REPORT

OF

IIRS-ISRO Outreach Program
on
"Space Technology for Disaster Risk Reduction"

From

24Th March 2025
To
28Th March 2025

DETAILS OF THE EVENT

Sl. No.	Description	Details
1.	Name of the Event	**IIRS ISRO Outreach Program on "Space Technology on Disaster Risk Reduction"**
2.	Number of Participants	09
3.	Event Date	24th March 2025 to 28th March 2025
4.	Person in Charge	Mr. Sagar L Belgaonkar, Coordinator, IIRS ISRO DLP, AITM, Belagavi. Mr. Ravi B Tilaganji, Associate Coordinator, IIRS ISRO DLP, AITM, Belagavi.
5.	Name of the speaker	1. 24.03.2025 – "Application of Space Technology for DRR" by **Dr. Arjit Roy**. 2. 25.03.2025 – "ISRO Geotportal **BHUVAN** for Disaster Mitigation" by **Mr. C M Bhat**. 3. 26.03.2025 – "ISRO Geotportal **BHOONIDHI** for Disaster Mitigation" by **Dr. Kamal Pandey**. 4. 27.03.2025 – "ISRO Geotportal **MOSDAC** for Disaster Mitigation" by **Dr. Shivani Shah**. 5. 28.03.2025 – "ISRO Geotportal **VEDAS** for Disaster Mitigation" by **Dr. Shashikant Sharma**.

CONTENTS

Objectives of Program:

IIRS-ISRO Outreach Program On "Space Technology for Disaster Risk Reduction"

a) To Create awareness regarding the Disaster Risk Reduction.
b) To Understand the concepts of DRR
c) To Utilize the Provision of IIRS ISRO Geoportals for Disaster Mitigation.
d) To Upskilling the knowledge in the domain of Space Technology for DRR.

Details of the Program:

IIRS-ISRO Outreach Program On "Space Technology for Disaster Risk Reduction"

The Department of Civil Engineering AITM, successfully organized the **IIRS-ISRO Outreach Program On "Space Technology for Disaster Risk Reduction"** from 24 March 2025 to 28 March 2025. Under the supervision of Mr. Sagar L Belgaonkar, Coordinator and Mr. Ravi B Tilaganji Associate Coordinator for IIRS ISRO DLP Courses.

Day-1 session on "**Application of Space Technology for DRR" by** Dr. Arjit Roy**.** the session highlighted the various points listed below:

- Hazards
- Floods
- Science behind Disaster
- Earthquake
- Strengthening Disaster
- Specific Flood areas in India (Uttrakhand Floods etc)

Day 2: 25.03.2025 – "ISRO GEOPORTAL **BHUVAN** for Disaster Mitigation" by **Mr. C M Bhat**. The session was based on the Hands-on experience on the GEOPORTAL **BHUVAN**

Web Link - https://bhuvan.nrsc.gov.in/ngmaps/disaster?mode=Hybrid.

- The session covered various points with hands – on experience on GEOPORTAL BHUVAN in Disaster Management Support Services.
- Disaster Services through portal for INDIA covered points like Flood Mapping,

Layers Overlapping, Cyclone, Drought, Earthquake , Forest Fire, Landslides, Coastal Disasters.

- Modelling of Heat Waves and Observing Forest Fire from Satellite Space.
- Providing Fishermen Alert during cyclones, High Tide based on Satellite Communication system on Cell Phone.

Day 3: 26.03.2025 – "ISRO GEOPORTAL **BHOONIDHI** for Disaster Mitigation" by **Dr. Kamal Pandey**. The session was based on the Hands-on experience on the GEOPORTAL **BHOONIDHI**

Web Link - https://bhoonidhi.nrsc.gov.in/bhoonidhi/home.html

- The session covered various points with hands – on experience on GEOPORTAL BHOONIDHI in Disaster Management Support Services.
- Utilization of different satellites such as INSAT, AQUA, LIS etc., for Disaster Support System and previous event data, prediction for current situation.
- LIS 3 satellite data with 56mt X 56 mt and 2.5 mt X 2.5 mt aerial sensors to predict the data.
- Creating Map files using SHAPE function for different states, Districts and cities with various resolution option.
- Downloading Image viewer files for further analysis for disaster support services.
- Hydrological disaster.
- Meteorological Disaster for drought.
- Computation of Risk based on Vulnerability.
- BASM – Burnt Area Severity Mapping.
- NDEM – with NaVic based alert systems for disaster support services.

Day 4: 27.03.2025 – "ISRO GEOPORTAL **MOSDAC** for Disaster Mitigation" by **Dr. Shivani Shah**. The session was based on the Hands-on experience on the GEOPORTAL **MOSDAC**

Web Link - https://www.mosdac.gov.in/

The session covered various points with hands – on experience on GEOPORTAL MOSDAC in Disaster Management Support Services.

- Utilization of different satellites such as INSAT- NOWCASTER.
- LIS 3 satellite data with 56mt X 56 mt and 2.5 mt X 2.5 mt aerial sensors to predict the data.
- Meteorological Data and Oceanography data interpretation based on the image overlaying for disaster support services.

Day 5: 28.03.2025 – "ISRO GEOPORTAL **VEDAS** for Disaster Mitigation" by **Dr. Shashikant Sharma**. The session was based on the Hands-on experience on the GEOPORTAL **VEDAS**

Web Link - https://vedas.sac.gov.in/en/

The session covered various points with hands – on experience on GEOPORTALVEDAS in Disaster Management Support Services.

- Utilization of different satellites such as INSAT- NOWCASTER.
- LIS 3 satellite data with 56mt X 56 mt and 2.5 mt X 2.5 mt aerial sensors to predict the data.
- Drought Monitoring Portal.

We Thank the Management, Principal & Director, Dean Academics, IQAC, Training and Placement officers, all HODs, Faculties of Department of Civil Engineering and Participants for giving us opportunity to host, Organize the IIRS ISRO Outreach Program at AITM.

1. **Relevance to PO:**

The following PO's are relevant to the Outreach Program.

PO1	Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

2. **Audience** (Faculty and Students):
   Faculty members and Students of Angadi Insititute of Technology and Managament, Belagavi.

3. **Budget of the Event (Part of Budget or New):**

4. **Details of Resource person/Speaker**

   1. **Dr. Arjit Roy.**
   2. **Mr. C M Bhat.**
   3. **Dr. Kamal Pandey**
   4. **Dr. Shivani Shah**
   5. **Dr. Shasikant Sharma**

5. **Proposal Provided:**

   Mr. Sagar L. Belgaonkar, Assistant Professor and Head, Department of Civil Engineering.

6. **Fees of the Event, if Any:** No fees.

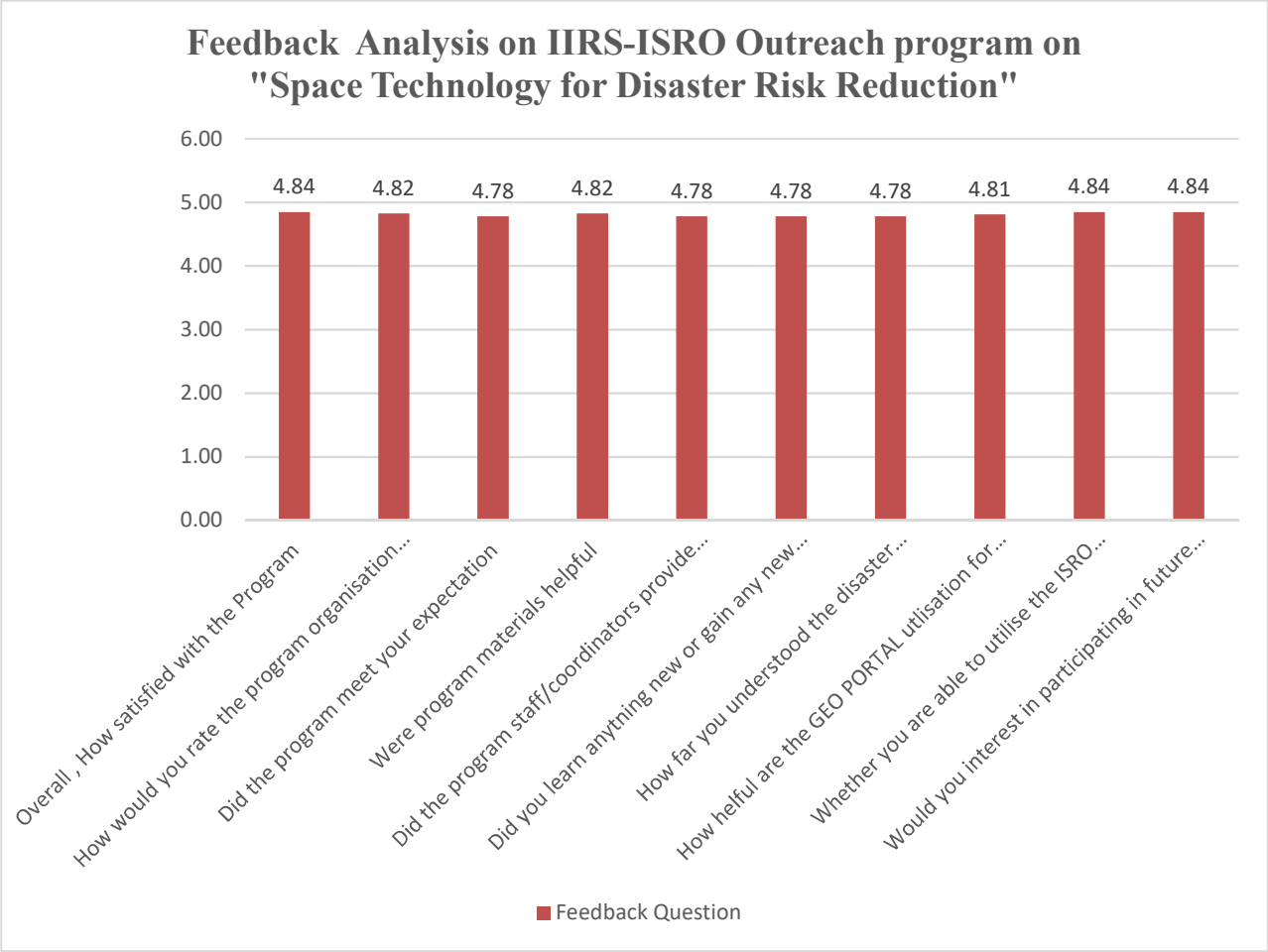
7. **Venue, Date and Time:**
   HOD Chamber, Department of Civil Engineering, AITM.
   24.03.2025 to 28.03.2025, 3:30PM to 5:30PM.

8. **Feedback Methodology:**

Feedback from Participants (Faculty and students).

a) Feedback was provided and submitted by program participants.

The analysis is carried out from the feedback form submitted by the participants. The analysis is done in MS EXCEL spreadsheet and is represented in graph.



Graph represents the analysis of the given feedback by the participants.

9. Computation for Attainment of PO:

The following PO's are relevant to the Faculty Development Program (FDP)

PO1	Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
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PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Attainment	Assessment	
PO1	4.84	97%
PO2	4.82	96%
PO4	4.78	96%
PO5	4.82	96%
PO6	4.78	96%
PO7	4.78	96%
PO8	4.78	96%
PO9	4.81	96%
PO10	4.84	97%
PO12	4.84	97%

The table represents the attainment of POs based on the Feedback given by the participants

Attainment		
IIRS ISRO Outreach Program Feedback		
PO1 (Q1-10)	96.9%	3
PO2(Q 4,6,7,8,9)	96.4%	3
PO4(Q4,6,7,8,9)	95.6%	3
PO5(Q4,6,7,8,9)	96.4%	3
PO6(Q 4,5,6,7,8,9)	95.6%	3
PO7(Q4,7,8,9)	95.6%	3
PO8(Q2,4,6,7,8,9)	95.6%	3
PO9(Q2.5,6)	96.2%	3
PO10(Q1,2,3,4,5,6,,910,11,12)	96.9%	3
PO12 (Q 1,2,3,4,5,6,7,8,9,10,12)	96.9%	3

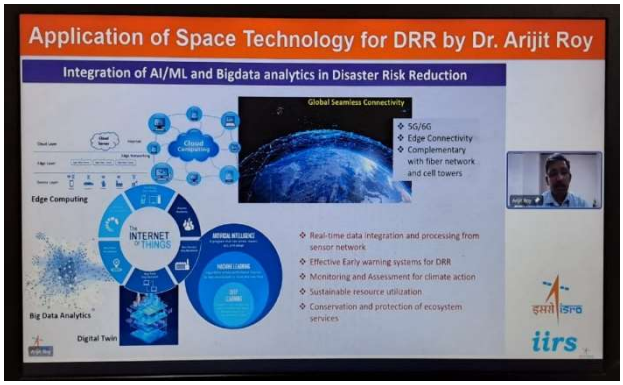
Note: PO attainment are represented in values from 1 to 3

1 – Slight

2- Moderate

3 – High

10. Photos of Faculty Development Program conducted for evidence:



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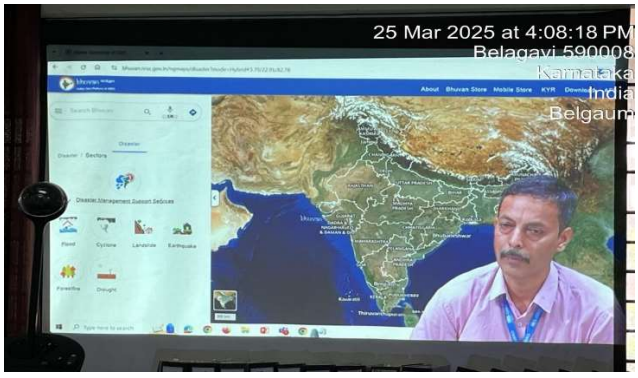

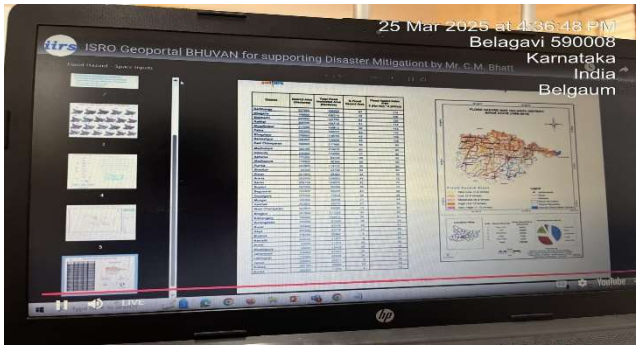

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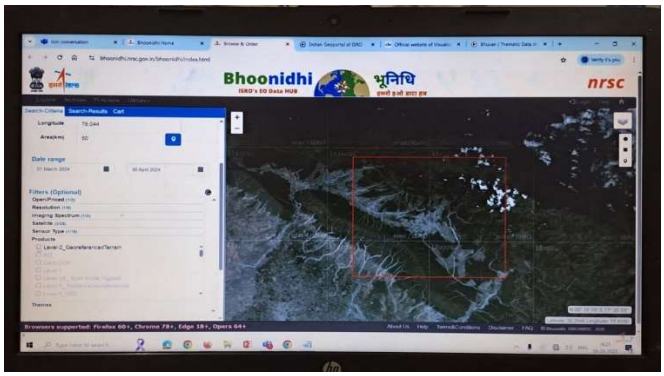

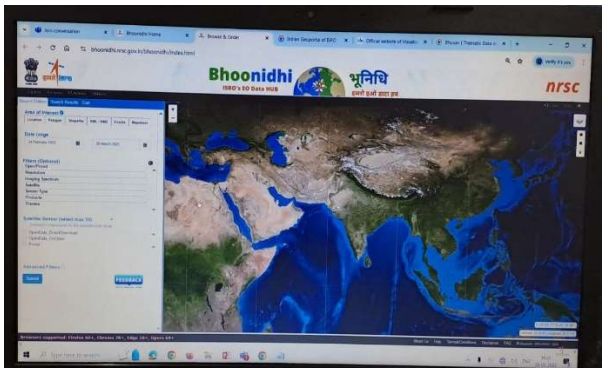

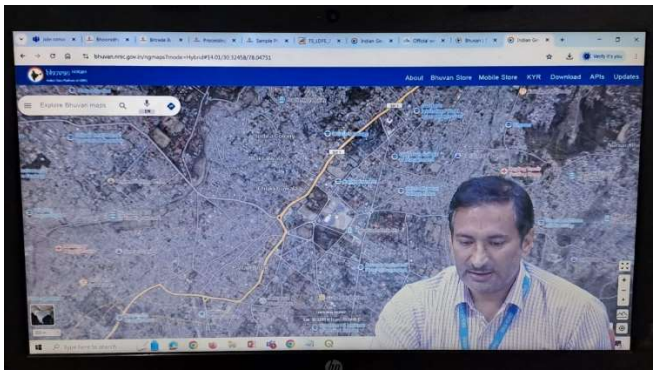

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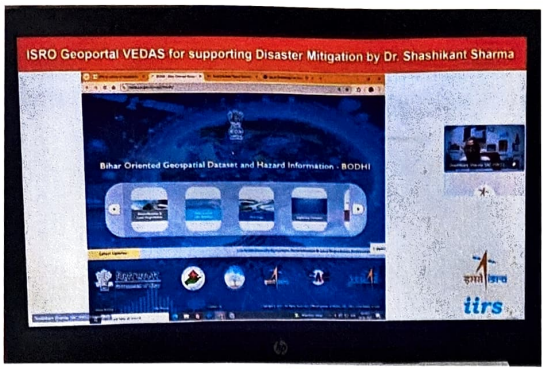

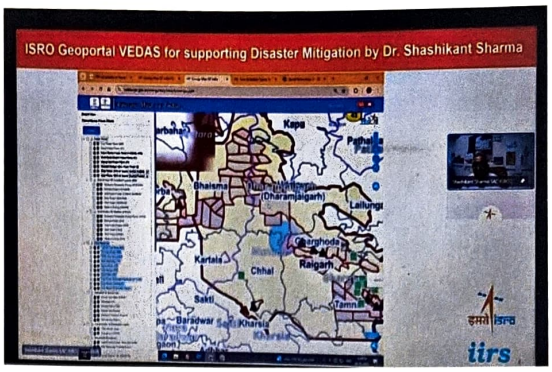

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16.5.25 16/05/2025 16/05/2025 16/5/25

Coordinator **HOD** **IQAC** **Principal & Director**

Head of the Department Civil Engineering
Angadi Institute of Technology And Management
Savagaon Road, Belagavi-590 009

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