National Symposium on Harnessing PGR of the Western Ghats [NSWG]

From Biodiversity Hotspot to Sustainable Bioresource Hub



Venue: ICAR-Indian Institute of Horticultural Research, Hesaraghatta, Bengaluru

RGANIZERS



Indian Society of Plant Genetic Resources (ISPGR) New Delhi



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ICAR-Indian Institute of Horticultural Research (ICAR-IIHR) Bengaluru



Trust for
Advancement of
Agricultural Sciences
(TAAS)
New Delhi

National Symposium on Harnessing PGR of the Western Ghats [NSWG]

From Biodiversity Hotspot to Sustainable Bioresource Hub

December 12-13, 2025

Venue

ICAR-Indian Institute of Horticultural Research, Hesaraghatta, Bengaluru

Co-Organizers

Protection of Plant Varieties and Farmers Rights Authority (PPV&FRA), New Delhi

National Biodiversity Authority (NBA), Chennai*

Society for Promotion of Horticulture (SPH), Bengaluru

MS Swaminathan Research Foundation (MSSRF), Chennai

Ashoka Trust for Research in Ecology and the Environment (ATREE), Bengaluru*

University of Agricultural Sciences (UAS), Bengaluru

University of Horticultural sciences (UHS), Bagalkot

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- ICAR-Indian Institute of Spices Research (IISR), Kozhikode
- ICAR-Central Tuber Crops Research Institute [CTCRI], Thiruvananthapuram*
- ICAR-Central Island Agricultural Research Institute, Port Blair*
- ICAR-Central Coastal Agricultural Research Institute [CCARI], Goa
- ICAR-Directorate of Cashew Research [DCR], Puttur*
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Context and Rationale

The Western Ghats, a UNESCO World Heritage Site and one of the world's 36 recognized biodiversity hotspots, spans six Indian states: Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, and Gujarat. This 1,600-km mountain range hosts over 8,500 species of vascular plants, with approximately 2,250 (26%) being endemic. These plant genetic resources (PGRs) include wild relatives and landraces of important food and commercial crops such as rice (*Oryza* spp.), jackfruit (*Artocarpus heterophyllus*), banana (*Musa* spp.), black pepper (*Piper nigrum*), cardamom (*Elettaria cardamomum*), turmeric (*Curcuma longa*), and tuber crops like yams (*Dioscorea* spp.). These genetic resources harbor traits such as drought tolerance, pest resistance, and nutritional



^{*} Subject to confirmation

enhancements, making them vital for food and nutritional security, climate resilience, and sustainable agriculture. Recent studies highlight that the Western Ghats is one of the major repositories of medicinal plants that harbours around 4,000 species of higher plants of which 450 species are considered threatened.

Additionally, the region sustains the livelihoods of over 50 million people, including indigenous communities like the *Todas, Kani*, and *Soliga*, who possess extensive traditional knowledge of plant genetic resources (PGR). Traditional farming systems in the region maintain diverse landraces and cultivars adapted to local agroclimatic conditions. However, the region faces severe threats: habitat loss due to deforestation (25.6% forest cover loss since 1985), invasive species (e.g., *Lantana camara*), climate change-induced shifts in species ranges, and over-exploitation. The loss of traditional knowledge, driven by urbanization and cultural erosion, further exacerbates these challenges.

Global frameworks like the Convention on Biological Diversity (CBD) and the FAO's Global Plan of Action for PGR emphasize the need for integrated conservation and sustainable use of PGRs. India's National Biodiversity Action Plan (NBAP) and the Protection of Plant Varieties and Farmers' Rights Act (PPV&FRA) provide policy support but require enhanced implementation to address region-specific challenges in the Western Ghats.

The Western Ghats' PGRs are a cornerstone of ecological, cultural, and economic sustainability, yet they are under unprecedented threat. Recent data indicate that 15% of the region's endemic plant species are threatened with extinction, and climate models predict a 20–30% reduction in suitable habitats for key species by 2050. The global nutraceuticals market size was estimated at USD 591.1 billion in



2024 and is projected to grow at a CAGR of 7.6% from 2025 to 2030. The market growth is attributed to the increasing consumer awareness of preventive healthcare and the link between diet and well-being. Simultaneously, the global demand for climate-resilient crops and natural products is rising with the global market for plant-based nutraceuticals projected to reach \$60 billion by 2030. The Western Ghats' PGR, with its unique genetic traits, is ideally positioned to meet these demands while supporting sustainable livelihoods.

Despite this potential, fragmented conservation efforts, limited characterization of genetic diversity, and inadequate policy implementation hinder progress. Moreover, indigenous communities, who are custodians of PGR knowledge, often face exclusion from benefit-sharing mechanisms under the Biological Diversity Act (BDA), 2002. A symposium is essential to bridge these gaps by uniting scientists, policymakers, and local stakeholders including students to share knowledge, showcase innovations, and develop actionable strategies. By transforming the Western Ghats into a sustainable bioresource hub, the symposium will align with India's commitments to the CBD's Aichi Targets and the UN Sustainable Development Goals (SDGs 2, 13, and 15).

Given the ecological, cultural, and economic importance of the Western Ghats' PGRs, a dedicated platform is essential to consolidate knowledge, share innovations, and foster collaborations. This symposium aims to bring together experts, researchers, policymakers, and local stakeholders to explore sustainable strategies for conservation, evaluation, and utilization of PGR. The goal is to transform the Western Ghats from a biodiversity hotspot into a resilient bioresource hub that supports sustainable livelihoods, PGR conservation, and climate adaptation.

Themes and Sub-themes

1. Exploration and Conservation of Plant Genetic Resources of Western Ghats

- Systematic exploration and mapping of plant genetic resources (PGR) in the Western Ghats
- In situ and Ex situ conservation strategies
- Integration of traditional knowledge with modern scientific approaches
- Use of artificial intelligence (AI) and machine learning in genebank management

2. Characterization, Evaluation, and Utilization of PGR for Sustainable Development

- Characterization and evaluation of plant genetic resources (PGR) for agronomic, nutritional, and climate-resilient traits
- Application of advanced genomic tools and molecular breeding techniques for crop improvement
- Gene editing and functional genomics for trait discovery and precision breeding
- Leveraging digital platforms and big data analytics

3. Policy, Biosecurity, IPRs and Access and Benefit Sharing (ABS)

- National and international policy frameworks
- Biosecurity and quarantine regulations for PGR exchange
- Access and Benefit Sharing (ABS) mechanisms
- Protection of traditional knowledge, community rights
- Equitable bioprospecting and collaborative strategies

4. Capacity Building and Public Awareness for PGR Conservation and Use

- Community-based awareness initiatives
- Role of NGOs, civil society and academic institutions in outreach and mobilization
- Digital platforms and mass communication for PGR awareness
- Participatory documentation and knowledge-sharing platforms
- Capacity building for youth and women in PGR management

5. Innovation, Entrepreneurship, and Livelihood Opportunities

- Value addition and processing of PGR-based products
- Promotion of community- women-, and youth-led enterprises
- Development and commercialization of traditional crop varieties
- Start-up innovations in PGR utilization
- Success stories and best practices in livelihood generation



Categories of Presentations

Keynote Lectures: Eminent scientists across India, policy makers and administrators will be invited to deliver special lectures on various thematic areas related to plant genetic resources. Keynote lectures will be for 15-20 minutes.

Invited Lectures: Each invited lecture will be a concise presentation of 10-15 minutes, highlighting emerging technologies and recent scientific advancements in the domain of PGR management. Invited speakers will be requested to provide 3-4 pages extended summaries of their presentation, for inclusion in the proceedings.

Contributory/Oral Papers: Papers will be shortlisted by a designated committee based on the significance of the topic and its alignment with the sub-themes. Authors of the selected papers will be notified well in advance to prepare for a brief oral presentation of 5-6 minutes.

Poster Presentations: All delegates will have the opportunity to showcase their contributory research through poster presentations. Posters should adhere to the specified dimensions of 60'' (L) × 36'' (W) and utilize standard scientific font sizes for clarity and readability.

Best Oral/Poster Award: An expert panel will evaluate the oral and poster presentations under each thematic area to identify and award outstanding contributions. Certificates of participation will be awarded to all registered participants.

Official Language

 $The \ official \ language \ of the \ symposium \ will \ be \ English \ for \ all \ communications \ and \ presentations.$

Call for Abstracts

Original and unpublished research contributions aligned with the thematic areas of the symposium are invited for oral and poster presentations. Abstracts should not exceed **400 words** and must include a **concise title**, **full names of all authors**, **institutional affiliations**, and the **email address of the corresponding author**. All contributions, including keynote and invited papers (each limited to 1,500 words), must be submitted as **email attachments** in editable format (preferably MS Word) to **nswg2025@gmail.com**.

Important Dates

Call for abstracts: **September 1, 2025**Registration opens: **September 1, 2025**

Last date for submission of abstracts/papers: November 15, 2025

Acceptance of abstracts/paper: November 20, 2025

Date of registration without late fee: December 10, 2025

Late registration: An additional fee of ₹1000/- will be applicable for registrations received after December 10, 2025.

Registration

• ISPGR member: ₹5000/-

Non-ISPGR member: ₹6000/-

- Student/Research fellow (with Proof from their organizations): ₹2000/-
- Industry/private organization: ₹10000/-
- Accompanying Person: ₹2000/- (Accompanying persons will not be provided with welcome kit)

The registration fee should be paid either through online, demand draft or NEFT in favour of the "Indian Society of Plant Genetic Resources" New Delhi to the following account number:

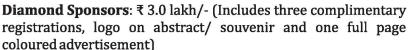
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The completed registration form, along with proof of registration- fee payment, should be submitted via email to: nswg2025@gmail.com

Sponsorship

The organizers invite financial support from diverse stakeholders—including government bodies, non-governmental organizations, and private sector partners—to ensure the successful organization of this academic event. Sponsorship is welcomed under the following categories, with corresponding visibility and benefits:





Gold Sponsors: ₹ 2.0 lakh/- (Includes two complimentary registrations, logo on abstract/souvenir and half page coloured advertisement)

Silver Sponsors: ₹ 1.0 lakh/- (Includes one complimentary registration, logo on abstract/souvenir and half page coloured advertisement)

About ICAR-IIHR

ICAR-Indian Institute of Horticultural Research is a premier national research institute under the aegis of Indian Council of Agricultural Research (ICAR), working on conservation, genetic improvement, crop production, protection, post-harvest management and value addition of various horticultural crops. Research work carried out during the past fifty-eight years has paid rich dividends in terms of release of more than 330 varieties and hybrids, and development of good number of sustainable production, protection and post-harvest management technologies. The Institute is involved in exploration, introduction, exchange, evaluation, characterization and conservation of Horticultural Genetic Resources. ICAR-IIHR has collected and conserved over 12,000 accessions of fruits, vegetables, ornamentals, and medicinal plants through exploration missions

and germplasm exchanges; it also maintains field gene banks for mango, jackfruit, and other key species, and operates long term pollen cryobanks for conservation of pollen. The institute also works on enrichment of germplasm from wild sources through exploration missions, carried out from various regions of the country. The institute regularly hosts large diversity fairs to showcase the diversity of mango, jackfruit, banana and several vegetable crops - engaging farmers and custodial communities who conserve the genetic resources.

About ISPGR

The Indian Society of Plant Genetic Resources (ISPGR) was founded in 1987 as a multidisciplinary scientific body involved in the various issues of plant genetic resources (PGR) and related fields located at Office Block A, 2nd Floor, National Agricultural Science Complex, Dev Prakash Shastri (DPS) Marg, Pusa Campus, New Delhi-110012, India. It currently has > 985 members, nearly 800 of them being life members. The ISPGR was formally registered



under the Indian Societies Act (1860) on November 3,1987 with the Registrar of Societies, Delhi (Registration No. S/18336 of 1987). Membership is open to all persons interested in the field of PGR in India and abroad. Presently the Society is progressing very well under the able and dynamic leadership of Dr RS Paroda, as its President. Besides organizing seminars, symposia, to disseminate the knowledge on PGR, the Society is also publishing Indian Journal of Plant Genetic Resources, a reputed journal covering all the aspects of PGR.

About TAAS

Trust for Advancement of Agricultural Sciences (TAAS) is a national-level agricultural think tank headquartered at the Indian Agricultural Research Institute (IARI), Pusa Campus, New Delhi, established in October 2002 following the directives issued during the 88th Indian Science Congress. TAAS serves as a vibrant hub for policy advocacy, technology transfer, knowledge dissemination, capacity building, and public–private partnerships in agricultural research and development. Over the years, it has organized a range of national symposia, and policy dialogues to foster innovation and sustainable agriculture.

Accommodation

A wide range of budget and luxury accommodation options are available in Bengaluru and nearby areas, close to the symposium venue. Current room tariffs range from ₹3,000 to ₹7,000 per day for single or double occupancy. Guest house accommodation is also available in the vicinity of the venue.

Roadmap and Weather

ICAR-IIHR Bengaluru is situated on IIHR Main Road at Ivarakandapura, Hesaraghatta, about 24 km north of Bangalore City (Majestic) Railway Station — a 45-minute drive via NH44 and local roads. By rail, the nearest major station is Yeshwantpur Railway Station, from where taxis or BMTC buses frequent the institute. By bus, several BMTC routes (e.g. 251, 253B/L, 267, 407-B) stop at the "Indian Institute of Horticultural Research" bus stop, which is only a short 5-minute walk to the venue. By air, it's approximately 30–45 minutes from Kempegowda International Airport (around 30 km), via Hebbal and Hesaraghatta Road.



Bengaluru is also popularly known as the Garden City and Silicon Valley of India. Many tourist places in and around Bengaluru include Lalbagh, Cubbon Park, Bengaluru Palace, Vidhana Soudha, Vishveshwaraya Museum, Planetarium etc. The weather in Bengaluru will be pleasant during December with mild winter with a maximum (28°C) and minimum (13°C) temperature. Light woollen clothes will suffice during the stay.

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GR Smitha and MR Rohini - Co-Organizing Secretaries

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nswg2025@gmail.com

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From Biodiversity Hotspot to Sustainable Bioresource Hub

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ISPGR Member: Yes
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Session:
Mode of Presentation: Oral
Date & Time of Arrival (for accommodation purpose):
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