



**In Collaboration with  
Sol, KRSAC, CSIR, PM-USHA, KSTA,**

15<sup>th</sup> UGIT's International Conference on

**“The Western Ghats for Sustainable Landscapes, Climate Resilience,  
and Community Well-Being: Use of Geospatial Technologies”  
October 22-24, 2026**

Hosted by the Department of Geography & Geoinformatics, Bangalore University under the banner of UGIT, “The Western Ghats for Sustainable Landscapes, Climate Resilience, and Community Well-Being: Use of Geospatial Technologies” is an international conference designed to spark dialogue, innovation, and collaboration across disciplines during 15-17, October 2026. The Western Ghats, one of the world's most significant biodiversity hotspots and a UNESCO World Heritage landscape, play a decisive role in regulating climate, sustaining river systems, conserving biodiversity, and supporting the livelihoods of millions across peninsular India. In recent decades, however, this fragile mountain system has been subjected to intense pressures arising from climate change, deforestation, unplanned infrastructure development, land-use transformation, and increasing human interventions. Studies indicate that forest cover in parts of the Central Western Ghats has declined from nearly 92% to around 80%, leading to fragmentation of habitats, altered hydrological regimes, and increased vulnerability to floods, droughts, and landslides.

Advanced tools such as **GIS, remote sensing, geospatial modelling, AI-based analytics, and decision-support systems** enable high-resolution monitoring of forests, grasslands, watersheds, river basins, climate variability, and human footprints. These approaches are essential for developing evidence-based strategies for **sustainable forest management, water security, climate resilience, and community well-being**. The conference emphasizes innovative concepts such as **landscape restoration, nature-based solutions, “sponge city” and sponge-landscape approaches, agro-forestry, and participatory governance**, which strengthen groundwater recharge, reduce disaster risks, and enhance ecosystem services. By bringing together researchers, planners, policymakers, and practitioners, this conference aims to foster multidisciplinary dialogue and actionable solutions for conserving the Western Ghats while supporting sustainable development and resilient communities.

**Who Can Participate:** Academicians, researchers, scientists, planners, policymakers, students, industry professionals, NGOs, and practitioners from India and abroad are invited to submit original research papers, review articles, case studies, policy analyses, and technology-driven applications.

| <b>Chief-Guest</b>                                                                                          | <b>Guest of Honour</b>                                                                                | <b>Chief Patron</b>                                                                                     |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Dr V. Narayanan,</b><br>Hon'ble Secretary, Dept of Space, Chairman,<br>Space Commission & Chairman, ISRO | <b>Dr. M. C. Sudhakar,</b><br>Hon'ble Minister, Higher Education,<br>Government of Karnataka          | <b>Prof. S.M. Jayakara</b><br>Hon'ble Vice Chancellor, Bangalore<br>University                          |
| <b>Dr. Rajesh R</b><br><b>Director, KRSAC</b>                                                               | <b>Director, Sol</b>                                                                                  |                                                                                                         |
| <b>Prof. N. Nagaiah</b><br>Dean, Faculty of Science, Bangalore<br>University, Bengaluru                     | <b>Dr. Ashok Hanjagi,</b><br>Convener & Chairman, Geography &<br>Geoinformatics, Bangalore University | <b>Co Patron</b><br><b>Smt. Shantala K.T.</b> <b>KAS Super Scale</b><br>Registrar, Bangalore University |

| <b>Organizing Secretaries</b>                                |                                                      |
|--------------------------------------------------------------|------------------------------------------------------|
| <b>Dr. Dashratha P. Angadi</b><br>Secretary, UGIT, Bengaluru | <b>Dr. Surendra P.</b><br>Treasurer, UGIT, Bengaluru |

**Conference Venue: Dept of Geography & Geoinformatics, Bangalore University**

## Objectives of the conference:

- ➔ To examine the changing environmental dynamics of the Western Ghats under the combined influence of climate change, land-use transformation, deforestation, and anthropogenic pressures.
- ➔ To promote the application of advanced geospatial technologies including GIS, remote sensing, UAVs, AI/ML, spatial modelling, and decision-support systems for monitoring, assessment, and sustainable management of forests, grasslands, watersheds, river basins, and biodiversity in the Western Ghats.
- ➔ To enhance understanding of hydrological processes and water security, focusing on east and west-flowing rivers, groundwater recharge, watershed resilience, flood and drought risks, and climate-induced extremes across Western Ghats influenced regions.
- ➔ To foster interdisciplinary dialogue among geographers, environmentalists, geoinformatics experts, ecologists, geologists, climatologists, hydrologists, planners, social scientists, and policymakers to address complex socio-ecological challenges of the Western Ghats.
- ➔ To highlight nature-based solutions and landscape restoration strategies, including reforestation, social forestry, agro-forestry, grassland restoration, and sponge-landscape concepts, for climate resilience and ecosystem sustainability.
- ➔ To assess biodiversity conservation priorities, habitat connectivity, wildlife corridors, and ecosystem services using spatial and participatory approaches, while balancing conservation with development needs.
- ➔ To explore sustainable agriculture and land-use practices, including organic farming, climate-smart agriculture, and innovative agro-ecosystems, to improve soil health, water efficiency, and livelihood resilience.
- ➔ To promote green jobs, youth skill development, and capacity building, particularly in geospatial technologies, environmental monitoring, restoration ecology, and sustainable resource management.
- ➔ To strengthen science–policy–practice linkages by translating research outcomes into policy briefs, planning tools, and actionable frameworks relevant to state, national, and international environmental governance.
- ➔ To encourage collaboration among academic institutions, government agencies, NGOs, and international organizations for long-term conservation and sustainable development of the Western Ghats.

## Conference Sub-Themes

1. **Earth System Processes:** Geomorphology, terrain dynamics, and landscape evolution of the Western Ghats. Soil systems, erosion processes, and land degradation. Landslides, slope instability, and geohazard mapping. River basin geomorphology and sediment dynamics
2. **Climate Change, Monsoon Dynamics & Extreme Events:** Western Ghats' role in South-West monsoon modulation. Climate variability, rainfall trends, and temperature extremes. Floods, droughts, landslides, and climate-induced disasters. Regional climate modelling and downscaling studies.
3. **Watersheds, Rivers & Water Security:** Hydrology of east- and west-flowing river systems. Watershed prioritization and water budgeting. Groundwater recharge, aquifer mapping, and depletion trends. Sustainable water management, inter-basin linkages, and policy challenges.
4. **Forests, Grasslands & Biodiversity Conservation:** Forest cover dynamics, fragmentation, and connectivity analysis. Distribution, degradation, and restoration of grassland ecosystems. Wildlife habitats, corridors, and human–wildlife interactions. Ecosystem services assessment and biodiversity valuation.
5. **Geoinformatics, Remote Sensing & Spatial Analytics:** GIS-based environmental monitoring and decision-support systems. Remote sensing applications in land-use, forests, and water resources. UAV, LiDAR, and high-resolution earth observation data. AI/ML, big data analytics, and geospatial modelling.
6. **Landscape Restoration & Nature-Based Solutions:** Reforestation, social forestry, and assisted natural regeneration. Agro-forestry, grassland restoration, and degraded land reclamation. Sponge-landscape and sponge-city concepts for water resilience. Carbon sequestration, climate mitigation, and ecosystem restoration.
7. **Agriculture, Food Systems & Sustainable Livelihoods:** Organic farming and climate-smart agriculture. Land-use transitions and agro-ecosystem sustainability. Soil health, water-efficient cropping systems, and precision agriculture. Role of agriculture in climate adaptation and resilience.
8. **Human Dimensions, Society & Cultural Landscapes.** Community livelihoods and resource dependence in Western Ghats. Indigenous knowledge systems and traditional ecological practices. Participatory GIS and community-based resource management. Gender, equity, and social inclusion in conservation planning.
9. **Urbanization, Infrastructure & Environmental Impacts:** Urban expansion and peri-urban dynamics in Ghats-influenced regions. Transportation, hydropower, mining, and infrastructure impacts. Environmental impact assessment and spatial planning tools. Sustainable urban–rural linkages and green infrastructure.

10. **Policy, Governance & Environmental Planning:** Environmental legislation and management of ecologically sensitive areas. River basin governance and inter-state coordination. Climate policy, adaptation planning, and disaster risk governance. Role of geospatial evidence in policy formulation.
11. **Green Jobs, Youth Engagement & Capacity Building:** Geospatial skills and employment opportunities for youth. Green jobs in forestry, water, agriculture, and climate services. Education, training, and innovation for sustainable development. Entrepreneurship and start-ups in geospatial and environmental sectors.
12. **Technology, Innovation & Future Pathways:** Smart environmental monitoring systems. Digital twins, 3D modelling, and virtual landscapes. Citizen science, mobile GIS, and open-data platforms. Future research agendas for Western Ghats sustainability.

### Expected Outcomes of the Conference

1. **Advancement of Scientific Knowledge:** Generation of high-quality, interdisciplinary research integrating Geography and Geoinformatics to improve understanding of climate change impacts, hydrological processes, biodiversity dynamics, and landscape transformations in the Western Ghats.
2. **Geospatial Decision-Support Frameworks:** Development of GIS- and remote-sensing-based decision-support tools for forest management, watershed planning, disaster risk reduction, land-use regulation, and climate adaptation strategies.
3. **Policy-Relevant Recommendations:** Preparation of evidence-based policy briefs and recommendations for state and national governments on sustainable development, water security, biodiversity conservation, and land-use planning in the Western Ghats region.
4. **Strengthened Water and Ecosystem Management Strategies:** Improved strategies for river basin management, groundwater recharge, nature-based solutions, and climate-resilient infrastructure through scientific assessments and spatial modelling.
5. **Landscape Restoration and Nature-Based Solutions:** Promotion of scalable models for reforestation, agro-forestry, grassland restoration, and sponge-landscape approaches that enhance ecosystem services while supporting livelihoods.
6. **Sustainable Agriculture and Livelihood Resilience:** Identification of innovative, organic, and climate-smart agricultural practices to improve soil health, water efficiency, food security, and rural livelihoods across Western Ghats-influenced regions.
7. **Green Jobs and Youth Skill Development:** Capacity building of students and young professionals in geospatial technologies, environmental monitoring, ecosystem restoration, and sustainable resource management, contributing to green employment opportunities.
8. **Science–Policy–Practice Integration:** Strengthened linkages between researchers, policymakers, planners, NGOs, and community stakeholders to ensure translation of scientific knowledge into actionable development and conservation strategies.
9. **National and International Collaboration:** Establishment of long-term research collaborations, MoUs, and networks among Indian and international institutions, funding agencies, and organizations working on mountain ecosystems and sustainability.
10. **High-Impact Publications and Knowledge Dissemination:** Publication of conference proceedings, special journal issues, edited volumes, and open-access knowledge products to ensure wide dissemination of research outputs.
11. **Community and Stakeholder Engagement:** Enhanced inclusion of indigenous knowledge systems, local community perspectives, and participatory approaches in environmental planning and conservation.
12. **Roadmap for Sustainable Western Ghats Management:** Development of a comprehensive roadmap integrating geospatial science, policy frameworks, and community participation for long-term conservation and sustainable development of the Western Ghats.

## Inaugural Session

The Inaugural Session will formally commence the International Conference on **“The Western Ghats for Sustainable Landscapes, Climate Resilience, and Community Well-Being: Use of Geospatial Technologies”**. The session will bring together eminent scientists, policymakers, representatives from funding agencies, international organizations, and academic leaders. The inaugural addresses will highlight the ecological, hydrological, and socio-economic significance of the Western Ghats, emerging challenges under climate change, and the critical role of Geography and Geoinformatics in evidence-based environmental governance. The session will set the thematic tone of the conference, emphasizing interdisciplinary collaboration, science–policy integration, and sustainable development pathways.

## Plenary Sessions

The Plenary Sessions will feature high-level keynote lectures by distinguished national and international experts in Geography, Geoinformatics, climate science, geology, ecology, hydrology, environmental policy, and sustainable development. These sessions will provide a holistic and forward-looking perspective on Western Ghats–related issues, including climate resilience, water security, biodiversity conservation, landscape restoration, and technological innovations. Plenary discussions will address global best practices, emerging methodologies, and comparative case studies, facilitating cross-learning between regions and disciplines. These sessions are designed to stimulate high-level dialogue and inform future research, policy formulation, and regional planning.

## UGIT’s Young Technologist Session

The UGIT’s Young Technologists Presentation Session (who are below 35 years of age) will provide a dedicated platform for PhD scholars, post-doctoral fellows, early-career faculty, and young professionals to present their research findings. Emphasis will be placed on innovative methodologies, geospatial applications, and solution-oriented research relevant to the Western Ghats. This session aims to encourage scientific excellence, mentorship, and capacity building, while promoting youth engagement in environmental research and geospatial technologies. Best presentations will be recognized through Young Scientist Awards, fostering motivation and academic leadership among emerging researchers.

## Poster Presentation Session

The Poster Presentation Session (who are below 35 years of age) will showcase a wide range of ongoing research, field-based studies, geospatial analyses, and applied projects related to the conference themes. Posters will facilitate interactive knowledge exchange, particularly for students, practitioners, NGOs, and interdisciplinary researchers. Special emphasis will be given to visualization of spatial data, maps, models, and community-based initiatives. Outstanding posters will be acknowledged through Best Poster Awards, promoting effective scientific communication and innovation. Selected posters in this session (as research articles) will be published free of cost in the *Geo-Eye Journal of UGIT*. **Awards** include 1st prize ₹5,000, 2nd prize ₹3,000, and 3rd prize ₹2,000, with certificates. **Note:** UG, PG and PhD students can submit the posters.

## Technical Session

This will focus on presenting cutting-edge research, technological advancements, and case studies that demonstrate the application of geospatial technologies in solving real-world problems. These sessions are geared towards researchers, technologists, and practitioners, offering a deep dive into specialized topics. **Research Paper Presentations** by researchers and professionals on innovative solutions in various fields. **All articles will undergo double-blind peer review.** Selected abstracts / full papers will be invited for oral presentation in technical sessions and published free of cost in international peer-reviewed *UGC CARE-listed journals of UGIT (Geographical Analysis & Geo-Eye)*. **Best paper awards** with certificates will be given in each technical session. Registered participants will receive certificates and a conference kit.

## Quiz Competition

The UG, PG and PhD students will participate in well-organized quiz which will be conducted prior to the conference inaugural session. The students will get exposed to develop skills in main conference theme and sub-themes. The session will provide ideas and insights, helping attendees gain valuable knowledge in the practical application of various domains. The students will be honoured with cash prizes and citations at the valedictory ceremony. **Awards** include 1st prize Rs. 5,000, 2nd prize Rs. 3,000, and 3rd prize Rs. 2,000, with certificates.

### Panel Session:

The Panel Sessions will unite experts from academia, government, and industry to discuss the Western Ghats's critical issues in climate action, landscape development, sustaining river systems, conserving biodiversity, deforestation, environmental sustainability, disaster management, and water and soil resources, supporting livelihoods of millions across peninsular India, with a focus on geospatial technologies. Highly interactive, these sessions will feature facilitated debates on the feasibility and impact of geospatial data for large-scale climate action, encourage audience engagement, and promote cross-sector collaboration. A few dedicated panel sessions by expert scientists will address various sub-themes, inspiring innovative geospatial solutions for sustainable development of the Western Ghats.

### Call for Research Articles and Posters

**The UGIT** invites researchers, practitioners, and students to submit their original abstracts and full-length **research articles** and **posters** review articles, case studies, policy analysis and technology driven applications for presentation at the international conference. The submitted work should be related to the main or sub-themes of the international conference and also should address the **Sustainable Development Goals (SDGs)**. The international conference seeks to foster multidisciplinary dialogue, science-policy integration, and actionable solutions that promote ecological integrity, climate resilience, and community well-being in the Western Ghats and similar fragile landscapes worldwide. Researchers and practitioners from national and international institutions are encouraged to submit their abstracts and papers, posters and contribute to this important scientific and policy-oriented discourse. *Submit your papers to the email: [geography@bub.ernet.in](mailto:geography@bub.ernet.in)*

### Submission Guidelines

**Abstract & Research Articles:** Submissions must present original research or innovations (3000–5000 words) following the conference's citation style (APA/MLA), with an abstract (max. 400 words), keywords, and author biography. Should be in word format. Oral presentation timing shall be 12-15 + 3-5 minutes (interaction). Kindly specify whether presentation is **Oral / Poster / Young Technologists**. **Abstract Structure:** Title & Authors with Affiliations, Background, Objectives, Methods, Expected Findings, Conclusion and Keywords (4–6). **Research Article Structure:** Title Page, Abstract & Keywords, Introduction, Materials & Methods, Results & Discussion, Conclusion & Policy Implications and References (APA/Chicago/IEEE).

**Posters:** Posters should showcase research, case studies, or innovations relevant to the conference themes/sub-themes, in portrait format (max. 36" x 48"), including title, abstract, methodology, results, and conclusion. Submissions must include a short description and author details. Posters will be peer-reviewed, displayed in designated areas, and presented during poster sessions.

### Important Dates

|                                                        |                         |
|--------------------------------------------------------|-------------------------|
| <b>Abstract Submission Deadline:</b>                   | <b>15 August 2026</b>   |
| <b>Notification of Abstract Acceptance:</b>            | <b>15 November 2026</b> |
| <b>Full Paper Submission (Optional / Proceedings):</b> | <b>30 November 2026</b> |
| <b>Early Bird Registration Deadline:</b>               | <b>15 November 2026</b> |
| <b>Last Date for Registration:</b>                     | <b>30 November 2026</b> |

### Young UGIT's Technologist Award

The original research articles along with abstracts are invited from young researchers who are below the age 35. All the research papers which are submitted under this category should be focused on conference theme or sub-themes. Original research papers on these categories have to be in the original format and not published anywhere earlier. One

best article would be selected for the Young Technologist Awards and would be awarded a cash prize of Rs.10,000 with certificate at the valedictory session. Presentation shall be only offline. **Abstract Structure:** Title & Authors with Affiliations, Background, Objectives, Methods, Expected Findings, Conclusion and Keywords (4–6). **Research Article Structure:** Title Page, Abstract & Keywords, Introduction, Materials & Methods, Results & Discussion, Conclusion & Policy Implications and References (APA/Chicago/IEEE).

**Note:** The selection would entirely be based on relevance of the research topic, methodology & techniques used for analysis, output of the research and the quality of the presentation. The research article selected will be published in up-coming international peer-reviewed and UGC-CARE listed journals of 'Geographical Analysis' or 'Geo-eye'.

## UGIT'S Excellency Awards

Since 2015, UGIT has been conferring the **Excellency Awards** to honour outstanding contributions in teaching, research, and the promotion of geospatial technologies across diverse fields. These awards recognize exceptional talent, achievement, and dedication, inspiring the academic and research community to strive for higher excellence. For the 15th International Conference, the UGIT Executive Body will select **three distinguished awardees from India and abroad**. Earth scientists (Geographers, Geologists, Environmental Scientists with geospatial technologies application, and other academicians with exemplary research records and contributions in their respective domains. Awardees will be felicitated during the inaugural session of 15<sup>th</sup> UGIT's International conference, and their names and achievements will be featured in the *UGIT's website and Journals*.

## Conference Registration Fees

| Indian Delegates-offline                                                | Online Participation         | UGIT Members                   | Online participation | Foreign Delegates               | Online participation |
|-------------------------------------------------------------------------|------------------------------|--------------------------------|----------------------|---------------------------------|----------------------|
| Non-academician 4000<br>Faculty 2500<br>Researcher 1000<br>Students 500 | 3,000<br>1,500<br>500<br>300 | Faculty 2000<br>Researcher 800 | 1,000<br>500         | Faculty \$60<br>Researcher \$30 | \$30<br>\$15         |
| Spot Registration 3500                                                  |                              |                                |                      |                                 |                      |

| Organizing Secretaries                                                                                                                                                            |                      |                    |                                                  |                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|--------------------------------------------------|---------------------|
| Prof. Dashratha P. Angadi, Mangalore University, Mangalore                                                                                                                        |                      |                    | Dr. Surendra P., Bangalore University, Bengaluru |                     |
| Organising Committee                                                                                                                                                              |                      |                    |                                                  |                     |
| Dr. Abhishek M.J.                                                                                                                                                                 | Dr. Shiva Kumar R.   | Dr. Nischitha V.   | Dr. Nagabhushana                                 | Mr. Hemanth Reddy   |
| Mr. Jagadeesh N.                                                                                                                                                                  | Dr. Shahnin Irfan    | Mr. Venugopal T.V. | Dr. Harish .H.S                                  | Mr. Veerednra Patil |
| Ms. Suzan Karmoka                                                                                                                                                                 | Mr. Shashank B Patel | Mr. Sharath H.M.   | Mr. Ravikiran T.                                 | Ms Revathi          |
| Ms. Shilpa D.P.                                                                                                                                                                   | Ms. Aparna           | Mr. Basavaraj      | Mr. Anilkumar V.                                 | Mr. Ramesh P.D.     |
| Ms. Prarkuti Pilania                                                                                                                                                              |                      |                    |                                                  |                     |
| Contact Details                                                                                                                                                                   |                      |                    |                                                  |                     |
| Dr. Ashok D. Hanjagi, Convener & Chairman                                                                                                                                         |                      |                    |                                                  |                     |
| Dept of Geography & Geoinformatics, Bangalore University, Bengaluru-56,                                                                                                           |                      |                    |                                                  |                     |
| Mob: 91 9845634196, 91 9448889201, 91 9731454538, 9108813001,                                                                                                                     |                      |                    |                                                  |                     |
| geography@bub.ernet.in <a href="https://bangaloreuniversity.karnataka.gov.in/">https://bangaloreuniversity.karnataka.gov.in/</a> & <a href="http://www.ugit.net">www.ugit.net</a> |                      |                    |                                                  |                     |

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## Outcome–Mandate Mapping for Funding Agencies

### 1. Department of Science & Technology (DST), Government of India

**Core Mandate:** Scientific research, technology development, innovation, modelling, capacity building, and interdisciplinary knowledge creation.

| Conference Outcomes                                                         | Alignment with DST Mandate                                                |
|-----------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Advanced geospatial research on climate, hydrology, forests, and landscapes | Promotes frontier science using GIS, RS, AI/ML, spatial modelling         |
| Development of decision-support systems                                     | Supports technology-driven solutions for societal challenges              |
| Geospatial datasets, models, and tools                                      | Strengthens national scientific infrastructure and data-driven governance |
| Capacity building of students and young researchers                         | Enhances human resource development in emerging technologies              |
| Interdisciplinary collaborations and research networks                      | Encourages multi-institutional and multi-disciplinary research            |
| High-impact publications and special journal issues                         | Enhances India's global scientific visibility                             |

**DST-Focused Outcomes:** ✓ Technology readiness ✓ Scientific excellence ✓ Innovation ecosystem ✓ Skilled manpower development

### 2. Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India

**Core Mandate:** Environmental protection, biodiversity conservation, climate change mitigation/adaptation, forests, wildlife, and sustainable development.

| Conference Outcomes                                             | Alignment with MoEFCC Mandate                            |
|-----------------------------------------------------------------|----------------------------------------------------------|
| Biodiversity assessment and forest cover monitoring             | Supports national conservation and monitoring frameworks |
| Landscape restoration, reforestation, agro-forestry models      | Aligns with National Afforestation Programme and CAMPA   |
| Climate vulnerability and adaptation strategies                 | Contributes to India's NAPCC and SAPCCs                  |
| River basin and watershed management strategies                 | Supports sustainable water and ecosystem management      |
| Policy briefs on land-use planning and environmental governance | Strengthens evidence-based environmental policymaking    |
| Integration of indigenous and community knowledge               | Aligns with community-based conservation approaches      |

**MoEFCC-Focused Outcomes:** ✓ Biodiversity conservation ✓ Climate resilience ✓ Sustainable forest and land management ✓ Policy support

### 3. United Nations Environment Programme (UNEP)

**Core Mandate:**

**Global environmental sustainability, nature-based solutions, SDGs, climate action, and ecosystem resilience.**

| Conference Outcomes                                    | Alignment with UNEP Mandate                             |
|--------------------------------------------------------|---------------------------------------------------------|
| Nature-based solutions and sponge-landscape approaches | Supports ecosystem-based adaptation and mitigation      |
| Sustainable water management and groundwater recharge  | Aligns with integrated water resource management (IWRM) |
| Green jobs and sustainable livelihoods                 | Supports UNEP's Green Economy and Just Transition goals |
| Climate risk assessment and resilience planning        | Advances climate adaptation frameworks                  |

|                                          |                                                |
|------------------------------------------|------------------------------------------------|
| Regional and global knowledge exchange   | Strengthens South–South and global cooperation |
| SDG-linked outcomes (SDGs 6, 11, 13, 15) | Direct contribution to UN SDG targets          |

**UNEP-Focused Outcomes:** ✓ Nature-based solutions ✓ Climate resilience ✓ Sustainable livelihoods ✓ SDG integration

**4. United Nations Educational, Scientific and Cultural Organization (UNESCO)**

**Core Mandate:** Education, science, culture, biosphere reserves, world heritage conservation, and knowledge dissemination.

| Conference Outcomes                                                 | Alignment with UNESCO Mandate                              |
|---------------------------------------------------------------------|------------------------------------------------------------|
| Research on Western Ghats as a World Heritage & Biosphere landscape | Strengthens protection of globally significant ecosystems  |
| Education, training, and capacity building                          | Advances Education for Sustainable Development (ESD)       |
| Interdisciplinary science–policy–society dialogue                   | Aligns with UNESCO’s Man and the Biosphere (MAB) Programme |
| Documentation of indigenous knowledge systems                       | Supports cultural and ecological heritage conservation     |
| Knowledge dissemination and open-access publications                | Enhances global scientific and educational outreach        |
| International academic collaboration                                | Promotes global scientific cooperation                     |

**UNESCO-Focused Outcomes:** ✓ Biosphere & heritage conservation ✓ Education for sustainable development ✓ Science–society interface ✓ Global cooperation

**Cross-Cutting Strategic Alignment**

| Global Framework                         | Conference Contribution                |
|------------------------------------------|----------------------------------------|
| UN Sustainable Development Goals (SDGs)  | SDGs 6, 11, 13, 15                     |
| Paris Climate Agreement                  | Climate adaptation & resilience        |
| Convention on Biological Diversity (CBD) | Biodiversity monitoring & conservation |
| Sendai Framework                         | Disaster risk reduction & resilience   |

**Conclusion for Proposal Justification:** The proposed conference is scientifically robust, policy-relevant, and globally aligned, simultaneously addressing national priorities and international environmental commitments. Its outcomes directly advance the mandates of DST, MoEFCC, UNEP, and UNESCO, ensuring high impact, scalability, and long-term sustainability.

**Proposed Standard Panel Committee**

*International Conference: “The Western Ghats in a Changing World”*

**1. Patron / Chairperson**

**Prof. Ashok Hanjagi, Department of Geography & Geoinformatics, Bangalore University**  
*(Conference Chair, Overall Oversight & Strategic Guidance)*

**2. Advisory Committee (Policy & International Agencies)**

| Name / Title      | Organization                           | Role                                                                  |
|-------------------|----------------------------------------|-----------------------------------------------------------------------|
| Dr. Jane Smith    | UNESCO, Biosphere Reserves Division    | International Policy Guidance, Biosphere & Sustainability Expert      |
| Dr. Michael Green | UNEP, Regional Office for Asia-Pacific | Environmental Sustainability, Nature-based Solutions, SDG Integration |

| Name / Title        | Organization                                | Role                                                         |
|---------------------|---------------------------------------------|--------------------------------------------------------------|
| Dr. R. K. Sharma    | MoEFCC, National Biodiversity Authority     | Biodiversity Conservation, Forest Policy & National Programs |
| Dr. S. S. Manohar   | ISRO, NRSC, Hyderabad                       | Remote Sensing & Geospatial Technology Guidance              |
| Dr. N. Balakrishnan | Ministry of Water Resources, Govt. of India | Water Resources Management, River Basin Planning             |

### 3. Scientific Committee (Research & Academia)

| Name / Title       | Organization                                                   | Role                                                        |
|--------------------|----------------------------------------------------------------|-------------------------------------------------------------|
| Prof. M. N. Murthy | IISc, Bengaluru – Centre for Ecological Sciences               | Climate Change & Biodiversity Modelling Expert              |
| Prof. Anitha Reddy | IISC, Bengaluru – Department of Civil Engineering              | Watershed & Hydrology Specialist                            |
| Dr. P. K. Ghosh    | Indian Institute of Remote Sensing (IIRS), Dehradun            | GIS & Remote Sensing Applications Specialist                |
| Dr. K. V. Rao      | Indian Institute of Tropical Meteorology, Pune                 | Climate & Monsoon Dynamics Expert                           |
| Prof. V. S. Kumar  | Indian Institute of Science Education & Research (IISER), Pune | Ecology, Conservation, and Landscape Restoration Specialist |

### 4. Technical & Evaluation Committee (Presentations, Young Scientist & Posters)

| Name / Title         | Organization                               | Role                                        |
|----------------------|--------------------------------------------|---------------------------------------------|
| Dr. M. Manikyam      | Retired Scientist, ISRO                    | Jury Member – Young Scientist Presentations |
| Dr. J. Krishnamurthy | Retired Scientist, NRSC / ISRO             | Jury Member – Poster & GIS Evaluation       |
| Dr. Sudha            | Retired Scientist, ISRO                    | Jury Member – Climate & Watershed Modelling |
| Prof. Ganesh Raj     | Bangalore University                       | Young Scientist & Poster Evaluation         |
| Dr. Vishwajeeth Paul | Researcher, UGIT / Collaborative Institute | Technical Session Coordination              |

### 5. Organizing Committee (Logistics, Outreach & Coordination)

| Name / Title        | Organization             | Role                                      |
|---------------------|--------------------------|-------------------------------------------|
| Prof. Ashok Hanjagi | Bangalore University     | Conference Convenor & Program Oversight   |
| Dr. Priya S.        | Bangalore University     | Registration & Participant Coordination   |
| Mr. Ramesh Kumar    | Conference Secretariat   | Logistics, Venue & Technical Support      |
| Ms. Kavitha Reddy   | Communication & Outreach | Publicity, Social Media & Media Relations |

### Roles & Responsibilities

- 1. Advisory Committee** – Provides high-level policy, international standards, and sustainability guidance.
- 2. Scientific Committee** – Oversees the scientific rigor of research presentations and plenary sessions.
- 3. Technical & Evaluation Committee** – Conducts fair evaluation of Young Scientist & Poster Sessions using pre-defined criteria.
- 4. Organizing Committee** – Handles logistics, registration, venue, and conference communications.

## Keynote Speakers

1. **Prof. Madhav Gadgil**, Former Chair, Western Ghats Ecology Expert Panel (WGEEP)  
Expertise: Western Ghats ecology, biodiversity conservation, people-centric sustainability  
Keynote: *“Western Ghats: Ecology, Governance, and the Path to Sustainable Development”*

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2. **Prof. Kartikeya Sarabhai**, Director, Centre for Environment Education (CEE), Ahmedabad  
Expertise: Environmental education, community participation, sustainability governance  
Keynote: *“People, Policy, and Sustainability in Biodiversity Hotspots”*

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3. **Prof. Sharachchandra Lele**, Senior Fellow, ATREE (Ashoka Trust for Research in Ecology and the Environment), Bengaluru  
Expertise: Political ecology, water governance, ecosystem services  
Keynote: *“Ecosystem Services of the Western Ghats: Science–Policy Interface”*

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4. **Prof. Harini Nagendra**, Director, School for Climate Change & Sustainability, Azim Premji University  
Expertise: Urban ecology, forests, climate resilience, Bengaluru region  
Keynote: *“Forests, Cities, and Climate Resilience in the Western Ghats Region”*

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5. **Dr. Y. V. N. Krishnamurthy**, Former Director, NRSC–ISRO  
Expertise: Remote sensing, natural resource mapping, watershed & land-use analysis  
Keynote: *“Geospatial Technologies for Sustainable Landscape and River Basin Management”*

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6. **Prof. M. S. Swaminathan (Memorial / Distinguished Lecture)**, Founder, M. S. Swaminathan Research Foundation (MSSRF)  
Expertise: Sustainable agriculture, agro-ecology, food security  
Keynote: *“Agro-ecological Pathways for Sustainable Development in the Western Ghats”*  
(Can be organized as a memorial plenary delivered by MSSRF senior scientist)

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7. **Dr. R. Krishnan**, Director, Indian Institute of Tropical Meteorology (IITM), Pune  
Expertise: Monsoon dynamics, climate change, extreme events  
Keynote: *“Climate Change, Monsoon Variability, and the Future of the Western Ghats”*

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8. **UNESCO / UNEP Representative (Asia-Pacific Region)**, Affiliation: UNESCO Man & Biosphere (MAB) Programme / UNEP ROAP  
Expertise: Biosphere reserves, SDGs, global conservation frameworks  
Keynote: *“Western Ghats as a Global Biosphere: Linking Local Action to Global Goals”*

### Why this Panel Works Well?

- ✓ Covers ecology, water, climate, agriculture, geospatial science, policy, and communities
- ✓ Strong credibility for DST, MoEFCC, UNEP, UNESCO
- ✓ Attracts international delegates, young researchers, and interdisciplinary submissions
- ✓ Balances Indian expertise with global frameworks

### Optional Enhancement

- One industry / start-up keynote (GeoAI, climate analytics, water-tech)
- One young global scientist plenary to inspire early-career researchers

Mapping table linking each keynote speaker to conference sub-themes and the mandates of DST, MoEFCC, UNEP, and UNESCO.

### Keynote Mapping to Conference Sub-Themes

#### Conference Core Sub-Themes (Reference)

1. Western Ghats Ecology & Biodiversity Conservation
2. Climate Change, Monsoon Variability & Extreme Events
3. River Basins, Watersheds & Water Security

4. Geospatial Technologies (GIS, RS, GeoAI, Modelling)
5. Sustainable Agriculture, Agro-forestry & Green Jobs
6. Urban–Rural Linkages & Climate Resilience
7. Policy, Governance & Community-based Management
8. Education, Capacity Building & Youth Engagement

### Keynote – Sub-Theme – Funding Mandate Matrix

| Keynote Speaker                        | Mapped Sub-Themes | DST Mandate                                         | MoEFCC Mandate                             | UNEP Mandate                             | UNESCO Mandate                                 |
|----------------------------------------|-------------------|-----------------------------------------------------|--------------------------------------------|------------------------------------------|------------------------------------------------|
| Prof. Madhav Gadgil                    | 1, 7              | Science-based policy, ecological research           | Western Ghats conservation, ESZ governance | Biodiversity & ecosystem integrity       | Biosphere reserves, people–nature harmony      |
| Prof. Kartikeya Sarabhai               | 7, 8              | Science communication & outreach                    | Environmental awareness & stewardship      | Environmental education for SDGs         | Education for Sustainable Development (ESD)    |
| Prof. Sharachchandra Lele (ATREE)      | 3, 7              | Interdisciplinary research & sustainability science | Water governance & ecosystem services      | Integrated water resources management    | Sustainability science & policy interface      |
| Prof. Harini Nagendra                  | 1, 6              | Urban ecology research                              | Forest–urban interface, climate adaptation | Nature-based solutions, resilient cities | Sustainable cities & cultural landscapes       |
| Dr. Y. V. N. Krishnamurthy (ISRO/NRSC) | 3, 4              | Geospatial science, Earth observation               | Natural resource monitoring                | Data-driven environmental assessment     | Science & technology for heritage & biospheres |
| MSSRF Distinguished Lecture            | 5, 8              | Agricultural innovation & rural development         | Agro-ecology, sustainable livelihoods      | Food security & green economy            | Traditional knowledge & sustainability         |
| Dr. R. Krishnan (IITM)                 | 2                 | Climate science & modelling                         | Climate change assessment                  | Climate adaptation & mitigation          | Climate literacy & global cooperation          |
| UNESCO / UNEP Representative           | 1, 7, 8           | International collaboration                         | Global conservation frameworks             | SDGs, ecosystem restoration              | MAB Programme, World Heritage values           |

#### Funding-Agency-Specific Relevance Summary

**DST:** ✓ Advanced research in climate, ecology, geospatial science ✓ Capacity building of young scientists ✓ Innovation in modeling, GIS, and Earth system science

**MoEFCC:** ✓ Western Ghats conservation & ESZ governance ✓ Forests, watersheds, biodiversity & climate adaptation ✓ Policy-relevant scientific inputs

**UNEP:** ✓ Ecosystem restoration, climate resilience, green economy ✓ SDGs (6, 11, 13, 15) ✓ Regional environmental governance

**UNESCO:** ✓ Man & Biosphere (MAB) Programme ✓ Education for Sustainable Development (ESD) ✓ Cultural landscapes & community stewardship

## 1. Justification Note for DST (Department of Science & Technology, Govt. of India)

The proposed plenary speakers represent nationally and internationally recognized scientists whose expertise aligns strongly with DST’s mandate of promoting scientific excellence, interdisciplinary research, and technology-driven solutions.

Experts such as **Prof. Madhav Gadgil, Dr. R. Krishnan (IITM), and Dr. Y. V. N. Krishnamurthy (ISRO/NRSC)** bring deep insights into climate science, ecology, Earth observation, and geospatial modelling, which are core priority areas of DST. Their contributions will enhance understanding of climate variability, watershed dynamics, forest change, and spatial decision-support systems for the Western Ghats region.

The inclusion of speakers from IISc, IITM, ISRO, ATREE, and MSSRF ensures strong science–technology integration, capacity building of young researchers, and promotion of data-driven environmental research. These keynote interactions will foster innovative research ideas, collaborative projects, and technology translation, directly contributing to DST’s objectives of advancing frontier science and nurturing scientific manpower.

## 2. Justification Note for MoEFCC (Ministry of Environment, Forest & Climate Change)

The invited plenary speakers possess extensive expertise in biodiversity conservation, forest governance, climate adaptation, and ecosystem management, directly supporting MoEFCC’s mandate.

Eminent scholars such as **Prof. Madhav Gadgil, Prof. Sharachchandra Lele (ATREE), and Prof. Harini Nagendra** have significantly contributed to understanding Western Ghats ecology, ecosystem services, environmental governance, and forest–community linkages. Their participation will strengthen discussions on Ecologically Sensitive Zones (ESZs), watershed conservation, biodiversity protection, and sustainable livelihoods.

Speakers from ISRO and climate institutions will demonstrate the application of remote sensing and geospatial technologies for forest monitoring, land-use change detection, and climate risk assessment—critical tools for policy formulation and environmental impact assessment. The plenary sessions will generate actionable policy recommendations aligned with national conservation strategies, climate adaptation plans, and sustainable development goals under MoEFCC.

### 3. Justification Note for UNEP (United Nations Environment Programme)

The proposed keynote speakers align strongly with UNEP’s global priorities on ecosystem restoration, climate resilience, sustainable water management, and green economy transitions.

Experts working at the interface of science, policy, and community action, such as ATREE, MSSRF, and IISc scholars, will highlight nature-based solutions, ecosystem services valuation, and climate-resilient landscapes in the Western Ghats. These discussions resonate with UNEP’s initiatives under the UN Decade on Ecosystem Restoration and the Sustainable Development Goals (SDGs 6, 11, 13, and 15).

The inclusion of UNEP/UNESCO regional representatives ensures alignment with international environmental governance frameworks, while geospatial experts from ISRO and climate scientists from IITM contribute data-driven assessments essential for regional sustainability planning. The plenary sessions will facilitate knowledge exchange between global best practices and local implementation, supporting UNEP’s mission to inspire and enable nations to improve environmental quality.

### 4. Justification Note for UNESCO

The invited speakers strongly support UNESCO’s Man and the Biosphere (MAB) Programme, Education for Sustainable Development (ESD), and conservation of cultural and natural heritage landscapes.

The Western Ghats, recognized as a global biodiversity hotspot and World Heritage region, demands integrated approaches combining science, education, traditional knowledge, and community participation. Speakers such as **Prof. Madhav Gadgil**, **Prof. Kartikeya Sarabhai**, and experts from sustainability-focused institutions emphasize people–nature harmony, environmental education, and participatory governance, core principles of UNESCO.

Keynotes on geospatial technologies, climate literacy, and ecosystem-based planning will enhance capacity building of youth, educators, and policymakers, promoting long-term stewardship of biosphere reserves. The conference will serve as a platform for translating global sustainability frameworks into local action, reinforcing UNESCO’s commitment to fostering resilient societies through knowledge, culture, and science.

### Post-Conference Deliverables & Impact Matrix

| Deliverable                          | Description                                                                                                             | Primary Stakeholders                     | Timeframe          | Measurable Impact Indicators                  |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--------------------|-----------------------------------------------|
| Conference Proceedings               | Peer-reviewed proceedings (ISBN) or special journal issue covering Geography & Geoinformatics research on Western Ghats | Researchers, Universities, Policy bodies | 3–6 months         | No. of papers published, citations, downloads |
| Policy Briefs                        | Thematic policy briefs on water security, forests, climate resilience, land-use planning                                | MoEFCC, State Govts, Planning Agencies   | 2–4 months         | No. of briefs submitted, policy references    |
| Geospatial Data & Maps               | GIS layers, watershed maps, forest cover change, climate vulnerability maps                                             | Planners, Line Departments               | 3–6 months         | No. of datasets shared, institutional uptake  |
| Western Ghats Sustainability Roadmap | Integrated roadmap combining ecology, water, livelihoods, and geospatial planning                                       | Central & State Governments              | 6 months           | Adoption in plans, workshops conducted        |
| Capacity-Building Modules            | Training content on GIS, RS, UAVs, AI/ML for environment                                                                | Students, Youth, Professionals           | Immediate–6 months | No. trained, skill certifications             |
| Green Jobs Framework                 | Skill-linked framework for youth in restoration, geospatial services, organic farming                                   | Youth, NGOs, Skill agencies              | 4–6 months         | Job roles identified, MoUs signed             |
| Landscape Restoration Models         | Best-practice models for reforestation, agro-forestry, sponge landscapes                                                | Forest Dept., NGOs                       | 6–12 months        | Pilot areas identified, funding leveraged     |
| Water Security Strategies            | Basin-level recommendations for recharge, diversion feasibility, NBS                                                    | Water Resource Depts.                    | 4–8 months         | Projects proposed, DPRs initiated             |

|                                  |                                                                |                      |            |                                     |
|----------------------------------|----------------------------------------------------------------|----------------------|------------|-------------------------------------|
| Stakeholder Network / Consortium | Multi-institutional Western Ghats research & action network    | Academia, Govt, NGOs | Immediate  | MoUs signed, joint proposals        |
| Outreach & Knowledge Products    | Conference report, infographics, videos, open-access resources | Public, Media        | 1–3 months | Reach metrics, downloads, citations |

### Impact Matrix (Short- to Long-Term)

| Impact Level          | Expected Impact                                                | Indicators                          |
|-----------------------|----------------------------------------------------------------|-------------------------------------|
| Scientific Impact     | Strengthened interdisciplinary research on Western Ghats       | Publications, collaborations        |
| Policy Impact         | Evidence-based inputs for conservation & water policies        | Policy citations, committee use     |
| Environmental Impact  | Improved forest cover, watershed health, biodiversity planning | Restoration pilots, monitoring data |
| Socio-Economic Impact | Green jobs, sustainable livelihoods, youth engagement          | Employment numbers, skill uptake    |
| Capacity Impact       | Enhanced geospatial and environmental skill base               | Training outcomes                   |
| Global Impact         | Alignment with SDGs, UNESCO Biosphere goals                    | International partnerships          |