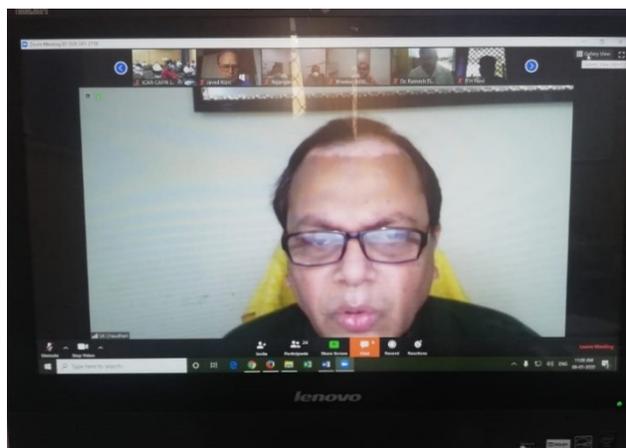




33rd Foundation Day of ICAR-CAFRI, Jhansi

ICAR-CAFRI celebrated its 33rd Foundation Day on 8th May, 2020. Due to COVID 19 Pandemic, the Foundation Day was celebrated through video conferencing using zoom app. The platform was provided by ICAR HQ. On this occasion Dr. S K Chaudhari, DDG, NRM was the Chief Guest, Dr. S Bhaskar, ADG (Agronomy, Agroforestry and Climate Change) presided over the function and Dr. Javed Rizvi, Regional Director, South Asia Programme, ICRAF, New Delhi was the Special Guest of Honour. Dr. S K Dhyani, Senior Agroforestry Specialist and Former Director, ICAR-CAFRI was also present on the occasion. The programme started at 10.30 am.



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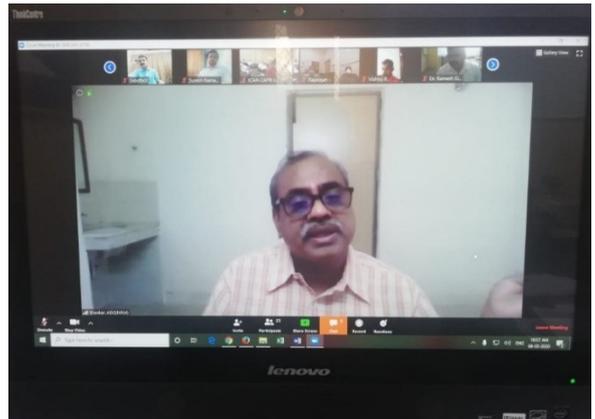
1. 33rd Foundation Day
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8. Training Programme on Ber Pruning
9. Kisan Gosthi

At the outset Dr. R K Tewari, Director, ICAR-CAFRI welcomed the dignitaries and briefed about the achievements of the Institute during the preceding year especially the work on agroforestry based watershed development, mapping of agroforestry area and Carbon sequestration potential at all India level. He also briefed about the international training conducted by ICAR-CAFRI in collaboration with ICRAF.



Dr. Javed Rizvi, the special Guest of Honour briefed that ICAR-CAFRI is one of the closest partner of ICRAF. He appreciated the linkage with ICAR and ICAR-CAFRI. Dr. Rizvi told that during last year ICRAF has offered 31 life membership of Indian Society of Agroforestry for subscription of Indian Journal of Agroforestry. Dr. Rizvi offered the three months training at ICRAF to one of the three new incumbents at ICAR-CAFRI, Jhansi.

Dr. S Bhaskar appreciated the work done and achievements of ICAR-CAFRI. He stressed that the way ICAR-CAFRI has contributed through doubling farmers' income (DFI) project being implemented in the Bundelkhand U.P efforts should be made for the development of Bundelkhand region of M.P as well. He prompted the efforts of the Institute in upscaling the agroforestry technologies. He also emphasized that ICAR-CAFRI should work on Ecosystem services of AF systems and should monetize those also.



Dr. S K Chaudhari, DDG (NRM) and Chief Guest of the 33rd Foundation Day of ICAR-CAFRI in his opening remarks appreciated the efforts of Dr. S K Dhyani as former Director, ICAR-CAFRI for bringing the ICAR-CAFRI into national limelight. He also appreciated the offer of Dr. Javed Rizvi to offer three months training at ICRAF for the new incumbents. In this regard he also said that ICAR will support the capacity building of other scientists as well. He also briefed that how agroforestry has its significance in today's context. He also said that how agroforestry is helpful in reclaiming the degraded wastelands and also gave some examples of it. He appreciated the work being done by ICAR-CAFRI, Jhansi. He also appreciated the efforts of ICAR-CAFRI on production of quality planting material as well as various agroforestry models developed by the Institute. He emphasized ICAR-CAFRI should develop close linkage with agroforestry mission and bamboo mission. He also emphasized that we should develop the digital library of various agroforestry tree species. In his general remarks he said that all are equal in any of the Institutions and value of the organisation is more than the value of the individual at any point of time and we all should work in a team spirit irrespective of the position in the Institute and work for the bringing up the Institute and scaling up its achievements.

In the end Dr. A K Handa thanked all the dignitaries of the 33rd Foundation Day of ICAR-CAFRI, Jhansi. The programme was organized on zoom platform provided by DDG (NRM). Social distancing was duly observed during the programme.



Online Review of ICAR – CAFRI, Jhansi

Under the Chairmanship of Dr. S K Chaudhari, Hon'ble Deputy Director General (NRM), ICAR, New Delhi the online review meeting of the Institute was held on 23rd May, 2020. Dr. R K Tewari, Director, ICAR- CAFRI, Jhansi presented the achievements (2017-2020) of ICAR-CAFRI and future line of work for 2020-2025. Dr. A K Handa, Principal Scientist (Agroforestry) presented the achievements of AICRP on Agroforestry and elucidated future plan. The presentations were appreciated by all. Highly relevant and valuable suggestions were provided by Hon'ble DDG (NRM), ADG (AAF&CC) and Directors of NRM institutes. The review meeting was attended by about 150 participants including Dr. S Bhaskar ADG (Agro., AF & CC, NRM Division), Directors of all NRM institutes, heads of Regional Centres of NRM institutes and scientists from CAFRI, Jhansi and other NRM Institutes on zoom platform. 'Farm Tree' an android phone based app developed by ICAR-CAFRI, Jhansi was launched by the Hon'ble DDG (NRM), ICAR, New Delhi.

Farm Tree: An Android Platform-based Mobile App for Agroforestry Farmers of India

Technological advancements are being quickly adopted by agriculturists in the recent years. Mobile-based learning or m-learning is no longer considered a techno-centric trend and is attractive for interested people in latest and user friendly form. Android based applications (Apps) are the fundamental feature of smart mobile devices. Nowadays, these apps are becoming popular due to ease of accessing desired data/ information by the target users at their fingertips. In this context, ICAR-CAFRI, Jhansi (U.P.) has developed an android platform-based application named '**Farm Tree**' on the package of practices of important agroforestry tree species mostly based on the book *Promising Agroforestry Tree Species in India* jointly published by ICAR-CAFRI, Jhansi and South Asia Regional Programme, World Agroforestry Centre (ICRAF), Nairobi. This application provides a user-friendly e-platform to have necessary and crisp information on important agroforestry tree species to the farmers. It covers various aspects like general descriptions, potential areas, silvicultural requirements, nursery techniques, planting techniques, tending operations, suitable agroforestry systems, tree protection, yield, utilization and material availability of each tree species along with few success stories. '**Farm Tree**' provides appropriate content supported by suitable photographs making it more suitable for agroforestry /forestry professionals, farmers, policy-makers and research scholars. '**Farm Tree**' also offers its users a unique opportunity for discussion through public forum, mailing a query directly to our subject experts for getting technical expert advice as well as availability of the planting materials and also to the institute by attaching a necessary photograph for better communication.

This mobile app has been developed by the team consisting of Dr. R H Rizvi (Principal Scientist, Computer Application in Agriculture), Dr. A K Handa (Principal Scientist, Agroforestry), Dr. Sangram B Chavan (Scientist, Agroforestry), Mr. Hirdayesh Anuragi (Scientist, Genetics and Plant Breeding), Dr. Asha Ram (Scientist, Agronomy), Mr. R Vishnu (Scientist, Agroforestry) and Mr. Abhishek Deb (Young Professional) under the guidance of the Director of the institute. It was recently launched by Deputy Director General, NRM Division, ICAR, New Delhi on 23rd May 2020. It is available on Google Play store and can be freely downloaded using the link: <https://play.google.com/store/apps/details?id=com.cafri.farmtree> as well as on CAFRI's website (<http://www.cafri.res.in>). This app is gaining quick popularity and has been downloaded 1171 times in 1054 devices in just 10 days after its launch and received more than 61 comments. So far, the rating given by users is

4.77 out of 5.0 for **Farm Tree** mobile app. This app is currently in English language but the Hindi version of it will soon be made available for better utility by its stakeholders (farmers).



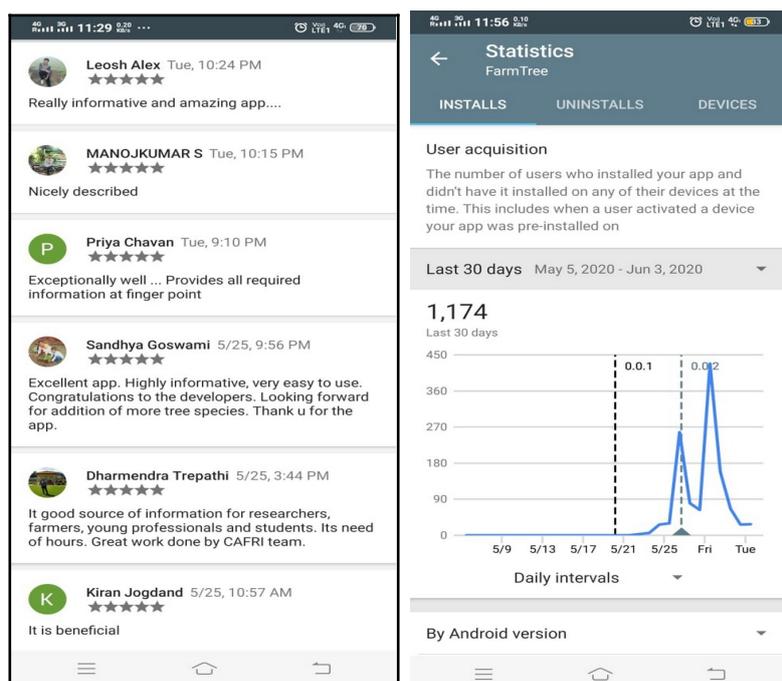


Fig.1. Some screenshots of **Farm Tree** app: (a) Tree species included in this app; (b) Contents under each species; (c) Species description; (d) Main Menu; (e) Farm Tree app on ICAR KRISHI portal; (f) Farm Tree app shared by ICAR on social media (g) Users' comments for app on Google play store and (h) Total number of downloads till 31 May 2020;

**R H Rizvi, A K Handa, S B Chavan, H Anuragi, R Vishnu, Asha Ram, Abhishek Deb
and R K Tewari
ICAR- Central Agroforestry Research Institute, Jhansi (U.P.)**

Research Advisory Committee (RAC) Meeting

Research Advisory Committee meeting of ICAR-CAFRI, Jhansi was held on 15th May 2020 through Video Conferencing using Microsoft Team platform. The RAC meeting was chaired by Hon'ble Chairman Dr. K Gurumurthi. Dr. S Bhaskar, ADG (Agron./AF & CC), NRM Division, ICAR, New Delhi; Dr. S K Dhyani, Senior Agroforestry Expert, World Agroforestry (ICRAF), New Delhi; Dr. S D Bhardwaj, Former Dean, Y S P University of Horti. & Forestry, Solan; Dr. A K Mandal, Former Director, TFRI, Jabalpur; Dr. P K Patnaik, Former Dean, OUAT, Bhubneshwar; Dr. R C Dhiman, Former General Manager, WIMCO Seedling Limited, R&D Centre, Bagwala, Kashipur Road, Rudrapur; Dr. R K Tewari, Director (A), ICAR-CAFRI, Jhansi and Dr. Inder Dev, Pr. Scientist & Member secretary RAC participated in the meeting. All the Scientists of ICAR-CAFRI also participated in the Virtual RAC meeting on MS Team platform.

6th International Day of Yoga

Institute celebrated the 6th International Day of Yoga on 21st June 2020 as per the theme of IDY-2020 "*Yoga at Home and Yoga with Family*". Due to COVID-19 pandemic, the Yoga Day celebration was done in accordance with the social-distancing protocol. All the staff and family members have followed the Common Yoga Protocol (as per the guidelines suggested by Ministry of AYUSH, GOI) at 7 am for around 45 minutes.

Institute Research Council (IRC) meeting

Institute Research Council (IRC) meeting was held on 19th-20th & 22nd June, 2020. All the Scientists of the Institute participated in the meeting and presented the progress and significant findings of their projects. Five new research projects were presented and approved by the IRC.

Bamboo Framed Walk-In Tunnel – A Cost Effective Technology for COVID-19 Sanitization

SARS-CoV-2 is recently termed as COVID-19, an acronym for coronavirus disease 2019 is a novel virus first identified on 31st December, 2019 in Wuhan city of China and declared as Public Health Emergency of International concern by January 30, 2020. It has resulted in the outbreak of a serious pandemic worldwide in a very short time. India being highly populated country, Covid-19 could not spread to that extent just probably due to its higher proportion of youngsters. The first case was reported on 30th January, 2020 in Kerala's Thrissur district.

The sudden outbreak novel corona virus (COVID-19) has put nation under lockdown. To avoid the infection of COVID-19 many preventive measures such as social distancing, use of mask, hand wash with sanitizer and soap solution, and disinfection tunnel are being taken.

The government of India has taken a landmark decision to exempt bamboo species from definition of “tree” by amending the section 2(7) of Indian Forest Act 1927. Apart from this, restructuring the National Bamboo Mission under National Agroforestry Policy 2014 implemented with mandate to increase bamboo area, value chain, skill and capacity development and livelihood security of farming community in India. Though, bamboo is considered as a poor man’s timber, golden goose and green gold due to its thousands of uses in daily life. Bamboo is also widely used low-cost material to replace iron, steel and other metal material.

Bamboo framed disinfection tunnel:

The disinfection tunnel is a fabricated structure made with the help of either galvanized iron pipe or iron channels. During lockdown, fabrication of structure through iron pipe or angle iron was not possible due to non-availability of construction material and welder. We at ICAR-CAFRI explored and found that only bamboo can be molded into any shape and is also available throughout the country. ICAR-Central Agroforestry Research Institute, Jhansi, UP fabricated and demonstrated a low cost bamboo based disinfectant tunnel with the help of local available bamboo. The unit has been fabricated in dimension of 3 m length X 1.5 m width X 2 m height and clad with UV stabilized 50 % green shade net and fixed by nylon thread. A tank of 500 liters capacity is used to fill the disinfectant. For making uniform misting condition inside the chamber, nine foggers have been fixed with 16 mm lateral tubes. Three foggers have been fixed along each side walls at 0.5 m, 1.0 m and 1.5 m from ground level. Three foggers fixed in ceiling of the tunnel at 0.5 m spacing in which central fogger having four way assembly to create uniformity in misting. The disinfectant solution is pumped to the chamber through a 1.0 inch filter using a half HP centrifugal pump. After exiting from tunnel, fresh water supply through tap is provided to wash hands.

Table 1. Detailed specification and approximate cost of bamboo based sanitization tunnel

S. No.	Particular	Specification	Quantity	Approximate cost
01	Bamboo column	diameter: 2.0-2.5 inch	36 m	500
02	Green shade net	50 % shade	18 sq meter	400
03	Plastic tank	500 lit. capacity	01	2500
04	Mono-block pump	0.5 HP	01	3500
05	Plastic filter	1.0 inch	01	900
06	Poly-tube accessories	with 16 mm dia.	20 m	500
07	Fogger	Discharge: 22 LPH	09	1350
08	Mandays		03	900
	Total cost			10950/-

The sanitization tunnel has been fixed at Institute’s entry gate for the institute employees, their family members and laborers working in the Institute. The disinfectant solution required per person for a 5 seconds walk is 275 ml which costs around Rs 0.40 per person. The cost of complete unit is approximately ` 11,000. The use of bamboo has reduced cost of structure by 30-40 % and it can be good prototype to replicate in future.

Potential uses of Walk-In Tunnel: Bamboo based sanitization tunnel can be used at various places to disinfect like

- Sanitization of vehicles entering inside any office, industrial areas, residential areas etc.
- The tunnel can be used to sanitize the various packed material, essential/non-essential items at entry point of vulnerable premises.
- The sanitization tunnel can also be used at entry point of single entry market places like fruit, vegetable and grain market etc.
- Being a low cost and easy to fabricate, the technology can be used even in the villages, small residential complexes.



Central four way fogger



Side fogger



Water pump and filtration unit



Wash basin



Front view of the sanitization tunnel



Inauguration of Bamboo based sanitization tunnel

Training Programme on Ber Pruning

Three days training programme on ber pruning was organized by ICAR- Central Agroforestry Research Institute, Jhansi at Village-Rajapur, Block-Babina in Jhansi district (U.P.) during 9th -11th June, 2020. On 9th June, 2020, the team comprising of Dr. R P Dwivedi, Principal Scientist (Agril. Extension) – Convener; Sh. Sunil Kumar, CTO; Sh. Rajesh Kumar Srivastava, ACTO and Sh. Munna Lal, SSS visited village Rajapur. Rapport building and interaction with the farmers



was done to create awareness about improved ber varieties and ber pruning. Ber pruning training was done in participatory mode. Practical exercises of ber pruning were performed. Farmers' participatory approach was followed. Extension approach, i.e. "learning-by-doing" was adopted during the training programme. Farmers participated during question-answer session and the scientific as well as technical queries were replied during discussion. During training programme 15 farmers, farm women and farm youth have participated. The scientists and technical staff of ICAR-CAFRI, Jhansi have delivered talk and actively involved in question-answer session to clear the doubts of the farmers on various agroforestry related issues. On 10th June, 2020 the farmers of the village Rajapur visited the experimental farm of ICAR-CAFRI, Jhansi to see the pruned ber trees to develop the trust through principle of "seeing is believing". On 11th June the team visited the village Rajapur and performed the training on ber pruning at farmers' fields. Farmers of Rajapur have shown their keen interest in Agri-horticulture system and tree plantation on bund and boundary. Farmers were actively involved in asking queries related to agroforestry systems.

Participation in Training/Workshop/Coordination/Meetings/Symposia

<i>S No</i>	<i>Name of Programme</i>	<i>Organized By</i>	<i>Date of Programme</i>	<i>Participant</i>
1	ICAR NRM Divisional Committee Meeting for Monitoring and Reviewing the Progress of Foreign Aided Projects	NASC Complex New Delhi	29 th January, 2020	Dr A K Handa
2	Winter School on Non-conventional Approaches for Genetic Improvement of Perennial Horticultural Crops	ICAR-IARI, New Delhi	17 th January to 6 th February, 2020)	Sh. Lal Chand
3	National conference on Resource Conservation for soil security and Jalshakti: Farmers perspective in Bundelkhand	ICAR-IISWC Regional Station), Datia	03 rd to 05 th February, 2020	Dr. R K Tewari, Dr. R P Dwivedi, Dr. (Er.) Ramesh Singh, Dr. Naresh Kumar, Dr. Asha Ram, Dr. Sushil Kumar, Dr. Dhiraj

	(RCSSJ-2020)			Kumar & Sh. Hirdayesh Anuragi
4	Training on Climate change: challenges and response for women scientist	Lal Bahadur Shastri National Academy of Administration , Mussoorie	10 th to 14 th February, 2020	Mrs. Alka Bharati
5	Webinar series on Post-COVID Era: Mainstreaming Biodiversity And Nature In Development Agenda	International Biodiversity Congress (IBC), Thiruvananthapuram	22 nd May, 2020	Sh. S. Suresh Ramanan
6	Webinar series on How to Work From Home Effectively as an Early Career Researcher	Springer-Nature	27 th May, 2020	Sh. S. Suresh Ramanan
7	Webinar series on From Volcanoes To Bicycles: Roles and Responsibilities for Inventing in Crisis Mode	NCBS, Bengaluru - Bangalore Life Science Cluster	28 th May, 2020	Sh. S. Suresh Ramanan
8	Webinar Series on A Noon About The Online World Is Online	College of Forestry, Kerala Agricultural University, Thrissur, Kerala	31 st May, 2020	Sh. S. Suresh Ramanan
9	Webinar series on "Quantitative Methods for Social Sciences"	ICAR-NIAP, New Delhi	1 st to 23 th June, 2020	Ms. Priyanka Singh
10	Kfri's Online Webinar on Bamboo Resource Utilisation in Kerala: Prospects And Challenges	Kerala Forest Research Institute, Peechi, Kerala	11 th June 2020	Sh. S. Suresh Ramanan
11	Online certificate course on "Remote Sensing & GIS Technology and Applications"	IIRS, Dehradun	13 th June, 2020 to 1 st July, 2020	Mr. R Vishnu & Sh. S. Suresh Ramanan
12	Webinar Series on Agroforestry With Bamboos as A Means for Social Outreach	Kerala Forest Research Institute, Peechi, Kerala	23 rd June, 2020	Sh. S. Suresh Ramanan

	And Business			
13	Lecture series on “Agricultural Development”	ICAR-NIAP, New Delhi	24 th June, 2020	Ms. Priyanka Singh
14	National Webinar on Awareness And Use of Cera Resources Through J-Gate Discovery Platform	DKMA-ICAR, New Delhi	25 th June.2020	Sh. S. Suresh Ramanan

Kisan Gosthi

ICAR-Central Agroforestry Research Institute, Jhansi organized Kisan Gosthi at village Rajapur, Block-Babina in Jhansi district on 29th February, 2020. Farmers from village Rajapur (District Jhansi) had participated in the programme. The purpose of Gosthi was to create awareness amongst the farmers about agroforestry in Bundelkhand. Various activities *i.e.* farmer awareness programme, Scientists-Farmers interaction, and gosthi with farmers were organized. Total 150 farmers participated in the programme.

Women Day

ICAR-Central Agroforestry Research Institute, Jhansi organized Women Day at village Rajapur, Block-Babina in Jhansi district on 8th March, 2020. Total 125 farm women from village Rajapur (District Jhansi) participated in the programme. The purpose of women day was to create awareness amongst the farm women about women empowerment and agroforestry in Bundelkhand. Various activities *i.e.* farmer awareness programme, Scientists-Farmers interaction and gosthi with farm women were organized.

Exhibition

ICAR-CAFRI, Jhansi participated and exhibited agroforestry stall in following Kisan Melas and National Conference during January and February, 2020:

- Kisan Mela Krishi Vijay-2020 organized by RVSKVV, Gwalior (M.P.) during 28th - 30th January, 2020 and 220 framers visited the stall.
- National Conference on “Resource Conservation and Jalshakti: Farmers Perspective in Bundelkhand (RCSSJ-2020)” during 03rd -05th February, 2020 organized by ICAR-IISWC, Reginal Centre, Datia and 128 framers visited the stall.
- Kisan Mela -2020 organized by ICAR-IGFRI, Jhansi during 14th February, 2020 and 65 farmers visited the stall.

New Scientist

Ms. Priyanka Singh, Scientist (Agricultural Economics)

Mrs. Aswathy Chandrakumar, Scientist (Agricultural Extension)

Sh. S Suresh Ramanan, Scientist (Agroforestry)

Swachh Bharat Abhiyan



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