

ICAR

Reporter

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News in Brief

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From the DG's Desk

Dear Readers,

The National e-Governance Plan of the Government of India seeks to lay the foundation and provide impetus for long-term growth of e-Governance within the country. DARE/ICAR was one of the first organizations to have introduced biometric attendance system in 2014 for monitoring the work efficiency in the office. For meta-data management, we already have a centralized research data banking system called 'ASOKA' that is managed at Indian Agricultural Statistics Research Institute (IASRI) in New Delhi. For tracking files in the office, e-office file keeping has been introduced and is being adopted at ICAR headquarters and also in the Department of Agricultural Research and Education (DARE). We have introduced the e-procurement, and other monitoring systems for better use of our resources and infrastructure.

With concerted efforts ICAR has put in place a few more important e-reforms to balance speed with precision in terms of information management and/or personnel management, as below.



Unified composite information system scientific personnel was lacking in the system/Council. Therefore, it was difficult to arrive at the total number of positions, disciplines, and vacancies to arise in near future. The reform in this direction was to create an electronic platform i.e. PIMS, which contains all relevant information of the scientific personnel of each of the constitute institute of ICAR. The information contained in the PIMS includes number of scientists in each subject, current position he/she occupies, position in which he/she was recruited, number of years spent in a particular institution, validity of the occupancy against a sanctioned position or the position in addition to the sanctioned strength (distortion); number of vacancies existing in different scientific cadres; and this information impacts the system in many ways:

- The vacancy positions are known institute-wise immediately in different cadres, which needs to be filled, thereby allowing the administrator to plan it out well in advance in a phased

manner.

- The scientists occupying distorted positions (no valid vacancy) are identifiable which is being corrected. This will help placing the right person in the right place, thus enhancing the efficiency of his/her functioning.
- Administratively, it helps correct the administrative flaws, if any.
- The system also speeds up processing of transfer and posting against vacancies.

Till now posting and transfer was happening based on manual compilation of information. There was subjectivity and errors, sometimes, because of manual interventions. By bringing reforms in posting and transfer, computerized PATS, the electronic platform for Posting and Transfers has been created to take into account (a) actual vacancies available in different institutes/disciplines, (b) number of years of posting at one place, (c) whether it is a couple case, and (4) merit of the case, in case of transfer against an existing vacancy.

The PATS system has several advantages:

- Errors due to manual interventions are eliminated.
- Subjectivity due to various considerations is eliminated.
- Possible distortion due to lack of information in posting and transfer is avoided.

This provides a clear, open and transparent system of operation for everybody to see and take note of. The Transfer Module will be in perpetual review to incorporate further amendments to resolve the issues as and when raised during the operation of the modules in the PATS system.

We have now defined a criteria for eminent scientists who are eligible to appear for senior research management positions in the Council. Now by including criteria on research thrusts, outputs and publications, etc., we enable an individual with proven scientific/academic accomplishments becomes eligible to apply. The advantage would be that a scientist who has contributed creditable achievements now becomes eligible for senior research management positions in the system. It will also attract talent from abroad and also from other organization, thereby facilitating lateral movement which will revitalize the system. Research and education experience of such people can be effectively utilized in RMP positions by way of blending both to the advantage of the Institutional development.

We have now brought in specific subjects in basic sciences for each position leaving no room for speculation and individual judgements to help facilitate the scrutiny and shortlisting of candidates.

Score card has scope for certain subjective considerations which was earlier left to the screening committee, who interpreted based on their wisdom and allotted scores for further consideration the selection process. To remove subjectivity, some of these subjective parameters have been either modified and/or removed. This will help in pragmatic screening of applications and enable a selection process without any bias.

More importantly, the computerized score card will enable the candidates to themselves see their scores based on the inputs provided to the software. This will also eliminate a group of experts, thereby saving time of screening and short-listing.

The Council has created the following portals for effective governance by utilizing the information and communications technology.

ICAR Data Centre and Unified Communication portal to secure institute information and information transmission.

- ICAR-Enterprise Resource Planning (ERP) System to manage the human resource information of the council including pay roll, finance and budgeting.
- KVK Knowledge Network Portal (<http://kvk.icar.gov.in>) to share basic information and facilities of KVKs with contingency plans, demonstration schedule, and advisories.
- Management System for Post-Graduate Education (MSPGE) enabling academic and e-learning modules while also being a repository of academic records
- E-Samvad, an online interface of the Council to answer citizens queries.
- KRISHI - A knowledge repository portal of digital information pertaining to research experiments, outputs, publications, etc.
- E-office for digital filing of information to help speed up the processing time of files.
- E-Krishi Manch, a dedicated portal for farmer-scientist interaction.

All these will help in the monitoring of activities, giving feed back to the clientele and interfacing with the end-users.

I am sure, with the adoption of such e-governance modules, the administrative and research environment in the DARE/ICAR would be more transparent, faster and effective, that will provide ample change for all of us to spend our time effectively in the larger interest of farmers, and specifically, in enhancing farm productivity and doubling farmers' income.



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“Per drop, more crop can become our mission”

— Narendra Modi

WORKSHOPS, MEETINGS, SEMINARS, CONFERENCES, SYMPOSIA

23rd Meeting of ICAR Regional Committee Zone-III

Imphal, 30 May 2017. The 23rd Meeting of the ICAR Regional Committee Zone -III was inaugurated at City Convention Centre, Imphal. The function was graced by Shri Y Joykumar Singh, Deputy Chief Minister of Manipur as Chief Guest and Shri V Hangkhalian, Minister of Agriculture, Veterinary and Animal Husbandry, Government of Manipur as Guest of Honor.



Shri Y Joykumar Singh emphasized on developing irrigation facilities, double cropping, alternative to *jhum* farming, development of horticulture specially in hill areas for agricultural growth and development in Manipur and other NE states.

Dr Trilochan Mohapatra, DG, ICAR, said while food production scenario of the region has improved substantially over last one decade, the region is still deficit in pulses, oilseeds, fish, meat, milk and egg production. Hence, concerted efforts of Centre, State, NGOs and other stakeholders are required for a strong Research, Development and Extension Programme in the region to achieve self sufficiency in various sectors of agriculture and also to double the income of the farmers by 2022 in line of the Vision of Government of India.

Earlier, Dr Mohapatra inaugurated the ICAR Seed Processing Unit and laid the Foundation Stone of the Farmers' Hostel at ICAR Manipur Centre, Lamphelpat, Imphal.



Shri Sunil Kumar Singh, Additional Secretary and Financial Advisor (DARE/ICAR) and Dr Narendra Singh Rathore, Nodal Officer and Deputy Director General (Agricultural Education) briefed the house about RCM.

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Water Resource Management for Improving Agricultural Production

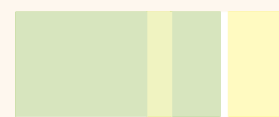
New Delhi, 2 June 2017. The first meeting of the reconstituted Indian Council of Agricultural Research (ICAR) and Central Water Commission (CWC) Joint panel held at NASC Complex, New Delhi under Chairmanship of Secretary, DARE and DG, ICAR and Co-Chairmanship of Chairman CWC, to review the activities of ICAR-CWC joint panel in the areas of water resources management for enhanced and sustainable agricultural production.



Dr Trilochan Mohapatra, DG, ICAR, while highlighting the importance of such joint panel emphasized the need for organizing joint panel meeting one in every six months for effective implementation of joint panel recommendations and suggestions. He also suggested to bring surface water and groundwater in one forum, preparation of action plan for improving water use efficiency as well as institutionalization of training needs. Shri S Masood Husain, Member (WP&P), CWC emphasized the need for increasing water use efficiency and water productivity through efficient irrigation methods, benchmarking of irrigation projects.

It was decided that ICAR and CWC should work together towards providing irrigation to farmers and improving irrigation efficiency and agricultural water productivity.

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Adoption of Organic Farming

Mandi, 21 May 2017. Shri Acharya Dev Vrat, Honorable Governor, Himachal Pradesh inaugurated Crop Seminar on Natural Farming as Chief Guest at Bhangrotu, Mandi. The seminar was organized by Krishi Vigyan Kendra, Mandi in collaboration with Youth for Sustainable Development (a local NGO) to motivate farmers and acquaint them with various organic farming technologies and harmful effect of indiscriminate use of pesticides.

The Honorable Governor shared his experience on zero budget natural farming and motivated farmers to adopt this farming in the region. He emphasized upon the need to conserve local cattle breeds, local crop varieties, traditional knowledge, etc. for sustainable agricultural development. He also advised farmers for the adoption of organic farming in totality to meet out the growing demand of organic products in the adjoining states for doubling their income. He showed his concern about the ill effects of indiscriminate use of harmful pesticides and synthetic fertilizers.

A special session on farmer scientist interaction was also organized in which queries of farmers related to organic farming were addressed by the experts. The Governor interacted with farmers while visiting exhibitions on farm machinery, organic farming technologies, organic inputs, etc. The farmers also displayed their local and traditional varieties of crops, organic preparations and technologies for sharing amongst fellow farmers.

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Doubling Farmers' Income

State Coordination Meeting on Doubling Farmers' Income

Sikkim, 1 May 2017. State level coordination meeting for doubling farmers' income of Sikkim was organized by ICAR-NRC for Orchids, Sikkim.

Dr K M Bujarbaruah, Vice-Chancellor, Assam Agriculture University, in his inaugural address, discussed the importance of baseline information on present income status of the farmers among small,



marginal and large groups to prepare roadmap for doubling the farmers' income by 2022.

Smt Shorab L commented that non-availability of organic seeds is a constraint in production of agricultural crops.

Dr R K Avasthe, Joint Director, ICAR-NOFRI, Sikkim presented the technologies available on low tunnels for vegetable production, moisture conservation, zero tillage, *jal kund*, crop rotation and integrated farming system with poultry and piggery and shared different concepts for doubling the farmers' income for Sikkim.

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State Coordination Committee Meeting for Doubling Farmers' Income in West Bengal

Kolkata, 7 April 2017. The first State Coordination Committee (SCC) Meeting for doubling farmers' income in West Bengal was held at ICAR- Agricultural Technology Application Research Institute (ATARI), Kolkata, Salt Lake, Kolkata.

Dr D D Patra, Vice- Chancellor, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal, Chairman of the Committee emphasized on strategies for doubling the farmers' income by increasing the cropping intensity per unit area per unit of inputs with the right combination of crops including animal husbandry and fisheries. He suggested for the development of orchard with mango, litchi, cardamom etc. in western part of West Bengal i.e. Bankura, Purulia, part of Burdwan, part of Birbhum where irrigation facility is almost nil. He also suggested for the restructuring of marketing system of agricultural commodities to provide minimum support price to the farmers.

Dr S K Roy, Director, ICAR- ATARI, Kolkata and Convener of SCC meeting, highlighted development of area specific technology modules along with all possible combinations for doubling income depending on various agro-ecological as well as different socio-economic conditions of the farming community.

Professor Purnendu Biswas, Vice-Chancellor, West Bengal University of Animal and Fishery Sciences, Belgachia, Kolkata, emphasized on breed improvement through production of superior quality bulls, production of superior quality semen along with the conservation of high valued animal genetic resources. Pig farming could be the best option for the tribal farmers to augment income for livelihood, he added. He suggested to adopt sustainable integrated cum-diversified climate resilient scientific livestock and fish farming practices for enhancing income of the farmers. He said that the production of organic manures and compost from the livestock waste could be an additional source of income.

Shri Vineet Sharma, Director, Ministry of Food Processing Industries, GoI, New Delhi, observed that State Governments should have their own food processing policies according to the availability of agricultural produces.

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Doubling Income of Farmers in Rajasthan by 2022

Udaipur, 5-6 April 2017. The first meeting of the state coordination committee on 'Doubling the Farmers' income by 2022 in the state of Rajasthan' was organized at the Maharana Pratap University of Agriculture and Technology (MPUAT), Udaipur.



Professor U S Sharma, Vice-Chancellor, MPUAT and Chairman of the Committee, emphasized that the doubling of income of farmers in Rajasthan is very challenging in view of the adverse agro-climatic conditions prevailing in the state; convergence of improved production technologies; diversification of agriculture and livestock; better access to market. Enabling policies are very critical in achieving this aspiring target.

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Farm Household Income in Odisha by 2022

Cuttack, 3 April 2017. The first meeting-cum-workshop of state coordination committee on 'Doubling the Farmers' income by 2022 in Odisha' was organized at ICAR-National Rice Research Institute, Cuttack on 3 April 2017.

Professor S. Pasupalak, Vice Chancellor, OUAT and Chairman of the Committee, emphasized that diversification through horticultural and high value crops is key to doubling farmers' income. Convergence of various state agencies including research institutes, KVKs, state departments, is required at district level. He further emphasized that since farm holding is very small, non-farm income has to be increased in Odisha to supplement the farmers' income. Food processing, market intelligence and marketing needs should be strengthened, he added. Professor emphasized that



systems approach is required to enhance efficiency of land, water and nutrients.

Dr Himanshu Pathak, Director, ICAR-NRRI, Cuttack and Convener of the Coordination Committee, briefed the scenario of farm household income in Odisha.

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Doubling Income of Mango Growers

Bengaluru, 18 May 2017. ICAR-Indian Institute of Horticultural Research, Bengaluru organized a National Workshop on 'Doubling the Income of Mango Growers in India'.

The purpose of the workshop was to deliberate the issues in production, processing, marketing and export of mango and to recommend a road map of issue-based strategies for doubling the income of mango growers.

It is proposed to prepare a roadmap out of the two-day deliberations, suggesting action points for all the stakeholders including the policy makers for implementation, so that the objective of the workshop will be achieved.

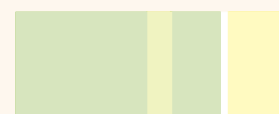
An exhibition of more than 100 mango varieties and accessions was organized for the benefit of stakeholders.

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Farmer-Scientist interaction on doubling farmers' income

Guwahati, 30 April 2017. Shri S S Ahluwalia, Minister of state for Agriculture and Farmers' Welfare inaugurated an interactive workshop on doubling farmers' income by 2022 in Asom. The workshop was organized by ICAR-ATARI, Umiam, Meghalaya in collaboration with Assam Agricultural University, Jorhat at Krishi Vigyan Kendra, Kamrup, AAU, Kahikuchi campus.

Smt Bijaya Chakravarty, Member of Parliament, Guwahati stressed on organic farming, proper soil health management and utilization of cultivable



waste land. 200 progressive farmers across the state along with all the Heads of KVKs and other dignitaries from various line Departments took part in the workshop to device an action plan for doubling farmers, income in Asom.

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Revitalizing Fisheries and Aquaculture in Tamil Nadu for Doubling Income of Farmers

Chennai, 30 May 2017. ICAR-Central Institute Brackishwater Aquaculture, Chennai and Federation of India Chamber of Commerce and Industry (FICCI) along with Tamil Nadu Fisheries University, Nagapattinam and Coastal Aquaculture Authority (CAI), Chennai organized a 'Workshop on Revitalizing Fisheries and Aquaculture in Tamil Nadu - Doubling income by March 2022' at ICAR-CIBA, Chennai.



Dr K K Vijayan, Director, ICAR-CIBA Chennai, in his inaugural address, stated that Fisheries and Aquaculture Sector is a 'Sleeping Giant' in Indian Economy and its true strength is yet to be fully conceived by the planners and policy makers.

Mr P Murari, IAS (Retd), Adviser to FICCI and Former Adviser to President of India emphasized the potential for the expansion of brackishwater aquaculture in Tamil Nadu on environmentally safe and sustainable mode.

The workshop had three Parallel Technical Sessions on (i) Marine and Industrial Fishing and Mariculture, (ii) Brackishwater and Inland Aquaculture and Inland Capture Fisheries, and (iii) Development of Domestic Markets, Value Addition and Reduction of Post-Harvest Losses.

The major recommendations emerged out of the discussions are:

- Site specific mariculture activities in finfishes/shell fishes need to be carried out in various parts of Tamil Nadu.
- Capacity building and skill development programmes in deep sea fishing operations for marine fisher folk should be developed in the context of declining fisheries.

- Formulating strategic measures for promotion of fisheries production through scientific zonation and release of government owned brackishwater lands for aquaculture, modern fish marketing and processing in Public Private Partnership Mode.

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Jharkhand State Coordination Committee Meeting

Ranchi, 13 April 2017. Jharkhand State Coordination Committee meeting for Doubling of Farmers' Income by March 2022 was held at Birsa Agricultural University, Ranchi, Jharkhand.



Dr K K Sharma, Director, ICAR-Indian Institute of Natural Resins & Gums, Ranchi as Convener presented a concrete action plan including technological and policy interventions for the state. He briefed about the major bottlenecks including scattered land holdings, poor irrigation infrastructure, low input use, acidic soils, open grazing in *rabi* season, inadequate supply of quality seed and planting material. He also outlined the major crop/enterprise specific interventions that needed to get rid of the constraints faced by the farmers and highlighted major policy issues related to Non-wood forest products like lac, tasar, etc.

The Committee emphasized focusing on major field crops (rice and pigeon pea), horticulture crops (mango, jackfruit), fisheries, non wood forest products (lac, tasar, tamarind, *chironjee*, etc.) and dairy sector, water conservation, value addition/post harvest management and integrated farming systems.

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Review-cum-Planning Meeting of Krishi Vigyan Kendra

Jodhpur, 3 May 2017. A Review-cum-Planning Meeting of KVKs under Tribal Sub-Plan was organised by ICAR-ATARI, Jodhpur for KVKs of Rajasthan and Gujarat.

Dr S K Singh, Director, ICAR-ATARI, Jodhpur focused on the project (Tribal Sub-Plan) in which Government of India makes provision of 2.36% of the total budget



for the Tribals. He opined that while implementing the project a special care should be taken keeping in view of the 6 boundaries of a community/village i.e., Physical, Economic, Social, Cultural, Religious and Political. He also expressed that there should be need based gradual change in a holistic manner through community based activities and these should be taken up in consultation with Tribals. To show the potentiality of the technologies in Tribal Areas, gap analysis is very much required for further improvement and bridging the gap between the general population and Tribals in a time bound and systematic manner. A total of 28 KVKs (22 from Rajasthan and 6 from Gujarat) participated in the meeting.

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Annual Review Workshop of KVKs

Bengaluru, 4 May 2017. Shri Om Vijai Sardesai, Minister of Agriculture, Government of Goa inaugurated a three day annual review Workshop of KVKs of ICAR-Agricultural Technology Application Research Institute, Bengaluru in collaboration with ICAR-CCARI, Goa and ICAR-KVK, North Goa. KVKs of Karnataka, Tamil Nadu, Kerala, Goa, Puducherry and Lakshadweep participated in the Review Workshop.

While appreciating farmer oriented developmental activities of KVKs to uplift the farming community, Shri Sardesai urged KVKs to look into the current challenges and workout strategies to change the production centric focus to income centric agriculture for doubling farmers' income. He suggested the adoption of hybrids, high yielding varieties, organic farming concept and the need for strengthening extension system and suggested on possibilities of exploring contract farming and community farming in Goa to improve the income of resource poor farmers.

Dr Ashok Kumar Singh, DDG (Agriculture Extension), ICAR, New Delhi, emphasized on four national priorities viz., doubling farmers' income, distribution of soil health card, market for produce and skill development in agriculture.

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Annual Zonal Workshop of KVKs of Zone II

Port Blair, 14-16 April 2017. Annual Zonal Workshop for 89 KVKs of Zone-II consisting states of Bihar, Jharkhand, West Bengal and Union Territory of A&N Islands was organized at ICAR-CIARI, Port Blair.



Publications, viz. Proceedings of National Conference of KVKs 2015, NICRA News Letter, NICRA News -At a Glance, Champion farmers etc. were released during the Session.

In the workshop the activities of KVKs during last one year (2016-17) were evaluated and Action Plan for 2017-18 was suggested.

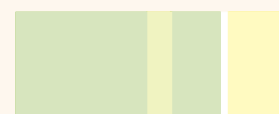
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Annual Zonal Workshop of KVKs of Zone III

Tripura, 21 April 2017. The Annual Zonal Workshop (21-23 April 2017) of KVKs under ICAR-ATARI, Umiam, Meghalaya was organized by ICAR-ATARI Zone-III in collaboration with the Department of Agriculture, Govt. of Tripura, ICAR RC for NEH Region, Barapani and Central Agricultural University, Imphal.

Dr K M Bujabaruah, Vice Chancellor, Assam Agricultural University, Jorhat, Chief Guest, while appreciating the endeavours of the KVKs to uplift the farming community, urged KVKs to look into the current challenges and find strategies on the market led production for doubling farmers' income.





Dr G S G Ayyangar, Principal Secretary (Agriculture), Government of Tripura highlighted the achievements of the State in Agriculture Sector and sought for a strong collaboration with the KVKs in the near future.

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Open water fisheries development in North-Eastern region

Guwahati, 29 May 2017. ICAR- Central Inland Fisheries Research Institute, Barrackpore organized a Regional Consultation on 'Open water fisheries development in NE region'.



Shri Parimal Suklabaidya, Minister of Fisheries, Government of Asom, in his inaugural address, stressed on the need for making the NE region self-sufficient in fish production by utilizing all available fisheries resources. He also highlighted the recent initiatives of the Government of Asom to bring about blue revolution in the state through the 'Ponds for all - fish for all' scheme launched by Government of Asom.

Dr B K Das, Director, ICAR-CIFRI emphasized on the need for developing openwater fisheries in the region and assured providing research support to the state fisheries department. He also stressed on the need to prepare an effective roadmap for developing openwater fisheries of the region through stakeholder consultation.

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National Group Meeting – Kharif 2017

Palampur, 18 April 2017. The National Group Meeting – *Kharif* 2017 of the All India Coordinated Research Project on Forage Crops and Utilization was inaugurated at CSK Himachal Pradesh Krishi Viswavidyalaya, Palampur, Himachal Pradesh.

Professor K C Agnihotri, Vice Chancellor, Himachal Pradesh Central University, expressed concern over the reports of spurious livestock products especially artificial milk and eggs. He called upon the scientific

community to work in holistic manner rather than piecemeal approach for solving the problems.

Dr I S Solanki, ADG (FFC), ICAR, Chief Guest, highlighted the importance of high yielding varieties with good nutritional quality and asked scientists to develop and disseminate the technologies for the benefit of farmers and livestock owners. Dr Sujoy Rakshit, Director, ICAR-IIMR, Ludhiana, Guest of Honour stressed for more collaboration among various projects related to fodder crops and highlighted importance of maize especially rabi maize as fodder resource to bridge the demand and supply gap of forage availability. Varietal Identification Committee meeting was held and four varieties (Marvel-09-4 and JHD-2013-2 in *Dichanthium annulatum*; PBN-342 in Bajra Napier Hybrid; RCC-10-6 in *Cenchrus ciliaris*) were identified for cultivation.

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Planning Meeting of kharif-2017

Kanpur, 12 May 2017. A Two-day planning meeting of *kharif* was organized jointly by ICAR- Agricultural Technology Application Research Institute, Kanpur and Cereal Systems Initiative for South Asia (CSISA) from 12-13 May 2017.



Dr R K Malik, India Coordinator, CSISA, shared the performance of short duration and long duration varieties under different sowing schedules across ecologies. He discussed the role of additional irrigation during terminal heat stress period during filling stage to beat the heat stress and its effects on wheat productivity.

Dr Andrew McDonald, Asia Team Leader, CSISA, stated that during the last 10 years, CSISA vision of success aimed to increase the staple crop yields and income of million farm families in South Asia with widespread adoption of efficient and productive agronomic practices, marked increase in the cultivation of high-yielding and stress tolerant cereal cultivars, better access to information, and progressive policies and strengthened markets.

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52nd Annual Rice Research Group Meeting Inaugurated

Asom, 9 April 2017. Shri Atul Bora, Agriculture Minister, Government of Asom inaugurated 52nd Annual Rice Research Group Meeting at Assam Agricultural University, Jorhat.



Shri Bora urged to develop varieties for multiple stresses like drought, flood instead of varieties for a single stress which could be 'one solution for many problems' and highlighted the development of two mega varieties 'Ranjit-Sub1' and 'Bahadur-Sub1' and called for the development of drought tolerant varieties. Dr K M Bujarbaruah, Vice Chancellor, Assam Agricultural University underscored the importance of rice in agriculture scenario of the state and indicated the development of two submergence tolerance varieties in collaboration with IRRI. He suggested the trade opportunities of sticky rice, black rice and Joha rice, emphasized for research and development for the technologies to cover value chain from land to mouth targeting the increased productivity. Dr V Ravindra Babu, Director, ICAR-Indian Institute of Rice Research, Hyderabad briefed the status of rainfall, pest and diseases scenario and varieties released through SVRC and CVRC.

Dr I S Solanki, ADG (FFC), ICAR complimented the contribution of AICRIP in the country's record foodgrain production of 270 million tonnes with contribution of 109 million tonnes and impact of the largest AICRP group with 45 funding and 100 voluntary centers with 196 scientists. Seven best AICRP centres and six innovative farmers were felicitated by the dignitaries.

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Climate Resilient Agriculture Workshop

Kolkata, 30 May 2017. The Zonal Workshop of National Innovations on Climate Resilient Agriculture (Technology Demonstration Component) of ICAR-ATARI Kolkata was held at Uttar Banga Krishi Vishwavidyalaya, Coochbehar, West Bengal.

Dr Chirantan Chattopadhyay, Vice Chancellor, Uttar Banga Krishi Vishwavidyalaya, Coochbehar, in his inaugural address, said the interventions under NICRA should be aligned with existing cropping practices of the region based on vulnerability.

Chief Guest, Dr Randhir Singh Poswal, ADG (Agricultural Extension), ICAR, New Delhi emphasized the need to focus on climate resilient status of district and modify interventions accordingly. Dr Anjani Kumar Singh, Director, ICAR-ATARI Patna urged NICRA-KVKs to prepare case studies/success stories based on the most successful and scalable technologies and those should be replicated in nearby areas.

In the technical sessions all the Programme Coordinators/PIs of the NICRA-KVKs presented the salient achievements of out scaled technologies during the last six years and action plan for 2017-18. One CD on '*Success Story of Sand Bag Check Dam of KVK Gumla*' and two publications on '*An Introduction of Edible Mushroom*' and '*Green fodder cultivation*' published by Coochbehar Krishi Vigyan Kendra were released during the workshop.

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Workshop on Mechanization of Cotton Cultivation

Mumbai, 5 May 2017. ICAR-Central Institute of Research on Cotton Technology, Mumbai organized a Workshop on "Mechanization of Cotton Cultivation, Harvesting and Ginning: Challenges, Opportunities and Way Forward". Dr K Alagusundaram, DDG (Agricultural Engineering), in his presidential address urged the stakeholders to provide complete solution for mechanisation in cotton covering sowing, intercultural operations, harvesting, ginning and spinning along with the extension services so that farmers can adopt it.

Dr P G Patil, Director, ICAR-CIRCOT stressed on the need for formulation of mission mode programme encompassing all stakeholders in public and private sector for successful implementation of mechanisation in cotton that will benefit the farmer by way of reducing the production cost.

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Promotion of Lac based Industry

Ranchi, 6 May 2017. A workshop on 'Promotion of Lac based Industry in Jharkhand' was organized jointly by ICAR-Indian Institute of Natural Resins and Gums, Ranchi and Agri Horticulture and Agro Rural Industries Committee, Federation of Jharkhand Chamber of Commerce and Industries (FJCCI).



Shri Anand Kothari, Chairperson, Agri Horticulture and Agro Rural Industries Committee (FJCCI) Ranchi, in his key note address emphasized that high value crops like lac should be priority area to promote rural entrepreneurship for farmers through the industrial support for value addition. He suggested that lac farming may have a good potential for the state as about 8-9 lakh households belonging to tribal community are engaged in lac farming and earning their livelihood.

Dr K K Sharma, Director, ICAR-IINRG, Ranchi, briefed on research achievements, activities and various programmes of the Institute for the welfare of lac farmers as well as micro enterprise development through lac based eco-friendly activities like handicraft making, lac integrated farming system (LIFS), etc.

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Soil and Water Conservation and Watershed Management

Dehradun, 24 April 2017. Four months Certificate course on 'Soil & Water Conservation and Watershed Management' was inaugurated at ICAR- Indian Institute of Soil & Water Conservation, Dehradun.



Professor Matthew Prasad, Vice Chancellor, University of Horticulture and Forestry, Bharsar, Uttarakhand, in his inaugural address urged officer trainees to utilize the four months time effectively, in learning about different aspects of soil and water conservation and watershed management. He also asked them to share their experiences of the respective states on soil and water conservation. He mentioned that ICAR-IISWC, Dehradun being the apex organization in soil and water conservation, trainees should take pride in being associated with this course.

Dr P K Mishra, Director, ICAR-IISWC, emphasized the importance of conservation of natural resources and how this training program helps to percolate knowledge to different stakeholders through the officer trainees to all parts of the country. Dr Bankey Bihari, Head I/C, HRD & Social Science division briefed about five course modules comprising Soil & Water Conservation engineering, Soil management for controlling land degradation, conservation Agronomy & Forestry and Integrated Watershed Management.

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Aquatic Animal Health

Lucknow, 20 April 2017. Shri Ashutosh Tandon, Minister of Technology and Medical Education, Government of Uttar Pradesh, inaugurated a two-day International Symposium on Aquatic Animal Health and Epidemiology for Sustainable Asian Aquaculture. The symposium was organized by Aquatic Biodiversity Conservation Society, Lucknow, India in collaboration with ICAR-National Bureau of Fish Genetic Resources, Lucknow and National Surveillance Programme for Aquatic Animal.

Shri Tandon briefed about 'Namami Gange', the flagship programmes of Government of India to tackle pollution, conservation and rejuvenation of main national River Ganga.

In his presidential address, Dr Joykrushna Jena, DDG (Fisheries Science) stressed on challenges faced by the aquaculture industry in the Asian region particularly owing to huge losses by disease outbreaks. He briefed about ongoing national surveillance programme on aquatic animal diseases, selective breeding programmes for increasing disease resistance in fishes and some of the new initiatives regarding antimicrobial resistance programme. Professor Kenton Lloyd Morgan, Emeritus Professor, University of Liverpool, United Kingdom, as the Guest of Honour, highlighted the important role of epidemiology in the sustainability of the aquaculture and encouraged young researchers to have passion for epidemiology and take it as part of their career development.

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International Linkages

Training Programme for Veterinarians for SAARC Nations

Bengaluru, 15 May 2017. A nine-day training programme on "Field Epidemiology Training Programme for Veterinarians" for the participants from Afghanistan, Bangladesh, Bhutan, India, Nepal and Sri Lanka was inaugurated at ICAR - National Institute of Veterinary Epidemiology and Disease Informatics, Bengaluru. The training programme was conducted under the aegis of SAARC Agriculture Center (SAC), Dhaka and FAO Regional Support Unit for SAARC, Kathmandu.



Dr J K Jena, DDG (Fisheries and Animal Sciences), ICAR in his inaugural speech stressed the need for capacity building in epidemiology in Asia, particularly in the South Asia.

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ICAR and CGIAR to address Agricultural Challenges

New Delhi 26 April 2017. Mr Elwyn Grainger-Jones, Executive Director of Consultative Group of International Agricultural Research (CGIAR) accompanied with Ms Karmen Bennett, Head of Board and Council Relations, CGIAR called on Dr Trilochan Mohapatra, DG, ICAR in New Delhi.

The discussion focused on how existing bilateral relationships between ICAR and CGIAR system can further be deepened to address contemporary



challenges of agriculture world over with specific reference to Indian agriculture. Executive Director CGIAR expressed his deep satisfaction to the pivotal role played by ICAR through its continuous support in carrying forward the objectives of multilateral framework and look forward to address challenges on variety of issues relating to climate change, dry land systems, food and nutritional security etc.

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Agricultural Fair in Morocco

Morocco, 18 April 2017. The 12th Annual International Agriculture Fair, Salon International de l'Agriculture AU Maroc (SIAM 2017) was held in the central city of Meknes, Morocco. It drew over 1230 Exhibitors and over 800,000 visitors.



On behalf of ICAR, Dr S K Singh, Scientific Advisor to Ministry of Agriculture Farmers Welfare and Project and Director, DKMA along with Shri Anil Sharma, CPRO showcased the latest agricultural technologies in Morocco for the first time.

The Indian stall was a big attraction for visitors who showed interesting knowing about agricultural research and developmenies, education and other opportunity in India. A wide range of ICAR publications and documentaries were also displayed. The agricultural festivals of India, a documentary film of the Council became popular among visitors.

Dr Kheya Bhattacharya, Ambassador of India in Morocco showed keen interest to organize the India's stall in SIAM 2017. More than six Ambassadors of various countries visited Indian stall and interacted about India especially horticultural crops, pulses, organic Holi colour, seed and planting material, solar based machinery, education, etc.

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ICAR-IISR Interventions results in record in sugarcane harvest in UP ICAR

The Indian Institute of Sugarcane Research, Lucknow is actively working for sugarcane and sugar sector in the country and especially for subtropical India. Being situated in Uttar Pradesh the Institute has been implementing targeted programme of cane development in close collaboration with state cane department and sugar mills. The targeted efforts of ICAR-IISR, Lucknow culminated into sweet harvest as Uttar Pradesh has achieved record sugar production of 8.72 m t in crushing season 2016-2017 and elevated to the number one position among sugar producing states of the country. Sustained efforts of IISR to implement cane development activities in participatory mode involving all the stakeholders i.e. IISR (public research institute), State cane department (public development agency), Sugar mills (private) and cane growers (farmers) has contributed significantly in achieving unparalleled success in sugar sector of Uttar Pradesh. Under partnership mode IISR introduced technological interventions, sugar mills supported financial outlay for development activities, State cane department made functional linkages for executing activities available, and farmers spared their land, labour and input resources in execution of collaborative programme in the command areas of sugar mills.

ICAR-IISR accepted this challenge and started working with deciding strategic plan encompassing identification of technological interventions, sensitization of stakeholders, deploying scientific manpower with active cooperation and logistic support from cane development department, government of UP and sugar mills.

Unavailability of healthy seed material was the major impediment in replacement of old cane varieties with newly released varieties. This was addressed with implementation of entrepreneurship development programme in seed cane production in farmers' fields. Every year 2000 t of breeder seed of new cane varieties was produced and multiplied in nurseries and cane development department of state government ensured that it reached to the actual field of the farmers. In this manner scarcity of healthy seed material of new cane varieties was mitigated to a great extent. Before the year 2012, State cane department was unwilling to recommend varieties tested under AICRP (S) and subsequently released by Central Variety Release Committee (CVRC). ICAR-IISR raised this issue with State Government of Uttar Pradesh and from 2012, CVRC released varieties were also added in the list of variety recommended for cultivation in the State.



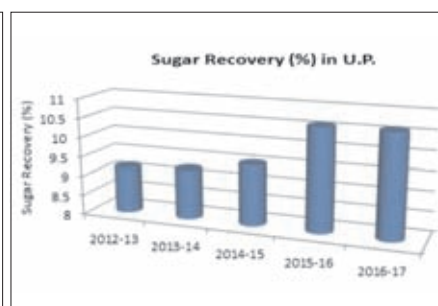
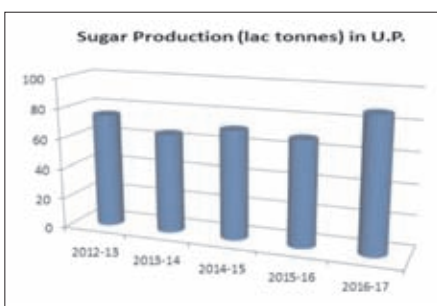
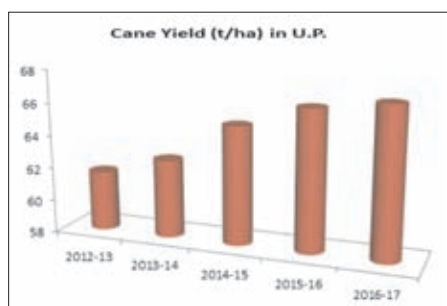
Trench planter machine with drip lateral in operation



Cane planting - paired row in trenches



Happy farmer



Interventions introduced

Stagnant cane yield and low sugar recovery became the identity of sugar industry in Uttar Pradesh over the years. There was a challenge to break this jinx with large scale adoption of technological

This paved the way for large scale adoption of early maturing high sugar variety specially Co 0238 and CoLk 94184 in Uttar Pradesh. Introduction of these varieties changed the sugarcane and sugar production scenario of Uttar Pradesh dramatically.

Another breakthrough in planting was achieved by the adoption of trench method in about 2.0 lakh ha leading to cane yield enhancement by 15-20 t/ha. Post-harvest losses remained major concern as it greatly impairs sugar recovery. This problem was addressed with spraying a mixture of sodium metasilicate (0.5%) + benzalkonium chloride (0.2%) solution on cane after harvest. This led to gain in sugar recovery by 0.3 to 0.5 unit. The large scale adoption of different variants of sugarcane planters helped farmers to complete planting timely amidst labour scarcity and this also helped gain in yield by 8-10%. Likewise, introduction of ratoon promoter machine enhanced ratoon cane yield by 10-15%. Intercropping of pulses, vegetables, oilseeds and cereals with sugarcane gave ample opportunity to cane growers to earn extra income of ₹ 50,000 to ₹ 200,000 per ha. Every year 30-40 skill up-gradation training for farmers, cane development personnel and

sugar mill officers was organized by ICAR-IISR. Participants were groomed as torch bearers of IISR technologies who in turn helped in their subsequent spread and adoption by farmers.

Interface meetings with state cane department and sugar mills were organized regularly to decide operational plan for introduction of IISR interventions in farmers' fields over large area. Those plans were implemented with active participation of all the stakeholders.

Sweet harvest of the participatory efforts are now quite apparent in Uttar Pradesh as the state is marching ahead with increasing cane and sugar yield and has gone past all previous records with wide margin.

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Capacity Building

High Containment BSL3Ag Laboratory

Bhubaneshwar, 1 April 2017. Shri Radha Mohan Singh, Union Minister of Agriculture and Farmers Welfare inaugurated a high containment BSL3Ag laboratory facility.



Establishment of the International Centre for FMD (ICFMD) with BSL3Ag containment facility will cater to the need of the country for safe handling of FMD virus as per international norms. Further, the laboratory will help in analysing exotic virus strains circulating elsewhere in the world in order to develop preparedness in terms of diagnostics and vaccines in the event of their incursion into the country.

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PM lays Foundation Stone of IARI at Gogamukh in Asom

Asom, 26 May 2017. Prime Minister, Shri Narendra Modi, laid the Foundation Stone of the Indian Agricultural Research Institute (IARI) at Gogamukh in Asom.

Congratulating the State Government in Asom and Chief Minister Sarbananda Sonowal, for the work done by them in the State the Prime Minister said that this IARI had the potential to impact the entire region in a positive way in the future. He said agriculture needs to be developed in line with the requirements of the 21st century. He added that farmers must benefit from changing technology.

He stressed on the need for modern agriculture and technological interventions, keeping in mind the specific needs of the region. The Honorable Prime Minister spoke of his vision of doubling farmers' income by 2022, the 75th anniversary of independence, and said the Union Government had taken a number of steps for farmers' welfare in the last three years. In this context he mentioned the soil health cards, the *Pradhan Mantri Krishi Sinchai Yojana*, and the *Pradhan Mantri Fasal Bima Yojana*. He spoke of the vast network of soil health laboratories being set up across the country, and the popularity of the *Fasal Bima Yojana* among farmers.

The Prime Minister spoke of *Panch Tatva* — five elements to boost connectivity in the North-East:



Railways, Highways, Airways, Waterways, and i-ways. He said his Government is working towards boosting prosperity and welfare of the people in the North-East through this “panch-tatva.”

Speaking on the occasion, Shri Radha Mohan Singh, Agriculture Minister said that Prime Minister Shri Narendra Modiji has pledged to double the farmers' income by 2022 and NARS is committed to fulfil his resolve. Shri Singh said that to bring in another round of green revolution in the north-eastern parts of the country, the Prime Minister has laid the foundation stone of IARI, Asom, literally a replica of the IARI, New Delhi.

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Vanami Shrimpapp a mobile app on Pacific white shrimp

Chennai, 4 April 2017. ICAR-Central Institute of Brackishwater Aquaculture (ICAR-CIBA) has launched an android based mobile app — ‘Vanami shrimpapp’ for the dissemination of technical information among the stakeholders of shrimp farming sector. Presently this app provides information on the better management practices of Pacific white shrimp (*Penaeus vannamei*) farming in the form of ‘Frequently Asked Questions’ and targeted for shrimp farmers and field level extension workers of coastal states. The client user can view the content, either topic-wise or through key word search. Further, users can post their queries through ‘post a query’ option and it will be answered within two working days. The app is being translated in Hindi, Telugu, Tamil, Oriya, Bengali and Gujarati languages and will be made available. The app will be updated at regular intervals based on the technological developments.



This app can be downloaded from the Google playstore at free of cost (<https://play.google.com/store/apps/details?id=com.vanami.shrimpapp&hl=en>)

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Solapur Anar-a mobile app for Pomegranate

Solapur, 30 April 2017. The three day National Seminar -cum-Farmers Fair was organized by ICAR-National Research Centre on Pomegranate, Solapur in collaboration with the Society for Advancement of Research on Pomegranate (SARP).

Shri Subhas Deshmukh, Cabinet Minister, Textiles and Marketing, Government of Maharashtra inaugurated trainees hostel and released promising pomegranate hybrids, viz. Solapur Lal having high iron and zinc



content and Solapur Anardana having high content of natural acid and antioxidants developed by ICAR-NRCP

A mobile app entitled ‘Solapur Anar’ in 6 Indian languages was also launched by Dr Trilochan Mohapatra, DG, ICAR, Guest of Honour.

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Mobile Fish Vending Trolley for Hygienic Fish Marketing

Bhubaneswar, 1 April 2017. Shri Radha Mohan Singh, Union Minister of Agriculture and Farmers Welfare released ‘Mobile Fish Vending Trolley for Hygienic Fish Marketing’ developed by AICRP on Plasticulture Engineering and Technology, CIFA centre, Bhubaneswar. The minister expressed hope that the trolley would be beneficial to both fish consumers and vendors. He urged the researchers to reduce the cost of the trolley and to make it self-propelled.

The trolley is mounted on peddle operated cycle rickshaw and costing ₹ 52,780. The trolley can carry 100 kg fish. The vending unit has been fabricated using Fibre Reinforced Plastics (FRP), which reduces the weight, requires lesser draft for motion and enhances the ergonomics. The main components of the gadget is fish storage chamber, insulated ice box, water tank, and fish dressing deck with wash basin, cutting tool, waste collection chamber and tool box and working space. The carriage system was designed considering the maximum weight that a man pull on rickshaw. The gross weight of the gadget including fish, ice, water, rickshaw and other utilities is 320 kg.

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ICAR-CIARI Spreads its Wings to Lakshadweep

Lakshadweep, 1 April 2017. To accomplish the extended mandate of serving the Island ecosystem research needs in agriculture and allied sectors of India, ICAR-Central Island Agricultural Research

Institute (CIARI) , Port Blair has spread its activities into Lakshadweep Islands. Looking at the impressive progress made by CIARI in Andaman and Nicobar Islands over the past four decades since its inception in the year 1978, Indian Council of Agriculture has decided to add Lakshadweep Islands to CIARI, Port Blair.

Krishi Vigyan Kendra, Kiltan was taken over from Lakshadweep Administration in April 2016, which has been presently shifted to Kavaratti.

A one day brain storming session will be organized at CIARI, involving the scientists to chalkout action plan for Lakshadweep Islands for the year 2017-2018.

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Inauguration of University Guest House at Imphal

Imphal, 30 May, 2017. Dr Trilochan Mohapatra, Secretary, DARE and DG, ICAR, inaugurated a newly constructed University Guest House of Central Agricultural University at Lamphelpat, Imphal.



Dr Mohapatra acknowledged the hard working faculty members in bringing out best students in the Region. He also emphasised on the need to build career of students and informed that by adding 6 (six) new colleges, now the University has 13 (thirteen) constituent colleges in seven states of NEH Region. He expressed his concern about the need to change the present system by a stronger system to fill the present vacuum in terms of research in the Region which has vast scope.

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Four new KVKs for Odisha

Bhubaneshwar, 1 April 2017. Shri Radha Mohan Singh, Union Minister of Agriculture and Farmers Welfare laid the foundation Stone of various infrastructures of KVKs at Bolangir, Ganjam II, Mayurbhanj II and Puri, of Orissa University of Agriculture and

Technology. Shri Singh highlighted the important achievements of Union Government like soil health management, effective water management, popularization of micro irrigation system and lauded the role of KVKs as a frontline extension institution at district level. He said the overall improvement of the country can be ensured through improvement of farmers and villages.

The Minister later inaugurated a State Level Biodiversity Exhibition in which 33 KVKs of Odisha participated to showcase the Agro- biodiversity existing in different parts of the state.

Shri Dharmendra Pradhan, Union Minister of State, Independent Charge, Petroleum and Natural Gas urged OUAT to initiate research on converting urban and agriculture waste to energy. He also emphasized on developing and strengthening agri-entrepreneurship among the youth.

Dr Trilochan Mohapatra was honored with degree of Doctor of Science (*Honoris Causa*) for his lifetime contribution to the field of Agricultural Science. More than 150 farmers from different parts of the state, scientists.

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Administrative Building of ICAR, KVK, Tamenglong inaugurated

Manipur, 29 May 2017. Dr Trilochan Mohapatra, Secretary (DARE) and DG ICAR, inaugurated the Administrative Building of ICAR -Krishi Vigyan Kendra, Tamenglong District, Manipur. In his inaugural address, he said that the KVK, Tamenglong will fulfill the requirements of farmers in this region, by improving their lives and ensuring livelihood security. He also stated that KVK, Tamenglong would be earmarked for training of 2,000 farmers every year in various vocations and would ensure that the benefits of technology reached them. He stressed on developing horticultural practices in the region, improving value addition and meeting the target of doubling farmers' income in the next five years i.e. by 2022.



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Desi Shrimp Feed Technology Transfer

Chennai, 4 May 2017. ICAR-Central Institute Brackishwater Aquaculture, Chennai signed an MoU with Sri Sathvika Aqua Agro Industries Private Limited for technology transfer of Vannami plus under ARYA programme. The company envisaged to use 'Vannami plus' of CIBA in their own farms and also to supply the small and medium size farmers in their close locality which is expected to have impact on the local farming community around Ongloe in Andhra Pradesh, by reducing the cost of production of shrimp.



Dr K K Vijayan, Director, ICAR-CIBA indicated the effectiveness of Vannami plus in bringing down the cost of shrimp production and increasing the profitability of shrimp farming. He also highlighted that company will set an example for others to come under the Attracting and Retaining Youth in Agriculture (ARYA) programme. He emphasized the risk factor to be considered in the new venture and emphasized entrepreneur to become a success model.

ICAR-CIBA has developed cost effective and quality feed shrimp feed using indigenous feed ingredients for vannamei farming, and the feed is promoted as the 'Vannami plus'.

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Anti-obesity nutraceutical product

Kochi, 23 May 2017. ICAR-CMFRI signed an MoU with VLCC to transfer technology to the firm for commercial production

ICAR-Central Marine Fisheries Research Institute, Kochi has commercialized its recently developed nutraceutical product for obesity and cholesterol named CadalminTM Anti-hyper-cholesterolemic extract (CadalminTM ACe). The ICAR-CMFRI gave the exclusive license to VLCC, a leading Indian MNC in wellness and obesity management, for using the



technology for commercial production and marketing of the product.

Dr A Gopalakrishnan, Director of ICAR-CMFRI signed an MoU with Shri Sandeep Ahuja, Director, VLCC Group and Dr A H Zaidi, Executive Vice President (R & D) of the firm.

The bioactive principles in CadalminTM ACe inhibit various enzymes such as hydroxymethyl glutaryl coenzyme A reductase and various target receptors, which are responsible for causing obesity and dyslipidemia. CMFRI developed the anti-obesity nutraceutical product using natural marine bioactive ingredients from selected seaweeds after years of intensive research and the product was found to be effective in combating dyslipidemia and obesity (**Dyslipidemia** is an abnormal amount of lipids (e.g., triglycerides, cholesterol and/or fat phospholipids) in the blood). CMFRI's technology is currently under patent.



The product is 100% natural and proved to be devoid of any side effects as established by detailed pre-clinical trials. The nutraceutical product is prepared from seaweeds, which are commonly available in the Indian coastal waters. Seaweeds are known for their extraordinary medicinal properties. CadalminTM ACe is the fourth in the series of the nutraceutical products developed by ICAR-CMFRI.

The ICAR- CMFRI is in the process of developing more health products and nutraceuticals from seaweeds, that are bounty in Indian coastal waters.

Information on the availability of this product in the market will be made public as soon as the product is ready through the firm.

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Celebrations

GIS technology in fisheries to minimize fishing expenses

Kochi, 5 May 2015. Shri Sudarshan Bhagat, Union Minister of State for Agriculture and Farmer Welfare called for utilizing Geographical Information System (GIS) technology in the fisheries sector to minimize fishing efforts and expense. He was speaking at an interactive meeting with fishermen and fish farmers in the presence of the scientists of ICAR-Central Marine Fisheries Research Institute, Kochi. The programme was part of ICAR-CMFRI's ongoing platinum jubilee celebrations.



On the occasion, the minister felicitated India's first fisher couple, Shri K V Karthikeyan and K C Rekha. Mrs Rekha and Mr Karthikeyan have been venturing into the sea on outboard boat for around 15 years. Rekha is the first woman in the country who goes into sea for fishing on motorized boat. ICAR-CMFRI has been providing financial and technical support to the couple to launch the cage fish farming in sea waters. The minister handed over to the couple seeds of seabass, a high value fish, for starting the cage farming. The couple hails from Kundazhiyoor near Chettuva in Thrissur district. Although there are women fishermen engaged in fishing in backwaters, no record about woman's presence in fishing along the Indian coasts is available so far.

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29th Foundation Day of ICAR-NRC on Mithun

Nagaland, 2 June 2017. ICAR-National Research Centre on Mithun, Medziphema, Nagaland celebrated its 29th Foundation Day in which the Chief Guest was the Shri Yitachu Fithu, Minister for School Education and SCERT, Government of Nagaland. In his foundation day lecture, he appreciated the efforts taken by the



Institute in popularizing the scientific rearing of mithun and stressed the importance of caring the local bio-resources, including mithun.

Guest of honour Dr Chandan Rajkhowa, former Director, ICAR-NRCM, said that the mithun has a tremendous potential to transform the lives of tribal population in the NEH region.

Dr Abhijit Mitra, Director, ICAR-NRCM apprised about the achievements of the institute. Dignitaries witnessed the semi-intensive rearing of mithun in the farmer's field in Molvom village, Medziphema, an initiative of NRCM launched last year.

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29th Foundation Day of Central Agroforestry Research Institute

Jhansi, 8 May 2017. ICAR- Central Agroforestry Research Institute, Jhansi celebrated its 29th Foundation Day.

Chief Guest Shri Chandrika Prasad Upadhyay, MLA, Chitrakootdham Karwi (UP) in his foundation day lecture highlighted the development of downtrodden farmers by transferring the agricultural and agroforestry technologies at their field. He urged scientists to undertake research which is pro-active, anticipatory, problem-solving, result-oriented and farmer participatory in approach and in a network mode. He emphasized on protection and optimum utilization of natural resources as well as diversification of production in Bundelkhand region while working with farmers and solving the problems in real field situations.

On this occasion a farmers' workshop entitled 'Doubling the income of Bundelkhand farmers by natural resource management and alternative land use systems' was also organized in collaboration with World Agroforestry Centre, South Asia Regional Office, New Delhi, SPANDAN, New Delhi, ISAF, Jhansi and ICAR-CAFRI, Jhansi.



Six progressive farmers including one woman farmer were honored for adopting agroforestry technologies and setting example for other farmers in the Bundelkhand region.

An exhibition was also organized in which ICAR institutes, KVKs and Line Departments of Jhansi and Datia (Madhya Pradesh) showcased their technologies and products for the benefit of farmers.

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Diamond Jubilee Foundation Day of CIFT

Cochin, 29 April 2017. A week-long celebration was held from 24 to 28 April 2017 of the Diamond Jubilee Foundation Day celebration of ICAR-CIFT.

Shri Pinarayi Vijayan, Chief Minister of Kerala, Chief Guest of the event appreciated the work of ICAR-CIFT in the field of fishing and fisheries technologies. Expressing concern over decreasing trend in fish consumption pattern due to presence of chemicals and antibiotics in fish, he suggested to ensure healthy and clean environment throughout the fish supply chain as a part of *Haritha* Clean Kerala Mission.

The Chief Minister also released the brand logo of ICAR-CIFT named 'ciftec' for popularization of ICAR-CIFT products under unique brand name.

Dr Trilochan Mohapatra, Secretary (DARE) and DG (ICAR) in his keynote address strongly urged the scientists to reorient the research priorities towards climate change, emerging fish diseases, fish contaminations etc. to realize the clarion call of the Prime Minister of India for bringing a Blue revolution in the country. He emphasized on fish-preneurship development to create more employment opportunities.

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Foundation Day of NRRI and Dhan Diwas

Cuttack, 23 April 2017. The ICAR-National Rice Research Institute, Cuttack celebrated its '71st Foundation Day and Dhan Diwas'.

Dr Trilochan Mohapatra, Secretary, DARE and DG, ICAR, in his inaugural address congratulated the farming and scientific communities for estimated record production of rice as well as overall foodgrains during 2016-17 despite all vagaries of weather due to climatic change. He highlighted on the goal set by the Honorable Prime Minister of India for 'Doubling Farmers Income by 2022'. To achieve this, he emphasized on integration of suitable technologies in



different farming situations, crop diversification, linking all farmers with the market, exploring all options for value addition to agricultural produces, women empowerment and encouraging participation of youths in agriculture, especially in post-harvest activities.

On this occasion, the chief guest inaugurated an Agricultural Exhibition and felicitated rice farmers/farm women from Odisha, Jharkhand, Asom and Meghalaya for their innovative practices in rice-based farming. Six research and technology bulletins and Odia version of the 'riceXpert' mobile app were released by dignitaries. He also inaugurated 238 KW Roof Top Solar Power system, which will cater to nearly 50% of electrical energy requirement of the institute.

Dr Himanshu Pathak, Director, ICAR-NRRI and Chairman highlighted the significant achievements of the institute, like eleven recently released varieties including two high protein rice namely, CR Dhan-310 and 311, rice-value chain and IT-enabled 'riceXpert' mobile app in Odia and English.

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29th Foundation day of DWR

Jabalpur, 22 April 2017. ICAR-Directorate of Weed Research, Jabalpur, celebrated its 29th Foundation Day.

Shri Prahlad Singh Patel, Member of Parliament, Damoh, in his Foundation Day address shared the problems faced by the farmers at present and urged the scientist to work on farmers' oriented problems. He emphasised on control measure of weeds of waterbodies like water hyacinth and asked to develop very low cost technologies to manage these weeds. Besides, he also emphasised on extension of technologies developed by scientists so that each and every technology can reach to the farmers.

Dr P K Singh, Director, ICAR-DWR, Jabalpur, briefed the mandate and activities being carried out in the

Directorate and explained the work and activities carried out under 'Mera Gaon Mera Gaurav' and 'Farmers First' programme. He also elaborated the Directorate's venture in research on weed management and extension of related technologies. He explained the Directorate's activities in 22 adopted villages in five districts, viz. Jabalpur, Mandla, Narshinghpur, Seoni and Katni to enhance livelihood of farmers through weed management and related agricultural practices.

A technical bulletin on 'Major Creeper and Climber Weeds in India' and a Mobile app (Weed Manager) were released.

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IXth Foundation Day of ICAR-NIASM

Baramati, 13 April 2017. ICAR-National Institute of Abiotic Stress Management, Malegaon, Baramati celebrated its IX Foundation Day.

Padma Vibhushan, Shri Sharad Chandra Pawar, former Union Minister of Agriculture and Food Processing, in his foundation day address emphasized on reducing losses of agricultural produce caused due to abiotic stresses and post-harvest losses during transit. He urged to educate farmers through documentary films on poultry, fisheries and agricultural practices going on throughout the world should be demonstrated to farmers so that they will be encouraged to adopt scientific farming practices and get benefitted.

Smt Supriyatai Sule, Member of Parliament, in her address, expressed her concern about climate change and hoped that this institute will contribute significantly in the mitigation and management of various abiotic stresses occurring due to adverse climatic conditions. Shri Sunil Kumar Singh, Additional Secretary and Financial Advisor (DARE/ICAR) emphasized that innovative agricultural technologies developed by Agricultural Scientists should reach the farmers so that their income can be increased. He stated that ICAR institutes have contributed significantly to green revolution. Dr Narendra Pratap Singh, Director ICAR-National Institute of Abiotic Stress Management, Baramati, welcomed the guests and briefed about the research achievements of the institute.

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Annual Day of ICAR-IISWC

Dehradun, 7 April 2017. ICAR-Indian Institute of Soil and Water Conservation, Dehradun celebrated its Annual Day.

Chief Guest Dr Trilochan Mohapatra, Secretary, DARE and DG, ICAR urged the scientists and staff of the

Institute to work for the country in a target oriented objective way and should not give open ended solutions.

Earlier, Dr Mohapatra visited the Research Farm of the Institute at Selaqui and inaugurated a Training Hostel at its headquarters.

He also attended a Group Meeting of Members of the Uttarakhand State Coordination Committee for Doubling of Farmers Income as Chairman. In his address, he highlighted the various aspects that need to be addressed in the Action Plan for achieving the objective of doubling farmers' income.

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ICAR-IISS Celebrates 30th Foundation Day

Bhopal, 16 April 2017. ICAR-Indian Institute of Soil Science, Bhopal celebrated its 30th Foundation Day.

Dr Panjab Singh, Chancellor, Rani Lakshmbai Central Agricultural University, Jhansi and Former DG, ICAR delivered the Foundation Day Lecture.

Dr Singh urged for more farmer centric research programmes on soil for the benefit of society. He emphasized the importance of soil organic carbon for the sustainability of soil health and importance of conservation agriculture. He also stressed on the need of interdisciplinary research for solving the complex future research problems.

Dr C K Patil, Director General, Madhya Pradesh Council of Science and Technology (MPCOST), Bhopal, Guests of Honour, emphasized the need of having more educational and awareness programmes on the role of soils for the benefit of society and also highlighted the need for collaboration among premier research and academic institutions for improving quality of research with wider dimension.

Dr Ashok K Patra, Director, IISS while welcoming the distinguished guests and participants briefed about the achievements of the Institute. Progressive farmers as well as institute Staff who had completed twenty years of service in ICAR-IISS were felicitated on the occasion. A Farmer-Scientist interaction programme was also organized on the occasion.

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33rd Foundation Day of ICAR-CRIDA

Hyderabad, 12 April 2017. ICAR - CRIDA celebrated its 33rd Foundation Day.

Dr David Bergvinson, Director General, ICRISAT, Chief Guest of the event, appreciated the contributions of



CRIDA to the rainfed farming community as well as climate change research. He highlighted the CRIDA coordination of ICAR flagship program NICRA, said that and District Agriculture Contingency Plans developed for 623 districts so far were much appreciated across the country. He opined that translating science to profitable adoption, integrating IT in agricultural research with ample use of spatial data and crop modeling for future climate could play a vital role in national agricultural productivity enhancement programs to meet food security challenges. He also mentioned that monsoon and markets are two key challenges that are faced by Indian Agriculture.

On this occasion, 18 farm innovators from six states were honored for their innovations in agriculture and allied enterprises for achieving sustainable productivity through novel innovations.

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Celebrating World Milk Day

Karnal, 1 June 2017. On the occasion of World Milk Day, ICAR-NDRI, Karnal launched an innovative kit for the detection of maltodextrin, an adulterant of recent time, in milk. The kit can detect 0.01% level of maltodextrin in milk. The kit has been developed by Dr Rajan Sharma, Dr Y S Rajput and Dr Bimlesh Mann and commercialised by two NDRI students Mr



Manoj Kumar Maurya and Mr Babbar Singh who have become

entrepreneurs. The kit is available in the market under the brand name del-strips™. Presently the strips are being manufactured in the Technology Business Incubator (TBI) facility at ICAR-NDRI, Karnal. The developed kit is capable of even detecting adulteration of milk products such as dahi, khoa etc with maltodextrin.

While inaugurating the exhibition, 'Quality Milk for Healthy Life', Dr R R B Singh, Director, NDRI said that adulteration of food products including milk is a menace in India and NDRI is working proactively to develop tools to tackle this menace.

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ICAR observes Swachhta Pakhwada

New Delhi, 16 May 2017. Indian Council of Agricultural Research, New Delhi has been observing Swachhta Pakhwada (16-31st May, 2017) according to instructions of Government of India.

ICAR Headquarters

On 16 May 2017, Dr Trilochan Mohapatra, Secretary (DARE) and DG (ICAR), Scientists/Officers & employees took pledge for cleanliness. During this fortnight various creative and cleanliness related programmes organised in Krishi Bhawan, Krishi



Anusandhan Bhawan; National Agricultural Science Centre and Residential Complex. On 19 May 2017 in a workshop organised under the Chairmanship of Dr K Alagusundaram, DDG (Agril. Engg.), at Krishi Anusandhan Bhavan, participants shared their perspective for making surroundings and buildings clean and green by adopting innovative measures.

ICAR-Agricultural Technology Application Research Institute, Zone-I, Ludhiana

ICAR-ATARI, Ludhiana along with Krishi Vigyan Kendras (KVKs) of Zone-I organised various activities under Swachhta Pakhwada (Cleanliness fortnight).

At, KVKs of Himachal Pradesh, KVK Bilaspur, involved 27 local people for cleanliness of surrounding area near Panchayat Bhawan of village Sargal, KVK Una also initiated cleanliness on its premises and KVK Kangra, created awareness amongst school children, KVKs of Punjab also conducted several activities on 16.05.2017, KVK Fatehgarh Sahib, KVK Amritsar, administered the Swachhta oath to the staff and cleaned the premises of KVK, An awareness programme for 33 students was organised by KVK Gurdaspur, KVK Ropar, KVK Mohali, KVK Bandipora of Jammu & Kashmir.

CIFT, Cochin

At CIFT, Cochin fortnightly celebrations started with a pledge administered by Dr C N Ravishankar, Director, ICAR-CIFT. He urged the staff to keep office

and lab premises neat and clean and requested the staff to participate in the fortnight long celebrations to make Swachh Pakhwada a grand success.

NIRJFT, Kolkata

Staff members of ICAR-NIRJAFT took the Swachhta Pledge and formed a human chain. A number of programmes were organized during this period to emphasize the need for cleanliness and to make country clean and green.

NIASM, Baramati

Swachhata Pakhwada was inaugurated by Mrs Pornima Taware, Mayor, Baramati Municipal Council was presided over the function as chief guest and Dr S R Singh, Ex-Director, IASBHU and Mrs. Nita Chavan, Member, Baramati Municipal Council were Guest of Honour.



Director, ICAR-NIASM administered Swachhata oath to all the NIASM employees on 19th May 2017.

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Field Day for tribal farmers

Karnataka, 13 May 2017. A capacity building-cum-field day was organized under Tribal Sub Plan of AICRP-STCR in collaboration with AICRP-LTFE centre of UAS, Bengaluru for tribal farmers of Hospod, Srinivaspura and surrounding hamlets of Chamarajanagara district, Karnataka.

The objective of the programme was to popularize the importance of soil test based balanced fertilizer application with Soil Test Crop Response approach among the tribal farmers. More than 140 farmers participated in the event. Soil health cards, *ragi* seeds and fertilizers were distributed with the support of Forest Department of Chamarajanagara district and AINP on Underutilized crops.

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ICAR celebrates International Yoga Day

New Delhi, Indian Council of Agricultural Research celebrated 'International Yoga Day' on 21st June 2017. ICAR Institutes across the country organized Yoga Sessions as per Common Yoga Protocol provided by Ministry of AYUSH, Government of India.

ICAR Headquarters

International Yoga Day was organized at Symposium Hall, NASC, New Delhi. Dr Trilochan Mohapatra, DG ICAR said Yoga helps to achieve balanced and peaceful life. Instructors from Morarji Desai National Institute of Yoga demonstrated various Yoga asanas. A one hour Yoga was organized at the Post Graduate Ground of IARI.

ICAR RC for NEH Region, Umiam

ICAR Research Complex for NEH Region in collaboration with ICAR-ATARI, Umiam along with ICAR-ATARI, Guwahati observed the International Day of Yoga at the indoor stadium of ICAR Complex. Mr. Abhay Mahajan and Mr Atul Jain from Deendayal Research Institute, New Delhi demonstrated different asanas and pranayamas. The yoga session was organized at the indoor stadium inside the ICAR Quarter Complex, Umiam.

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ICAR-NBFGR, Lucknow

The International Yoga Day was celebrated at ICAR-National Bureau of Fish Genetic Resources. The Yoga session was organized in the administrative block lounge at 6.30 AM with a brief address by Dr K K Lal, Director, NBFGR.



The Yoga was demonstrated by Dr Basdeo Kushwaha, Principal Scientist at the institute. The common yoga protocol released by AYUSH Ministry, Govt. of India was followed. The programme ended with vote of thanks by Dr. Basdeo Kushwaha, Nodal Officer, Yoga.

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ICAR-NAARM, Hyderabad

NAARM, Hyderabad celebrated the International Yoga Day in which about 300 members participated from 6.00 to 8.00 am. Dr A Debnath, Chief Medical Officer and Yoga Instructor of the Academy administered the Common Yoga Protocol. Students from Bhartiya Vidya Bhavan, NIRD also participated in the session. Dr Ch. Srinivasa Rao, Director of the Academy, participated in the Yoga, and addressed the gathering and motivated them to adopt the basic tenets of yoga and wellbeing in their life.

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Visits

Kisan Goshthi at Kangra

Kangra, 9 May, 2017. Shri S S Ahluwalia, Union Minister of State for Agriculture and Farmers' Welfare and Parliamentary Affairs visited the Krishi Vigyan Kendra, Kangra and chaired a **Kisan Goshthi**. He said that traditional knowledge has its utility and integrated farming, animal husbandry, poultry, fishery, mushroom cultivation etc are important to increase the per capita income of the farm families.



In response to a problem raised by farmers of monkey menace and wild animals in agriculture, the Minister urged the scientists to put forth some suggestions to deal with these challenges.

Professor AK Sarial, Vice-Chancellor, CSAHPKV, Palampur informed that the university has developed twenty models of enterprises which can enable the farmers to double their income by 2022.

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Uma Bharti visits CIFRI, Barrackpore

Barrackpore, 26 May 2017. Sushri Uma Bharti, Union Minister of Water Resources, River development and Ganga Rejuvenation visited ICAR-Central Inland Fisheries Research Institute, Barrackpore, Kolkata.



The Minister said that the two scientific institutions, CIFRI, Barrackpore and Forest Research Institute, Dehradun are contributing significantly in the National Mission on Clean Ganga. She stressed that 'Nirmal Dhara' of river Ganga can be achieved only when original aqualife (fish, dolphin, etc.) of river Ganga can be restored in their own habitats. Role of ICAR-CIFRI is immense in this direction for biodiversity mapping and restoring original aqualife of river Ganga. She handed over fish nets to fish farmers of Sagar Island. She took keen interest in the exhibition showing fishes of River Ganga. Two main prized warm water fishes rohu (*Labeo rohita*) and catla (*Catla catla*) were released under the project by Sushri Uma Bharti, in river Ganga at Barrackpore, West Bengal.

Contribution of major consumable fish species especially Indian Major Carps (IMC) have declined drastically all throughout the river Ganga due to various anthropogenic activities in past decades such as pollution, overfishing, use of destructive fishing gears etc Two thousand and five hundred fingerlings (sized 8-10 cm) of rohu (*Labeo rohita*) and catla (*Catla catla*) has been released as per the ranching objective under the present NMCG sponsored project.

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MoS A&FW visits ICAR-NRC on Yak

Dirang, 15 May 2017. Shri Sudarshan Bhagat, Union Minister of State for Agriculture and Farmers Welfare visited ICAR-National Research Centre on Yak, Dirang and interacted with scientists and visited different laboratories of the institute. Appreciating efforts of the institute in the frontier areas of yak husbandry, Shri Bhagat, in his address elaborated different agricultural schemes and projects available for farmers in the tribal region. He said that Government of India is working hard to achieve Prime Minister's call of doubling farmers' income and emphasized that this could be achieved through integrated farming system. He underlined that animal husbandry is a blank cheque, which farmers can encash as per their need. Shri Bhagat accentuated that interaction between farmers and scientist and other experts in





agriculture and allied sector is necessary so that technology developed by the research centres, KVKs and other institute, can directly benefit the farming community. He also attended an interactive session with scientists and staffs of ICAR-NRC on Yak, officials of state departments, public leaders and farmers of the West Kameng district.

The Minister visited Nyukmadung Yak farm complex of ICAR-NRC on Yak, different sheds and the yak semen processing unit and interacted with the yak herders of Nyukmadung and Sange village. He distributed wool shearing scissors to the yak herders and appreciated work done by the institute for betterment of farming community.

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Nutrition in Fishery Sector

Cochin, 5 May 2017. Shri Sudarshan Bhagat, Union Minister of State for Agriculture and Farmers' Welfare, visited ICAR- Central Institute of Fisheries Technology at Cochin, Kerala to review the activities of the institute.

Shri Sudarshan Bhagat said that the fishery sector has a lot of potential to bring nutritional security among the poor and malnourished farm families and doubling the farm income. Citing the encouraging fish production potential of the country to the tune of more than 150 lakh tonnes with an annual growth

trend of more than 6 %; he urged the scientists that it is the right time to link the research to the end users, which can realize the cherished dream of Honorable Prime Minister to bring Blue Revolution in the country.

During his visit to different laboratories, Shri Bhagat expressed his satisfaction over the work done by ICAR-CIFT not only in fish harvesting and post harvesting but also in value added fish product development, quality maintenance and safety standards development in addressing the emerging issues in the sector. On this occasion, he also released some newly developed fish products viz. Collagen Peptide Biscuits, Seaweed nutri drink, Calcium and Iron fortified Fish Soup Powder and an E-Book entitled 'Mechanised Fishing Vessels of India'.

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Interaction with farmers in Kerala

Kerala, 4 May 2017. Shri Sudarshan Bhagat, Union Minister of State for Agriculture and Farmers Welfare, visited Muttar, the only village in Kerala where the ICAR project 'National Innovations in Climate Resilient Agriculture' (NICRA) has been implemented.

While interacting with farmers on the impact of the project, Shri Bhagat briefed about the farmer friendly development programmes like PMFBY, PKSY, Soil Health Card programme, PKVY etc implemented by the Government of India with the objective of doubling the farmers' income by 2022. He emphasized that this could be achieved only through the integrated farming system (IFS) approach where farming is integrated with dairy, fisheries, poultry, duck and other enterprises. He appreciated the efforts of ICAR-KVK-Alappuzha in successfully implementing the NICRA project and the partner farmers for their co-operation. He also released two publications based on the project.

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Project Director joins ICAR-DKMA

New Delhi, 3 April 2017. Dr Satendra Kumar Singh joined Directorate of Knowledge Management in Agriculture in addition to his duties as Scientific Advisor to the Union Minister of Agriculture and Farmers Welfare, Shri Radha Mohan Singh. Dr S. K. Singh, a well known name in the Animal Genetics and Breeding, and also in Information Technology across departments belonging to Ministry of Agriculture and Farmers Welfare, Government of India, looks after Social Media and MyGov endeavour of Government of India.

Born on 10 January 1960 in Jaunpur District of Uttar Pradesh, Dr S K Singh did his Ph.D. from G. B. Pant University of Agriculture and Technology. He joined Central Institute of Research on Goats, Makhdoom. Dr Singh has done significant work in the field of Information Communication Technology by creating information and communication tools for management of goat genetic resources, building information and communication network infrastructure and tools for free and open source software (FOSS) in agriculture in our country.



Trainings

- Lucknow, 24 April 2017. An Epidemiology School on Aquatic Animal Diseases was organized at ICAR-NBFGR for scientists involved in the National



Surveillance Programme for Aquatic Animal Diseases (NSPAAD). Five day programme was led by Professor Kenton L Morgan, Emeritus Professor

of Epidemiology, Institute of Veterinary Science, and University of Liverpool, U K. The emphasis of the programme was to provide training on basic and practical aspects of epidemiology.

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- Bhopal, 25 April, 2017. An International Training Programme on Farm Mechanization held at CIAE, Bhopal. Twenty-three executives of nine countries namely Botswana, Ghana, Kenya, Liberia, Malawi, Mozambique, Uganda, Afghanistan and Mangolia participated in this training.

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- Jodhpur, 19 May 2017. A two-day collaborative training programme on "Proper Handling of Mini Soil Testing Machine" for KVKs of Rajasthan and Gujarat was inaugurated at ICAR-Agricultural Technology Application Research Institute (ATARI), Jodhpur (Rajasthan) from 19 to 20 May 2017.

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- Karnal, 5 June 2017. A four-day training programme on Sustainable Management of Salt affected Soils and Poor quality Water for crop production at ICAR-Central Soil Salinity Research Institute, Karnal from 5 to 8 June 2017.

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- Bengaluru. ICAR-IIHR conducted entrepreneurship training on mushroom spawn production and mushroom cultivation from 18-26 May 2017 and 22 to 26 May 2017.

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- Bhubaneshwar, 29 May 2017. Two Training Programmes on 'Women Leadership for Impact in Agriculture Development' were organized under the ICAR-CIWA-IRRI Collaborative Project 'Increased productivity of Rice based Cropping Systems and farmers income in Odisha' at ICAR-CIWA, Bhubaneswar during 29 May - 2 June 2017 and 5-7 June 2017, respectively.

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- Pune, 27 June 2017. An eight day training programme on 'Enhancing Grape Production with Advanced Viticulture Techniques' was jointly

organized by ICAR-NRCG, Pune and Maharashtra Rajya Draksha Bagaitdar Sangh (MRDBS), Pune. The programme aimed at empowering the new generation of grape growers with advanced techniques in viticulture for sustained production of quality grapes.

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- Jammu, 25 April 2017. A one day ex-trainee Sammelan cum farmer scientist interaction was held at Krishi Vigyan Kendra, R.S. Pura, Jammu. The objective of the interaction was to bring the trainees back to KVK for sharing their views and providing information to the scientists and studying the impact of each programme for better transfer of technology.

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Personnel

Appointments

Name, Designation and Address	Date of appointment
Dr Lakhan Singh, Director, ICAR-ATARI, Pune	03.04.2017
Dr Anjani Kumar, Director, ICAR-ATARI, Patna	11.04.2017
Dr Sati Shankar Singh, Director, ICAR-ATARI, Kolkata	12.04.2017
Dr Gopal Lal, Director, ICAR-NRCSS, Ajmer	12.04.2017
Dr Major Singh, Director, ICAR-DOGR, Pune	13.04.2017
Dr Anand Kumar Singh, DDG (Hort. Sci.), ICAR Hqrs., New Delhi	27.04.2017 (AN)
Dr Ch. Srinivasa Rao, Director, ICAR-NAARM, Hyderabad	28.04.2017 (AN)
Dr A.K. Tripathi, Director, ICAR-ATARI, Guwahati	09.05.2017
Dr T.R. Sharma, JD (Res.), ICAR-IIAB, Ranchi	16.05.2017

Superannuation

Name, Designation and Address	Date, superannuation
Dr V. Ravindra Babu, Director, ICAR-IIRR, Hyderabad	30.06.2017

Editorial Board

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