रामभाऊ म्हाळगी प्रबोधिनी
Rambhau Mhalgi Prabodhini

EARTHSIGHT FOUNDATION
SATELLITE IN EACH HAND

SATELLITE IN YOUR HANDS

Capacity Building Workshop for Stakeholders

An initiative of
AAKASH
Dr. APJ Abdul Kalam center for Application of Space to Humanity

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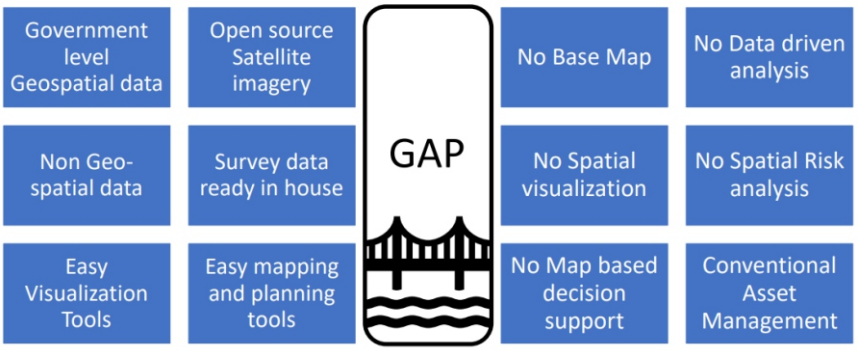
Need for Geospatial Thinking:



Geospatial thinking aids elected officials in understanding spatial relationships, enabling better resource allocation, informed policy-making, and effective disaster response, crucial for addressing community needs and fostering sustainable development in their constituencies within a democracy.

Introduction:

The Geospatial Technology Capacity Building Event organized by Rambhau Mhalgi Prabodhini and EarthSight Foundation was held successfully on 8th and 9th July, 2023. The two-day event aimed to enhance the understanding and application of geospatial technology in the domains of smart agriculture, water conservation, and rural development planning. The event witnessed an overwhelming response, with over 85 enthusiastic trainees actively engaging and gaining valuable hands-on experience with spatial tools. The event witnessed a total of 85 attendees, representing various sectors and geographic regions. Of these, 32 participants comprised Sarpanchs, Gramsevaks, and Block Development Officers from Pune, Thane, Kolhapur, Palghar, Raigad, and Beed districts in Maharashtra. The remaining participants included academics, NGO leaders, and political representatives.

With this experience and having conducted multiple training programs catering to elected, administrative representatives, social impact workers, agronomists and others, Rambhau Mhalgi Prabodhini jointly with EarthSight Foundation, proposes a national level geospatial and space technology capacity building program. The program would be conducted at multiple locations across the country for duration of 2 days and will be focused on the capacity building of local elected representatives and people engaged in non-profit activities of Bharat. Following sections detail the highlight points that will be covered in the 2 days of program.

Two-day plan and offerings during the event:

Day 1	Introduction to satellite data
	Basics of GIS
	Applications in Smart Agriculture
	Applications in Water Conservation
	Basics of Field Survey/ GI Tagging and financial gains
	Applications in disaster management
Day 2	Rural Development with Geospatial Technology
	Practical on Various portals and data access
	Practical session on Village Development plan with Geo Spatial Technology
	Drone Technology and integration with Satellite Data

Note - Specific event plan will be tailored as per the local requirement and trends of live situations.

Key Expected Outcomes and Impact:

The two-day event will prove to be highly impactful, fostering knowledge exchange, networking, and collaboration among participants. Key outcomes include:

1. **Increased Awareness**: The event will aim to successfully raise awareness about the practical applications and benefits of geospatial technology in the domains of smart agriculture, water conservation, and rural development planning. Participants will gain a deeper understanding of how geospatial data and tools can be leveraged for evidence-based decision-making.

2. **Capacity Building**: The trainees will acquire hands-on experience and practical skills in utilizing geospatial technology tools and techniques. They will gain insights into data collection, analysis, and visualization, enabling them to explore innovative solutions to local challenges.

3. **Networking and Collaboration**: The event will provide a platform for diverse stakeholders, including Sarpanch, Gramsevak, academics, NGO leaders, and political representatives, ISRO, to come together and exchange ideas. This will facilitate potential collaborations, partnerships, and knowledge sharing among participants, fostering a collective approach towards sustainable development.

4. **Empowered Rural Communities**: The discussions on rural development planning will emphasise the significance of empowering rural communities through geospatial technology. Participants will be inspired to apply their newly acquired knowledge to enhance the development planning processes in their respective areas, leading to more informed and inclusive decision-making.

Sustained capacity building a raging need:

Looking at the current technology scenarios of Bharat, the tech-connect of the last mile user, policy push towards opening up technology sectors to the users all of these factors make the user aware of the full ambit of technology available to them. A national level movement to build geospatial capacity will aim at having following sustained impact:

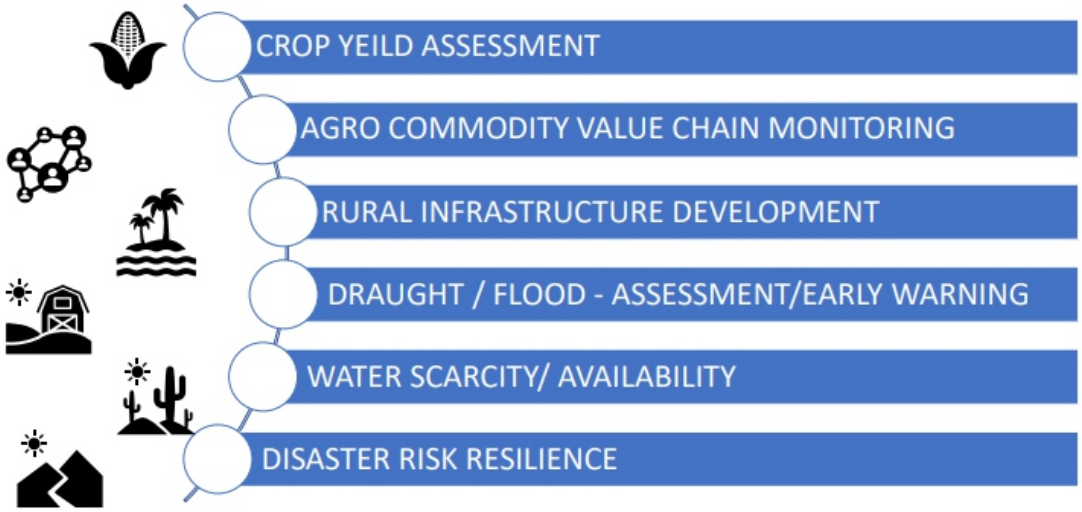
- **Continued Capacity Building**: Organizing regular and longer capacity-building workshops and training programs to deepen the understanding and skills related to geospatial technology among rural administration stakeholders. The plan is to implement these workshops at different locations so that more target audience can be addressed.

- **Strengthen Collaboration**: Foster collaboration between government agencies, NGOs, academia, and community leaders to create a coordinated approach in integrating geospatial technology into rural development planning. Tie-ups with government departments are intended so that target audience can be curated and content can be made specifically available.

- **Policy Integration**: It will be important to advocate for the integration of geospatial technology into relevant policies and guidelines to facilitate its widespread adoption and usage in rural development initiatives.

- **Scaling Up**: Extend the reach of geospatial capacity building initiatives to a wider audience, leveraging online platforms and digital resources to ensure broader participation and knowledge dissemination. In one of the major plans for scale up, we intend to bring ISRO on board as a content collaborator along with all State Remote Sensing Centres, and be recognized as an ISRO outreach centre.

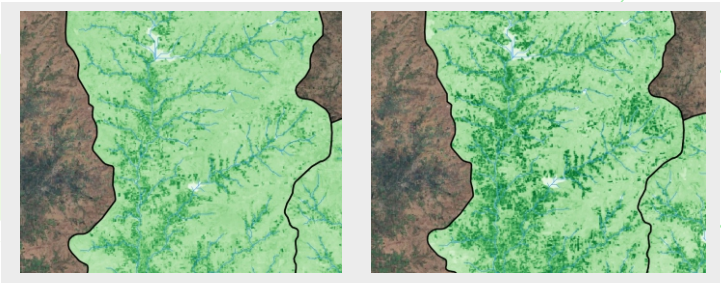
Areas of Immediate Impact:



Application of Geo-Spatial Technology to various Ministries

Ministry of Environment and Forest	Ministry of Agriculture	Ministry of Rural Development
Ministry of Jal Shakti	Ministry of Panchayat Raj	Ministry of Panchayat Raj
Ministry of Earth Science	Ministry of Defence	Ministry of Tribal Affairs

Increased agriculture resulting from improvements in water management strategies.:



Agrani River Basin Feb 2014 (left) & Feb 2021 (right)

The collaborative initiative of villagers from Agrani River basin to build check dams (started from 2014) across the river showed brilliant results in the form of increased cultivation, which is indicative of raised groundwater levels. Agrani river is a tributary of the Krishna River, located across the border of the Maharashtra and the Karnataka states of India.

Geo-Spatial Technology for Teachers

The Earth Sight Foundation, in collaboration with Rambhau Mhalgi Prabodhini, is thrilled to announce the launch of an exclusive Geospatial Capacity Building Program, specifically designed for teachers instructing **history and geography** to students in grades 7th through 10th across India. This pioneering initiative aims to revolutionize the traditional teaching methodologies by integrating advanced Geospatial technologies into the curriculum, thereby fostering a more interactive, engaging, and effective learning environment for students.

Understanding the critical role educators play in shaping the future of country, this program is meticulously crafted to equip teachers with the necessary tools and knowledge to create high-tech content and visualizations. Our objective is to empower you to deliver impactful learning experiences that not only captivate but also expand the horizons of our young learners.

Teaching history and geography together as an integrated discipline, especially with the aid of Geospatial Technology, offers a more holistic and enriched educational experience. Integration of history and geography through Geospatial Technology not only enriches the educational experience but also equips students with the skills and perspectives needed to navigate and contribute to the complex world around them. This integration is crucial for several reasons:

Enhanced Understanding of Historical Contexts:

Geospatial Technology allows students to visualize historical events in their precise geographical context, making it easier to understand the "where" and "why" behind significant moments. This spatial perspective helps illuminate the connections between geography and historical outcomes, such as how terrain has influenced military strategies or how natural resources have shaped economic and social development.

Interdisciplinary Learning:

Integrating history and geography using Geospatial Technology promotes interdisciplinary learning. It encourages students to draw connections across subjects, fostering critical thinking and problem-solving skills. This approach mirrors real-world scenarios where knowledge is interconnected, preparing students for complex life and work environments.

Spatial Thinking Skills:

Geospatial Technology enhances spatial thinking, which is the ability to visualize and interpret the relationships between objects or phenomena in space. Spatial thinking is a fundamental skill not only in geography but also in understanding historical movements, such as migrations, invasions, and trade routes. These skills are increasingly important in a variety of fields.

Engagement and Motivation:

Maps and visualizations created with Geospatial Technology can transform abstract historical and geographical concepts into tangible, interactive experiences. This visual and interactive learning can significantly increase student engagement and motivation, making lessons more memorable and impactful.

Critical Analysis and Interpretation:

Using Geospatial Technology in teaching history and geography together encourages students to critically analyze and interpret data. Students learn to question why events happened in certain locations and consider how geographical factors have influenced historical outcomes. This analytical approach cultivates a deeper understanding and appreciation of the complexity of historical events and geographical phenomena.

Real-world Applications:

Geospatial Technology has real-world applications in numerous fields, including environmental management, disaster response, urban planning, and more. By integrating this technology into history and geography education, students gain practical skills and insights that can be applied in their future careers and civic life.

Global Perspective:

Finally, teaching history and geography together with Geospatial Technology helps students develop a global perspective. They learn to see beyond their immediate surroundings, understanding the global interconnectedness of events, cultures, and environments. This perspective is essential in today's increasingly interconnected world, promoting global citizenship and empathy.

PROGRAM OVERVIEW: Two-Day Workshop

DAY - 1	Session 1	The World of Geospatial Technologies	1.An overview of Geospatial Technology and its significance in teaching history and geography. 2.Understanding the basics of Geographic Information Systems (GIS), Remote Sensing (RS), and Global Positioning Systems (GPS).
	Session 2	Hands-On with Geospatial Tools	1.Introduction to various Geospatial software and tools relevant to educational purposes. 2.Practical exercises on creating simple maps and visualizations using open-source GIS software.
	Session 3	Integration of GIS tools in Curriculum	1.Strategies for embedding Geospatial content into the existing curriculum. 2.Engaging with Geospatial datasets to enhance storytelling in history and geography.
	Workshop	Crafting first GIS	ProjectParticipants will work to ideate a first project in GIS for teaching
DAY - 2	Session 1	Advanced Mapping and Visualization	1.Deep Dive in Mapping techniques, including 3D Mapping and Thematic Mapping 2.Utilizing Geo Spatial for creating Compelling narrativesGeo Spatial analytics for
	Session 2	Geo Spatial analytics for Educators	1.Exploring power of open-source tools 2.Analysis of historical Earth Events using GIS and Remote Sensing Crafting your first
	Workshop	Crafting your first GIS project	1.Developing GIS data and story for visualization 2.Presentations

The workshop will conclude with a feedback session, allowing participants to share their experiences and insights gained from the program. Certificates of participation issued in collaboration with ISRO will be awarded, recognizing the educators' commitment to enhancing their teaching methodologies through the adoption of Geospatial technologies. We look forward to embarking on this transformative journey with you, as we collectively strive to inspire and educate the next generation of learners through the power of Geospatial science.

Basis Technology:

2 HOUR/ 1 SESSION

2 DAY FULL WORKSHOP

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Training Infrastructure at RMP:

The Knowledge Excellence Centre (KEC), a sprawling 15-acre campus nestled amidst the hills and green swathes is a luxurious and versatile event venue that offers an unforgettable experience for all types of occasions, specifically suited for the Residential Trainings. Peaceful environment with dedicated Library provides necessary ambience for self-learning and inner engineering. It has -

- **Rooms & Suits**
- **Training Hall & Auditorium**
- **Dining Hall**
- **Yoga & Mediation facility**

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