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From the DG's Desk

As the world grapples with the immense challenges of feeding a growing population, ensuring food security, and mitigating the impacts of climate change, the role of agriculture takes centre stage at the G20 Summit. This annual gathering of influential economies provides a platform for global leaders to address agricultural issues, promote sustainable practices, and foster innovation in the quest for a resilient and equitable global food system. The G20's commitment to agriculture holds the key to nourishing our planet and unlock the potential for shared prosperity.

By prioritizing agriculture, the G20 aims to foster a sustainable future for all. Food security lies at the heart of the G20's agricultural agenda. To navigate the complexities of feeding a growing population sustainably, the G20 Summit serves as a platform for world leaders to chart a course towards a resilient and impartial global food distribution.

With nearly 690 million people worldwide experiencing hunger, addressing this global challenge demands collective action. The G20 Summit enables leaders to discuss strategies to enhance agricultural productivity, improve supply chains and reduce food waste. By promoting sustainable farming practices, investing in rural infrastructure, and ensuring equitable access to resources, the G20 aims to create a future where no one suffers from hunger or malnutrition. The G20 works to address major global issues related to food security, nutrition, economy, financial stability, climate change adaptation and mitigation, and sustainable development.

The Meeting of Agricultural Chief Scientists (MACS) in G20 is a scientific track of information exchange on the issues of utmost relevance and crucial needs for joint action in the future. The MACS 2023 has been steered by DARE-ICAR and was held with the theme of '*Sustainable Agriculture and Food System for Healthy People and Planet*'. The discussions on issues of relevance for food security especially in the context of the International Year of Millets, resilience to the crisis through climate resilient agriculture, One Health approach, and emerging issues, e.g. digital agriculture and public-private partnership for R&D were held. The meeting specifically featured Millets and Other Ancient Grains International Research Initiative (MAHARISHI) and was accepted by all member countries with emphasis on millets-based local food systems for agrobiodiversity, food and nutrition security. The outcome of the MACS 2023 has been very encouraging with all G20 Members accepting the followings:

Food Security and Nutrition: Safeguard global food security and nutrition by strengthening G20 efforts towards sustainable agriculture and food systems by leveraging science, technology and innovations.

Biofortification of Food Crops: Coordinated R&D efforts to provide nutrient rich varieties of food crops for the benefit of farmer and consumer.

Research and Innovation in Agriculture: Sharing knowledge, experience and best practices in sustainable agriculture and food systems. Intensify research and its implementation, and deepen effective collaborations between national and international research organizations for sustainable agricultural development.

Climate Change adaptation and mitigation: R&D Collaborations between the public and private sectors to build resilient agriculture and food systems, find solutions for climate change adaptation and mitigation without adverse effects on food security, protect and enhance biodiversity, and help improve productivity and profitability sustainably in global agri-food value chains.

Digital Agriculture: Recognized the digital transformation of agriculture and food systems in improving sustainability and outcomes for farmers. Promote research and extension to improve responsible, sustainable and inclusive use and application of digital technologies for food production and safety, climate resilience, circular economy principles, and for preventing food loss and waste.

Public-Private Investments and Partnerships: Encourage the increasing public-private investments and partnerships for improving communication and adoption of innovative tools, agricultural practices, and technologies that meet the needs of stakeholders.

One Health and Transboundary Diseases: Recognize the enhanced need for cooperation and research on transboundary diseases and One Health issues.

MAHARISHI: Supported the launch of the “Millets and Other Ancient Grains International Research Initiative (MAHARISHI) to strengthen the research collaboration and public awareness of these grain crops.

The G20-MACS 2023 summit provided an invaluable opportunity for leaders to develop strategies that enhance agricultural productivity, improve supply chains, and reduce food waste. By promoting sustainable farming practices, investing in rural infrastructure, and fostering technology-driven innovation, the G20 strives to create a future where food security is a reality for all.

Agriculture is deeply intertwined with climate change, both as a contributor to greenhouse gas emissions and as a sector vulnerable to its impacts. The G20 recognizes the urgent need to transform agricultural practices to build climate resilience. Through initiatives that encourage climate-smart agriculture, sustainable land management, and the adoption of innovative technologies, the G20 Summit supports the transition to low-carbon and resilient farming systems. By fostering knowledge sharing and collaboration, the G20 aims to create a sustainable food production model that mitigates climate risks while ensuring productivity and livelihoods for farmers.

By championing initiatives that promote sustainable land management, precision agriculture, and the

adoption of climate-resilient crop varieties, the G20 seeks to create an agricultural sector that mitigates climate risks while ensuring productivity and livelihoods for farmers. Through knowledge sharing, collaborative research, and innovative policy approaches, the G20 aims to unlock the transformative power of climate-smart agriculture.

The G20 Summit places a strong emphasis on inclusive agricultural development, particularly in low-income and developing countries. Recognizing that agriculture is a vital sector for job creation and poverty reduction, the summit supports initiatives to empower smallholder farmers, promote gender equality in agriculture, and enhance access to finance and markets. By addressing the unique challenges faced by small-scale farmers, the G20 strives to create an enabling environment that empowers them to thrive and contribute to the global food system.

Technological advancements and digitalization have the potential to revolutionize agriculture and address critical challenges. The G20 Summit provides a platform for leaders to explore how innovation, data-driven approaches, and precision agriculture can enhance productivity, sustainability, and resilience. By fostering public-private partnerships, promoting research and development, and facilitating technology transfer, the G20 encourages the adoption of cutting-edge solutions that can revolutionize agricultural practices and ensure the well-being of farming communities. By harnessing the power of innovation, the G20 seeks to unlock agricultural productivity, improve resource use efficiency, and enhance sustainability.

The G20 Summit acknowledges the significance of international trade in agricultural products for global food security. By promoting fair and transparent trade practices, reducing trade barriers, and addressing market distortions, the G20 seeks to create a level playing field for agricultural producers around the world. The summit also recognizes the importance of coordinating agricultural policies to achieve mutually beneficial outcomes and overcome challenges related to trade imbalances and market volatility. The G20 Summit serves as a platform for leaders to engage in constructive dialogue and forge partnerships that promote fair and sustainable agricultural trade.

The G20 Summit represents a pivotal opportunity for global leaders to address the challenges and opportunities within the realm of agriculture. By placing agriculture at the forefront of its agenda, the G20 is committed to fostering sustainable practices, enhancing food security, empowering smallholder farmers, and embracing technological innovation. As we navigate an increasingly interconnected world, the G20's collective efforts in agriculture hold the key to achieving a resilient, inclusive, and prosperous global food system that can sustainably feed the growing population while safeguarding our planet for generations to come.



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WORKSHOP, MEETING, SEMINAR AND CONFERENCE

Northeast India Sustainability Conclave on Productivity and Green Growth

21 April 2023, Medziphema, Nagaland. 'Northeast India Sustainability Conclave on Productivity and Green Growth to Advance Sustainable Development' was jointly organized by NPC, DPIIT, MoC&I, GoI and ICAR-NRC on Mithun, on 13 April 2023.



Shri Sundeep K Nayak, IAS, Director General, National Productivity Council, Chief Guest, stated that NPC is spearheading the green growth moment in the country which provides technical assistance for the promotion of green growth. Dr B N Tripathi, DDG (Animal Science), ICAR, New Delhi stated that climate change is an important issue to address and said that organic and natural farming practices are gaining popularity in Nagaland as a means of promoting sustainable agriculture and preserving the environment. Dr DN Thakur, National President, Sahakar Bharati, emphasized on proper food storage for its availability during the lean season.

Dr KM Bujarbaruah, Former DDG (Animal Science) and Former Vice Chancellor, AAU, Jorhat, delivered a lecture on crop and livestock-based natural farming with special reference to Northeast India. Dr S Venugopal, Director, National Institute of Technology, Nagaland, highlighted the importance of green manufacturing in Northeast India.

Dr Girish Patil S, Director of ICAR-NRCM, highlighted the role of Mithun in Natural farming. Shri KD Bhardwaj, Director, Environment and Climate Change, NPC; Dr TK Dutta, Director, ICAR-CIRB, Hisar, Haryana; Deans and Professors from SASARD, Medziphema, Veterinary College, Jalukie, Patkai Christian College, Chumukdeima, SET, Dimapur, and students participated in the event.

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Novel Exhibition on Touch and Feel the Agriculture for Blind Students

8 May 2023, Old Goa. ICAR-Central Coastal Agricultural Research Institute, Ela, Goa organised a novel exhibition on "Touch and Feel the Agriculture" in collaboration with the National Association for Blind, Santacruz, Goa, for 35 blind students to make them touch and feel the freshness, and liveliness of the agriculture.



Dr Parveen Kumar, Director, ICAR-CCARI, who is associated with the teaching and welfare activities for the blind students, has conceptualised the visit to make such special students feel the farmer's life through 'touch and feel' experience. The Director and institute's staff took the blind students through the exhibition and made them touch and feel the varieties of fruits, vegetables, animals, birds, processed products, etc., and witnessed the joy, curiosity and satisfaction on the face of these students. ICAR-CCARI, Goa takes pride in not only educating and training farmers but also to involve all segments of society as a social responsibility.

ACTO (FS)
ICAR-Central Coastal Agricultural Research Institute
Ela, Goa

Workshop on the Role of Design, Copyright and Trademark: Scientific and Entrepreneurial Perspective

18 May 2023, Mumbai. ICAR-Central Institute for Research on Cotton Technology, Mumbai organized a workshop on the "Role of Design, Copyright and Trademark: Scientific and Entrepreneurial Perspective" on 16 May 2023, in line with ICAR-DARE Campaign for Azadi ka Amrut Mahotsav India@75. The workshop was arranged by ITMU and ABIC of the Institute with support from the National Agriculture Innovation Fund, Intellectual Property and Technology Management Unit of ICAR, New Delhi.



Dr SK Shukla, Director, CIRCOT, Mumbai Chairman of the function opined on the importance of Design, Copyright and Trademarks concerning commercialization of technologies. Dr Neeru Bhooshan, Assistant Director General (Intellectual Property & Technology Management) ICAR, New Delhi who joined virtually, praised the attributes of ICAR-CIRCOT in strengthening the IP activities of ICAR. Further, she narrated that ICAR is now substantially commercializing IP-enabled technologies.

Guest speaker, Dr Ashwini Siwal, Assistant Professor, Faculty of Law, University of Delhi elaborated on different aspects of IPR such as Novelty, Non obviousness, Inventive steps and Industry applications. Dr Vikram Singh, Senior Scientist, IP&TM unit, ICAR, New Delhi deliberated on IPR portfolio management and its impact on agriculture research.

More than 120 participants including scientists, technical officers, students, YP, SRFs, startups and incubates associated with R-ABI and ABIC and other stakeholders of the institute attended the program through Zoom link.

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Stakeholders meet on sustainable marine fisheries of West Bengal and Odisha

18 May 2023, Cochin. The Digha Regional Station of ICAR-Central Marine Fisheries Research Institute (CMFRI) organized a stakeholders' meet on 'Resource Assessment and Management Framework for

Sustainable Marine Fisheries of West Bengal and Odisha' on 17 May 2023. The meet was chaired by Dr J Charles Jeeva, Principal Scientist and Head-in-Charge, Visakhapatnam Regional Centre of ICAR-CMFRI. Dr Subal Kumar Roul, Scientist-in-Charge of Digha Regional Station highlighted the research, extension and development activities of ICAR-CMFRI along the maritime states of India.



About 70 stakeholders representing MPEDA, ZSI, BENFISH, fishermen associations, fishing boat owners, fishermen from the mechanized, motorized and artisanal fisheries sector, wholesale and retail fish traders, dry fish traders, ice-plant owners and exporters participated, and deliberated on various issues related to sustainable marine fisheries management of West Bengal. The points of the discussion centered on researchable issues in marine fisheries, technological and training needs, livelihood issues, development and infrastructure needs including breakwater facilities, and periodical dredging of river mouths to ensure smooth navigation of fishing crafts. The scope of open sea cage farming, coastal cage farming and diversification in fisheries including seaweed culture and ornamental fish culture were also discussed.

The marine fisherwoman from Purba Medinipur, Smt Minakshi Manna from Dakshin Purushottampur, and Shri Samir Halder, a specially-abled beneficiary of the PMMSY scheme were felicitated. Two publications were also released during the event.

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Mahila Matsyajeebi Sammelan at Kultali Sundarban

20 May 2023, Barrackpore, Kolkata. ICAR-Central inland fisheries Research Institute Organised *Mahila Matsyajeebi Sammelan* (Women Fishers Meet) at Kultali, Sundarban, West Bengal in collaboration with Kultali Milantirth Society on 19 May 2023. Dr Himanshu Pathak, DG & Secretary, ICAR-DARE, inaugurated the meet as the Chief Guest. Other distinguished guests were Dr BK Das, Director, ICAR-CIFRI; Dr Gouranga Kar, Director, ICAR-CRIJAF; and Dr DB Shakyawar, Director, ICAR-NINFET.



Dr Pathak applauded the excellent and exceptional work carried out by ICAR-CIFRI for the livelihood enhancement of women fishers of Sundarban and congratulate ICAR-CIFRI staff members for taking this human service and taking all the technology forward to Sundarban.



Dr BK Das, said that in the last 10 years, the Institute has been extending its support to the vulnerable communities of Sundarban by providing technological inputs for rejuvenating their livelihood through fish farming under the SCSP/STC programme.

Dr Pathak distributed fisheries inputs like fingerlings, ICAR-CIFRI Cagegrow feeds, etc. to 500 SC and ST women fish farmers who have backyard ponds with an average area ranging from 0.02 ha to 0.04 ha.

These women beneficiaries have been selected from a vast area covering 38 hamlets under 17 GPs of two Community Development Blocks namely Gosaba and Basanti of Sundarbans. More than 5000 fishers including 4500 women fishers participated in the meet. Officers and staff members of State Departments, ICAR institutes and Krishna Vigyan Kendra were also present on the occasion.

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Regional Millet Mela-2023 and Tribal Sub Plan Program

29 May 2023, Bengaluru. ICAR-National Bureau of Agricultural Insect Resources (NBAIR), Bengaluru in collaboration with ICAR-KVK, Tamil Nadu Agricultural University (TNAU), Dharmapuri conducted Regional Millet Mela-2023 on 28-29 May 2023, at ICAR-KVK, Dharmapuri, Tamil Nadu on the eve of International Year of Millets.

Dr SN Sushil, Director, ICAR-NBAIR emphasised on the importance of biological control of crop pests and their role in pesticide-free crop production. Shri MRK Paneerselvam, Tamil Nadu Agricultural Minister; Dr V Geethalakshmi, Vice Chancellor of TNAU; Dr Murugan, Director of Extension Education, TNAU; Dr Sheik N Meera, Director of ICAR-ATAARI, Hyderabad; Smt Santhi, District Collector; and district MPs, MLAs participated the program. More than 4000 farmers participated in the Regional Millets Mela-2023.



Dr SN Sushil distributed agricultural inputs like millet seeds, vegetable seeds, biopesticides, farm implements like cono-weeders, and coconut climbers to the tribal farmers for the improvement in their livelihood.

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Workshop on Management of Open Water Fisheries of Sikkim

31 May 2023, Barrackpore, Kolkata. ICAR-Central Inland Fisheries Research Institute, Barrackpore in collaboration with the Directorate of Fisheries (DoF), Govt. of Sikkim organized an Interactive workshop on 'Management of Open water fisheries of Sikkim' at Gangtok on 29 May 2023. The programme was attended by Dr Thangapandiyan, Head, Zoology Department, SRM University, Sikkim; Scientists from ICAR-CIFRI Regional Centre, Guwahati; Officers from Dept. of Fisheries, Sikkim; PG students of SRM

University, fishers, fish farmers, members of Sikkim Anglers' Association. Representatives from local print & media were also present.

Shri N Jaswant, IFS, Director of Fisheries, Sikkim highlighted the recent activities of the department and highlighted major issues faced by open water fisheries of the State. He called for the technical support and possible collaboration with ICAR-CIFRI for open-water fisheries development in the State.



Dr Thangapandiyan explained about the MSc Zoology programme of SRM University, Sikkim. He discussed certain areas of fisheries research in the State and sought collaboration with DoF, Sikkim and ICAR-CIFRI. Dr BK Bhattacharjya presented the past suggestions of DoF, Sikkim, seeking research support from ICAR-CIFRI and outlined possible areas of collaborative work with the DoF. Shri N Gurung, Assistant Director and Shri R Pradhan, State Data-cum-MIS Manager, DoF, presented the activities of the DoF and recent initiative by the DoF for the estimation of fish catch from rivers of Sikkim. Scientists from ICAR-CIFRI, officials of DoF and other stakeholders actively participated in the session.



A joint field visit was undertaken to Dikchu Reservoir, Sikkim on 30 May 2023, to explore the possibility of initiating enclosure culture in the reservoir. The joint team also visited two commercial trout farms in the locality, which were supported by the Directorate.

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Annual Zonal Workshop of KVKs under ICAR-ATARI Kolkata

14 June 2023, Kolkata. The annual Zonal Workshop of KVKs under ICAR-ATARI Kolkata was organized by ICAR-ATARI Kolkata in collaboration with UBKV-KVK Kalimpong during 7-9 June 2023, at Kalimpong, West Bengal. In this program, 59 KVKs from Andaman & Nicobar Islands (3), Odisha (33) and West Bengal (23) participated, and presented their progress report (2022-23) and action plan (2023-24).

Shri Ruden Sada Lepcha, Hon'ble MLA, Kalimpong, the Chief Guest hoped that the discussions held during the workshop would help in solving the issues in agriculture and allied sectors.



Dr US Gautam, DDG (AE), ICAR, while appreciating the contribution of KVKs at the National level, stressed the necessity of strengthening KVKs as a 'Single Window Delivery System', and 'One Stop Solution'.

Dr SK Chakrabarti, Ex-VC UBKV; and Dr SS Singh, DEE, RLBCAU, Jhansi and Ex-Director, ICAR-ATARI Kolkata complimented KVKs for upscaling natural farming technology at the district level.

24 publications of ICAR-ATARI Kolkata and different KVKs were released and two MoUs were signed during the occasion. A total of about 140 participants including MLA, DDG (AE), ADG (AE), Vice-Chancellor, Directors of different ICAR institutes, DEEs of SAUs, Pr. Scientists (AE) and ICAR-ATARI Kolkata, Scientists from RRS of ICAR and UBKV, SSHs and SMSs of KVKs, staff of UBKV-KVKs and many others attended the workshop.

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Village workshop organized by ARS Probationers

14 June 2023, Dehradun. At the village Kandogal, in Kudiyal Gram Panchayat, a scientific workshop on rural evaluation was jointly organized by the ICAR-National Academy of Agricultural Research and Management (NAARM), Hyderabad, and the Indian Institute of Soil and Water Conservation, Dehradun. Six Scientists

from the Academy shared their experiences of rural evaluation with the farmers.



The Scientist Probationers from NAARM, Hyderabad shared scientific solutions based on the study conducted in Kandogal village agriculture and livestock systems over the past 15 days from 29 May to 12 June 2023.

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World Blood Donor Day Observed at ICAR-CRIDA, Hyderabad

15 June 2023, Dehradun. World Blood Donor Day is observed every year on 14 June to raise awareness of the importance of blood donation and to recognize the contribution of voluntary unpaid blood donors in

saving lives and improving health.



The Day was celebrated at ICAR-Central Research Institute for Dryland Agriculture as an activity under 'Raktdaan Amrit Mahotsav', approved under Azadi Ka Amrit Mahotsav. This year's theme was "Give blood, give plasma, share life, share often". On this occasion, all the staff of ICAR-CRIDA has undertaken a pledge of blood donation. A blood donation camp was also organized in collaboration with 'Sangam Blood Centre', LB Nagar, Hyderabad. From the institute, 38 members volunteered for blood donation.

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International Linkages

International training for Nepal and Bangladesh officials on Production protocol of biocontrol agents for the management of Fall armyworm

31 May 2023, Bengaluru. A five days training programme on the "Production protocol of biocontrol agents for the management of Fall armyworm" was organized at ICAR-National Bureau of Agricultural Insect Resources, Bengaluru for seven officials from Nepal and Bangladesh on 22-26 May 2023. The training was sponsored by USAID, under the Feed the Future Nepal Integrated Pest Management Program (FTFNIPM) and Feed the Future Bangladesh Integrated Pest Management (IPMA) program funded by USAID. The focus of the training was to provide hands-on training on the Production protocol of biocontrol agents for the management of Fall armyworm. Dr SN Sushil, Director, ICAR-NBAIR emphasized that closer working with neighbouring countries is essential to ward off the threat due to alien invasive pests. He also emphasised the importance of regional cooperation

in the field of pest identification and sustainable management of invasive pests.



The participants in their feedback informed that they obtained practical knowledge and skill in the production of bioagents for FAW management. This would enable them to set up production units or fine-tune the methodologies adopted at existing units in their respective countries. The training programme was coordinated by Dr R Muniappan, Principal Investigator, FTFNIPM and IPMA, Virginia Tech, Blacksburg, USA and ICAR-NBAIR scientists Dr

Subaharan, Dr M Sampat Kumar, U Amala and Dr Richa Varshney.

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MoU

ICAR-CIBA signed MoU with Vellore Institute of Technology for CIBA-Plankton^{Plus} technology transfer

5 April 2023, Vellore. ICAR-CIBA signed a Memorandum of Understanding (MoU) with Vellore Institute of Technology (VIT), Vellore, Tamil Nadu on 3 April 2023, for transferring the CIBA-Plankton^{Plus} production technology on a non-exclusive basis.



Dr Kuldeep K Lal, Director, ICAR-CIBA while signing the MoU stressed upon generating adequate data on the field performance of Plankton^{Plus} in agriculture and horticulture crops. He complimented the VIT for recognising the technology and coming forward to sign the MoU.

A hands-on training on Plankton^{Plus} production technology was imparted to the students of VIT at the Fishwaste Processing Unit of ICAR-CIBA, Chennai. Dr Debasis De, Principal Scientist, ICAR-CIBA and team leader of the technology briefly explained the potential of CIBA-Plankton^{Plus} in enhancing aquaculture productivity. Dr Paul Man Singh, Senior Associate Professor, School of Agriculture, VIT was optimistic that they would develop entrepreneurship among the coastal farmers using this technology with the support of ICAR-CIBA.

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ICAR-CIFRI signed License Agreement of "ICAR-CIFRI Cagegrow", a floating feed with Glaucus Agrochem Pvt. Ltd.

27 April 2023, Barrackpore. ICAR-Central Inland Fisheries Research Institute, Barrackpore, Kolkata signed a Technology License agreement of "ICAR-CIFRI Cagegrow", a floating fish feed with the Glaucus Agrochem Pvt. Ltd. on 27 April 2023. ICAR-CIFRI grants a non-exclusive license of five years for the manufacturing and sale of ICAR-CIFRI Cagegrow floating fish feed in the territory of India. The commercialization process was completed through Agrinnovate India Ltd, the commercial arm of ICAR.



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ICAR-CIPHET, Ludhiana signed MoU with MDU, Rohtak, and Laxmi Jan Kalyan Sewa Sansthan, Uttar Pradesh



19 May 2023, Ludhiana. ICAR-Central Institute of Post-Harvest Engineering and Technology, Ludhiana and Maharshi Dayanand University, Rohtak entered into an agreement to collaborate in the area of Academics, Research and Outreach. The Memorandum of Understanding was signed by Dr Nachiket Kotwaliwale, Director, ICAR-CIPHET, Ludhiana and Dr Gulshan Lal Taneja, Registrar, MDU, Rohtak in a ceremony held on 18 May 2023, at MDU, Rohtak.



ICAR-Central Institute of Post-Harvest Engineering and Technology, Ludhiana and Laxmi Jan Kalyan Sewa Sansthan, Uttar Pradesh collaborated in the area of skill development training on post-harvest processing and value addition for youth, farmers, women and establishment of Agro-Processing Centres in Uttar Pradesh. The Memorandum of Understanding was signed by Dr Nachiket Kotwaliwale, Director, ICAR-CIPHET, Ludhiana and Dr Neelam Tyagi, Secretary, Laxmi Jan Kalyan Sewa Sansthan in a ceremony held on 23 May 2023, at ICAR-CIPHET Ludhiana.

I/c Media Management & Scientist (Agricultural Extension), Transfer of Technology Division, ICAR-Central Institute of Post-Harvest Engineering & Technology Ministry of Agriculture & Farmers' Welfare, Govt of India Ludhiana 141 004, Punjab, India

Capacity Building

Training on Soil and Water Conservation and Watershed Management for IFS Probationers (54 RR)

11 April 2023, Dehradun. ICAR-IISWC, Dehradun conducted a training program on "Soil and Water Conservation and Watershed Management" for IFS Probationers (54 RR) during 10-21 April 2023. The inaugural programme was presided by Dr JS Samra, Ex-CEO, NRAA, New Delhi; Shri Bharat Jyoti, Director, IGNFA; Dr M Madhu, Director, ICAR-IISWC; Shri RK Bajpai, Additional Professor, IGNFA; and Dr DV Singh, Head, HRD&SS Division.

Shri Bharat Jyoti discussed the importance of delivery mechanisms for effective training and emphasized proper delivery as it ensures knowledge transfer and retention for long-term success. The Chief Guest Dr JS Samra, delivered on the "Concept of community-based watershed and spring-shed management and its major components in latest watershed guidelines".



Abimanyu Jhahria Scientist (Agril. Economics) Head, HRD&SS Division ICAR-Indian Institute of Soil and Water Conservation. Dehradun 248 001

ICAR Tribal Sub-Plan Programme in Andhra Pradesh Tribal areas through Acharya NG Ranga Agricultural University

18 April 2023, Bengaluru. The Tribal Sub-Plan (TSP) Programme was carried out by ICAR-National Bureau of Agricultural Insect Resources (NBAIR) in Andhra Pradesh through Acharya N G Ranga Agricultural University Research stations. Four locations were identified in Andhra Pradesh and the programme was conducted during 12-13 April 2023.



Awareness programmes on Crop management practices, Biological control of insect pests, Integrated farming systems, Importance of millet growing, Crop diversification and Beekeeping were carried out in these villages along with the distribution of the inputs.

All the activities were carried out through the Regional Agricultural Research Station (RARS), Anakapalle and District Agricultural Advisory and Transfer of Technology Centre (DAATTC) at Vizainagaram, Acharya NG Ranga Agricultural University (ANGRAU), Andhra Pradesh. Around 500-550 tribal farmers got benefited in four districts.

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Farmers Producer Company Meet on Capacity Building for livelihood enhancement

1 May 2023, Barrackpore, Kolkata. Farmers Producer Company Meet on Capacity Building for livelihood enhancement was organized at ICAR-CIFRI, Barrackpore on 29 April 2023, in collaboration with Sundarban Dreams, an active NGO working in the eastern region of the country. The objective of the meet was to build the capacity of the FPC members on livelihood enhancement through inland fisheries.



Dr MV Rao, IAS, Chairperson, West Bengal Electricity Regulatory Commission was the chief guest and Dr BK Chand, Joint Director Research, WBUAFS as guest of honour. 44 FPO/FPC from 16 Districts of West Bengal participated in the meet and 180 farmers including 43 women participated in the programme.

A team from the State Bank of India discussed the financial aspect and loan application procedures. Experts from ICAR-CIFRI, National Agriculture Market (e-NAM), Regulated marketing, Agricultural and Processed Food Products Export Development Authority (APEDA); and the Ministry of Micro, Small & Medium Enterprises share their experiences and views.

Twelve farmers including three women from different FPCs were awarded for their outstanding performance.

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Capacity Building of Hill Farmers for Ornamental fish farming

8 May 2023, Barrackpore, Kolkata. With the vision of upscaling the socio-economic condition of rural hill communities, ICAR-Central Inland Fisheries Research Institute has been promoting ornamental fish farming for strengthening their livelihood. ICAR-CIFRI conducted a training programme on "Inland ornamental fisheries management for income generation & livelihood enhancement in Hilly region" from 28 April to 1 May 2023. In this training program, 26 participants including 8 females from Sittong, Manju Gaon and Mongu of Darjeeling district participated.



Farmers were distributed inputs of ornamental fish tank, feed, aerator and other implements as a start-up to carry out ornamental fish farming in the hilly region. The 4-day long training course was designed as per the need of the villagers including hands-on training, classroom teaching and a visit to the ornamental fish market. They were trained on aquarium making and aquascaping, low-cost artificial feed preparation, common livebearers, egg layers ornamental fishes and their breeding, maintenance, monitoring of ornamental units, etc. A local visit to the Gallif street market was arranged for them to witness the ornamental fish trade, market conditions, pricing and other accessories.

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Exposure visits cum Capacity building programme on Integrated Aquaculture for the Tribal beneficiaries

9 June 2023, Kausalyaganga. More than 54% Scheduled Tribe (ST) population Gajapati and Rayagada Districts in are primitive tribes of Sauras, Langia saurs and Danagaria Kandhans. To enhance their livelihood security and economic upliftment, "Exposure visit cum Capacity building programme on Integrated Aquaculture for the Tribal beneficiaries" on the occasion of Azadi Ka Amrit Mahotsav and Jan-Bhagidari was initiated at ICAR-Central Institute of Freshwater Aquaculture, Bhubaneswar (ICAR-CIFA) Bhubaneswar.



The programme was inaugurated on 7 June 2023, by Dr Pradeep Rout, OAS (SAG) Addl. Secy. to Govt. & Pvt. Secy. to Hon'ble Minister Panchayati Raj and Drinking Water, Forest, Environment, Climate Change, Information & Public Relations Dept., Govt. of Odisha; and Dr PK Sahoo Director, ICAR-CIFA. Dr Rout narrated his experiences of working in tribal areas in various capacities and lauded that tribals are the saviour of our culture and heritage, and they need to be empowered.

During the event, a documentary film on ICAR-CIFA interventions in Gajapati District, Odisha was showcased. The participants also displayed their tribal songs and folk Dance.

Press and Media

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Celebration

ICAR-CCARI Goa celebrated 34th Foundation Day

3 April 2023, Old Goa. The ICAR-Central Coastal Agricultural Research Institute, Old Goa, Goa celebrated 34th Foundation Day on 1 April 2023. Chief Guest, Dr Suresh Kumar Chaudhari, DDG (NRM), ICAR, New Delhi congratulated the Institute for its achievements and urged it to keep up the research and development for the benefit of the coastal farmers.



Dr Parveen Kumar, Director, ICAR-CCAR, Goa; Special Guest, Shri Nevil Alphonso, Director, Directorate of Agriculture, Govt. of Goa; Shri Pradip Sarmokadam, Member Secretary, GSBB, Govt. of Goa graced the foundation day.

A unit of ICAR-IARI's Jalopchar™ Technology-based 'Eco-friendly Wastewater Treatment Facility' with a capacity to treat 1 lakh Liter water under the

Swachhta Action Plan Program was inaugurated by Dr Chaudhari. Developer of the technology, Dr Ravinder Kaur, Principal Scientist, Water Technology Center, ICAR-IARI, New Delhi, explained the concept and functioning of the plant to the dignitaries and participants. The celebration of Foundation Day also featured a lecture by Dr Jagannath V Dixit, Professor, Department of Community Medicines, BJ Medical College, Pune, Maharashtra, on a plan and lifestyle to reverse type 2 diabetes.

On occasion, the staff and employees of the Institute were felicitated with awards in scientific, technical, administrative, skilled support staff, and project staff categories to recognize their significant contribution to the research and institution-building activities. Two special team awards were awarded to the team of scientists who contributed significantly for converting the barren lands into green lands through a systematic transfer of technology programmes and for the admirable compilation of the farmers' profile that led to one Padma, one National and two State-level awards to the farmers. One annual hind magazine *Lehre* (लहरे) and seven extension folders were released during the programme.

AKMU

ICAR-Central Coastal Agricultural Research Institute
Old Goa, Goa

ICAR-IISWC celebrated 70th Foundation Day

10 April 2023, Dehradun. On the 70th Foundation Day of ICAR-IISWC, Dr R P Singh, Director, IIRS, Dehradun was the Chief Guest. He praised the institute on its 70th foundation day for its relentless contribution to soil and water conservation research and training. Dr M Madhu, Director ICAR-IISWC presented an overall achievement of the Institute and the new initiatives taken during the recent past towards improving the research outcome, conservation of natural resources, farmers welfare and societal development.



Progressive farmers spoke on the contribution of the Institute in uplifting their livelihood and food production avenues. The program was attended by 250 scientists and staff of the Institute, retired staff

and guests from various organizations, NGOs, press & media and academia besides 60 online participants.

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ICAR-CIFRI celebrated World Environment Day

6 June 2023, Barrackpore, Kolkata. ICAR-CIFRI fervently celebrated World Environment Day on 5 June 2023. The Institute organized a rally and an Awareness-cum-Sensitization Programme at Sheoraphuli Ghat, Ganga River, Barrackpore to sensitize the general public about the harmful effect of plastic and plastic pollution followed by a plantation programme at ICAR-CIFRI residential campus. Various types of fruit plants like Rose apple (*Syzygium jambos*), Mango (*Mangifera indica*), Indian Sherbet Berry/Falsa (*Grewia asiatica*), Malta (*Citrus sinensis*) were planted by the staff members of ICAR-CIFRI.



A series of lectures were organized and more than 210 participants attended the lectures through online and offline mode.

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World Environment Day: ICAR-CMFRI conducts tree plantation drive and awareness programmes on plastic pollution

7 June 2023, Ernakulam. World Environment Day was observed by the ICAR-Central Marine Fisheries Research Institute with a slew of initiatives at its various Regional Centres and Research Stations on 5 June 2023.



Visakhapatnam Regional Centre conducted a tree plantation drive at the Centre and Peda Jalaripeta fishing village, Visakhapatnam. In association with DHAN foundation, an awareness workshop-cum-plantation drive was also conducted along with the fisher folk of Peda Jalaripeta fishing village.

Scientists of VRC of ICAR-CMFRI delivered awareness lectures on the marine environment, climate change and conservation of coastal biodiversity.



Vizhinjam Regional centre of ICAR-CMFRI organised an awareness programme for the staff and scholars marked by a lecture delivered on the theme 'Beat Plastic Pollution' followed by the plant distribution drive. Mangalore Regional Centres conducted an awareness programme on plastic pollution focusing on the theme *Beat Plastic Pollution*. Veraval Research Station did a major plantation drive at newly acquired land at Inaz, Veraval on the eve of World Environment Day.

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36th Convocation of UAS, Dharwad

23 June 2023, Dharwad. On the occasion of the 36th Convocation of University of Agricultural Sciences, Dharwad held on 12 June 2023, Dr Himanshu Pathak, as the Chief Guest (Secretary, Department of Agricultural Research and Education, Government of India and Director General, ICAR, New Delhi), addressed that the development in the field of Agriculture is pivotal for India to become a developed country. Shri Thawarchand Gehlot, Governor of Karnataka State and Chancellor of the University, said that Agriculture Graduates should make agriculture self-reliant to make India a developed country where agriculture is the predominant occupation. Shri N Chaluvarayaswamy, Agriculture Minister of Government of Karnataka and Pro-Chancellor of Agricultural University, called upon scientists, teachers and students to develop more and more high-yielding varieties to enhance the income of farmers.



Dr PL Patil Vice-Chancellor, presented a report on the activities of various wings of the university like teaching, research, extension, seed production, and students.

On this occasion, honorary doctorate degrees were awarded to Padmashri Smt Tulsigowda of Uluvar Village (Ankola taluk) and Padmashri Shri Abdul Khadar Imamsab Nadakattin, Founder of Vishwashanthi Agricultural Research Centre, Annigeri in recognition of their services rendered in various fields. During this convocation, a total of 966 candidates were awarded degrees, including 71 PhD, 269 postgraduate and 626 undergraduate degrees. Along with this, 38 Agricultural University Gold Medals, six other Gold Medals and nine Cash Prizes were also awarded.

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The Hon'ble Secretary, DARE & DG, ICAR visited North Bengal on the occasion of the Golden Jubilee of KVKs

6 April 2023, Kolkata. To commemorate the Golden Jubilee of KVKs, a special function was organized on 5 April 2023, at KVK Cooch Behar of North Bengal under the aegis of ICAR-Agricultural Technology Application Research Institute (ATARI), Kolkata. Dr Himanshu Pathak, Secretary, DARE & DG, ICAR, flagged off of the Millet Procession, a yearlong celebration of International Year of Millet 2023. He mentioned that KVKs as frontline extension institutions, played a unique role in the arena of technology transfer in Indian agriculture.

Dr Swarup Kumar Chakraborty, Vice-Chancellor of Uttar Banga Krishi Viswavidyalaya (UBKV), lauded the efforts of all KVK Staff for their outstanding service to the farming community.



Twelve progressive farmers including women farmers as well as FPO representatives were felicitated by the Hon'ble Secretary, DARE & DG, ICAR on the occasion. Exhibition by FPOs mobilized by KVK was also organized to showcase their activities. A bulletin on "Natural Farming for Sustainability", in the local language for the benefit of farmers was also released on the occasion.

Director
ICAR-Agricultural Technology Application
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Dr SK Chaudhary, Hon'ble DDG (NRM) Visited ICAR-IISWC RC, Datia

12 April 2023, Dehradun. Dr SK Chaudhary, Hon'ble DDG (NRM) Visited ICAR-IISWC RC, Datia on 7 April 2023.



He congratulated the Institute on the celebration of the 70th Foundation Day of the Institute and dedicated a new tractor to the centre.

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Hon'ble Dr Abhilaksh Likhi, IAS, OSD, Ministry of Fisheries, Animal Husbandry and Dairying visited ICAR-NBFGR

9 May 2023, Lucknow. ICAR-National Bureau of Fish Genetic Resources, Lucknow, was visited by Dr Abhilaksh Likhi, IAS, Officer on Special Duty, Department of Fisheries, Government of India, held an interactive walk-the-talk meeting with the fish farmers on 8 May 2023. Dr Likhi appreciated the research efforts of ICAR-NBFGR and encouraged working with National Efforts and priorities for conservation development and management of the fisheries resources in aligning the Sustainable Development Goals.



Director
ICAR-National Bureau of Fish Genetic Resources
Lucknow, Uttar Pradesh 226 002

Shri Kailash Choudhary, Hon'ble Union Minister of State for Agriculture and Farmers' Welfare, Government of India visited ICAR-IISWC, Dehradun



14 May 2023, Dehradun. Shri Kailash Choudhary Ji, Union Minister of State for Agriculture and Farmers Welfare, Government of India visited ICAR-IISWC, Dehradun on 14 May 2023. Union Minister of State for Agriculture and Farmers Welfare visited the Museum of the Institute, in which the details of the activities of the Institute were briefed by Dr Dharamveer Singh, Head, HRD&SS.

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Parliamentary Committee on Agriculture, Animal Husbandry and Food Processing visited ICAR-CMFRI

29 June 2023, Kochi. A delegation of the Parliamentary Standing Committee on Agriculture, Animal Husbandry and Food Processing visited the ICAR-Central Marine Fisheries Research Institute (CMFRI), Kochi on 28 June 2023. Headed by PC Gaddigoudar, Lok Sabha Member from Bagalkot constituency in Karnataka, the panel consisting of six members, visited various research facilities at the institute, including laboratories and interacted with scientists to assess ICAR-CMFRI's research programmes on marine fisheries and allied areas.



The committee was briefed on ICAR-CMFRI's works encompassing marine capture fisheries; mariculture activities like cage fish farming, seaweed farming, integrated multi-trophic aquaculture and technology development for breeding commercially important marine fishes; marine biodiversity and environment management; fish genetics and marine biotechnology; socio-economic aspects and extension activities, etc.

Dr A Gopalakrishnan, Director of ICAR-CMFRI and the Heads of various Divisions discussed the Institute's plans for the future, emphasising its efforts to maintain the sustainability of the marine fisheries with the committee members. The panel was impressed with ICAR-CMFRI's research and its contributions to the development of the marine fisheries sector in India.

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Dr Rajbir Singh, Assistant Director General visits ICAR-IISWC, Dehradun

30 June 2023, Dehradun. Dr Rajbir Singh, ADG (Agronomy, Agroforestry and Climate change) visited ICAR-Indian Institute of Soil & Water Conservation, Dehradun, Uttarakhand on 26 June 2023. An interaction meeting with the scientists of the Institute was organised during the occasion. He emphasised the alignment of the targets of the institute with the national priorities, focus on natural farming, development of climate-smart watersheds, emphasis on precision farming and promotion of millets cultivation.

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Success Story

Tribal fishers demonstrated IMC fingerling raising using Pen culture technology in Mapithel Reservoir of Manipur

2 May 2023, Barrackpore, Kolkata. Manipur is situated in the eastern most corner of India and about 41% of the state's population is Scheduled Tribe. Agriculture is the mainstay of the state's economy contributing 50-60% to the state GDP. Manipur has several water bodies in the form of lakes, wetlands, ponds, water-logged areas, rivers, streams and reservoirs. However, only 32.94% of the total potential water areas are so far under fisheries development. More than 95% of the population of Manipur consumes fish. Despite the state having good fish production potential in its water resources, it has to import fish from other states of India.

The Mapithel dam (also known as the Maphou dam), is located in the Kamjong district of Manipur. The Government of Manipur's Irrigation and Flood Control Department (IFCD) undertook the project in 1980. The medium reservoir is the largest in the State with a water spread area of 1,100 ha. According to official figures, the dam construction had submerged an area of 1,285 ha. The dam has displaced over 120,00 people (1,600 households of 16 villages) with an estimated 777.34 ha of paddy fields, 110.75 ha of the homestead, 293.53 ha of *jhum* land, and 595.1 ha of forest land have been submerged by the accumulated water of the dam (IFP, 2018). The primary occupation of the displaced tribal populace was agriculture but due to the submergence of land they are compelled to shift to other occupations post-reservoir formation. All the population affected by the reservoir construction belongs to the Tangkhul tribe. The displaced population formed a cooperative society named "*The Mapithel Dam Affected Fishery Co-operative Society*" and registered with 370 members in November 2016. No fish was stocked in the reservoir to date by the existing society due to financial constraints, except on one occasion by the fisheries department, Govt. of Manipur. After the displacement, as fishing became the primary source of livelihood for the displaced people in the area, fish stock enhancement in the reservoir is the *sine qua non* for facilitating sufficient fish catch for the fisher from the reservoir.

To support the livelihood of the displaced tribal populace of the reservoir, ICAR-CIFRI has given two ICAR-CIFRI Pen HDPEO (pen of 0.1 ha size) along with 50,000 fish seeds, 2 tonnes of pelleted feed (ICAR-CIFRI CAGEGROWO) for raising fish as a stocking material for reservoir fisheries enhancement. Apart from this, a motorized FRP boat of 10-meter overall length was also given to the society by ICAR-CIFRI.

The main objective was to improve the livelihood of the dam-affected tribal population through a fisheries enhancement programme. ICAR-CIFRI trained selected 14 tribal fishers from this reservoir at the Institute headquarters on '*Reservoir fisheries management for production enhancement*' during 22-28 July 2022, before the initiation of the pen culture activity in the reservoir, following which a mass awareness programme was conducted at Ramrei village, Mapithel Reservoir site to raise the awareness among the fishers of reservoir fisheries management.



Two ICAR-CIFRI Pen HDPE pens (100 m² area) were installed in the reservoir with provisions made in the pen to adjust heights during the monsoon to prevent the escapement of fish due to flooding making it a climate-smart adaptation system. The pen culture of Indian Major Carps (IMCs) was managed by the society in PPP mode.

Indian Major Carp Catla *Labeo catla* (18.28±0.23g), Rohu *Labeo rohita* (5.2±0.12g), and Mrigal *Cirrhinus mrigala* (5.5±0.08g) seeds were stocked in the ratio 2:1:1 at the rate of 250 fingerlings per square meter in pens (100 m²) in duplicate. The fishes were fed with pelleted feed (ICAR-CIFRI CAGEGROWO) twice a day at the rate of 2-3% of body weight. The fish were raised for 5 months, from September 2022 to January 2023. The average weight recorded at the end of the culture period was 283.13±1.70g, 186.26±47.02g, and 116.00±0.87g in *L. catla*, *L.*

rohita, and *C. mrigala* respectively. The survival of fish ranged from 80 to 88%. The specific growth rate (SGR) of *L. catla*, *L. rohita* and *C. mrigala* were 1.82, 2.56 and 2.03, respectively. The species-specific net fish production per pen was recorded as 2,601 kg, 898.8 kg, and 546 kg for catla, rohu, and mrigal, respectively. The harvested fish from the pens were released into the reservoir for reservoir fish production, will be resulting in livelihood support for the displaced tribal fishers of the affected villages.

This technology was an eye-opener for the 370

fishers of the cooperative society which yielded about 8.1 tonnes of fish from two pens, which could ultimately produce 36 tonnes in a year from the reservoir with an additional average income of ₹ 24,000/fisher, (₹ 250/kg). The society is highly motivated by the technology demonstration and expects future livelihood return, which has been implemented for reservoir productivity enhancement.

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