

**PROCEEDINGS OF THE DIRECTOR, KERALA STATE REMOTE SENSING
AND ENVIRONMENT CENTRE, THIRUVANANTHAPUAM**

Sub:- KSREC- Right to Information Act 2005 – Appointment of Information Officers – orders issued.

ORDER NO. A-100/2006 dated 06.04.2006

Read:- Letter No. 3571/B1/06 dated 28.3.2006 from the Additional Chief Secretary, Planning & Economics Affairs Department.

ORDER

The following officers of Kerala State Remote Sensing and Environment Centre are appointed as Information Officers under the Right to Information Act 2005.

- i. Shri. C.A. Mohandas, Accounts Officer – Information Officer
- ii. Dr. N.C. Anilkumar, Scientist B - Asst. Information Officer

Sd/-
DIRECTOR

To

Shri. C.A. Mohandas, Accounts Officer
Dr. N.C. Anilkumar, Scientist B

Approved for issue

Accounts Officer

KSREC

The Kerala State Remote Sensing and Environment Centre is an autonomous body registered under the Travancore Cochin Literary Scientific and Charitable Societies Registration Act (Act XII of 1955) with Headquarters at Tvpm. The Centre is an agency of the State Land Use Board for carrying out research studies and training programme. The major objectives of the Centre are the following.

- i. to collect and collate data, to conduct studies, and to co-ordinate promote and guide research, planning and development activities on land use and environment management by utilizing optimally the various available techniques.
- ii. to co-ordinate the work relating to use and development of land and its resources, undertaken by the various Governmental and non-governmental organizations, to provide advice to the user agencies and to disseminate all available information on land, its resources and utilization.
- iii. to provide training facilities, and to organize seminars, lectures and symposia with a view to create awareness of the application of Remote Sensing Technology and to encourage research studies thereon;
- iv. to develop further, the concept of user cell agency established under NNRMS in the State Land Use Board in an appropriate form in collaboration with similar organizations in the Department of Space and Department of Forests and Environment of the Government of India, and
- v. to co-operate and collaborate with other State, National and international level institutions in the field of Remote Sensing Technique and its applications to undertake inventory, evaluation and monitoring of the natural resources of Kerala and the neighboring states.

The functions of the Centre are the following.

- i. build up a firm data base on natural resources and other related information for local and regional level by utilizing the existing data from conventional as well as by other new technological method.

- ii. conduct training course to the officers and staff of Government department and other agencies in the application of new techniques in the field of land and environment management.
- iii. take up analytical and research studies in collaboration with other departments and agencies.
- iv. establish and maintain a library of books, periodicals and other documents relating to the subjects of interest to the functioning of the Centre.
- v. development the existing laboratory of the State Land Use Board to meet the present and future needs of the Centre and other user departments in regard to visual and digital analysis of remotely sensed data and for subsequent cartographic compilation for the production of thematic maps using modern methods;
- vi. establish a computer based data storage, processing and retrieval systems in collaboration with the national Informatics System to meet the data needs of the planning and decision making agencies speedily.
- vii. other acts and deeds included to the objectives – All other acts and deeds as are conducive or incidental to the achievement of all or any of the objective for which the Centre is established.

Some of the specific areas falling within the purview of the functions of the Centre are given below.

- i. Forestry- Temporal monitoring of forest cover-forest type mapping-change detection-degradation and damage detection and assessment etc.
- ii. Land use/Land Cover-Land Use/Land Cover mapping-changing detection-preparation of optimum Land Use Plan for the districts/regions/State-Urban Land Use-Urban Planning etc.
- iii. Agriculture-Crop acreage estimation-Monitoring changes in cropping patters and trend-effect of irrigation schemes on cropping patters-disease detection etc.
- iv. Soils-Land capability studies, soil types and fertility mapping effect of irrigation systems and management practices on soil.
- v. Hydrogeology and geomorphology- Analysis of land forms, their effect on ground water availability land form changes and causes/land-slips and their studies, littoral changes, tectonics and neo tectonisms.
- vi. Ecology and Environment-The effect of multipurpose hydro,electric and irrigation schemes on ecology and environment, impact due to change in vegetation type and effect of ecological changes on climate and rainfall.

- vii. Disaster assessment and management-Flood mapping, damage assessment, disaster waning.
- viii. Urban Planning-Assistance in preparation of mater plans for the towns and cities for their proper and scientific development.
- ix. Transportation-Studies in transportation network optimization in relation to land use adopting Operational Research Techniques, digital terrain models, etc.
- x. Industrial Land Use-Pilot studies in industrial development, impact on land use and landscape quality. Location optimization studies in relation to raw-material, power, labour existing and potential land use.

The management of the affairs of the Centre in accordance with the Rules and Regulations of the centre vest with the Governing Body and Executive Committee.

The head of the Centre is the Director. The Land Use Commissioner is functioning as Director. There is an Accounts Officer and ten Scientists working in the Centre. Projects are being done by recruiting project staff an contract basis.

The major projects undertaken by the Centre are the following.

1. **Land use survey of Idukki district using remote sensing techniques.** The project was completed in 1981 with the objective to evolve a land use Plan for the district for land use planning and natural resource management for sustainable development using panchromatic black and white and colour Infra Red (CIR) aerial photographs on 1:15,000 scale. The study carried out in collaboration with space Application Centre (SAC), Ahamedabad, incidentally was the first of its kind carried out in the State using remote sensing. Integrating the generated thematic maps on land use, geomorphology, structural maps, soil conservation priority map and optimum land use map, a comprehensive Land use Plan for the district was evolved on 1:15,000 scale for use of line department and user agencies.
2. **Nation wide Land use/Land cover Mapping project.** Land use/land cover mapping of the entire State was carried out by the visual interpretation (1:250,000 scale) of IRS IA satellite images. A district wise Land use./land cover map of the State with 24 categories up to level II has been generated as part of collaborative project of National Remote Sensing Agency, Hyderabad (DOS) for agro-climate zone planning by the Planning Commission of India.
3. **Identification and Mapping of Waste Land using Land at TM images of 1:50,000 scale.** The waste land of six critical districts of Kasargod, Kannur, Malappuram, Wayanad, Palakkad and Idukki districts were mapped and classified based on the categories developed by the national Waste Land Board and has been

spatially delineated village wise by visual interpretation of TM images on 1:50,000 scale.

4. **Integrated mission for sustainable development (IMSD)** – Under the study, comprehensive assessment of the status of natural resources like soil, hydro geomorphology, surface and ground water potential, agriculture, forest. Land use/land cover, infrastructure assets facilities, etc and done. Thematic layers on the above were generated by visual interpretation IRS satellite data of relevant dates coupled with ground truth obtained through filed checks based on the technical guide lines supplied by NRSA. Later integration of the thematic maps are done to arrive at location specific action plan for the sustainable development of the study area. The report and maps were prepared on 1:50,000 scale. The study has been completed for district on Palakkad, Kasaragod and watersheds on Payaswini of Kasargod district and Thrikkulam of Malappuram district in first phase and the report and maps are published. Study in Thrissur district and watershed on Ranni in Pathanamthitta district and Perumbra in Kozhikkode district has been completed.
5. A Study was under taken by the Forest survey of India to **map the Forest cover of the country using satellite remote sensing**. The ground truth support of the project for the State was done by the Land Use Board in collaboration with the State Forest department.
6. A pilot study was conducted in Bedadka and Munnad village of Kasaragod district to map the different classes of **waste lands at micro level using 1:15.000 B/W aerial photographs**.
7. **Satellite monitoring of Malampuzha Irrigation Command** was carried out to assess the progression of irrigation across the command as well to assess the ayacut area and yield forecast during Rabi season of 1993-94 as part of the NWMP.
8. **Coconut Crop Inventory** of the districts of Alapuzha, kottayam and Idukki districts were done by interpretation of Satellite image and CIR aerial photographs in collaboration with Space Application Centre, Ahemedabad.
9. Mapping of the present **Land Use Pattern of Proposed command of the Vamanapuram Irrigation** was carried out using remote sensing techniques and GIS.
10. **Waste land Mapping of eight districts of the State** viz. Thiruvananthapuram, Kollam, Pathanamthitta, Kottayam, Alappuzha, Ernakulam, Thrissur, and Kozhikode was carried out by interpretation of satellite images and final output brought in digital format. The study was done in collaboration with NRSA, Hyderabad, Earlier the remaining six districts were mapped and thus the wasteland mapping of the whole State in 1:50,000 scale is completed.

11. **Land Degradation (Land Slides) in Kerala.** The objective of the study was to provide a general understanding of the land slide problem of the State and identify potential landslide areas. The report of the study conducted in 1996 brought out different case studies on land slides in the State, land slide occurrence in the State and categorized the land slide hazard risk zones of the State spatially at 1:250,000 scale.
12. **Study of the culturable waste lands, its magnitude and extent.** This was a sponsored project of Ministry of Agriculture, Government of India with the objective to make realistic assessment of the culturable wastelands of the State in terms of its type, magnitude and extent and ascertain the reasons for not cultivating the land. The report of the study presented the extent of distribution of the classes of culturable wasteland in each district giving factual data for land use planning at micro-level.
13. **A Wasteland Atlas** of the forty four river basins of the state on 1.50,000 scale was prepared and published which cater the needs of the line departments to have uniformity watershed delineation when chalking out watershed management and development programmes.
14. **Survey of Potential and Actual Area under Sericulture using Remote Sensing and GIS.** The study envisaged in identifying the potential areas for sericulture in the selected six districts of the State on 1:250,000 scale using IRS data. The work was sponsored by Central Silk Board and funded by RRSSC Bangalore as part of the National project.
15. **Study on the extent and causes of Land degradation in the State.** The Study intends to identify the different parameters that contribute to Land degradation in the State and spatially delineate the same and to identify the causes of degradation and suggest control/reclamation measures.
16. **Mapping of Land Use systems of Pathanamthitta town and environs for urban planning.** The objective is to map and monitor the urban sprawl, urban land use changes and urban penetration in the adjoining seven panchayats of Pathanamthitta municipality for creating data base for urban planning using remote sensing and GIS.
17. **A study for the identification of the suitable band combination of IRS-P3** satellite data for soil separability and mapping in the southern region of the State. The project aims in the possibility of using ideal band combination of IRS IC – P3 data and imageries of concerned band combinations in separating the boundaries of various soil associations taking into advantages of the reflectance character of vegetation.

18. **Effectiveness of command area irrigation in the Neyyar river basin** in Thiruvananthapuram district. The project is drawn up with the objective of collecting, compiling and presenting the information pertaining to a sample irrigation command area for assessing its irrigation potential and effectiveness. The study aims to estimate the extent of area under paddy crop in Neyyar basin and to study the extent of area completed by command area irrigation project. The study can bring out suggestions and recommendations for the better utilization of the irrigation potential for sustainable crop production.
19. **GIS Datasets for Kerala State (Hydrology Project)**- The objective of the project is to prepare a complete GIS data set of Kerala in 1:50,000 scale. The project envisages the preparation of maps of Kerala on 1:50,000 scale on various themes viz. Landuse/land cover, watershed, geomorphology, drainage, geology, soil, administrative transport network and settlement, slope, spot heights, etc. and digitization to the GIS environment. The project was funded by Ground Water Department.
20. **State Natural Resource Management System (SNRMS)** – SNRMS is a multidisciplinary arrangement for co-ordinating, guiding and planning the natural resource management in the State. The activities of this group include preparing a status report on various kinds of data relevant to SNRMS which are now available with various departments and agencies in the State, suggest their application to relevant user department and agencies and enable them to utilize them fully, identify, new types and forms of data which are available within the country and outside relevant to NRMS and prioritize and co-ordinate their procurement and use. SNRMS would also identify the training requirements and arrange training programmes.
21. **Database for integrated District Development Plan for Thiruvananthapuram** – The objective of the project is to evolve a comprehensive database for the integrated district development plan of the district. The spatial distribution of basic resources connected with sustainable development has been studied in this project. This was only a first approximation study on 1:50,000 scale. The application of Remote Sensing and Geographic Information System (GIS) has been utilized in this study on a cost and time effective basis. The thematic layers prepared in this project include, land use, soil, hydrogeomorphology, slope administrative, transport network, drainage and watershed and settlement. The information on these different thematic layers can be overlaid, synthesized and analyzed utilizing the capabilities of GIS to provide the required details for regional planning.
22. **National (Natural) Resources Information System**:- As part of the national programme, the data base generated under the IMSD project using remote sensing

data was brought into the digital format for storage, manipulation, quarrying and decision making. Two nodes, viz. Thrissur and Palakkad was covered under this project.

23. Updation of Wasteland mapping. The project on the updation of the wasteland mapping was done under this project. The project was funded by the NRSA, Hyderabad and coordinated by RRSSC – Bangalore. The project is completed.
24. Impact of Thanneermukkom Barrier on Kuttanad Wetland Ecosystem - The projects main objective was to study the change in agriculture pattern in Kuttanad since the construction of Thanneermukkom Barrier especially with respect to paddy area and production. Study on fisheries part of the project. The project was funded by the Department of Agriculture, Government of Kerala. The project is completed and the report has been submitted to the Department of Agriculture, Government of Kerala.
25. River Basin Data Generation Project (RBDG project). River Basin Data Generation for Neyyar, Achenkovil and Pamba river basin in Kerala project was completed by the Centre for the Department of Water resources. The main objective of the project was to develop a digital resources data base of three river basin using remote sensing data and GIS applications. Altogether 20 themes on resource information were developed for each river basin.