

## **National Webinar**

on

**Geospatial Technology Applications in collaboration with Indian Society of Remote Sensing (Kolkata Chapter)**

**Date: 16.09.2023**

The Department of Geography, Diamond Harbour Women's University is delighted to organise a National Webinar on Geospatial Technology Applications in collaboration with the Indian Society of Remote Sensing (Kolkata Chapter) on 16.09.2023.

The official commencement of the programme was started by Dr. Shovan Ghosh, Associate Professor and Head, Department of Geography, DHWU and Organising Chairperson of the webinar by delivering the Welcome Address.

After that, Professor Anuradha Mukhopadhyay, Hon'ble Vice Chancellor, Diamond Harbour Women's University and Chief Patron of the webinar delivered the Inaugural Speech with encouraging words followed by Dr. Md. Sayeedur Rahman, Registrar, Diamond Harbour Women's University and Patron of the webinar to deliver the Introductory Note.

Prof. Sujit Mandal, Dean, Faculty of Science, DHWU and Professor, Department of Geography, DHWU and General Chairperson of the webinar introduced the webinar formally.

The programme was further enriched by Dr. Sandhya Bhadury, Former Chairperson, ISRSK and Former Deputy Director, NATMO, GoI and Organising Chairperson of the webinar along with Er. Subrata Halder, Chairman, ISRSK and Executive Engineer (A-I), WRI &DD, GoWB and General Chairperson of the webinar on behalf of the collaborative agency.

## **Plenary Session 1**

1. Dr. Debapriya Dutta delivered his lecture on Geospatial Application for achieving Sustainable Development Goals. He incorporated concept of Geospatial ecosystem, chronologically technology program, Global development policy framework, indicated importance Positioning Geospatial information, and enlightened different branches in GIS and thematically present WQI both slum and non slum area
2. Dr. Prithvish Nag described Geospatial and related policy initiatives, addressed ATMANIRBHAR BHARAT, through guidelines geospatial data, questioned on RTI act, conclude the importance of Geospatial Data Education in India.
3. Dr. Partha Sarathi Chakrabarty specially addressed Geospatial Technology Application, he memorize the journey of Geological Survey of India, and focused on investigation on importance Sundarban and lower Ganga Estuary.

## **Plenary Session**

**Prof. V.C. Jha**

He has focused on **the Maps, digitalization and sustainability**. Digitalization brings the all requirements at the door steps. It transforms the economy into digital economy. Later he

touched upon the application Geospatial techniques and trans-disciplinary rather multi and inter discipline.

Not only data but network and GIS are also playing an important role for transforming data into maps and into world class map. We are transforming from map to app.

Through the sustainable management the bridges btw Geospatial System and sustainability will be build. There are three pillars which has been mentioned are the Society, Economy and Environment.

He has concluded that we can build a strong nation if the mapping techniques are strong.

## **Prof A.R. Siddique**

### **The 2<sup>nd</sup> lecture on Role of satellite delivered data and Geoinformatics in Desertification mapping and forest related studies.**

There were two parts of the lecture, one was about desertification mapping and another was about forest related data

He had focused on Drought, impact of drought and how to predict it. There are several indices through which the prediction can be done.

He touches upon several assessment on Soil Moisture in agricultural drought assessment (NDVI, EDI based Drought Assessment.) and Case study on frequency of drought.

### **Technical Session-I**

1. **Indrani Barui** analyzed an environmental Vulnerability assessment near the lower bank of Balason and Mahananda river near Siliguri town using thematic maps and assessed vulnerability zonation index using IDW method
2. **Samrat Majumdar** measured mechanical and parameter analysis of soil erodibility showing erodibility level high to moderate condition along left bank line and low along upper extension showing instability condition increased towards lower segment.
3. **Dipanwita Manna** focused quantification of new planform index on river Teesta using PFI index and experimental formulae, showing immediate values of PFI of a reach, and conclude river more braided in 2020 than 1977.
4. **Shabari Bhakta** prioritize micro watershed using morphometric analysis of Kangshabati Upper Catchment and conclude a correlation between the parameters and categorized into four categories and mentioned immediate points for conservation managements.
5. **Chaitali Roy** explained flow structure and morpho dynamics of river Hugli in both tidal and non tidal environment trough systematic mapping techniques and results different scenario for flood and ebb tide.
6. **Tulika Biswas** described real time flood assessment in Ghatal, south of West Bengal give approach of using GIS and remote sensing to mapping not only useful for flood delineation but for mitigation measures.
7. **Dipti Gope** analyzed rainfall trend and fluctuation in groundwater level in Nadia district, data collected using IDW techniques and positive correlation between rainfall and groundwater fluctuation.

In this session 7 papers are present by mentioned presenters on the following topic.

**Two were absent.** Chairperson: Prof. AR Siddiqui Co-Chairperson: Abhay Sankar Sahu Rapporteur: Dipanwita Manna Session Moderator: Chaitali Roy.

Whole session was nicely chaired by Prof. Siddiqui

## Technical Session-II

### TECHNICAL SESSION – II

**Date: 16 September 2021; time: 03 pm. – 4:30 p.m.**

- 1. Developing ecological insecurity models and linking it with ecosystem service values in stone quarrying and crushing dominated areas -Indrajit Mandal**

Field based 10 parameters used to validate model. Ecological insecurity level (EII) performed by algorithm. EII high and low according to positive relation. Correlation done using R statistics and result performed negative. recommends applying such an approach in such similar fields since preservation and restoration of ecosystem services are very essential.

- 2. Growing cities, shrinking hinterland: peri-urban dynamics in Asansol Durgapur planning area, West Bengal, India -Sudarshana Sinha**

Peri urban areas understanding by different parameters. LULC performed with change analysis, buffer analysis. Used to comparison municipal areas Durgapur and Asansol. Entropy and Built up area analysis elaborated.

- 3. Assessment of Urban Sprawl in West Bengal with the Help of GIS and Remote Sensing -Rituparna Khan**

Urbanisation is a multifacet. Scenario of West Bengal described. Kolkata sprawl development reasons elaborated. Economy, Traffic, Dwellers etc. described. Adverse management of construction also elaborated.

- 4. From lockdown to loneliness: the issues of elderly people with reference to Kolkata municipal corporation, West Bengal -Sramana Maiti**

Ageing described by different types in respect of West Bengal and India. Comparison question arises from other metro cities. Descriptive statistics performed. Old aged homes why in society increasing described. Age friendly approach with economic participation suggested.

- 5. Assessment of Surface Water Quality Status in Upper Catchment Area of Kangsabati River Basin, India - Nairita Sengupta**

Surface water quality standard all over the region of study area shown. 24 selected waterbodies of pre and post monsoon three years field data performed to analysis. PCA performed to interrelate physico chemical parameters. Dendograms shown to cluster areas. Changing LULC shown. Do level decreases in 2020 from 2018 and 2019.

- 6. Spatio-temporal analysis of forest degradation: A take on Purulia district, West Bengal -Sumitra Das**

Forest ecosystem denotes for biodiversity using secondary data. Spatio temporal characteristics of LULC changed classes performed 2009 to 2019. Enhanced vegetation index done and forest degradation causes explained.

7. **Spatio-temporal monitoring and forecasting of drought through remote sensing using NDVI and LST: a case study in Sobha river basin, India-Mousumi Roy**  
Drought monitoring performed by LST, NDVI, VCTI and LULC. The interrelationship and validation performed by rainfall anomaly and other parameters. Assessed values of NDVI and LST are correlated to identify the drought events for the respective years. The correlation values show a strong negative condition and which is gradually weak in 2020.
  
8. **Impact of Development of Vegetation Health: A retrospect on Bandel Thermal Power Plant (BTPL) using geoinformatics -Somnath Mandal & Prof. Suman Paul**  
Vegetation health analysis performed. Vegetation categorised. Biophysical parameters taken.

## **Technical Session III**

### Plenary Session-3

#### **1. Name-Ananya Kayal**

**Topic- Nutritional Status Assessment of Children Aged 0-6 years and It's Determinants: The Case of Baruipur Block, South 24 Parganas, West Bengal**

This study reveals that the state of child nutrition in the area. It is also clear that various socio demographic and maternal and child health indicators are significantly affecting child nutrition.

#### **2. Krishna mallick**

**Topic- The Impact of Information and Communication Technology and E- Tourism in the Development of a Cultural Heritage: A Case Study of A Class I Town in West Bengal, India**

The study unwrapped the interconnection between the use of internet and overall travel experience and how it is influencing revisit intention among the travelers.

#### **3. Yasmin Khatun**

**Topic- Connectivity, Accessibility and Problems of Health Care Access to Women: A Profile from Canning-I Block South 24 Parganas, West Bengal**

The present paper opts to explore the issues of linkage in relation to connectivity and accessibility and the problems of health care access to women with reference to Canning-I block, South 24 Parganas District, West Bengal.

#### **4. Anusri Kundu**

**Topic- An Assessment of Infrastructure of B.Ed. Colleges at Micro Level in South 24 Parganas**

Current studies have examined the attitude of students and teachers towards college infrastructure and resultant access to education.

**5. Name- Asha Bauri**

**Topic- Participatory Governance or Pseudo Participation? Women Representatives in Urban Local Politics in Selected Class-I Cities of Western West Bengal**

The study has concluded from the constructed Women Political Awareness Index (WPAI) and Women Political Empowerment Index (WPEI)

**6. Name- Mitali Ghosh**

**Topic- Socio-Economic Backdrop Dominates the Health Status of Slum Women: A Case Study in Chandernagore Municipal Corporation, Hugli, West Bengal.**

The critical findings include poor health status of slum women demanding immediate concern.

**7. Name- Adrija Bhattacharjee**

**Topic-Floriculture - A Key to Better Lifestyle: Selected Case Studies of East Medinipur District, West Bengal, India**

The present paper involves both primary and secondary data analysis and tries to document the factors of production and marketing, note recent changes in the variety of production in response to market demand, carry out socio-economic profiling of the floriculturists, conduct perception analysis on the impact of the vagaries of nature on production.

**8. Name-Moumita Dutta**

**Topic -Channel Migration Induce Land Use / Land Cover Change Assessment In The Lower Segment of Kaljani River Basin of Eastern India.**

The studies discover that extension of human habitation should be considered away from the channel migration zone.

**9. Name-Sanghamitra Purkait**

**Topic- Choosing the Appropriate Migration Path by Apiculturalists in West Bengal**

This study will help the beekeepers of West Bengal to remove the asymmetry of information on bee pasturage and to access the suitable migration path for them which in turn will help to develop the apiculture industry.

## **Special Business Session**

The special business session had been carried out with Mr. Khushpal Dahiya, Director of Geo Solutions India highlighting his thoughts on the 'Role of Geospatial Technologies in Demarcation of Land on Ground and Record Management'.

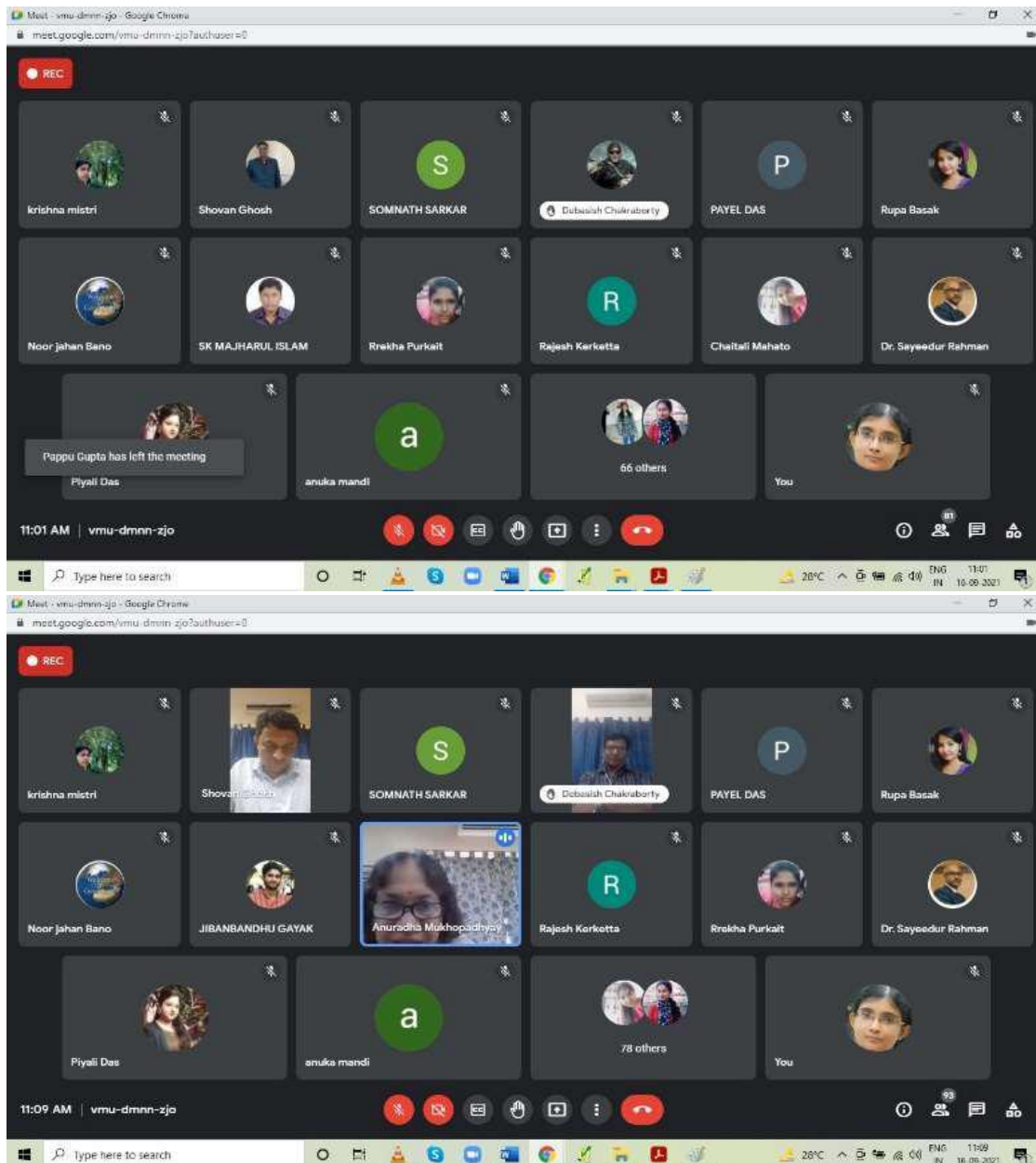
The session was continued with speaker Prof. Surya Prakash, Professor and Head, GMR Division, NIDM, New Delhi. This session had enlighten us with the History and Evolution of Disaster Management.

With the special business session, the programme has come to the end. This entire programme was the brainchild of Prof. Sujit Mandal, Dean, Faculty of Science, DHWU and Professor, Department of Geography, DHWU and Dr. Shovan Ghosh, Associate Professor and Head, Department of Geography, DHWU had been instrumental in translating it into a reality.

The valedictory speech given by Prof. Bimal Kumar Kar, Professor, Department of Geography, Gauhati University had officially announced to wrap up the programme followed by the valedictory remarks, given by the Er. Subrata Halder, Chairman, Indian Society of Remote Sensing, Kolkata.

The programme came to an end by the concluding remarks of Dr. Shovan Ghosh, Head and Associate Professor, Department of Geography, DHWU, followed by the reporting of the whole programme by Dr. Anindya Basu, Convener and Assistant Professor, Department of Geography, DHWU.

The Programme was ended with a vote of Thanks.



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Grid of participants:

- krishna mistri
- Shovan Shovan
- SOMNATH SARKAR
- Debasish Chakraborty
- PAYEL DAS
- Rupa Basak
- Noor jahan Bano
- JIBANBANDHU GAYAK
- Anuradha Mukhopadhyay
- Rajesh Kerkotta
- Bappaditya Purkait
- Sandhya Bhadury
- Piyali Das
- anuka mandl
- 89 others
- You

11:22 AM | vmu-dmnn-zjo

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- krishna mistri
- Subrata Ghosh
- SOMNATH SARKAR
- Debasish Chakraborty
- PAYEL DAS
- Rupa Basak
- Noor jahan Bano
- Shovan Shovan
- Anuradha Mukhopadhyay
- Rajesh Kerkotta
- Bappaditya Purkait
- Sandhya Bhadury
- Piyali Das
- anuka mandl
- 90 others
- You

11:26 AM | vmu-dmnn-zjo

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REC

Grid of participants:

- Mitali Dasgupta
- Prithwish Nag
- Shovan Shovan
- Vibbsh Chandra Jha
- Parthasarathi Chakrabarti
- Saheb Biswas
- PAYEL DAS
- Noor jahan Bano
- Rupa Basak
- Pranab Ghose
- MOULI GHOSH
- Rupa Basak
- krishna saron
- Sandhya Bhadury
- 84 others
- You

11:58 AM | vmu-dmnn-zjo

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REC Prithvish Nag is presenting

## Preamble

### Location information for:

- Modern digital ecosystem
- Unlocking economic, social and environmental opportunities
- Sustainable growth and development
- Success of modern industry offering location-based services:
  - E-Commerce,
  - Delivery and logistics and
  - Urban transport
  - Agriculture,
  - Construction, and
  - Development and mines and minerals.

12:25 PM | vnu-dmnn-zjo

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REC Prithvish Nag is presenting

## Geospatial Data & Technology

- **Geospatial Data**
  - Includes location information:
    - Natural or man-made;
    - Physical or imaginary features;
    - Above the ground or below.
    - Boundaries, points of interest,
    - Natural phenomena,
    - Mobility data,
    - Weather patterns,
    - Statistical information,
    - Other thematic information.
- **Geospatial Technology**
  - Ground based surveys
  - Remote sensing
  - Aerial photography
  - Manned/unmanned aerial vehicles
  - Terrestrial vehicle mounted Mobile Mapping System,
  - LIDAR & RADAR Interferometry,
  - Mobile phone sensors and
  - Other techniques.

TANIA KHATUN has left the meeting

12:26 PM | vnu-dmnn-zjo

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REC

12:53 PM | vnu-dmnn-zjo

Participants visible in the gallery view:

- Shovan Ghosh
- Vibhash Chandra Jha
- Prithvish Nag
- Sandhya Bhadury
- Jyoti Pal
- Shovan Ghosh
- A. Sankar
- Srikanta Beah
- Mital Dasgupta
- Parasuram Chakrabarti
- PIYEL DAS
- Rupa Beah
- Krishna Misra
- Manalisha Halder
- 64 others



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REC Vibhash Chandra Jha is presenting

## GEOSPATIAL SYSTEM

Contemporary India's **physical prosperity** and **cultural dynamism** is often **getting perturbed** by **spate of natural disasters**, from Uttarakhand to Kerala, Gujarat to Arunachal

As such, more than ever, Digital India and **"New India"** requires **prudent use of Geo-spatial System for Resource Mapping, Distribution and Utilization.**

Vibhash Chandra Jha

Kapil Ghosh

Asha Bauri

A. R. Siddiqui

Shovan Ghosh

Mitali Dasgupta

60 others

You

1:23 PM | vnu-dmn-zjo

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REC A. R. Siddiqui is presenting

## Drought Monitoring by IMD

- IMD monitors agricultural drought using a new index based on the ratio of actual evapotranspiration (AET) and soil water. For this, an evapotranspiration (ET) developed on the basis of Thornthwaite's concept is used to monitor the incidence, spread, transposition, and resolution of drought. It is given as:
  - $E = AET - S$
  - $S = S_{max} - S_{min}$
  - $E = S_{max} - S_{min}$
  - where  $E$  is potential evapotranspiration calculated with the help of Thornthwaite's formula, which takes into account those temperature, humidity, wind velocity, and wind speed.  $AET$  is actual evapotranspiration calculated according to Thornthwaite's water balance technique, taking into account  $PC$ , actual rainfall and the capacity of the soil. The aridity anomaly is calculated by using the normal quality index for 100 well-distributed stations over the country. The aridity anomaly is denoted as follows:
    - $A < -1$  : Severe arid
    - $-1 < A < -0.5$  : Moderate arid
    - $-0.5 < A < 0$  : Mild arid
    - $0 < A < 0.5$  : Moderate wet
    - $A > 0.5$  : Severe wet

Vibhash Chandra Jha

Ramesh Kumar

Shovan Ghosh

Asha Bauri

Kapil Ghosh

Mitali Dasgupta

60 others

You

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REC

SOMNATH DAS

singhendra.purkai

brishwa mittal

Papil Mondal

Monalika Halder

Dr. Harita Dasik

KARITA MONDAL

papil saha

Musmita Das

sayoni Mondal

SONALI MURMU

Shovan Ghosh

48 others

You

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REC k khush Dahiya is presenting

# Role of GTs in Demarcation of Land and Data Management

Khushpal Dahiya  
Director  
Geo Solutions, Gurugram



khush Dahiya

diparwita manna

Kapil Ghosh

SOMNATH SARKAR

Shrikanta Basak

Suranjana Sahoo

25 others

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Shrikanta Basak

diparwita manna

Sanchita Pandit

SOMNATH SARKAR

Shriya Parikh

Shovon Ghosh

sanghamitra purkalt

Kapil Ghosh

Ananya Kayal

Bimal Kumar Kar

Sonali Dandapat

payel saha

Dabalna Banerjee

MR. SHILADITYA PURAKAYASTHA.

43 others

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