Telangana State Remote sensing Applications centre

Volume II Issue 2

**February** 



Thought for the month: "Strive not to be a success, but rather to be of value." - Albert Einstein

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#### **Kudos to best performers**

Appreciations to
K.Kiran,G.NagaMallika,
M.Srinivasulu & A.Balraj,
A.Shiva Kumar for
Presenting Paper at National
Seminar on "Challenges in
implementing GeoInformation Technology
Solutions" paper which
published in GIS India
Magazine (February 2016)

# Bhu Bharathi- Pilot project at TRAC

Deficiencies in land records, has become difficult for common people to safeguard their property, enforce their rights and obtain quality services from agencies. It is estimated 28% in peri-urban areas are affected by land disputes.

Government has taken initiative to discontinue the present system of maintaining land records in multiple government departments. A single dedicated agency will create, maintain and deliver all land related services like survey, subdivision, maintaining title records, registering property transfers, and maintaining property tax records in rural and urban areas.

Chief Commissioner of Land Administration (CCLA) under the name of Bhu-Bharathi has taken up this project where, resurvey of land will be done, utilising modern scientific surveying techniques like Photogrammetry, Electronic Total Station and Differential Global Positioning System. This makes survey faster, less expensive and more accurate. Bhu-Bharathi will replace the present system of deed registration with title registration. Under the new system, it would be the responsibility of the Registrar/Bhu-Bharathi Authority to verify the title of the owner before allowing transactions on the property in

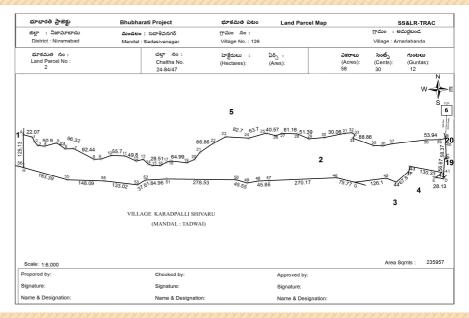
question. The objective of maintaining records will no longer be limited to properties generating revenue as the authorities will maintain records for all private properties in rural and urban areas, be it agricultural, residential, commercial or industrial, for giving absolute title security, creating a Registrar of conclusive titles.

A unique Parcel Identification Number (PIN) will be allotted to every land parcel. The entire survey data will be stored on a Geographical Information System platform.

TRAC is the Nodal agency for GIS applications in the state and completed digitising cadastral data for all the districts. It is assigned with preparation of layouts for each parcel with details such as Extent, Enjoyer name, Parcel number (updated) etc., for Bhu Bharathi project. Initially six villages of Nizamabad district were assigned as pilot project on successful and satisfactory output from cadastral team, under the supervision of Principal scientist A V Subba rao Entire district now is assigned for work and on completion of resurveying of remaining districts work will be assigned accordingly.

Bhu Bharathi a self-sustaining system introduced in public-private partnership mode, will price the land information. An appropriate user charges regime will be introduced.

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Layout/Land Parcel Map for each parcel prepared by cadastral team of TRAC for Bhu Bharathi Project

# Command Area Monitoring – An in-house project of TRAC

Water Resources division of TRAC releases seasonal report on cropping patterns in the major and minor irrigation projects in the state, with regard to water management and agricultural productivity. This helps to know the resource, environment and the returns from the investment. This report is released for every Rabi and Kharif season.

Remote Sensing & GIS tools have been employed for the cropping pattern analysis. The spatial extent of crops for both Wet & Irrigated Dry (ID) are derived for each command.

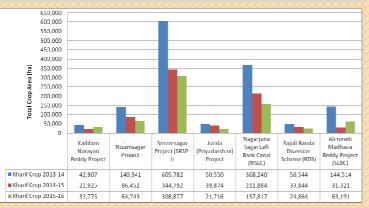
The study covers part of Godavari basin and Krishna basin in Telangana State. The part of Godavari basin has 3 Major and 21 Medium irrigation projects and the part of Krishna basin has 4 Major and 13 Medium irrigation projects.

The observations made for each command from satellite data analysis and field observations are total irrigated area, estimation of wet area, percentage of area for wet and ID crop. After the estimations of the crop areas these are compared with the previous year's data to analyse and understand the change.

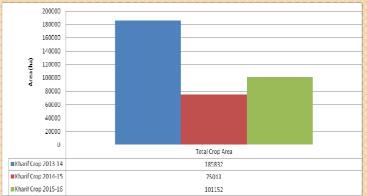
The command area boundaries of each project have been delineated based on available maps gathered from the field offices of the respective projects. Wherever the maps are available or not the command boundaries are demarcated based on cropping pattern and terrain characteristics, interpreted with the help of satellite data and drainage pattern of the area.

For Kharif 2015-16, Landsat - 8, which is freely downloadable imagery, OLI\_TIRS data of 12<sup>th</sup>, 21<sup>st</sup> and 28<sup>th</sup> October 2015 is classified to identify for each command the spatial extent of Wet and Irrigated Dry (ID) crops. Multi date interpretation is performed on available satellite data, so as to avoid cloud cover.

Apex Committee is constituted by Government of Telangana at state level. Water related issues like regulation, performance, convergence and Information on crop type, extent under major and medium irrigation projects of Telangana State are the requisites of the committee. Irrigation and Command Area Development (I&CAD) Department is the member of Water Management. The committee evinced keen interest to know the scope of "Satellite Remote Sensing based monitoring of major and medium irrigation projects" of Telangana State.

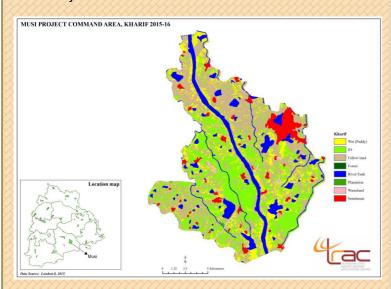


Graph.1 Year wise Comparative analysis of Kharif Crop in Major projects



Graph.2 Year wise Comparative analysis of Kharif Crop in Minor Projects

#### Musi Project



### **Trainings this month**

### 16th IIRS Outreach Programme on Geo-Spatial Technologies for Urban Planning:

The Indian cities are experiencing rapid growth with share of country's urban population increasing from 27% in 2001 to 32% in 2011. Majority of this growth has taken place in an unplanned and haphazard manner, the illeffects of which are manifested in the form of poor quality of life mainly due to lack of urban infrastructure and increasing vulnerability of urban population to various natural and manmade hazards. One of the major reasons for this unsustainable growth has been the lack of up-to-date and accurate spatial data on which urban planners can base their plans. Geospatial technologies pave way to these planning problems, as they offer accurate and timely spatial data at affordable cost. To enhance the awareness on Geospatial technologies, IIRS has designed 16th IIRS Outreach Programme on "Geospatial Technologies for Urban Planning". The course is scheduled from 11 February - 15 March 2016. The course will contain 4/5 lectures per week (each of one and half hour duration).

The programme is sponsored by National Natural Resources Management System — Standing Committee on Training and Education (SC-T), Indian Space Research Organisation, Department of Space, and Government of India and is conducted with due technical support from Amrita E-Learning Research Lab, Kollam, and Kerala.

TRAC also has participated in this course. 30 members are attending the course daily from 3:30 pm to 5:00 pm. Along with theoretical knowledge, technical awareness

#### **Musi Project**

- The gross storage capacity of the reservoir is 4602 Mcft at FRL +196.60.
- The project GCA is 26,680 ha out of which the total ayacut is 12,216 ha and is covered by 42 villages.
- Musi project contributes 22.31% ayacut.

#### **Observations**

- The irrigated area is found to be 11,493 ha out of the total ayacut of 12,216 ha.
- The Wet area is estimated as 3,545 ha, ID area is estimated as 7,948 ha.
- The total crop area is 94% of the total ayacut area. The Wet crop is 31% and ID crop is 69% of the total irrigated area.
- The kharif crop area, for the current year, 2015-16 is 73% more when compared with the previous year 2014-15.

such as mobile applications and cloud computing for urban utility mapping is also being imparted. Training sessions are conducted through internet with the aid of Audio visual equipment.



## Special Course on Open source GIS by NRSC Hyderabad:

Need for GIS tools is increasing day by day as it is possible to map, query, model and analyse spatial data. Licensed software is too expensive for an individual's affordability. Many open source GIS soft ware are available in the market today. Research scholars and students find it very beneficial for their study. This training program is designed to expose the participants to introductory theoretical knowledge on GIS and providing practical exposure on use of open source tools.

Five members from TRAC are participating in this course which is scheduled from 07-03-2016 to 18-03-2016.

## 9th course on applications of Geo Informatics for Disaster Management:

This course is being conducted by Geological Survey of India (GSI) in collaboration with ISRO (under the NNRMS programme) proposes to conduct the 9th Course on Application of Geo-Informatics in Disaster Management, for 5 weeks duration from 15th February 2016 to 17th March 2016. This course includes training on all techniques of GIS for Disaster management with case studies and Project work.

The Course is targeted for geoscientists of State /Central Govt. organizations, State Remote Sensing Centres, Faculty and Research Scholars of Universities. Two members from TRAC with Geology as their study has participated in this course.

## Welcome to the New Director for Administration TRAC.

TRAC has welcomed its New Director for Administration Sri V. Omprakash who has taken charge on 12/02/2016. TRAC staff union has invited Sri R. Sudheer Babu, founder, Chairman Public Sector Employee federation for the welcoming session. Director Technical and Principal Scientist of TRAC also welcomed Sri V. Omprakash garu to TRAC.Sri R. Sudheer Babu has presented the director a flower bouquet.



Employees Union President Mr Katamaiah has introduced the staff and union members to the Director Admin. He has also addressed the staff concerns such as Extension of contract period, Provident fund for staff etc. and submitted in paper for his pursual in behalf of the staff with a hope for some resolution in this regard.

Mr R. Sudheer Babu also has welcomed the director and has advised the staff members to stay united and cooperate with management, concerns if any can be taken to their notice. Director Technical has announced the new projects that are in pipeline.



Director Admin Addressing the staff has expressed his pleasure in joining a scientific organization like TRAC and staff interests will be taken to the notice of the higher authorities and whatever is appropriate will be done from his end. Session ended with a vote of thanks by the Employees union president.



#### **News Bulletin.**

- Bhu Bharathi is the latest project taken up by TRAC.
- Sri T.Samba Murthy has joined as Administrative Officer for TRAC.
- Sri V. Omprakash has taken charge as Director Admin for TRAC on 12 Feb 2016.
- Land degradation mapping, Wasteland mapping are the upcoming projects to TRAC.
- 30 members are attending the 16th IIRS training program in the conference hall. 7 members are attending trainings conducted by GSI and NRSC organizations.
- Staff members are redistributed into various teams based on the ongoing and upcoming projects majorly led by Director Technical and Principal Scientist.