with additional functionalities for monitoring District, Taluk, Hobli and Village wise soil sample collection.



SOIL SAMPLE COLLECTION
MONITORING AGRICULTURE
GIS PORTAL

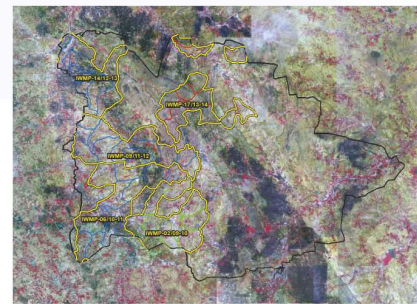
- The Web service in the Web GIS portal enables the automatic connection to "Bhoomi" database of SSLR department, which has all the details of property ownership

- The details of farmers extracted from "Bhoomi" database are then shared with Soil health portal developed by NIC for Government of India

LINKING TO BHOOMI LIVE SERVER

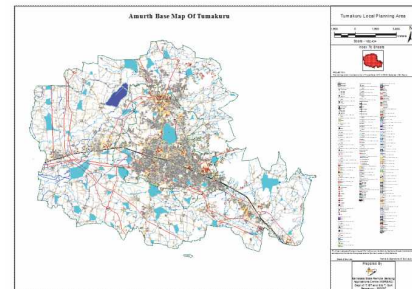
Integrated Watershed Management Program

The Land Use Land Cover change detection maps were prepared for the year 2010-2012 to 2013-2014 and suitable action plans are suggested for the development of watershed.



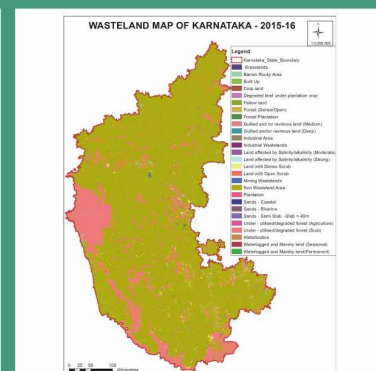
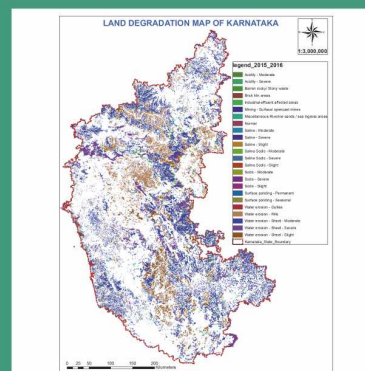
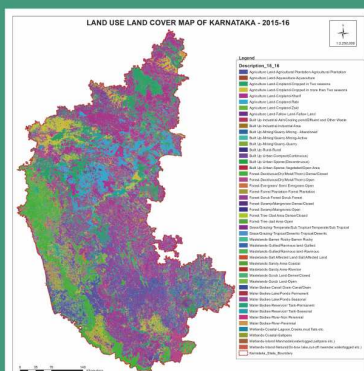
Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

Base maps comprising 85 layers are prepared for the AMRUT towns for use in Master plan (1:2000 scale).



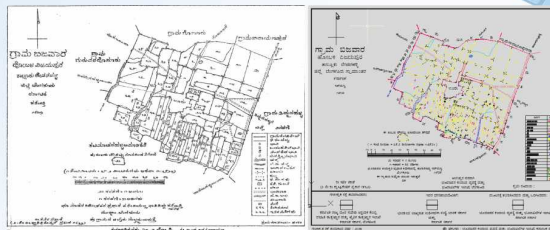
Land use Land cover, Land Degradation, Wasteland Mapping

The Land Use Land Cover, Land degradation and Waste Land mapping using 2016-2017 LISS III images have been completed.



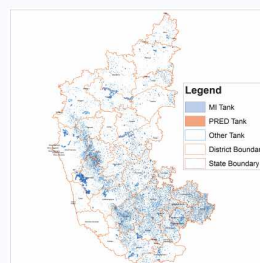
Cadastral Map Digitization

Cadastral maps of all the villages (~30662) in the state have been digitized, geo-referenced and made GIS ready. These maps are made available in the mobile applications Dishank (provides the RTC) and Moulya (provides the property guidance value)



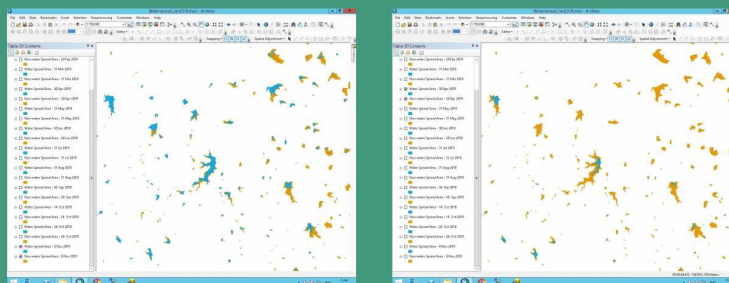
Mapping of Minor Irrigation Tanks

The KRSAC has mapped all the tanks of the state and updated the details of command area, catchment area and ownership. The details are integrated with tank information system web application under K-GIS.



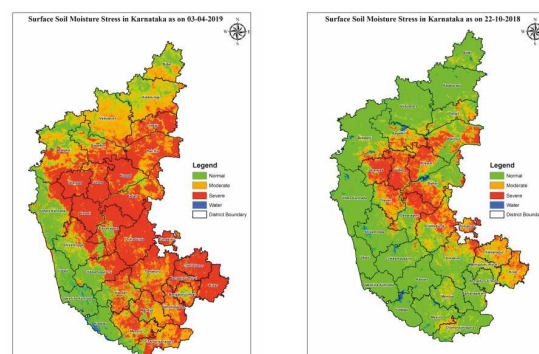
Water Spread Analysis

Fortnightly assessment of water spread in the tanks of the state was made using AWiFS satellite imagery from November 2017 to May 2018 and monthly assessment using Sentinel-1, microwave since September-2018. The maps are uploaded to K-GIS portal for use by the line departments.



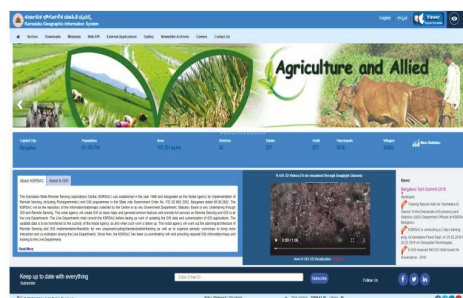
Surface Soil Moisture Stress Assessment

Fortnightly assessment of surface soil moisture stress condition for the state has been made using AWiFS satellite imagery from November 2017. The maps are uploaded to K-GIS portal. The assessment of soil moisture stress involved calculation of Normalized Difference Drought Index (NDDI).



Karnataka Geographic Information System (K-GIS)

KGIS, has state-wide, standardized, seamless updated and configured GIS ready data to meet the application needs of government, citizens and enterprises which includes satellite images, thematic maps, ground survey and MIS data with geographic reference. K-GIS Portal provides a single gateway access to assets of Government of Karnataka and departmental DSS Applications with standard metadata service, GIS services for Applications & data ingest, sharing, publishing etc.

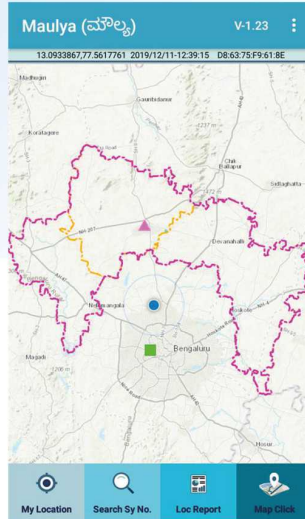


Mobile Applications



Dishank

The DISHAANK mobile app helps the citizen to see the survey number details of any location and facilitates downloading of RTC.



Maulya

The Maulya mobile application was developed to know the valuation details of properties and integrated with Kavery online Services and K-GIS & Bhoomi applications.

Education and Training

The KRSRAC offers a two-year M.Tech programme in Geo-informatics as an affiliated organization of Visvesvaraya Technological University (VTU) since the academic year 2004-05. The BE degree with a minimum of 50% aggregate marks is the minimum requirement for admission to this course (refer M.Tech brochure for more details). The KRSRAC also offers training programmes in Remote Sensing and GIS technologies to the officials of the line departments and university/colleges.



Other Services

- Map services to Government of Karnataka Departments
- Internship and guidance to college students
- Consultancy



SURVEY



DATA ACQUISITION

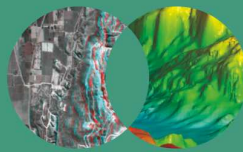


IMAGE PROCESSING



MAPPING & MODELING



CAPACITY BUILDING

**Nodal Agency for
Implementation of
Geoinformatics activities in
Karnataka**



Director

Karnataka State Remote Sensing Applications Centre

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