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## Honorable Secretary DARE & DG ICAR visited CAFRI

On 5 October, 2023, Dr. Himanshu Pathak, Hon'ble Secretary, DARE & DG, Indian Council of Agricultural Research was conferred the Honorary Fellowship Award for his contributions to the agricultural and agroforestry sciences in the current climate change scenario by the Indian Society of Agroforestry at Jhansi, Uttar Pradesh.



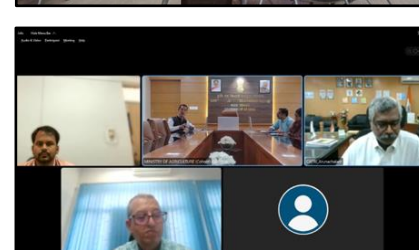
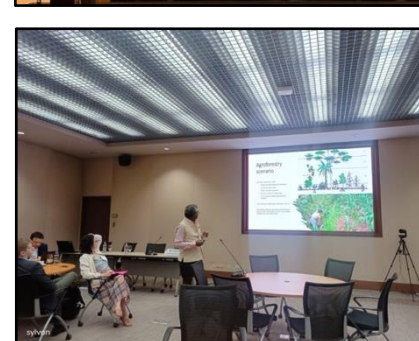
On 5 October, 2023 Hon'ble Secretary, DARE and DG, Indian Council of Agricultural Research Dr. Himanshu Pathak visited ICAR-CAFRI, Jhansi and reviewed the work being done. He also affirmed that agroforestry is the way forward for ensuring livelihood security of farmers and also environmental security.



- On 4 November, 2023, Director, ICAR-CAFRI felicitated by Honorable Governor of Tamil Nadu for contribution to Agroforestry during the industry-farmer-scientist interaction meet in Raj Bhawan, Chennai (Tamil Nadu).

## Strategic Highlights

- The Institute Research Council (IRC) meeting was conducted on 24 August, 2023 at ICAR-CAFRI, Jhansi, to review the progress of scientific research work of the institute. Director, CAFRI chaired the meeting and Dr. Manmohan J. Dobriyal, Professor, RLB CAU, Jhansi graced the meeting as expert member. Dr. AK Handa, Secretary IRC, coordinated the meeting.
- On 23 September, 2023 ICAR CAFRI Jhansi had a meeting under the Chairmanship of Director CAFRI with President, Secretary and Treasurer of World Neem Organization to discuss the future areas for collaborative research and to organize International Conference in near future.
- A three-day Annual Group Meeting of AICRP on Agroforestry and Symposium on Quality Planting Material Production concluded at PJTSAU Hyderabad held on 16-18 October. The meeting was attended by scientists from different coordinating centers of the project located all over the country. The meet was inaugurated by Dr S K Chaudhari, Deputy Director General NRM ICAR New Delhi. Dr A. Arunachalam Director CAFRI Jhansi and Project Coordinator of the project highlighted the project achievements for the last year. Dr Rajbir Singh ADG Agronomy Agroforestry and Climate Change ICAR and Dr B P Bhatt from ICAR headquarters also participated in the meet.
- Director, ICAR-CAFRI, Jhansi gave a keynote address in Field Genebank for Erhnoforestry in the 8th Global Summit on Medicinal Plants being organized in Bangkok on 7-9 November 2023.
- ICAR-CAFRI project team along with TEEB India during the TEEB AgriFood Global Symposium on 7-9th November 2023.
- Dr. Arunachalam presented the contribution of Agroforestry to achieve NDCs in the TEEB AgriFood Global Symposium held on 8 November, 2023 at Thailand.
- ICAR-CAFRI has meeting with DA&FW, MoAFW, New Delhi regarding the production of QPM and Nursery accreditation on 14 November 2023.
- Director, ICAR-CAFRI participated in the National Symposium on TEEB AgriFood Initiative in India, and gave his remarks during a panel discussion on Agroforestry. Earlier Dr VK Sharma presented the TEEB project results in the symposium on 16 November, 2023.
- On 17 November 2023, secretary, DARE & DG, ICAR interacted with Directors and Scientists of all ICAR Institutes and ICAR-ATARIs. ICAR-CAFRI also attended the meeting and had a fruitful interaction.
- Director, ICAR-CAFRI, Jhansi attended a High-Level Policy Discussion

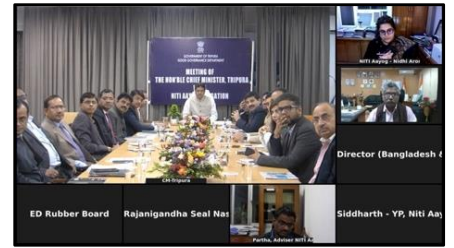




Meeting on 19 December, 2023, NITI Aayog, Govt. of India with the Chief Minister of Tripura and the Chief Secretary, Govt. of Tripura and discussed various programs and implementation plans including that of tea, rubber, bamboo and agarwood sectors for enabling Tripura to be a transformed and self-reliant state in the northeast.



- On 20 December, 2023, The Ministry of Agriculture and Farmers Welfare, Govt. of India notified the National Nursery Assessment and Accreditation Committee with Director, ICAR-CAFRI as its Chairman.
- On 29th December 2023, *krishivaniki kulgeet* was launched by Prof NK Singh, JC Bose Fellow at NIPB, New Delhi.
- On 29th December 2023, Prof NK Singh, JC Bose Fellow at NIPB, New Delhi interacted with CAFRI scientists and explored R&D opportunities.
- Dr. A. Arunachalam, as a member in Board of Management, Mahatma Gandhi University of Horticulture & Forestry (MGUH&F), Raipur as ICAR Representative w.e.f 2023.
- Dr. A. Arunachalam as a chairman in Project Monitoring Committee for the NABARD project titled 'Development and evaluation of pomegranate-based agroforestry system in Bundelkhand region for higher productivity and economic returns in farmers' field', ICAR-CAFRI, Jhansi (2023-25).
- Dr. A. Arunachalam as a member in Steering Committee of FOLU (The Food and Land Use Coalition) India's NCMA (Nature based solution for climate mitigation and adaptation) Program w.e.f. 2023.
- Copyright Registration of the ICAR-CAFRI ANNUAL REPORT Template - Registration#L-134173/2023
- Copyright Registration of the CAFRI LOGO (artistic work) - Registration#A-148720/2023.



## Strategic Outreach

- CAFRI organized a three days MANAGE-CAFRI collaborative training programme on "Future Prospects of Crop Biofortification in India: An Antidote to Malnutrition" during 7-9 November, 2023 in online mode. Around 70 participants from across India participated in the training.
- Dr. Naresh Kumar, Principal Scientist & Head, CESRA and the Course Director of the One-Week Training Program on Climate Change Impact Modelling in the Indian Himalayan Region handling the technical sessions with the delegates on 21 November, 2023 in ICAR-CAFRI, Jhansi.
- On 6 December, 2023, ICAR-CAFRI, Jhansi kick-started the Training of Trainers program on Agroforestry with focus on QPM for the State Govt. officials of Govt. of Odisha supported by the Department of Soil and Water



Conservation, Govt. of Odisha and the Ministry of Agriculture and Farmers' Welfare, Govt. of India. The program has been designed with both lecture and field modules for 6-9 December, 2023 in Odisha; Scientists from CAFRI and AICRP-Agroforestry Centre of OUAT shall be the resource persons for the program.

- ICAR-CAFRI, Jhansi organized Training Program on 10 December, 2023 for farmers of Gwalior and Jhansi Region on good agroforestry practices and demonstrated the drone applications in agricultural sector.
- ICAR-CAFRI, Jhansi organized a special training program for the farmers of Bundelkhand Region through its SC-SP thus reaching the unreached. The farmers visited various agroforestry models and nursery and appraised of good agricultural practices. Different batches of farmers are visiting the Institute during 8-13 December, 2023 has also supported by Govt. of MP and Govt. of UP.



## Days and Weeks Observed

- On 15 August, ICAR-CAFRI, Jhansi celebrated the 77th Independence Day by involving all of its employees, project staff, security staff and local villagers/farmers. Dr. Rajendra Prasad hoisted the National Flag and addressed the gathering. CAFRI wishes everyone a very happy, joyful and patriotic Independence Day.
- On 19 August, 2023, ICAR-CAFRI, Jhansi has celebrated National Honey Bee Day and introduced apiary in agroforestry. An invited talk on the 'Importance of Honey bees in the Agroforestry system' by Dr D.B Ahuja (Emeritus Professor), RLBCAU, Jhansi was organized to promote scientific bee-keeping and awareness.
- On 15 November, 2023 "World Peacock Day" was observed at ICAR-CAFRI. All the employees took the pledge for the conservation of our National bird, Peacock.
- On the 26 November, 2023, the employees of ICAR-CAFRI, Jhansi took pledge on the eve of the Constitution Day of our beloved country.
- On celebration of Agriculture Education Day and World soil day on 5 December 2023, Shri Hargovind Kushwaha, president, International Baudh Research Centre Lucknow and minister of state, UP Govt. graced the function as chief guest and Director CAFRI presided over the program.



## Events Organized

- 21 Day Refresher Course on Agroforestry organized by ISAF and ICAR-CAFRI on 5 July, 2023.
- On 26 September, 2023 all staff members including project and contractual staff of ICAR-CAFRI Jhansi under the leadership of Dr A. Arunachalam, Director of the institute participated in the Swachata campaign and took the pledge for cleanliness. After the pledge all participated in the collection of plastic waste in the institute premises.



- On 26 September, 2023 under Vigilance Awareness Campaign, an awareness program was conducted at ICAR-CAFRI Jhansi under the guidance of Director Dr A Arunachalam. During the program Dr A K Handa Vigilance Officer of the Institute detailed the importance of transparency in our day to day official work and purchase of goods and services. All employees of the institute participated in the program.
- Walk for Agroforestry - Krishivaniki Yatra conducted on 14 December, 2023 in the campus of the ICAR-CAFRI, Jhansi with the participation of 150 students from Kendriya Vidyalaya, Jhansi.
- On 27 December, 2023, ICAR-CAFRI, Jhansi introduced an eco-friendly mechanism of in-campus transportation - a bullock cart taking also the message of agroforestry.

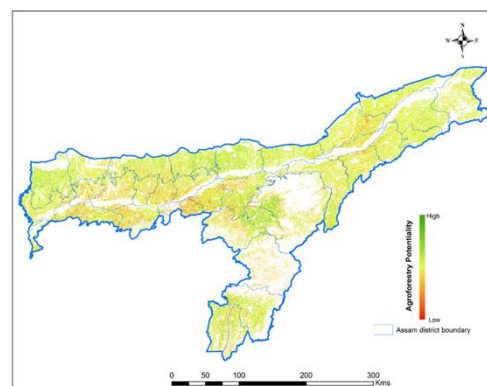


## Research

### TEEB Research Highlights:

#### Assam Agroforestry Potential Analysis

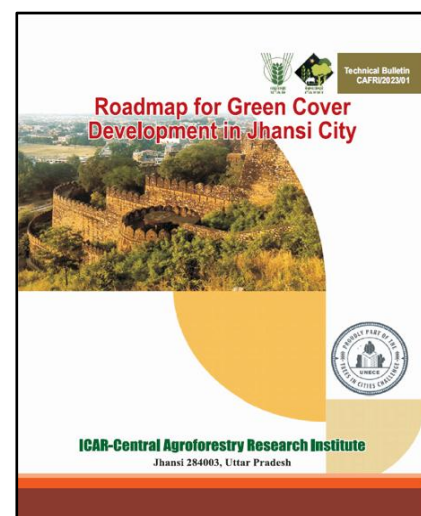
Increasing agroforestry lands is an important milestone in adapting to climate change, increasing food security, and providing several ecological and socioeconomic benefits. Proper planning and methods are essential for assessing land potential and selecting suitable land for agroforestry's multifunctional benefits. Different weights were assigned and calculated using the Analytic Hierarchy Process (AHP) to incorporate four normalised parameters (soil moisture, slopes, NDVI, and drainage) into a GIS model for farm potentiality for agroforestry in Assam state. Remote sensing (RS) and geographic information system (GIS) methods are commonly used to identify priority regions for agroforestry and policy development. A GIS modelling approach based on satellite data measurement was utilized to determine farm landscape suitability zones in Assam state. To study the farm landscape characteristics of agroforestry in the state of Assam, post-monsoon multi-date (October 2022 to May 2023) monthly cloud-free Landsat-8 data and products of the Digital Elevation Model were used. Landscape suitability analysis was prepared using soil wetness, slope, drainage, and the Normalized Difference Vegetation Index (NDVI). A total of 48.23% (37820.8 sq. km.) of the land was determined to be suitable for agroforestry.



Agroforestry Potential Zone Map  
(Year 2022-23)

#### Trees Outside Forests in India Research Highlights

Trees Outside Forests in India (TOFI) is a five-year collaboration between the United States Agency for International Development (USAID) and India's Ministry of Environment, Forests, and Climate Change. It attempts to scale up and expedite the increase of the area under trees outside forests in the seven participating states—Andhra Pradesh, Assam, Haryana, Odisha, Rajasthan, Tamil Nadu, and Uttar Pradesh. As part of the TOFI project, the ICAR-CAFRI has focused on the State-specific engagement undertaken to deregulate targeted species. Also, as a part of this project, an effort was made to create a Roadmap for Green Cover Development in Jhansi City and this assessment informs about the opportunities to grow trees outside the forest in Jhansi urban landscapes.





## RFID Research Highlights

The tree genetic resources are important for conservation of species biodiversity on the earth, and effective environmental restoration. The alarming speed of loss of biodiversity necessitates innovative approaches to protect genetic pools in field gene-banks, species nearing extinction and safeguarding high-value germplasm and trees. For conservation of Tree genetic resources, ICAR- Central Agroforestry Research Institute, Jhansi is maintaining various multipurpose tree (MPTs) germplasms including *Azadirachta indica*, *Acacia nilotica*, *Pongamia pinnata* etc. Maintenance and evaluation of these tree germplasm is a prerequisite for tree improvement activities. We have installed advanced chip-based technology or RFID (Radio Frequency Identification) tags in 30 trees for a real time monitoring of these germplasm at ICAR-CAFRI in collaboration with ICAR-NBPGR, New Delhi. These RFID tags are provided with unique codes which will help in real time tracking of the trees and retrieving the information digitally with little or no human intervention. This initiative is supported by ICRAF- World Agroforestry. This is the first time in India that gene banks are being monitored with this new method.



## Participation and organizing in Training/Workshop/Meetings/Symposia, Conferences and HRD

- Dr. A. Arunachalam, member in Advisory Board, 5<sup>th</sup> International Conference in Hybrid Mode on Innovative and Current Advances in Agriculture and Allied Sciences’ on 10-16 July, 2023; organized by Society for Scientific Development in Agriculture & Technology, Meerut in Dubai.
- Dr. A. Arunachalam, as Convener organized 21 days Online Refresher Course on Agroforestry from July 17 to August 6, 2023.
- Dr. R.P. Dwivedi, Dr. Sushil Kumar, Dr. Ashok Yadav, and Mr. Suresh Ramanan organized a 3 days Ber budding training Programme at - Shivrampur village in District- Niwari (M.P.) during 09-11 August 2023.
- Dr. Priyanka Singh presented abstract on Modelling the impact of agroforestry on food security and income variability in Bundelkhand region of Uttar Pradesh. Pp. 16. In: Souvenir-cum-Compendium of Abstracts of the 6<sup>th</sup> International Conference on Advances in Agriculture Technology and Allied Sciences (ICAATAS – 2023); organized jointly by Society of Agriculture Research and Social Development, New Delhi and Loyola Academy, Secunderabad.
- Dr. Ashok Yadav, Mr. Venkatesh YN, Dr. Ashajyothi M, and Sh. S.P.S Yadav organized the National Honey Bee Day on 21st August 2023.
- Dr. A. Arunachalam participated in National Seminar on `Abiotic stress management for sustainable millet-based production systems on 22-23 August, 2023; organized by Society for Agricultural Research on Abiotic Stress, Baramati.
- Dr. A. Arunachalam, as Course Director organized a review Workshop on NMSHE-Task Force on Himalayan Agriculture during 25-26 August, 2023.
- Dr. Ashok Yadav attended the 10 days training on “Biosecurity and Biosafety: Policies, Diagnostics, Phytosanitary Treatments, and Issues” from September 4-14 2023, organized by ICAR-National Bureau of Plant Genetic Resources, New Delhi
- Dr. Ashok Yadav organized and attended the project implementation and monitoring meeting (PIMC) under the NABARD-funded pomegranate project, i.e. “Development and evaluation of pomegranate-based agroforestry systems in Bundelkhand region for higher productivity and economic returns in the farmer’s field” on September 6, 2023.
- Dr. A. Arunachalam, as Co-organizer & as Vice Chairman of the Organizing Committee organized National Conference on Medicinal Plants, Natural Products and Indian System of Medicine (NCMP-2023) on 8-9 September 2023 in ICAR-CAFRI, Jhansi.
- Dr. K. Rajarajan, Dr. Asha Ram, Dr. Sushil Kumar, Dr. Ashok Yadav, Dr. Y.N. Venkatesh, Dr. Ashajyothi, Dr. Priyanka Singh delivered the oral presentation in National Conference on Medicinal Plants, natural products and Indian system of Medicine (NCMP-2023) organized at ICAR – CAFRI, Jhansi during September 8-9, 2023.
- Dr. Priyanka Singh, exhibited stall in AgriExpo at Rani Durgawati Medical College Banda on 20<sup>th</sup> September, 2023.

- Dr. Ashok Yadav & Dr. Priyanka Singh attended the Consultation Workshop on “Tree Genetic Resources for Agroforestry” held at committee room ICAR-CAFRI, Jhansi, on 4<sup>th</sup> October, 2023.
- Dr. A. Arunachalam, member in National Advisory Committee of the International Conference on Structural Biotechnology and Drug Discovery during 11-12 October 2023 at Gautam Buddha University, Greater Noida.
- Dr. A. Arunachalam, as Convener organized symposium on “Quality Planting Material Production” in PJTSAU, Hyderabad on 16-18 October 2023.
- Dr. A. Arunachalam, Dr. A.K. Handa, Dr. K. Rajarajan, Dr. Asha ram and Mr. Suresh Ramnan attended a Symposium on Quality Planting Material Production at PJTSAU Hyderabad held on 17 October.
- Dr. Priyanka Singh, exhibited stall in *Krishi Mela evam Takneeki Pradarshini* being organized at ICAR-IGFRI, Jhansi on 1<sup>st</sup> November, 2023.
- Dr. A. Arunachalam, as Course Director organized Online Training Program on ‘Future prospects of crop biofortification in India: An antidote to malnutrition’ in collaboration with MANAGE, Hyderabad on 7-9 November, 2023.
- Dr. Priyanka Singh, attended National Symposium for UNEP EUI TEEB AgriFood India Project during 16-17 November, 2023 (online).
- Dr. A. Arunachalam, as Course Director organized training Program on Climate Change Impact Modelling for the Indian Himalayan Region during 20-24 November, 2023 under the DST sponsored NMSHE Project.
- Dr. Asha Ram participated and presented paper (oral) entitled “Conservation agroforestry: A new concept of climate resilient production system” in XXII Biennial National Symposium on “Climate Smart Agronomy for Resilient Production Systems and Livelihood Security” at ICAR-Central Coastal Agricultural Research Institute, Goa from 22–24 November, 2023.
- Dr. A. Arunachalam as a Co-Patron in 3<sup>rd</sup> Biotic Science Congress 2023 & The International Conference on Advancement in Plant Health Research – Retrospect & Prospect @Visva Bharati, Santiniketan, West Bengal on 23-24 November 2023; organized by Society for Biotic & Environmental Research, Tripura.
- Dr. A. Arunachalam, Patron in International Conference on Microbes for Life – Lifestyle for the Environment: A strategy for wellbeing on 1-3 December, 2023; organized by Association of Microbiologists of India.
- Dr. Ashajyothi, organized 64th Annual International Conference of Association of Microbiologists of India – 2023 on Microbes for LiFE: A strategy for well-being (MLiFE-2023) during December 1-3<sup>rd</sup>, 2023 at Bundelkhand University, Jhansi, Uttar Pradesh, India in association with ICAR – CAFRI, Jhansi.
- Dr. Ashajyothi and Dr. Sushil Kumar participated and presented a poster in 64th Annual International Conference of Association of Microbiologists of India (2023) on “Microbes for LiFE: A strategy for well-being” (MLiFE-2023) during December 1-3<sup>rd</sup>, 2023.
- Dr. Y.N. Venkatesh and Dr. Sovan Debnath participated in 64th Annual International Conference of Association of Microbiologists of India (2023) on “Microbes for LiFE: A strategy for well-being” (MLiFE-2023) during December 1-3<sup>rd</sup>, 2023.
- Dr. A. Arunachalam, member in Advisory Committee, International Conference on Feeding the Future through Sustainable Eco-friendly Innovations in Rangeland, Forages and Animal Sciences during 2-4 December, 2023; organized by the Range Management Society of India, Jhansi.
- Dr. Sovan Debnath delivered a lecture on ‘Nutrient management in changing climate and soil health’ in a farmers training on ‘Climate Resilient Integrated Farming Practices’ on 05 December, 2023 at ICAR-CAFRI, Jhansi.
- Dr. Asha Ram organized a farmers training programme on “Climate Resilient Integrated Farming Practices” at ICAR-CAFRI, Jhansi, on December 05-06, 2023 & December 14-15, 2023.
- Dr. Priyanka Singh, delivered a lecture on “*Introduction about agriculture schemes for farmers’ welfare*” during Two Days Farmers Training on “Climate Resilient Integrated Farming practices” on 14<sup>th</sup> December, 2023.
- Dr. A. Arunachalam, member in Advisory Board, Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS-2023) at UAS, Raichur during 18-20 December 2023.; organized by Astha Foundation, Meerut.
- Dr. A. Arunachalam, Co-Patron in 5<sup>th</sup> International Conference on Environment and Society during 29-30 December 2023 at Dr RML Avadh University, Adyodhya; organized by Glocal Environment and Social Association, New Delhi and the American University, USA.

## Publications

### Research Papers in Journals

- Arunachalam A., Suresh Ramanan S. and R. Singh (2023) Agroforestry versus integrated farming system: Two version of farm diversification in India. *Indian Journal of Agroforestry* 25(2): 12-31.

- Badre Alam, Sukumar Taria, Sushil Kumar, A.K. Handa and A. Arunachalam (2023) Clonal plants revealed higher physiological efficiencies in photosystem protection and antioxidant activities than seedling plants of *Pongamia pinnata* to cope with hot summer climate. *Indian Journal of Agroforestry* 25(1): 65-69.
- Bhatt, S., Purohit, M.V., Blaodi, K.N., Kumar, U., Sharma, A., Shridhar, V., Arunachalam, A. and K. Arunachalam (2023) The ethnic food system of Jaad Bhotiya tribal community in the Gangotri landscape of western Himalaya: a transition in traditional practices. *AlterNative* (<https://doi.org/10.1177/11771801231173396>)
- Dhiman, R.C., Arunachalam, A., Dhyani, S.K., Rizvi, A.H., Singh, A., Singh, R.K., Biradar, C.M. and J. Rizvi (2023) Circular economy of eucalyptus-based agroforestry in India. *Indian Journal of Agroforestry* 25(2): 12-21.
- Ghate, U., Patwardhan, A and A. Arunachalam (2023) Agroforestry and organic farming scope in India – Towards Net Zero. *Indian Forester* 149(4): 418-421.
- Handa, A.K., Rizvi, R.H., A. Arunachalam, Raj Kuamr Singh, Dhyani, S.K., Javed Rizvi, Archana Verma and Maneesh Yadav (2023) *Azadirachta indica* and *Prosopis cineraria* species contribution to agroforestry/ tree cover in arid region of Rajasthan. *Indian Journal of Agroforestry* 25(1): 133-136.
- Nongmaithem Raju Singh, A. Raizada, K. K. Rao, Kirti Saurabh, Kumari Shubha, Rachana Dubey, L. Netajit Singh, Ashish Singh and A. Arunachalam (2023) Soil organic carbon fractions, carbon stocks and microbial biomass carbon in different agroforestry systems of the Indo-Gangetic Plains in Bihar (India). *Current Science*, 124 (8): 981-987.
- Parthiban, K.T., Arunachalam, A., Keerthika A, Selvanayaki, S. and S. K. Chauhan (2023) Agroforestry Tourism in India - Scope, opportunities and experiences. *Indian Journal of Agroforestry* 25(1): 19-27.
- Prachi Nautiyal, Priya Pokhriya, Pooja Panwar, Richa Rajput, Ayyanadar Arunachalam and Kusum Arunachalam (2023) Influence of crop sequencing and tree abundance on soil carbon pool in temperate agro-ecosystems of the Indian Himalayan region. *Indian Journal of Agroforestry* 25(1): 94-101.
- Prasad, R., Arunachalam, A., Shukla, A., Singh, P., Gupta, A., Saroj, N.K. and V.D. Tripathi (2023) Field management practices in agroforestry systems influence organic carbon and biological properties of soil. *Agroforestry Systems* (<https://doi.org/10.1007/s10457-023-00861-z>).
- Priyanka Singh, S Ramanan, A Arunachalam et al. (2023) Tree-based farming: A success story of a farmer in Bundelkhand region of central India. *Indian Journal of Agroforestry*, 25(1): 142-146.
- Rajarajan, K., Verma, S., Sahu, S. et al. Differential gene expression analysis reveals the fast-growth mechanisms in *Melia dubia* at different stand ages. *Mol Biol Rep* 50, 10671–10675 (2023). <https://doi.org/10.1007/s11033-023-08873-9>.
- Raju, V., Agashe, A., Ashajyothi, M., Rajarajan, K., Kumar, N. and Arunachalam, A., 2023. Santalum album-host plants interaction: an incomplete story of semi-root parasite. *Current Science* (00113891), 125(2).
- Ram, A., Kumar, N., Sharma, P., Dhakad, A., Lavania, P., Upadhyaya, S., Handa, A.K., Arunachalam, A., 2023. Effect of different IBA concentrations and potting substrates on growth of *Ficus carica* L. cuttings under nursery conditions. *Indian J. Agrofor.* 25, 137–141.
- Singh, N.R., Raizada, A., Rao, K.K., Saurabh, K., Shubha, K., Dubey, R., Singh, L.N., Singh, A. and A. Arunachalam (2023) Soil organic carbon fractions, carbon stocks and microbial biomass carbon in different agroforestry systems of the Indo-Gangetic Plains in Bihar, India. *Current Science* 124(8): 981-987.
- Singh, P., Dwivedi, R.P. and A. Arunachalam (2023) Agroforestry solutions for zero hunger and net zero climate targets. *Current Science* 124(6): 661-662.
- Singh, P., Ramanan, S., Arunachalam, A., Dwivedi, R.P., Kumar, S., Ram, A., Handa, A.K., 2023. Tree-based farming: A success story of a farmer in Bundelkhand region of Central India. *Indian J. Agrofor.* 25, 142–146.
- Sirohi, C., Kumar, P., Dhillon, R.S., Bhadwaj, K.K., Handa, A.K., Arunachalam, A., Kumari, S. and K.S. Ahlawat (2023) Productivity of wheat varieties under poplar (*Populus deltoides*) based agroforestry system in northern India. *Indian Journal of Agroforestry* 25(2): 69-74.
- Venkatesh Y.N., Ashajyothi. M., Uma, G.S., Rajarajan, K., Handa, A.K. and Arunachalam A. (2023) Diseases and insect pests challenge to meet wood production demand of *Tectona grandis* (L.), a high-value tropical tree species. *Journal of Plant Diseases and Protection* 130: 929-945.
- Yadav, A., Dhakar, M.K., Arunachalam, A., Jha, S., Garg, S., Gangwar, N., Handa, A.K., Alam, B. and D. Kadam (2023) A review on the scope of adoption of underutilized climate smart dragon fruit (*Hylocereus* spp.) cultivation. *Erwerbs-Obstbau* (<https://doi.org/10.1007/s10341-023-01006-3>).

#### Books & Book Chapters

- Asha Ram, Inder Dev, Sushil Kumar and A. Arunachalam 2023. Agroforestry for cleaner production. In: Subhash Babu, Anup Das, Sanjay Singh Rathore, Raghvendra Singh and Shiv Dhar (Eds). *Frontiers in agronomy for sustainable agriculture*. Indian Society of Agronomy, New Delhi. p91-116.



- Dwivedi, R.P., Singh, P., Asha Ram, Handa, A.K., Kumar, S. and A. Arunachalam (2023) In: (Kumar, R., Dixit, A.K. and M.K. Chatli, Eds.) Thematic Papers on the National Workshop on Export Linked Natural Goat Husbandry Practices in India: Opportunities and Challenges (May 4-5, 2023); organize by ICAR-Central Institute for Research on Goats in collaboration with APEDA.
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- सुशील कुमार ए अशोक यादव ए सुकुमार तारिया ए बंद्रे आलम ए प्रियंका सिंह ए आर पी द्विवेदी ए एम ए अरुणाचलम 2022 ए खाद्य एवम् जलवायु सुरक्षा में कृषिवानिकी की भूमिका ए भद्रिका पुंज 01 ए 17.19 ए

#### Documentary Film/Audio CD Produced

- A Hope Full of Water fulfilled in Bundelkhand (2023)
- *Krishivaniki Song* (2023) was launched on 29th December 2023

#### Plantation Report

- CAFRI (2023) Report on nation-wide tree plantation campaign for Mission 'Lifestyle for Environment (LIFE)', ICAR-Central Agroforestry Research Institute, Jhansi, Uttar Pradesh; 75 p.

## Awards/Recognition

#### Awards

- Ashok Yadav, Sandeep Garg, Neha Gangwar, Vinay Nayak, AK Handa and Ayyanadar Arunachalam received first prize in poster presentation i.e. "Chironji Gond ka Nutraceutical Vishleshan or LC-MS/MS Vidhi ke Madhyam Se Bioactive Compound Profiling" organized by ICAR-Central Agroforestry Research Institute, Jhansi under Hindi Pakhwada (14-29 September 2013) on 29.09.2023. (Team Award)
- Received Dr. Rana Memorial Best Poster Award for the poster (*Bacillus subtilis* as a shuttle microbe potential for broad spectrum antifungal activity and growth promotion in agroforestry) presented in 64<sup>th</sup> Annual International

Conference of Association of Microbiologists of India – 2023 Microbes for LiFE: A strategy for well-being (MLiFE-2023) during December 1-3<sup>rd</sup>, 2023 (Team Award)

- Sandeep Garg, Ashok Yadav, Vinay Nayak, Priyanka Singh, R.P. Dwivedi, Badre Alam and Ayyanadar Arunachalam received second prize in poster presentation i.e. “Bundelkhand Ke Ardh Sushk Kshetra Me Tulsi Ki Kheti: Sthiti, Hastchep, Chunotiya or Safalta Ki Kahani” organized by ICAR-Central Agroforestry Research Institute, Jhansi under Hindi Pakhwada (14-29 September 2013) on 29.09.2023. (Team Award)

### Recognition

- Dr Ashok Yadav was appointed as an Editorial Board Member of the American Journal of Agriculture and Forestry (AJAF) ISSN Print: 2330-8583; ISSN Online: 2330-8591 from October 10, 2023 to October 10, 2026.
- Dr. Ashok Yadav was a member of the “Scientific Advisory committee” in 64<sup>th</sup> Annual International Conference of Association of Microbiologists of India - 2023 titled “Microbes for LiFE (Lifestyle for Environment): A strategy for well-being (MLiFE-2023)” from December 1-3<sup>rd</sup>, 2023 organized by Department of Microbiology, Bundelkhand University, Jhansi, Uttar Pradesh, and ICAR-CAFRI Jhansi, Uttar Pradesh, India.
- Dr. Ashok Yadav was a member of the “Scientific Advisory Meeting” on 22<sup>nd</sup> December 2023 of Krishi Vigyan Kendra, Bharari Jhansi, Uttar Pradesh.
- Dr. Ashok Yadav was nominated as a member in the Committee constituted for the specifications of the indented equipment for the College of Agriculture, College of Horticulture & Forestry, and other Sections of the RLBCAU, Jhansi on 3<sup>rd</sup> August 2023 with notification Ref No: 1058/RLBCAU/ DE /2023
- ISA Associateship: Dr. Asha Ram awarded the ISA Associateship Award 2022 by the Indian Society of Agronomy in recognition of his outstanding contribution in agronomy discipline. Award was given during the Agronomy National Symposium at Goa during 21-24 November 2023.

## Personnel

### New Personnel

- Dr. Priti Tigga, Scientist (Agricultural Physics) joined on 20<sup>th</sup> July, 2023.
- Sh. Ajay Kumar Gaur, Personal Secretary joined on 10<sup>th</sup> November, 2023.

### Retirement

- Sh. Prince, Technical Assistant retired on 31<sup>st</sup> December, 2023.
- Mr. Rajendra Singh, Chief Technical officer retired on 30<sup>th</sup> November, 2023.
- Dr. A. Datta, Chief Technical officer retired on 31<sup>st</sup> August, 2023.

### Transfer

- Mrs. Kirti Chaturvedi, Personal Assistant transferred on 10<sup>th</sup> October, 2023.



**Supervision and Guidance:** Dr. A. Arunachalam, Director

Published by: Director, ICAR-Central Agroforestry Research Institute, Gwalior Road, Jhansi-284003 (U. P.) India

Published at <https://www.cafri.icar.gov.in>; Telephone: +91-510-2730214; E-mail: [director.cafri@icar.gov.in](mailto:director.cafri@icar.gov.in)

