VOL: 14

ICFRE - TFRI NEWSLETTER

APRIL,2024-JUNE,2024

From the Director's Desk.

I am pleased to mention that ICFRE-TFRI, Jabalpur is one of the nine regional institutes under the ICFRE to provide strong research support for sustainable development of forests and forestry sectors in central India.

I take pride in sharing the 14th Volume (April,2024- June, 2024) of ICFRE-TFRI Newsletter, showcasing significant research activities,events organized,participated and publications made during the period.

I hope this newsletter will be helpful for researchers, different stakeholders, and policy makers concerned with forestry research.

Dr. H. S. Ginwal
Director, ICFRETFRI Jabalpur

Contents

Major Event

Visit of IFS officers of Madhya Pradesh cadre (2022-2024 batch)

IFS officers of the Madhya Pradesh cadre (2022-2024 batch) visited the ICFRE - Tropical Forest Research Institute, Jabalpur on 30th May, 2024. Dr. H.S. Ginwal, Director of TFRI interacted with the officers and he apprised them various research and extension activities being under taken at the institute. He advised the officers to maintain periodic liaison with the institute to address issues requiring Research and Development interventions in the field.The group also visited the TFRI Insectary to observe the development and application of TFRI Trichocard for controlling Teak skeletonizer.

IFS Probationers Batch 2022-2024 visited ICFRESDC, Chhindwara on 24thMay, 2024

Training workshop on "Use of forest soil health cards for promoting soil nutrient management"

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ICFRE – Tropical Forest Research Institute (TFRI), Jabalpur organized a one-day training workshop on "Use of forest soil health cards for promoting soil nutrient management" on 28th May, 2024 at ICFRE-Skill Development Centre, Chhindwara. During the occasion, Smt. Kanchan Devi, IFS, Director General, ICFRE, and the Chief Guest, appreciated the Institute's efforts in successful assessment of soil nutrients of Madhya Pradesh forest soils and emphasized the national importance of the project to address the problem of land degradation and its impact on global warming.

Dr. H.S. Ginwal, Director, ICFRE – TFRI, highlighted the use of Forest Soil Health Cards prepared by the Institute for increasing the productivity of forests of Madhya Pradesh. Shri Madhu V. Raj, IFS, CF, Chhindwara, emphasized the importance of using Soil Health Cards for quality plantation to increase the state's green cover.

Seventy Rangers Officers and Deputy Range Officers from the four circles *i.e.,* Betul, Seoni, Hoshangabad and Chhindwara of Madhya Pradesh State Forest Department participated in the workshop. The workshop was also attended by Shri Vijendra Srivastava, DFO, East Chhindwara and Ishwar Jayarande, DFO, West Chhindwara.

Scientist's Corner/ Consultancy Projects

Development of a restoration model to manage land degradation and desertification in Chambal ravines

Ravine lands are most often called as bad lands that are formed as a result of erosion or a network of gullies caused due to erosion. In India, these ravines zones occur along some of the major river systems particularly in the states of Uttar Pradesh, Madhya Pradesh, Gujarat, Rajasthan. These zones are also called as Yamuna-Chambal ravine zone, Tapi-Narmada-Sabarmati ravine zone, Chhotanagpur ravine zone and Siwalik foothills ravine zone. These ravines systems are ecologically sensitive which are crucial to flood and drought management; aquatic and riparian biodiversity and rural livelihood security.

As part of an All India Coordinated Research Project on Combating desertification by enhancing vegetation cover and people livelihoods in degraded drylands and deserts of India, ICFRE - Tropical Forest Research Institute, Jabalpur initiated plantation to develop a restoration model and control further land degradation of these ravine areas by using a combination of land reclamation measure such as native tree species plantation and soil-moisture conservation to restore the degraded ravines. These efforts were carried out in about 22 ha of ravine lands in Morena District of Madhya Pradesh, which is technically part of the largest ravine zone *i.e.,* Yamuna-Chambal.

Under this programme, sites have been select in Ambah Tehsil of Morena District and land provided by Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya (RVSKVV), Gwalior for carrying out plantation of seven tree species in Chambal ravines of Morena.

Plantation of 7 tree species *Acacia catechu* (Khair), *Acacia tortilis* (Tortilis), *Azadirachta indica* (Neem), *Anogeissus pendula* (Kardhai), *Commiphora wightii* (Guggal), *Aegle marmelos* (Bael) and *Emblica officinalis* (Aonla) in 22.68 ha of land has been carried out during post-monsoon of year 2022.

Plantation and treatment

A combination of treatments for soil amendments have been applied. Three types of bio-fertilizers that contains *Rhizobium, Azotobacter* and *Azospirillum* in its 3 graded doses (5%, 10% and 15%) as soil amendments and three mulches *viz.* Wheat husk, Stone pebbles and Leaf litters are being used to conserve the soil moisture and enhance the nutrients status of soil.

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Construction of check Dams

Constructed nine check dams inside the plantation site and where gully erosion was severe in consultation with SFD officials. Erosion by water in the plantation site is considerably reduced after the construction of nine check dams. *Acacia nilotica* plants have densely grown which has improved soil moisture and reduced wind erosion. Construction of check dams has helped maintain soil moisture in the plantation sites till the month of October-November, which was otherwise retained during rainy season only.

Mobilization of local communities

Interaction and awareness creation was carried out with local people, particularly farmers of surrounding villages (Nayapura Useth, Bheelpur, Esah Haveli) for erecting live fencing around clusters of farms.

Global and National relevance

The land reclamation measures such as plantation with native tree species and construction of check-dams in response check to the severe soil erosion and gully formation, has proven to be 85% success in terms of providing vegetation recovery, soil health improvement and carbon storage. In the backdrop of global initiatives calling for Land Degradation Neutrality (LDN), India's 2030 commitments to the United Nations Convention to Combat Desertification (UNCCD) align with its broader goals for combating land degradation, promoting sustainable land management, and achieving land degradation neutrality. This study is aligned towards India's broader strategy to address environmental challenges and contribute to global efforts to combat desertification and land degradation.

Initial stages when plantation was being carried out in July 2022

Plantation site at Esah during August 2023

Distribution of *Carissa carandas* (Karondha) saplings for raising live-fencing in the boundaries of farmer'sfield.

Shri M. Rajkumar-D

Pre-release consultation meet for soil health cards (SHC) of forest divisions of Chhattisgarh

The ICFRE - Tropical Forest Research Institute (TFRI), Jabalpur, organized a "Pre-Release Consultation Meet for Soil Health Cards (SHC) of Forest Divisions in Chhattisgarh" on 23rd April, 2024, at Aranya Bhawan, Raipur. Dr. Vijendra Panwar, National Project Coordinator of All India Coordinate Research Project - 22, presented an overview of the project. Dr. Avinash Jain, Head and Scientist-F at ICFRE-TFRI, Jabalpur, shared insights on the preparation of forest SHCs for Chhattisgarh.

Shri Sreenivasa Rao, PCCF and HoFF of the Chhattisgarh State Forest Department (CGSFD) and Chairman of the program, acknowledged TFRI's efforts and offered suggestions for improvement. The event was attended by 50 participants, including senior officers, Divisional Forest Officers (DFOs) from all 34 territorial forest divisions of CGSFD, a team of scientists from TFRI, and Principal Investigators (PIs) from all ICFRE institutes.

Dr. Jangam Deepika Scientist-C

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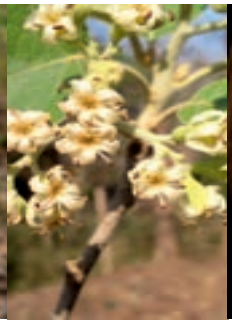
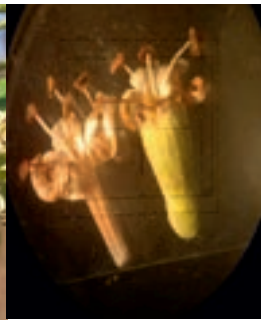
Cordia macleodii (Dahiman): An Endangered tree Species

Dahiman (*Cordia macleodii*) is an endemic and significant ethnomedicinal tree species found in specific regions of India, including parts of Chhattisgarh, Madhya Pradesh, and Maharashtra. Recent studies of its reproductive biology have revealed the presence of both pentamerous and hexamerous flowers. In the flowering season during 2024, a notable increase in flowering was observed in marked trees in Madhya Pradesh (Tikaria, Sagar) and Chhattisgarh (Koriya). However, trees in Tikaria exhibited a 0% carrying capacity (no fruiting), trees in Sagar and Koriya showed average carrying capacity of 12.16% and 10.01%, respectively. Epigeal seed germination initially recorded up to 20%, but this increased to 60% with the application of a lower dose of sulfuric acid and gibberellic acid. A severe pathogen attack causing color rot and root spoilage at the seedling stage poses a significant threat to its survivability. Additional threats include isolated populations, deforestation, over-exploitation, fragmentation, and other human interventions, which reduce the genetic diversity of Dahiman and increase its vulnerability to other threats.


Dr. Kaushal Tripathi
Scientist-C

Conservation Strategyinitiatedneeds to be *Flacourtia* (Kakai): A Unsustainable Harvesting of *indica*

The unsustainable harvesting of *Flacourtia indica* (Governor's Plum), poses a significant threat to its survival ability and ecological role. The over exploitation has led to population decline, habitat degradation, genetic erosion, and ecological imbalances. While also endangering traditional knowledge linked to the species. During field survey in central India, destructive harvesting was observed in the field, people cut entire plants drastically to feed their goats the leaves

To combat these issues, conservation strategies such as regulating harvesting practices, engaging local communities, protecting and restoring habitats, implementing ex-situ conservation measures, conducting research and monitoring, and raising public awareness are essential. ICFRE-TFRI, Jabalpur organized a training program for forest dependent communities in the Pipariya village, Jabalpur, Madhya Pradesh on 23rd April, 2024 to create awareness through training and demonstration to tribal communities, promoting the sustainable utilization and conservation of these wild fruit species through cultivation. These actions will help ensure the long-term preservation of *F. indica* and the valuable benefits it provides

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Insights for Pterospermum acerifolium (Kanakchmpa), Lagerstroemia parviflora (Lendia) and Schleichera oleosa (Kusum):Dormancy to Growth

The species has unique dormancy characteristics that require specific after- ripening for breaking seed dormancy and promoting germination. Experiments have been conducted on *Pterospermum acerifolium, Lagerstroemia parviflora,* and *Schleichera oleosa,* occurring in tropical region. It was observed that dry storage for two to six months effectively promotes germination for facilitating their transition from dormancy to active growth. By applying these insights, forestry professionals, conservationists, and nursery managers can improve seed germination rates and ensure the successful establishment of these valuable species in reforestation and conservation programs.

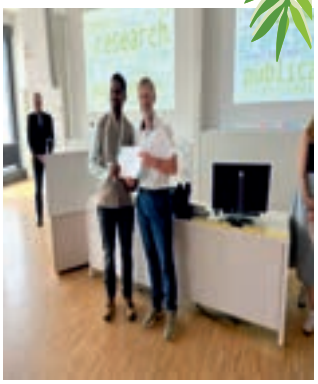
Seeds of *P. acerifolium, L. parviflora, S oleosa*

Shri Manish Kumar Vijay
Scientist-B

Participation in IUFRO World Congress: Forests and Society Towards 2050

Shri Rathod Digvijaysinh Umedsinh, Scientist-C, from ICFRE-TFRI, Jabalpur participated in 26th IUFRO World Congress held at Stockholm, Sweden during 23rd to 29th June, 2024. He presented the poster on "Effect of low-cost in-situ soil moisture conservation measures on soil erosion in montane *Pinus roxburghii* forests". He also contributed in the mentorship programme during the congress and guided two international students (Leena Naftalfrom Namibia University of Science and Technology (NUST) and Blair Ruffingfrom University of Limerick) and successfully completed the training programme on "Research Methods in Forest Science" organized by IUFRO at SLU, Uppsala, Sweden, from19th-22nd June, 2024. *The IUFRO World Congress' deliberations on "Forests and Society towards 2050", are considered central to ensuring the survival of forest ecosystems and human wellbeing around the world, and to guiding the transformations needed for a sustainable future for all,* 4,300 participants from 102 countries, 3,500 speeches, delivered by experts.

Awarded First prize for IUFRO -SPDC Networking Bingo



Scientist of ICFRE -TFRI received certificate for completion of training programme on "Research Methods in Forest Science"

Field visit of urban forest park at stockholm

Shri Rathod Digvijaysinh Umedsinh,
Scientist-C

Evaluation of Degraded Bamboo Forests in Naxal-Prone Areas: CAMPA Monitoring and Evaluation in Chhattisgarh

A team consisting of Dr. Hari Om Saxena, Scientist – E, Shri Pramod Singh Rajput, STO, and Shri Manoj Kumar Joshi, STO, from ICFRE-TFRI, Jabalpur, visited the severely Naxal-affected areas of the Gollapalli, Kistaram, and Konta ranges under Sukma forest division in Chhattisgarh state and evaluated the rehabilitated sites of degraded bamboo forests in the state under the Monitoring and Evaluation of CAMPA work

Dr. Hariom Saxena
Scientist-E

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New project Sanctioned

Consultancy on "Preparation of Site-Specific Wildlife Conservation and Management Plan for Gayatri Underground Coal Mining Expansion Project" awarded on 29.05.2024. Budget outlay - Rs. 52 lakhs, Sponsoring authority –SECL.

Filed patent

Dr. Hari Om Saxena, Dr. Renuka Theregaokar and Dr. V. K. Varshney filed a patent on innovation titled "A liquid herbal hair dye formulation coloring composition containing a decoction of a natural dye for applying to hair" (Application no. 202421008482 dated 08/02/2024) under the project AICRP-16.

Memorandum of understanding

ICFRE - Tropical Forest Research Institute, Jabalpur signed Memorandum of understanding with Govt. M. H. College of Home Science and Science for Women (Autonomous) Jabalpur (M.P.), India on dated 14th May, 2024, for common interest and allied activities between the two institutions, have decided to enter in to collaboration for promotion of basic and advance research, capacity building and knowledge sharing on different aspect of natural resources and their sustainable development.

Technical and advisory services

- **Dr. Mohan C., Sci-C**and **Dr. Nidheesh T.D., Sci-B,** and their team provided technical and advisory services on 5th-6th June, 2024, to the Forest Range Officer (FRO), Gotegaon Range, Narshingpur Forest Division, Madhya Pradesh. This was in response to the FRO request to inspect and identify the causes of mortality among Teak and Gmelina young plants in plantations.

- **Dr. Mohan C., Sci-C and Dr. Nidheesh T.D., Sci-B**, and their team provided technical advisory services on 07th June, 2024 to the DM & SDO of Mohagaon Project Division (MPRVVNL), Kanchangaon teak nursery, Mandla District (M.P) with respect to the nursery upkeep and maintenance to reduce the white grub menace from the nursery area before the onset of pre-monsoon showers. This was in response to the FRO request to inspect the nursery and impart training program to the frontline nursery professionals and forest officials falling under the jurisdiction of Madhya Pradesh Rajya VanVikas Nigam Limited (MPVVRNL), Mohagaon Project Division, Mandla, Madhya Pradesh

- **Dr. Mohan C., Sci-C and Dr. Nidheesh T.D., Sci-B** provided technical and advisory services on 12th June, 2024, to the Divisional Manager of Mohagaon Project Division (MPRVVNL), Kanchangaon teak nursery, Mandla District, Madhya Pradesh. This followed a request to inspect and suggest remedial measures for the causes of teak seedling mortality in nursery beds.

- **Dr. Mohan C., Sci-C** and his team attended a field inquiry on the incidence of white grub in teak nursery beds at Jiawan forest nursery, Sidhi Forest Division, Madhya Pradesh on 21th June, 2024. They provided scientific advisories to forest officials and frontline nursery staffs regarding the production of insect pest-free teak seedlings.

Training and Capacity Building

Empowering Frontline Staff: Advancing Seed and Nursery Technologies for the Conservation of Central Indian RET Species

ICFRE– Tropical Forest Research Institute (TFRI), Jabalpur conducted one-day training on "Seed and nursery technology of selected forestry species from different forest types of Central India"at ICFRE-TFRI, Jabalpur on 17th May, 2024. About 30 frontline employees of the Madhya Pradesh. State Forest Department participated in this training. Dr. H.S. Ginwal, Director of the institute highlighted the national significance of seed certification, nursery accreditation, and the use of quality seeds to enhance the quality and diversity of forest plantations. Shri Manish Kumar Vijay, Scientist and Training Coordinator of the Silviculture, Forest Management, and Agroforestry Division presented information on 14 rare, endangered, and important species.

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ICFRE - Tropical Forest Research Institute, Jabalpur in collaboration with MPRVVNL organized a hands-on training on "Identification of Insect pests in forest nurseries and their management" at the Mohgaon Project, West Mandla Division. 38 participants including Divisional Manager, Smt. Pratibha Shukla IFS, MPRVVNL, Mandla, nursery professionals and state forest department officials was attended the training.


ICFRE-SDC, Chhindwara conducted training on “Disaster Management” for all office employees on 20th June, 2024

Visit/Demonstration to Stakeholders

A group of 120 students of class 6th to 8th of Kendriya Vidyalaya (TFRI) branch visited Museum cum Interpretation Centre of ICFRE - Tropical Forest Research Institute Jabalpur on 5th April, 2024.

Smt. Manisha, Nodal Officer, Forest Science Centre, Chandrapur, and Additional Director, and Smt. Vidya, Divisional Forest Officer, Chandrapur Forest Academy, Maharashtra (ICFRE), visited Tropical Forest Research Institute, Jabalpur during 9th to 10th May, 2024 with the objective.to introduce the advanced techniques/methods of forestry developed by the institute under the Forest Science Centre, Chandrapur, with the aim to encourage their adoption.

A group of 34 forest guard trainees visited ICFRE-Tropical Forest Research Institute, Jabalpur on 26th May, 2024 as a part of educational tour. They have visited Institute's Forest Ecology and Climate Change division, Genetics and Plant Improvement division

A group of 34 forest guard trainees visited ICFRE-Tropical Forest Research Institute, Jabalpur on 26th May, 2024 as a part of educational tour. They have visited Institute's Forest Ecology and Climate Change division, Genetics and Plant Improvement division, Pest Management Laboratory and museum cum interpretation centre and gained knowledge on technologies developed by the institute.

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Celebration of Important Days

World Earth Day

ICFRE - Tropical Forest Research Institute, Jabalpur celebrated World Earth Day, 2024 on 22nd April, 2024 with the theme "**Planet vs Plastics**". The event featured various activities including the removal of plastics from the campus, promotion of eco-friendly products, screening of documentary on earth conservation, and recognition of farmers involved in forest development outside designated forest areas.The program was attended by a group of 100 students, members of Jan Abhiyan Parishad, officials from State Forest Departments, Lakhnadon block, Seoni, Madhya Pradesh, and newly recruited RFOs of Madhya Pradesh.

International Day for Biological Diversity

ICFRE - Tropical Forest Research Institute (TFRI), Jabalpur celebrated **International Day for Biological Diversity** with the theme “Be Part of the Plan”. Dr. Ranjana Negi, Scientist and Head, Forest Botany Division, ICFRE- FRI Dehradun delivered a talk on Biodiversity. A quiz competition on biodiversity followed by screening of documentary on river of western ghats of India "Aghanashini" was also screened for around 30 project fellows of the institute to challenge the young minds. The event was attended by all the scientists, officers and staff members of the institute.

ICFRE-SDC, Chhindwara celebrated International Day for Biological Diversity on 22th May, 2024

World Environment Day

Series of events for World Environment Day, 2024 commenced at ICFRE - Tropical Forest Research Institute Jabalpur on 27th May, 2024. About 35 research scholars and fellows actively participated and gained knowledge on identification of about 100 plant species in the field using peculiar taxonomical characters.

As part of the series of events for World Environment Day, 2024, Dr. H.S. Ginwal, Director, ICFRE - Tropical Forest Research Institute, Jabalpur inaugurated a water harvesting structure at the TFRI Botanical Garden, aligning with the event's theme of "Land restoration, desertification, and drought resilience.

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World Environment Day, 2024 concluded with a series of 10 programs at ICFRE - Tropical Forest Research Institute (TFRI), Jabalpur. These included a cleanliness drive around the campus and residential areas of the institute, a plantation activity, and a painting competition for students at Kendriya Vidyalaya. Additionally, there was a quiz competition for research scholars and screenings of documentaries focusing on degraded land restoration.

A pollution awareness cum cleanliness rally was also organized aimed to raise awareness about land degradation issues and discourage the use of single-use plastic. Local residents and garnered significant participation from scientists, officers, and staff of the institute was participated in the rally.





ICFRE-SDC, Chhindwara celebrated World Environment Day on 5th June, 202

World Day to Combat Desertification and Drought

World day to combat desertification and drought 2024 was celebrated with the theme "United for Land: Our Legacy. Our Future" by conductingplantation programme at ICFRE – Tropical Forest Research Institute, Jabalpur. Saplings of drought tolerant species like *Azadirachta indica* (Neem) and *Pongamia pinnata* (Karanj) were planted in barren lands inside the campus. Dr. H. S. Ginwal, Director, ICFRE-TFRI who stressed upon the need to engage present and future generations to halt and reverse the alarming trends of land degradation while contributing in meeting national and international commitments.



International Day of Yoga

ICFRE - Tropical Forest Research Institute Jabalpur marked the celebration of International Day of Yoga 2024. All the scientists, officers and staff members together performed yoga asanas and pranayama led by Dr. Rajesh Mishra, CTO of the institute.


"Ek Ped Maa Ke Naam Campaign"

Plantation drive under the campaign "Ek Ped Maa Ke Naam" was organized at ICFRE - Tropical Forest Research Institute on 27th June, 2024.


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Staff News

s.no.	Name of Officers/Saff	Date of Joining	From (Place)	To (place)
1	Smt. Anita,IFS,CF	24.06.2024	AFRI,Jodhpur	ICFRE-TFRI, Jabalpur

Awards

- Dr. Hariom Saxena, Scientist-F, Samiksha Parihar, Senior Project Fellow and Shri Ganesh Pawar, Senior Technician received Dr. P.D. Sethi Memorial Annual National Award - 2022 (Certificate of Merit) by Anchrom Enterprises India Pvt. Ltd., Mumbai for best research paper "High performance thin layer chromatography method development and validation for quantification of glucuronic acid in gum samples of *Sterculia urens*Roxb. on Application of TLC/ HPTLC in pharma, herbal and other chemical analysis.(**Prize received in April 2024**).
- n Smt. Nikita Rai, Senior technician and In-service Ph.D. Scholar, received best presentation award (first prize) for delivering oral presentation on "Assessment of agroforestry systems existing in farmers field of Narsinghpur District" in the "National Conference on Agro-ecological basis of Agroforestry: Interaction, Innovation and Incubation" held on 18-19 June, 2024 at Jhashi U.P.

New Publications

Book/ Book Chapters

- Dr. Jangam Deepika. (2024). "Exploring the Role of Soil Fungi in Carbon Sequestration: A Key to Climate Change Mitigation", Published in the book titled "Current Research in Soil Fertility". Publisher: Akinik Publications, New Delhi. Pg. no. 21-45. ISBN: 978-93-6135-013-9.
- Mohan, C., & Mishra, J.R. (2024)."Forestry research in the modern era: Innovation methods and tools-I", Published in the book titled Advances in Agricultural Research Methodology.Publisher: In O. Prakash (Ed.), S P Publishing, Vol. 2, Pg. no. 205-219. ISBN 978-6039-841-5.

Research Papers

- Parihar, S., Saxena, H. O., Singh, S. and Kumar, A. (2024). Characterization and antagonistic potential of Trichoderma species isolated from forest soils of central India against *Rhizoctonia solani*. *Tropical Agriculture*, 101 (2): 167-177.
- Parihar, S., Saxena, H. O., Kumar, A. and Singh, S. (2024). In-vitro antagonistic activity of Trichoderma spp. isolated from forest soils of central India against *Macrophominaphaseolina* for identification of potential strain. *Vegetos*, 1-7.
- Mohammad, N. (2024) Assessment of morphological variability in Gum karaya (*Sterculia urens*Roxb.) from tropical deciduous forest of Madhya Pradesh. Indian Forester, 150 (3): 226-233. https://doi.org/10.36808/if/2024/v150i3/170145 Bano N., Mohammad, N., Ansari M.I., Ansari S.A. (2024) Genotyping SNPs in lignin biosynthesis gene (CAD1) and transcription factors (MYB1 and MYB2) exhibits association
- with wood density in teak (*Tectona grandis* L.f.). Molecular Biology Reports, 51, 169. https://doi.org/10.1007/s11033-023-09006-y.
- Mohammad, N., Pardhi, Y., Poosam M., Maravi, S. (2023). Note on the natural regeneration of Gum karaya (*Sterculia urens*) at selected study sites in tropical deciduous forest of Madhya Pradesh. *Journal of Non-Timber Forest Products,* 30(4):220-222. https://doi.org/10.54207/bsmps2000-2024-1W52Z2.
- Jangam Deepika. (2023). Quantification of Biochar-induced changes on soil properties and microbial diversity: A meta-analysis. *Indian J Trop Biodiv.,* 31(2): 136-149.
- Banerjee, S.K., Banerjee, S., Jain, A. and Shukla, P.K. (2023). Soil organic matter – Its significance towards soil quality and soil health. *Journal of Tropical Forestry*, Jan-Dec. 39(1-4): 48-64.
- Banerjee, S.K., Banerjee, S., Jain, A. and Shukla, P.K. (2023). Sustainable forestry with special reference to management of non-timber forest products for livelihood security of forest dependent communities in tropical region. *Journal of Tropical Forestry,* Jan-Dec. 39(1-4): 65-81.

Popular Articles

- Mishra, Y., Mohammad, N., Verma, N. and Ginwal, H.S. (2024). Genetic improvement and conservation initiatives for Bija Sal (*Pterocarpus marsupium* Roxb.) from central India. *Wood Is Good*, 4(4): 154-157.
- Verma, N., Mohammad, N. and Shirin, F. (2024). Improvement initiatives for yellow teak (*Haldina cordifolia* (Roxb.) Ridsdale) for higher wood productivity. *Wood Is Good*, 4(4): 113-115.
- Shirin, F., Kumar, P., Mohammad, N. and Ginwal, H.S. (2024). A brief overview of teak improvement research at ICFRE-Tropical Forest Research Institute. *Wood Is Good*, 4(4): 52-57.

Abstracts

- Singh, N., Rai, N., Sharma, H. and Sondhiya, P. (2024).Climate smart technique (hydroponics) for cultivation of medicinal plants. In Abstract Book (ISBN:978-81-970319-5-3) of 7th International Conference Global Approaches in Agricultural, Biological, Environment and Life Sciences for Sustainable Future (GABELS - 2024) held on June 8 – 10, 2024 at Buddha Hall, D. A. V. College (Affiliated to Tribhuvan University) Lalitpur, Kathmandu, Nepal. page no.289.
- Rai, N., Berry, N., Singh, N. and Sharma, H. (2024).Quality assessment of mentha cultivated under agroforestry system. In Abstract Book (ISBN:978-81-970319-5-3) of 7th International Conference Global Approaches in Agricultural, Biological, Environment and Life Sciences for Sustainable Future (GABELS - 2024) held on June 8 – 10, 2024 at Buddha Hall, D. A. V. College (Affiliated to Tribhuvan University) Lalitpur, Kathmandu, Nepal. page no.297.
- Rai, N., Berry, N., Singh, N. and Sharma, A. (2024). Assessment of agroforestry systems existing in farmers field of Narsinghpur District. In National Conference on Agro-ecological basis of Agroforestry: Interaction, Innovation and Incubation held on 18-19th June, 2024, Jhashi U.P. page no.125.

Leaflet/Brochure

- Nidheesh T.D. (2024).Bee keeping : Multiple Benefits to Man Kind.

Media coverage

Infrastructure and facilities available at ICFRE TFRI, Jabalpur

National Insect Repository

- 750 species of insects.
- Recognized by National Biodiversity Authority (NBA) as National Repository


Mycology Herbarium

- 4000 Fungal specimens systematically arranged and documented and 451 species of Fungi identified.
- Forest fungi identification service available

Herbarium

- 800 plant specimens preserved in Herbarium .
- Forest Ecology & Climate Change Division provides services of plant identification on submission of specimens.



and transcription factors (MYB land MYB2) exhibits association

Museum cum Interpretation Centre

- 09 Digital display boards on various technologies related to forest pathology and microbiology and 12 Display Poster on different types of forest mushrooms were prepared for demonstration to visitors in Forest Protection division.

Technical Services Offered

Institute conduct Internship programmes for student s/stakeholders

Internship Charges

Sl.No.	Training Period	Biotechnology /Molecular Biology		Other Disciplines	
		B.Sc./Undergraduate	M.Sc. Postgraduate	B.Sc./Undergraduate	M.Sc. Postgraduate
1.	One Week	Rs. 1,000=00	Rs. 2,000=00	Rs. 1,000=00	Rs. 2,000=00
2.	Fifteen days	Rs. 2,000=00	Rs. 4,000=00	Rs. 1,500=00	Rs. 3,000=00
3.	One Month	Rs. 3,000=00	Rs. 8,000=00	Rs. 3,000=00	Rs. 5,000=00
4.	Two Months	Rs. 5,000=00	Rs. 11,000=00	Rs. 5,000=00	Rs. 7,000=00
5.	Three Months	Rs. 28,000=00	Rs. 16,000=00	Rs. 7,000=00	Rs. 11,000=00
6.	Above three months to six months	Rs. 12,000=00	Rs. 22,000=00	Rs. 9,000=00	Rs. 16,000=00

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Testing facilities available at ICFRE – TFRI, Jabalpur

S1. No	Parameter	Price in
1.	pH	100/- per sample
2.	EC	100/-per sample
3.	Organic Carbon (OC) /Organic Matter	100/-per sample
4.	Major nutrients (N, P, K, Ca, Mg, Na)	300/- each and 1500/ - package
5.	Micronutrient (Mg, Ni, Zn, Fe, Co, Cr, Cu, Mn, B)	300/- each and 2000/ - package
6.	Texture analysis	500/-per sample
7.	Bulk Density	150/-per sample
8.	Total soil Analysis (1 to 7)	4000/-per sample
9.	Dry matter / Moisture percentage	100/-per sample
10.	Plant testing – N, P, K, Ca, Mg, Na	250/ - element and 1300 / -for all
11.	Plant identification charges	250/ - specimen
12.	Bio- control agent -egg parasitoid card (25000 eggs /card)	300/ - card
13.	Laboratory testing of pesticide (biopesticide / insecticide) against insect defoliator/ white grub	20,000/- per defoliator 40,000/- per white grub
14.		
15.	Field testing of insecticides against termites and insect defoliators	1,00,000/-
16.	Identification services for decay fungi/mould	1000/ species
17.	Identification of fungal specimen and its matching with herbarium	250/-per sample
18.	Micro photography of fungi	100/-per sample
19.	Seed germination and viability test	500/ - per sample
20.	Seed purity tests	400/ - per sample
21.	Moisture content of seeds	200/ - per sample
22	Determination of phenols (if standards available)	600/ - per sample
23	Determination of tannins (if standards available)	600/ - per sample
24	Determination of carbohydrates (if standards available)	600/ - per sample
25	Determination of starch (if standards available)	600/ - per sample
26	Determination of chlorogenic acid (if standards available)	600/ - per sample
27	Determination of Protein (if standards available)	600/ - per sample
28	Chemo profiling of medicinal plants with the help of HPTLC	2000/- for the first sample & 500/ - per subsequent sample of the same sp.
29	Leaf area Measurement	200/- per sample
30	Estimation of a single marker constituent in plant extract	5500/ - per sample for Academia / R &D, 10000/ - per sample for Industry
31	Ash Content	610/-per sample for Academia , 1100 / per samplee for Industry
32	Microscopic analysis	500/- per sample
33	Genetic Fidelity testing	10,000/- per sample (Minimum 10samples)

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Services available for the Society

Improved Varieties -Cost per plant- Rs. 100/- plant

S. No.	Species	Number of Plants Available
1.	*Rauvolfia serpentina* TFRI RS-1 (Sarpagandha)	200
2.	*Rauvolfia serpentina* TFRI RS-2 (Sarpagandha)	150

Bamboos Species- Rs. 30/-plant

S. No.	Species	Number of Plants Available
1.	*Bambusa bambos* (Katang bans)	1350
2.	*Bambusa vulgaris (var. green)*	110
3.	*Bambusa nutans*	75
4.	*Dendrocalamusstrictus* (Lathi bans)	940
5.	*Dendrocalamuslongispathus*	100

Tree Species and Medicinal Plants - Rs. 25/- plant

S. No.	Species	Number of Plants Available
1.	*Tectona grandis* (Teak, Sagoan)	200
2.	*Dalbergia latifolia* (Kala shisham, Rosewood)	200
3.	*Celastrus paniculatus* (Malkagini, Jyotishmati)	100
4.	*Plumbago zeylanica* (Chitrak)	100
5.	*Oroxylum indicum* (Shivnag)	50
6.	*Tamarindus indica* (Imli)	150

Seeds and plants available for sale

S1. No	Name of species		Rates	
	Common name	Scientific name	Seeds (Rs/kg)	Plants (Rs./Plant)
1.	Sagon	*Tectona grandis*	5000/-	30/- (Seed raised) 60/- (Tissue culture raised)
2.	Beejasa1	*Pterocarpus marsupium*	5000/-	31/-
3.	Shisham	*Dalbergia latifolia*	7000/-	50/ -
4.	Sisso	*Dalbergia sisoo*	3000/-	100/-
S.	Maida chhal	*Litsea glutinosa*	10000/-	50/-
6.	Chironji	*Buchanania lanzan*	8000/-	50/ -
7.	Kullu	*Sterculia urens*	---	
8.	Mahua	*Madhucdongifolia*	5000/-	
9.	Neem	*Azadirachta indica*	5000/-	50/-
10.	Imli	*Tamarindus indica*	3000/-	30/-
11.	Bel	*Aegle marmelos*		30/-
12.	Karanj	*Pongamia pinnata*	3000/-	30‘-
13.	Khamer	*Gmelina arborea*	1000/	50/-
14.	Haldu	*Adina cordifolia*	---	50/-
15.	Bamboo	Different Species	---	50/-
16.	Sarpagandha	Released Variety TFRI-RS-I,TFRI-RS-II	---	50/-
17.	Kaim/Mundi	*Mitragyna parvifolia*	3000/-	50/-
18.	Kumbi	*Careya arborea*	3000/-	50/-
19.	Jamun	*Syzygiumcumini*	3000/-	50/-
20.	Khair	*Acacia catechu*	5000/-	---
21.	Babul	*Acacia nilotica*	3000/-	---

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Plants Available for Sale at Silviculture, Forest Management Division, TFRI, Jabalpur

S. No.	Species	Number of Plants Available
1.	*Tinospora cordifolia*	100
2.	*Aegle marmelos*	540
3.	*Cymbopogon citratus*	100
4.	*Oroxylum indium*	50
5.	*Mimusopselengi*	260
6.	*Asparagus racemosus*	100
7.	*Artemisia annua*	30
8.	*Phyllanthus emblica*	25
9.	*Terminalia arjuna*	30
10.	*Moringa oleifera L*	1850
11.	Bamboo	600
12.	*Delonix regia*	3000
13.	*Cassia fistula*	1000
14.	*Pongamia pinnata*	550
15.	*Tamarindus indica*	820
16.	*Albizia lebbeck*	5000
17.	*Syzygiumcumini*	540
18.	*Terminalia bellirica*	720
19.	Other Species	As per availability


Medicinal/trees species Plants- Rs. 30/- plant

- Prices and number may be varied as per the availability and season

TFRI TRICHO-Card

- TFRI-TRICHOCARD developed using the parasitoid, *Trichogramma raoi.*
- It's an Ecofriendly bio-control method for managing teak defoliator & skeltonizer.
- 4 cards required for a hectare area **cards available @ Rs. 500/- per card**


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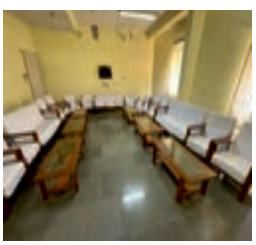
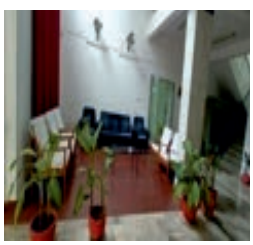
Guest House facilities and Charges

S.No.	Category of Person	Rent per day while on Govt. Duty (Rs.)		Rent per day while not on Govt. Duty (Rs.)	
		Rooms	Suits	Room	Suit
1.	a) Officials of ICFRE and institutes b) Consultants and research Fellow at ICFRE and its institutes and FRI Deemed Universities c) Officials and experts of MoEF&CC, New Delhi d) Officials of SFDs e) Ex- employees of ICFRE and Ex-Deputationist	150	200	200	300
2.	Family members of present /ex -employees a) ICFRE Employees b) ICFRE Deputationist			200	300
3.	a) Officials of Autonomous bodies, Universities under the FRI Deemed University b) Officials of Central/State Government other than SFDs	200	300	400	500
4.	Others (Non Governmental)			600	750

Maintenance charges in addition to above rent will be applicable as follows:

Accommodation type	Maintenance charge including A/C, Heater Charges
Room	200/-per day
Suit	250/- per day



LiFE Lifestyle for Environment

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For further information contact

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ABOUT THE INSTITUTE

- ICFRE-Tropical Forest Research Institute, Jabalpur (Madhya Pradesh) came into existence in April 1988,to provide strong research support to sustainable development of forest and forestry sectors in central India comprising the states of Madhya Pradesh, Chhattisgarh and Maharashtra.
- It is one of the nine Regional institutes under the Indian Council o f Forestry Research & Education, Dehradun (Uttarakhand) .
- ICFRE-Skill Development Center , Chhindwara , came into existence on 30 th March 1995. It was declared on 3 rd January 1996, a satellite Centre of ICFRE-Tropical Forest ResearchInstitute, Jabalpur.

Core Research Areas

- Eco-restoration of Vindhyan, Satpura and Maikal hills and Western Ghats, Rehabilitation of mined areas.
- Development and Demonstration of Agroforestry Models
- Forest Protection
- Biofertilizers and Biopesticides
- Non-Wood Forest Products
- Biodiversity Assessment, Conservation and Development
- Sustainable Forest Management
- Planting Stock Improvement
- Climate Change & Environment Amelioration
- Forest Products Development