

RESEARCH PROGRAMS:

OBJECTIVES: Generation of Knowledge in New Areas

Aspiration of the Department

A. Major thrust:

Generation of students' community adept in the recent technologies of Remote Sensing (RS), GIS and GPS

Traditionally the eastern region is a laggard as far as interfacing the RS, GIS and GPS technologies to sustainable resources development and management

-towards this end this Department has

- ❖ Commenced from the last two academic years a special paper on RS, GIS and GPS for the regular PG students of Geography & Environment Management – The support of UGC is paramount towards the infrastructure development (human resources as well as systems infrastructure) for smooth conduct of the course
- ❖ Arranged to commence a fully dedicated PG course of 2 year duration on RS, GIS and GPS for which a special go-ahead is being implored from UGC towards the infrastructure development (human resources as well as systems)

B. Development of teaching content

Development of the contents of teaching modules in order to

To develop the Remote Sensing & GIS laboratory extensively and allocate research priorities in the following areas:

⇒ Terrain evaluation

- ⇒ Disaster / Hazard management
- ⇒ Land use zoning & study of land use changes
- ⇒ Identification of natural resource (data-base) management
- ⇒ EIA studies
- ⇒ Sustainable Development using the state of the art technologies

C. Research and faculty development

To develop the Remote Sensing & GIS laboratory extensively and allocate research priorities to the burning environmental issues

To provide advisory and consultancy services

To take up projects in collaboration with other Departments & Institutes: NATMO, RRSSC(ISRO), IIT-Kharagpur, Department of Environment etc.

To plan commencement of training programmes in RS/GIS for different groups: faculty of affiliated colleges / other universities / line Departments of Govt./ professional bodies / NGOs. A beginning has already been realized with the regular short courses in RS & GIS- principles and applications – a positive response received from ISRO-HQs to identify this Dept. as a regular venue for conducting NNRMS sponsored training programmes

The Department has recently conducted a 5-day workshop on RS & GIS- principles and applications during 9 – 13 February, 2004 with the participation of 28 candidates (mostly college teachers and a few research scholars)

From 2001 onwards the department has been very successfully conducting UGC sponsored Refreshers/orientation programmes for college and university teachers every year – Remote Sensing, GIS & GPS invariably form resolute lecture topics as a mark of the strength of our department in the subject matter

To develop database for the development and planning authorities through our field-based project reports (primarily focusing on resource mapping)

To organise workshops and seminars for exchange of ideas on sustainable solutions for development using RS & GIS of select areas of West Bengal
To seek major projects from DST, Govt. of India; ISRO, Govt. of India; UGC on application of state of the art technologies in the field of sustainable development, disaster management etc.

D. The Principal Academic Targets

- 1) Thrust areas of teaching and to extend research activities with the help of RS & GIS on environmental management in the following areas of study:
 - a) Coastal ecosystem
 - b) Agricultural ecosystem
 - c) Forest management
 - d) Biodiversity monitoring
 - e) Wasteland management
 - f) Wetland management
 - g) Urban environmental management
 - h) Land use planning and management
 - i) Water resources planning and management
 - j) Watershed management and planning
 - k) Integrated approach in sustainable development
 - l) Disaster management
 - m) Society – environment interaction

To introduce to the field of geography and environmental management, the state-of-the-art tools and techniques like *remote sensing* along with its kindred technologies *GIS & GPS to all the above items*

Award of Sponsored Project:

Minor Research Projects funded by UGC :

Dr. Ashis Kumar Paul, Reader: (Project Sanctioned), 2005-2007

Title: Environment Management and promotion of coastal tourism under shoreline changes in Hugli-Subarnarekha estuarine complex.

Allocated Amount Rs. 93,000/-

Dr. Ramkrishna Maiti, Senior Lecturer: (Project Sanctioned), 2006-2008

Title: Identification of potential Slope failure zones of shivkhola watershed; Darjelling Himalaya, through critical analysis of slope instability- A step towards rational and scientific management of land, Soil and water.

Allocated Amount Rs. 1,00,000/-

Mr. Utpal Roy, Lecturer: (Project Sanctioned), 2007-2009

Title: A critical analysis of irrational construction, congestion and immigration in Kurseong town: A step towards better management.

Allocated Amount Rs. 1,00,000/

A report highlighting the research activities of the department during the period under review may also be provided:

Dr. D. K.Pal has been involved in research activities in the field of

- “ Remote Sensing, GIS& GPS – Wedding in sustainable development”
- “ Signature Significance in Remote Sensing”
- “ Satellite Remote Sensing in Resource Management”
- “ Impact assessment of the development activities”, etc

Dr. A.K. Paul Reader Pal has been involved in research activities in the field of

- “ Wet land management in the coastal belt of East Medinipur”
- “Coastal processes of in Subarnarekha- Digha belt”
- “ Environmental Management and promotion of coastal tourism under shoreline changes in hugli-Subarnarekha estuarine complex”, etc

Dr. Soumendu Chaterjee Sr. Lecturer has been involved in research activities in the field of

- “Pedogeomorphology of some Districts of West Bengal with Application Models”
- “Rural India- Land Evaluation: A Methodological Issue for development of Rural India”, etc
- Changing farming practices and its environmental consequences in Purba Medinipur coastal district.
- Environmental assessment of Rupnarayan plain between Haldi, Hooghly and Rupnarayan estuaries.
- Environmental impacts and perception study in Keleghai river basin.
- Studies on micro-irrigation projects in the Puruliya District.
- Lateritic landscape of western highland of West Bengal.
- Pedogeomorphology of the western districts of West Bengal.
- Urban Morphological and economic dynamics of Medinipur Municipal area.
- Landuse and land management and their pedogeomorphic perspectives.
- Urban social issues in the Medinipur Municipal area.
- Stream ecological studies in Kasai River.
- Embankment breaching in reclaimed Sundarbans.
- Slope instability in Tindharia Cricket Colony.
- Morphological and socio-economic disparities among various urban centres in the Hilly tracts of West Bengal.

Dr. Ramkrishna Maiti Sr. Lecturer has been involved in research activities in the field of
 “Slope Instability on Mining Scars in Darjeeling, West Bengal”
 “Identification of potential slop failure zones in watershed of Darjeeling himalaya”
 “Rational and scientific management of land, soil and water”, etc
 Watershed Management with Special Reference to flood
 Mining And Environment-in Hill Slope of Darjiling
 Rill and Gully Erosion, at Laterite Tracts
 Problem of Embankment Beaching at Sundarban area
 Water Scarcity at Darjiling
 Mechanism of Coastal Processes