ICFRE - TFRI NEWSLETTER

VOL-7,8 &9 January– March 2023

From the Director's Desk

GREETING FROM TFRI FAMILY,

I take pride in sharing the seventh, eighth and ninth issue (January– March, 2023) of ICFRE-TFRI Newsletter, showcasing, significant research activities, events organized, participated and publications made during the period.

I hope this newsletter will help researchers, different stakeholders and policy makers, who are related to forestry to understand the ongoing activities.

Dr. Nitin Kulkarni
Director, ICFRE-TFRI Jabalpur

Contents

Major Events

TRAINING PROGRAMME ON "AGROFORESTRY & ITS MANAGEMENT FOR LIVELIHOOD SECURITY"

Three days training programme on "Agroforestry & its management for livelihood security" for the IFS Officers was organized by ICFRE -Tropical Forest Research Institute Jabalpur, Madhya Pradesh sponsored by Ministry of Environment, Forest & Climate Change, Government of India, New Delhi from 10th to 12th January, 2023.

Smt. Neelu Singh, Director, TFRI, welcomed the chief guest Smt. Suveena Thakur, IFS, AIGF (RT), MoEF&CC, New Delhi during inaugural session and all IFS Officers from different states i.e. Karnataka, Haryana, Odisha, Sikkim, Tripura, Himachal Pradesh, New Delhi, Meghalaya, Jharkhand and West Bengal. Director, TFRI informed about Agroforestry models developed by TFRI and emphasized its importance on livelihood security for the farmers.

Dr. Nanita Berry, Course Director, briefed about the training program. The course covered three technical sessions on Agroforestry models for livelihood, scope of agroforestry, value chain of agroforestry products and problems in implementation of agroforestry. One group exercise was carried out to draw the solution for popularizing agroforestry by the participants. Field visit to tree outside forest was also conducted under the programme.

RESEARCH POLICY COMMITTEE (RPC) MEETING

XXIII Research Policy Committee (RPC) meeting was held at ICFRE, Dehradun on 13-14 February, 2023. Heads and Scientists of the divisions of Institute attended the meeting through hybrid mode. Seven new projects were presented by Scientists of ICFRE-TFRI.

ANNUAL REVIEW MEETING

Dr. Sumit Chakrabarti ADG (M & E), ICFRE conducted Annual Review of the ICFRE projects on 28 February, 2023. Twelve ICFRE funded projects were critically evaluated during two days review meeting. Meeting was attended by all PIs, Co-PIs and project staff of the concerned projects.

ICFRE - TFRI NEWSLETTER

VOL-7,8 &9 January– March 2023

Major Events

PRE- RELEASE CONSULTATION MEETING FOR FOREST SOIL HEALTH CARDS OF MADHYA PRADESH

ICFRE - Tropical Forest Research Institute (TFRI), Jabalpur conducted a Pre- release Consultation Meeting for Forest Soil Health Cards of Madhya Pradesh (M.P.) with the officials of M.P. State Forest Department (MPSFD) at PCCF office, Satpura Bhawan, Bhopal on 15 March 2023. The meeting aimed to discuss Forest Soil Health Cards (FSHC) containing 12 important soil properties, micro and macro nutrient status and recommendations prepared by TFRI for 63 territorial forest divisions of M.P. These FSHC will serve as pioneering reference levels for forest soil health of the state.

Shri Atul Kumar Jain, PCCF Research Extension and Lok Vaniki, MPSFD, chaired the meeting and appreciated meticulous efforts undertaken by TFRI, Jabalpur to prepare SHC of M.P.

Dr. Nitin Kulkarni, Director TFRI, briefed the importance SHC and invited comments the department through this pre-release meeting. Dr. Vijendra Panwar, National Project Coordinator presented the nationally uniform methodology adopted to estimate soil parameters under the project. Dr. Avinash Jain, Project Investigator and Scientist TFRI stated the massive task accomplished by TFRI by sampling 976 points to prepare FSHC of 63 divisions of M.P., holding largest forest cover and sampling points in the entire country. He deliberated a detailed presentation on the findings and recommendations prepared by TFRI.

The meeting was also attended by Dr. Atul Kumar Srivastava, PCCF (Working Plan & Land Records); Shri Rakesh Kumar Yadav, PCCF (Admin-I); Shri Mahendra Singh Dhakad, APCCF CAMPA and other officers along with all concerned Divisional Forest Officers of M.P. through online mode. In all, 80 number of participants took an active participation in hybrid mode.




TREES OUTSIDE FORESTS IN INDIA (TOFI) , USAID PROJECT

ICFRE - Tropical Forest Research Institute Jabalpur and CIFOR- International Center for Research in Agroforestry (ICRAF), New Delhi has jointly organized series of workshops on “Roadmap on supply of QPM and scope of TOF expansion” in the three targeted states i.e. at Bhubneshwar, (Odisha) on 8th February, 2023, Mettupallayam (Tamil Nadu) on 23rd February,2023 and in Jaipur (Rajasthan) on 17th March, 2023 with an aim to supply quality material of suitable agroforestry species by the nurseries for expansion of tree out side forest. Dr. Nanita Berry, Scientist - F & Head, Silviculture, Agroforestry and Forest Management represented the institute in all three workshops.


ICFRE - TFRI NEWSLETTER

VOL-7,8 &9 January– March 2023

Scientist's Corner

Research activities/Initiatives

Assessment of water requirement of different forest tree species and its impact on subsoil moisture

Root zone profile study was conducted for four tree species viz., *Shorea robusta*, *Tectona grandis*, *Anogeissus latifolia* and *Terminalia tomentosa* at Mawai range office, East Mandla forest division, Botanical Garden, TFRI Campus and Kanha national park under the project 'Assessment of water requirement of different forest tree species and its impact on subsoil moisture' funded by CAMPA, MoEF&CC, New Delhi.

Root zone study

Measurement of unsaturated soil hydraulic conductivity using mini disk infiltrometer

Shri Dheeraj Gupta, Scientist-D

Management of Forest Fire

To standardize site specific fire models, biodiversity and five carbon pools were assessed for the current fire season sites of Tropical dry deciduous, Tropical moist deciduous forest, Tropical semi-evergreen forest, and Tropical wet evergreen forest under the states of Madhya Pradesh, Maharashtra and Chhattisgarh under the ongoing research project 'Forest Fire Research & Knowledge Management'.

Soil sample processing in lab

Processing of litter data collected from field survey

Shri Dheeraj Gupta, Scientist-D

ICFRE - TFRI NEWSLETTER

VOL-7,8 &9 January– March 2023

Eco-restoration studies of Gauthamkhani Opencast Expansion Project, Singareni Collieries Companies Limited (SCCL), Kothugudem district, Telangana

Indian Council of Forestry Research and Education (ICFRE) has been awarded with a project to undertake eco-restoration studies and to assess the reclamation and rehabilitation measures implemented for environmental amelioration in and around Gauthamkhani Opencast Expansion Project (OCP) located at Bhadradri, Kothugudem district of Telangana state. ICFRE team of experts visited the mines in the month of February 2023 to collect the required data sets pertaining to different domains such as terrestrial, aquatic, and avi-faunal diversity for pre-monsoon season. As a part of the ICFRE team, biologically stabilized dumps and natural forests adjoining the mine lease area were visited, surveyed and the change in vegetation structure has been assessed for comparison with post monsoon data. Phyto-sociological analysis of ground vegetation has been worked out for pre-monsoon season, for all the study sites delineated in the mine bound area and the reports have been communicated to Environment Management Division, ICFRE.

Dodonaea viscosa (Hop bush) – a dominant middle storey Tree established over Restored Dumps at Gauthamkhani Opencast Expansion Project (OCP)

Vegetation Survey in the restored Dumps

On –Site Afforestation Plan Verification

Third Party Environmental Auditing of different Coal Mines in India

To maintain the ecology and environmental health of coal mining area, Environmental Clearance (EC) issued to the mining companies by the Ministry of Environment, Forest and Climate Change (MoEF&CC) has stipulated the necessity of third-party environmental auditing of mines to be undertaken in every three years. Indian Council of Forestry Research and Education (ICFRE) has been awarded projects from multiple coal mining companies to undertake Third-party environmental auditing of their respective coal mines spread across the country. As a consultant ecologist and a member of the ICFRE team of experts, the conditions laid down in the Environmental Clearances (EC) approval for mitigation of environmental pollution, status of Resettlement and Rehabilitation (R&R), public hearing, occupational health hazards and Corporate Social Responsibility (CSR) were reviewed, the compliance of the project proponent with the project approval conditions and other warranted approvals of the mine were assessed, the existing levels of air, water and noise pollution with respect to the laid down standards and implementation status of R&R and CSR were reviewed through onsite inspection, and recommendations which were necessary for implementation of measures as stipulated in the EC, so as to improve environmental performance of the mine were provided and individual Environmental Audit Report pertaining to the domains of 'physical environment' vis-à-vis air quality monitoring, noise quality monitoring and water quality monitoring and 'social environment' vis-à-vis R&R, public hearing, occupational health hazards and CSR were prepared and submitted to EM Division, ICFRE for 3 different mines :- Kusmunda Open Cast Project Mines (OCP), South Eastern Coalfields Limited, Chhattisgarh, Kakathiyakhani Integrated Project (Opencast and Underground) and Ramagundam Opencast Project of Singareni Collieries Company Limited (SCCL), Telangana.

On-site field inspection of Kusmunda Open Cast Project, SECL Chhattisgarh

Inspection of Dust suppression measures undertaken in the core zone of Kakathiyakhani Integrated Project (left) and Ramagundam Opencast Project (right), SCCL Telangana.

Shri Ajin Sekhar, Scientist-B

ICFRE - TFRI
NEWSLETTER

VOL-7,8&9 January– March 2023

Assessment of morphological variability and natural regeneration status of Kullu (*Sterculia urens* Roxb.) in Madhya Pradesh

Sterculia urens populations are shrinking in its natural ranges and suitable conservation strategy need to be devised and deployed for this economically important non-timber forestry species. Therefore, investigation was undertaken to assess the morphological variation, status of natural regeneration, and to propose the conservation strategy for this valuable tree species. Total ten sites were surveyed in different forest divisions of Madhya Pradesh. Analysis of morphological data revealed that all the morphometric traits assessed have large amount of variation. GBH recorded highest CV i.e. 63% followed by clear bole height (54%), crown diameter (50%), tree height (48%) and number of branches (46%). Natural regeneration status of *S. urens* at all the surveyed sites was observed to be very poor despite profuse flowering and fruiting. Mostly large, matured trees were found scattered on the hill tops and rocky crevices. For *Sterculia urens* , sand was observed to be best medium for germinating seed on mass scale. It gave highest germination percentage with faster rate/speed. Results of the present investigation would be useful for developing conservation strategy.

Recording of the natural regeneration of *S. urens* in Gwalior Forest Division near Panihar village

Recording of morphological data, Forest Division – Seoni, range – Barghat, Beat - Khursipar

Dr. Naseer Mohammad, Scientist-D

Establishment of Progeny Trial of *Dalbergia latifolia*

A progeny trial of vulnerable forestry species *Dalbergia latifolia* (Kala Shisham, Indian Rosewood) was established at campus of Jawaharlal Nehru Krishi Vishwa Vidyalaya (JNKVV), Jabalpur under the project "Population status, collection, conservation, characterization and evaluation of genetic resources of Indian Rosewood, *Dalbergia latifolia"*. Planting material of 32 Candidate Plus Trees (CPTs) of six different states viz., Jharkhand, Maharashtra, Bihar, Odisha, Madhya Pradesh and Chhattisgarh was used for plantation. A total of 384 seedlings were planted in the month of January at spacing of 3m x 3m between the rows in randomized block design having three replications. Plantation activity was inaugurated by the Chief Guest, Dr. P. K. Mishra, Vice Chancellor, JNKVV, Jabalpur. Dr. G. K. Kautu, Dean, JNKV, Jabalpur, Dr. Rakesh Bajpai, Professor and HOD, Department of Forestry, JNKVV, Jabalpur, Dr. S. B. Agrawal, Project In-charge, JNKVV, Jabalpur also attended the plantation programme.

Dr. Fatima Shirin, Scientist-G

ICFRE - TFRI
NEWSLETTER

VOL-7,8 &9 January– March 2023

Conservation and multiplication of accession of different vulnerable RET species

Twenty accession of different vulnerable RET species including *Haldina cordifolia, Mitragyna parvifolia, Terminalia bellirica, Bridelia retusa, Acacia catechu* and *Feronia limonia* have been conserved in seed gene bank of the institute at -20 ^{O}C.

For the conservation of wild edible fruiting species, efforts have been made for the selection of CPTs for the establishment of germplasm bank. Fruit and seed collection work from forty-eight CPTs *of Semecarpus anacardium* has been carried out in different forest divisions of Madhya Pradesh, Maharashtra and Chhattisgarh. Seedlings have been being prepared for multilocation trails

Work on standardization of seed handling and storage protocol in *Kydia calysina*, *Feronia limonia and Commiphora wightii* has been initiated. Natural populations of *Feronia limonia and Cochlospermum religiosum* identified in the Madhya Pradesh, Maharashtra and Chhattisgarh for assessment of seed source variability impacts on seed quality.





Shri. Manish Kumar Vijay, Scientist-B

Soil Less cultivation of Medicinal Plants

Hydroponics offer many advantages, notably a decrease in water usage and uniform quality of produce due to the supply of controlled nutrients in cultivation of medicinal plants. Experiments have been conducted with different nutrient solutions and potting media. Growth kinetics of hydroponically grown medicinal plants- *Bacopa monnieri*, *Centella asiatic*a, *Stevia rebaundiana* and *Acorus calamus* have been observed and compared with plants grown in soil media. No weeds were observed in different hydroponics systems, as compared to soil medium.

Weeds infestation in soil media



Cultivation and growth of *Bacopa monnieri* and *Centella asiatica in* NFT System

Smt. Neelu Singh, Scientist-G

ICFRE - TFRI NEWSLETTER

VOL-7,8 &9 January– March 2023

Improving Livelihood of Local People by Providing Ecosystem Services

Ecosystem Services Improvement Project (ESIP) is being implemented in four forest ranges namely Pandariya West, Pali, Raghunathnagar and Marwahi in the state of Chhattisgarh. Various activities under ESIP were carried out to support the livelihood of local people and to promote the conservation of forest ecosystems. Improved Cook Stove (ICS), vermi-composting unit, vegetable seeds mini- kit, brood lac for lac cultivation, open top drum for biopesticides & biofertilizers preparation, and wadi tall seedlings were distributed to the households of selected villages of these ranges. In addition to these items, pond deepening works were also carried out in Raghunathnagar and Marwahi ranges. System of Rice Intensification (SRI) was provided in Marwahi range under which seeds, organic manure and technical guidance were given to the beneficiaries.

Vermicomposting unit

Improved Cooking Stove

Drum for preparation of Bio-pesticide

Shri. Nikhil Verma, Scientist-B

Measurement of Forest Carbon Stocks of Madhya Pradesh and Chhattisgarh

Five carbon pools viz. above ground biomass, belowground biomass, litter, dead wood, soil organic matter was considered for measurement of forest carbon stocks. Stratified random sampling was followed using forest density maps and forest type maps prepared by Forest Survey of India to stratify the project area into forest type density stratum. Budhni, Bhaura, Itarsi, Banapura, Sukhtawa forest ranges in M.P and Pali, Marwahi in C.G were taken up for implementation of project activities under ESIP. Measurement of forest carbon stock started with the sampling of above ground biomass (10cm dia), below ground biomass, herb and shrub collection, soil sampling for estimation of total forest carbon stock.

Herb collection from Pali range of Chhattisgarh.

Plant sample collection from Pali Range of Chhattisgarh

Shri N.P.S. Nain, Consultant ESIP

Ecosystem Services Improvement Project

Monitoring and evaluation work have been carried out for Sustainable Land and Environment Management (SLEM) activities of the Ecosystem Services Improvement Project in five forest ranges viz. Bhaura (North Betul Forest Division), Budhni (Sehore Forest Division), Sukhtawa, Itarsi, Banapura (Hoshangabad Forest Division) of Madhya Pradesh to assess the outcome of SLEM best practices. Households were selected randomly with a sampling intensity of 15% in each of the selected villages, and information was collected through semi-structured interviews. The qualitative and quantitative information related to the perceptions, attitudes, beliefs, opinions, or ideas related to these SLEM activities and their suggestions/experience on sustainable land and ecosystem management best practices, etc. were collected with the help of ICFRE consultants and their field staff.

Shri Neeraj Prajapathi, Scientist - B

ICFRE - TFRI NEWSLETTER

VOL-7,8 &9 January– March 2023

Providing scientific advisory for eco-friendly management of insect pest and disease in forest nurseries

Dr. Mohan C (Scientist-B) and Mr. Rambhajan Singh (Technical officer) attended field enquiry and provided scientific advisories to forest officials and nursery staffs regarding production of pests and diseases free teak seedlings through eco-friendly approaches at Oberi forest nursery, Sidhi Forest Division (MPRVVNL), M.P.

Visited forest nurseries of Khamer, Karanj, Mahua, Aonla, Neem, Bamboo, teak and Sissoo at Rewa, Satna, Singrauli and Sidhi Forest Division of Madhya Pradesh. It was observed that Karanj, Mahua and Bamboo were severely attacked by various groups of defoliators insects, grasshopper, leaf spot and blight on bamboo. Discussion was made with nursery in charge which included eco-friendly management of insect pests and diseases in nursery and young plantations. The symptoms of insect pests attack and diseases incidence were recorded on all the plants in the sample plots and remedies suggested.

Insect pest attacking Gmelina seedlings

Defoliation by *Galerucella birmanica in* Gmelina seedlings

Insect pest attacking in karanji seedlings

Cylindro cladium leaf blight incidence in Eucalyptus seedlings

Leaf blight incidence in karanji seedlings

Dr. Mohan C., Scientist-B

New Projects sanctioned

- Current status of nursery diseases and insect pests of important species in forest nurseries of Madhya Pradesh and their Eco-friendly management. Co-Ordinator: Smt. Neelu Singh, Scientist – G. PI : Dr. S.N. Mishra, Scientist – C and Dr. Mohan C., Scientist – B. Budget: 25.72 Lakhs. Funding agency: MPSFD, Bhopal, M.P.
- Development of multitier agroforestry systems in selected agro climatic zones of Madhya Pradesh. Coordinator: Dr. Nanita Berry, Scientist- F. PI : Digvijay Sinh Scientist -B. Budget: 45.60 Lakhs. Funding agency: MPSFD, Bhopal, M.P.

ICFRE - TFRI
NEWSLETTER

VOL-7,8 &9 January– March 2023

Visit of Dignitaries

Dr. Devendra Pandey, Ex DG, FSI and HoFF, Arunachal Pradesh


Shri A.K.Bansal, Ex ADGF and HoFF, Odisha


Pro. K.R.Aneja, (Retd.) Microbilogy Department, Kurukshetra, Haryana


Dr. V.R.S.Rawat, Ex. ADG and Dr.Laxmi Rawat, Ex Scientist, FRI, Dehradun (Uttarakhand)


Dr. R. C. Mishra (VC), M.K. University, Prayagraj, Dr. A.K.Verma, Prayagraj and Dr. Sodguru Prakash, MLK PG College Balrampur (U.P.)

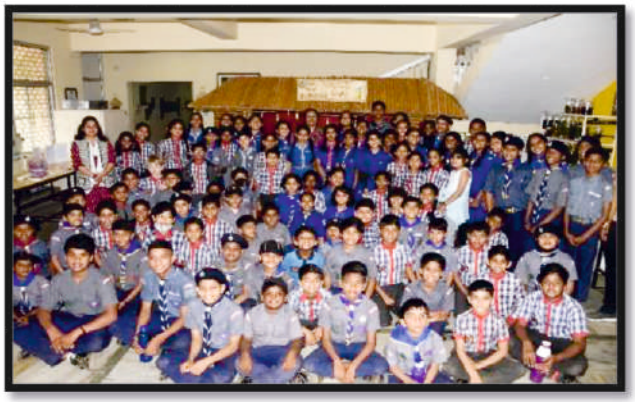

Sr. Scientists of four different Krishi Vigyan Kendras (KVKs)


Shri Pankaj Yadav, General Manager, NABARD, Bhopal along with Shri A. Verma, DDM, Bhopal visited farmers field of Jabalpur, Katni, Damoh districts of Madhya Pradesh under Multi partied consortium among farmers, wood based industry, NABARD and TFRI on 2nd March, 2023.


Exposure Visits of stakeholders

Forest Guard Officers Trainees of Ranger College of Balaghat (M.P.) visited TFRI

Exposure visits of students from different schools and colleges



ICFRE - TFRI NEWSLETTER

VOL-7,8 &9 January– March 2023

TRAINING PROGRAMS TO DIFFERENT STAKEHOLDERS

TRAINING PROGRAM ON "PROPAGATION AND NURSERY MANAGEMENT OF BAMBOOS"

A five days certificate training program on "Propagation and Nursery Management of Bamboos" was organized from 20- 24 Feb 2023 by Genetics and Tree Improvement Division, ICFRE - Tropical Forest Research Institute Jabalpur for bamboo entrepreneurs, bamboo farmers and students from Maharashtra and Madhya Pradesh.

TRAINING PROGRAM ON "INSTRUMENTATION"

Five days Training on Instrumentation was organized from 30 January to 3 February at ICFRE - Tropical Forest Research Institute, Jabalpur for research scholars, academicians and pharma industry professionals from various natural sciences backgrounds of botany, biochemistry, environmental sciences, soil science, microbiology etc. from the states of Uttarakhand, Odisha, West Bengal, Maharashtra and Madhya Pradesh. Participants were trained on the working principles of various instruments like HPLC, HPTLC, UV-Visible Spectrophotometer, PCR, Gel Electrophoresis, ICP, Photosynthesis System, Lucida Tri Micrography, BOD Incubator, Laminar Air Flow etc. available at the institute during the training programme, along with their utility in various researches.

TRAINING PROGRAM ON "VEGETATIVE PROPAGATION OF FORESTRY SPECIES AND HIGH TECH NURSERY TECHNIQUES"

A five days certificate training program on "Vegetative Propagation of Forestry Species and High Tech Nursery Techniques" for Chhattisgarh State Forest Department was organized from 20-24 March 2023 by Genetics and Tree Improvement Division, ICFRE - Tropical Forest Research Institute Jabalpur for frontline staff.

ICFRE - TFRI NEWSLETTER

VOL-7,8 &9 January– March 2023

TRAINING PROGRAM ON "AGROFORESTRY, JAIVURVARAK AND NURSERY TECHNOLOGY"

A One Day training program on "Agroforestry, Jaivurvarak and Nursery Technology" was organised on 27th January 2023 for forest officials of Mandla, Jabalpur, Dindori, Kundan divisions of Madhya Pradesh Forest Department at Research and Development wing of Jabalpur forest division under VVK, Madhya Pradesh.

TRAINING PROGRAM ON "AGROFORESTRY MODELS FOR MAHARASHTRA REGION"

ICFRE - Tropical Forest Research Institute Jabalpur in collaboration with State Forest Department, Amravati division, Govt. of Maharashtra organised One Day training program on "Agroforestry models for Maharashtra region" on 10th March, 2023 for 102 forest officials and farmers of Amravati range, Melghat forest reserve including Yawatmal, Buldhana, Amravati of Maharashtra state.

TRAINING CUM DEMONSTRATION PROGRAM ON "HARVESTING AND MANAGEMENT OF LAC CROP"

One day Hands on training cum demonstration program on "Harvesting and Management of Lac crop" on lac host Butea monosperma in Bijora village was organised to the beneficiaries of IFFDC Sagar on 31st January 2023 under consortium signed with TFRI and IFFDC, New Delhi program and LifE. The training program was attended by District Coordinator, and village coordinator, IFFDC.

ICFRE - TFRI NEWSLETTER

VOL-7,8 &9 January– March 2023

TRAINING CUM DEMONSTRATION PROGRAM ON " VEGETATIVE PROPAGATION OF FORESTRY SPECIES AND HIGH TECH NURSERY TECHNIQUES "

Five days training program was organized on "Vegetative Propagation of Forestry Species and High Tech Nursery Techniques" for Chhattisgarh State Forest Department. In all, 15 frontline officers attended the training programme from 27-31 March 2023.

Nursery Techniques of some important forestry species at Social Forestry Division, Nagpur under VVK, Chhindwara

Awareness cum Training on NTFP processing and Value Addition under VVK, Chhindwara

A training programme organized for the newly recruited lower division clerk and Technical Assistant. 16-01-2023 to 20-01-2023.

Participation in Training Programmes

- Sh. Neeraj Prajapati Scientist 'B' Participated in training on "Application of GIS & Remote Sensing in various field of forestry" at FRI, Dehradun on 16-01-2023 to 20-01-2023.
- Dr. Mohan C, Scientist -B, participated in ICAR sponsored 14 days training programme under HRD on 'Tools and Techniques for analysis of Biomolecules' organized by Dept. Of Biochemistry, ICAR- IARI, New Delhi, through online mode on 18-01-2023 to 31-01-2023
- Mr. M. Rajkumar, Scientist –D Dheeraj Gupta, Scientist –D and Ajin Sekhar, Scientist- B attended training on "Eddy Covariance flux theory and instrumentation" organized by Campbell Scientific India Pvt Ltd at Hyderabad on 07-02-2023 to 08-02-2023.
- Mr. Dheeraj Gupta, Scientist –D attended training on "Eddy Covariance flux theory and instrumentation" organized by Campbell Scientific India Pvt Ltd at Dehradun on 09-02-2023 to 10-02-2023.
- Dr. Jangam Deepika attended DST sponsored training programme on "Climate Change: Challenges and Response" for women scientists and technologists on 13 to 17 March, 2023 at LBSNAA, Mussoorie.

ICFRE - TFRI NEWSLETTER

VOL-7,8 &9 January– March 2023

Events Organized under LiFE

Forest Genetics and Tree Improvement Division organized a Programme on "Plantations of 75 species on 01 January 2023 under the theme of Sustainable Development in LiFE.



FECC division conducted "Awareness Programme on Start Biodiversity Conservation at Community Level" on 02-03-2023



Organic farming& Uses under LiFE conducted by ICFRE-SDC, Chhindwara


ICFRE-SDC, Chhindwara conducted one day training programme under LIFE on 23.02.2023

New Publications

- Gupta, R., Sharma, L.K., Rajkumar, M., Mohammad, N. and Khan, M.L. 2023. Predicting habitat suitability of *Litsea glutinosa*: a declining tree species, under the current and future climate changes scenarios in India. *Landscape and Ecological Engineering*. https://doi.org/10.1007/s11355-023-00537-x.
- Saudagar, I.A., Shirin, F., Soni, R. and Maravi, S. 2023. *Oroxylum indicum*: An important medicinal tree of tropics. *International Society of Tropical Foresters News Letter*. 11(4):16-19.
- Sekhar. A. 2023. Environmental cost of mining in the state of Chhattisgarh. *Agriculture and food e Newsletter*. 5 : 249-252.
- Gangopadhyay, S. 2023. *Dalbergia latifolia*: A pharmacologically essential tropical tree species. *International Society of Tropical Foresters News Letter*. 11(4):28-31.
- Mohan, C., kumar, P., Rao, R., Mishra, R. and barve, S. 2022. Predatory potential of *Canthecona furcellata* (Pentatomidae : Hemiptera) against key defoliator pests of teak in nursery and chickpea under field conditions. *Journal of Ecology and Environment conservation*. 28 (4):141-143.
- Mohan. C., and Sekhar, A. 2022. Insect pests of Egg plant *Solanum melongena* and its integrated management. In. Hassan et al (Ed.) Pests and Disease Management of Horticultural Crops. Pp.133-142. Biotech Book publishers. ISBN. 978-81-7622-543-4.
- Mohan, C., Mahobe, R., Dubey, S. and Chakravarty, G. 2022. Techniques of Vermicompost Production. *Van sangyan*. 9 (4): 19-24.
- Sachan, S., Kumar, S., Kattiparambil, P., Kumar, A., Kushwaha, N.K. and Jain, A. 2022. Impact of drought stress on *Dalbergia Latifolia* Roxb. And *Pongamia Pinnata* L. Pierre under nursery condition: the morphological, physiological and biochemical overview. *Annals of Forest Research*. 65(1): 10853-10873.
- Banerjee, S., RajKumar, M., Sengar, K.S. and Banerjee, S.K. 2022. Forests and soils of India: their distribution, types and importance. *Vaniki Sandesh*. 13 (1&2): 10-19.
- Banerjee, S. and Banerjee, S.K. 2022. Soil physical parameters and their interrelationship. Vaniki Sandesh. 13 (1&2): 38-47.
- Banerjee, S., Khatri, P.K. and Banerjee, S.K. 2022. Soil and vegetation in Pachmarhi biosphere Reserve and their correlation. Book chapter in Soil health and Environmental sustainability. 87-106.
- Rao, G.R., Sekhar, A. and RajKumar, M. 2022. Evaluation trails and carbon sequestration potential of *Jatropha curcas* and *Pongamia pinnata*: Technologies and way forward. Book chapter In "Advanced biodiesel -Technological advances, challenges, and sustainability considerations", Intech open limited. Pp. 1-18.
- Prajapati, N., Singh, N., Verma, N. and Rai, N. 2022. लोध संरक्षण एवं आजीविका के अवसर . "लघुनोपजसन्देश". *स्मारिका अंतरराष्ट्रीय जिनमेला* Pp. 80-82.
- Berry, N., Rai, N. and Shukla, A. 2022. Carbon pool Assessment in *Gmelina arborea* under Agro forestry system at Jabalpur district of Madhya Pradesh. *Indian Journal of Agro forestry*. Pp. 13-18.
- Saxena, H., Parihar, S., Mohammad, N. and Pawar, G. 2023. Variability studies in *Stereospermum suavelens* (Roxb.)DC: a threatened Dashmool species from Central India. *Vegetos*. https://doi.org/10.1007/s42535-023-00581-w.
- Mohammad, N., Saravanan, S. and Shirin, F. 2023. Heartwood-Sapwood-Bark profiles and association studies in *Pterocarpus marsupium* Roxb., a vulnerable antidiabetic forestry species of sub- tropical forest. *Scientia Forestalis*. https://doi.org/10. 18671/scifor.v51.12.

- Tripathi, K. et al. 2023. Mutagenic impact of Ethyl methane sulphonate on morphological and cytological effect on *Trifolium alexandrinum* L. *Applied Biological Research*. 25(1):83-92
- Banerjee, S. and Banerjee, S.K. 2022. Mangrove Ecosystem of Indian Sundarbans: A review. *My Forest*. 58(3):67-90.
- Deepika, J. 2022. A bird's eye view on influence of forest management practices on soil carbon stock and greenhouse gas emissions Abstract published in the Proceedings of the NAU-IES-IUFRO conference on Tree based diversified land use system: Augmenting livelihood security and industrial growth. Pp. 321-322.
- Ramesh, K.R., Deshmukh, H.K., Sivakumar, K., Guleria, V., Umedsinh, R.D., Krishnakumar, N., Thangamalar, A., Suganya, K., Kiruba, M., Selvan, T. 2023. Influence of *Eucalyptus* Agroforestry on Crop Yields, Soil Properties, and System Economics in Southern Regions of India. *Sustainability*. 15: 3797. https://doi.org/10.3390/su15043797.
- Gupta, R., Sharma, L.K., Rajkumar, M., Mohammad, N. and Khan, M.L. 2023. Predicting habitat suitability of *Litsea glutinosa*: a declining tree species, under the current and future climate change scenarios in India. *Landscape and Ecological Engineering*. 19: 211–225.
- Mohammad, N., Saravanan, S. and Shirin, F. 2023. Heartwood-Sapwood-Bark profiles and association studies in *Pterocarpus marsupium* Roxb., a vulnerable antidiabetic forestry species of sub-tropical forest. *Scientia Forestalis*. 51(e3811):1-9.
- Saxena, H.O., Parihar, S. and Das, A. 2023. Assessment of Variations in Phytochemical Components in Stem and Root Bark of *Dillenia pentagyna* from different Locations of Madhya Pradesh. *Biological Forum – An International Journal*. 15(2): 185-190.
- Mohan, C., Mohabe, R., Singh, R.M., Singh, N. and Shirin, F. 2023. Evaluation of different insecticides against leaf roller, *Pyrausta coclesalis Walker* (Pyraustidae; Lepidoptera) in Bamboo. *Biological Forum-An International Journal*. 15(2): 680-682.

Upcoming events

- 2nd National conference (VIRTUAL MODE) on **"Value addition and marketing of Non-Timber Forest Produce (NTFPs)/ Medicinal & Aromatic Plants (MAPs) for Livelihood Security"**(NCVAM - 2023) will be held on 02nd – 03rd May 2023 organized by Tropical Forest Research Institute, Jabalpur.
  link-https://tfri.icfre.org/bulletin_board/bulletin147.pdf
- 1st International Conference on Nature and Natural Science (ICNS, 2023) (Hybrid mode) will be held on 5th & 6th May, 2023 organized and hosted by Rani Durgavati Vishwavidyalaya Jabalpur.
  Registration link-http://forms.gle/Kp9Ti84zzvvEWwBq9

Obituary

02/9/1953 – 02/03/2023

Dr. P.K. Shukla, was an Indian Forest Service officer of the Madhya Pradesh cadre of 1977 batch. An officer of an exceptional career record with a service spanning 36 years and 6 months, he served in various higher echelons of the Madhya Pradesh Forest Department.

His significant assignments in the State Forest Department included Addl. Principal Chief Conservator of Forests (Development & Planning), Addl. Principal Chief Conservator of Forests (Administration), Conservator of Forests, in charge of Khandwa, Balaghat and Betul Forest Circles, Conservator of Forests - Working Plan Circle, Bhopal, Head - Policy Analysis Unit, Conservator Of Forests (Administration), Director, Management Information System and Deputy Director, State Forest Research Institute, Jabalpur.

Dr. Shukla had a long forestry research experience of more than 14 years. He served as Deputy Director, State Forest Research Institute, Jabalpur (4 years), as Director, State Forest Research Institute, Jabalpur (6 years) and also as Director of ICFRE-Tropical Forest Research Institute (30-07-1999 to 07-08-2003). He also served as Regional Director of Regional-cum-Facilitation-Centre of Central Region, National Medicinal Plant Board, Ministry of AYUSH, Govt. of India.

During these tenures in scientific and research organizations, he mobilized financial resources, guided in formulation and implementation of multiple research projects on various disciplines such as eco-restoration of mined out areas, afforestation in hard lateritic soils (Bhata lands) of Chhattisgarh, and Chambal ravines, Plant Propagation, Genetics & Tree Improvement, Bio-diversity Conservation, Environmental Impact Assessment, Nursery & Planting Techniques, Harvesting & Utilization of Non-Timber Forest Products (NTFP) including Medicinal & Aromatic Plants, Ethno-Botany etc.

Dr. Shukla had several accolades and honours to his credit including the “Indian Forester” award in the year 1979 awarded by Forest Research Institute & Colleges, Dehradun. He was also honoured with a gold medal by the Govt. of Madhya Pradesh in the year 1985 for his work on “Development of afforestation techniques in dolomite mined areas at Hirri (Bilaspur)”.

Dr. Shukla was associated for a long period of time as the editor of several research journals such as “Journal of Tropical Forestry” and “Indian Journal of Tropical Biodiversity” and newsletters – “Vaniki Sandesh” and “Van Dhan Vyapar”.

Dr. Shukla published 67 research papers on forestry and allied disciplines in national/international journals. He was also authored / co-authored 04 books and 15 brochures.

Dr Shukla was also a member in the Board of Directors / Board of Governors in several reputed organizations such as Indian Council of Forestry Research & Education, Dehradun, Madhya Pradesh State Forest Research Institute, Jabalpur, Madhya Pradesh Forest Development Corporation, Bhopal, Madhya Pradesh State Minor Forest Produce (Trade & Development) Cooperative Federation Ltd, Bhopal and Madhya Pradesh Eco-tourism Development Board, Bhopal.

His impeccable service in the field of forestry and science will forever be remembered.

ICFRE - TFRI
NEWSLETTER

VOL-7,8 &9 January– March 2023

Plant Species and number Available for Sale at Genetics and Tree Improvement Division, TFRI, Jabalpur

Improved Varieties- Cost per plant- Rs. 50/ plant

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

Bamboos Species- Rs. 25/plant

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

Tree Species and Medicinal Plants- Rs. 25/ plant

S. No.	Species	Number of Plants
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
7.	*Azadirachta indica* (Neem)	50




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.)	
		Room	Suit	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	200
2	Family members of present /ex 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			800	750




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

Accommodation type	Maintenance charge including A/C /Heater Charges
Room	200
Suit	250

For further information contact:

GROUP COORDINATOR RESEARCH

ICFRE - TROPICAL FOREST RESEARCH INSTITUTE

(Indian Council of Forestry Research & Education)

P.O.:R.F.R.C., Mandla Road, Jabalpur- 482 021,Madhya Pradesh

Phone No:- + 91-761-2840010(O) Fax :- + 91-761-2840484

Group Coordinator (Research) Phone :0761-2840003

Email: Website :- http;//tfri.icfre.gov.in Email:- dir_ tfri @icfre.org, groupco_tfri@icfre.org

ABOUT THE INSTITUTE

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 of Forestry Research & Education , Dehradun (Uttarakhand) .

Forest Research Centre for Skill Development ,Chhindwara , came into existence on 30th March 1995.It was declared on 3rd January 1996,a satellite Centre of Tropical Forest Research Institute, 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