



# CITATIONS

ICAR AWARD CEREMONY

16 JULY 2021



Indian Council of Agricultural Research  
New Delhi  
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नरेन्द्र सिंह तोमर  
NARENDRA SINGH TOMAR



कृषि एवं किसान कल्याण,  
ग्रामीण विकास और पंचायती राज मंत्री  
भारत सरकार  
कृषि भवन, नई दिल्ली  
MINISTER OF AGRICULTURE & FARMERS WELFARE,  
RURAL DEVELOPMENT AND PANCHAYATI RAJ  
GOVERNMENT OF INDIA  
KRISHI BHAWAN, NEW DELHI

## संदेश



हर्ष का विषय है कि भारतीय कृषि अनुसंधान परिषद वैज्ञानिकों, किसानों, संस्थानों को उनके उल्लेखनीय योगदान के लिए मान्यता प्रदान करने हेतु विभिन्न पुरस्कार प्रदान करता है। भारतीय कृषि अनुसंधान परिषद के इस 93 वें स्थापना दिवस के अवसर पर 16 विभिन्न श्रेणियों के 59 पुरस्कार प्राप्तकर्ताओं के प्रयासों को मान्यता प्रदान की जा रही है, जिसमें 4 संस्थान, 1 एआईसीआरपी, 4 कृषि विज्ञान केन्द्र (केवीके), 39 वैज्ञानिक एवं 11 किसान, सम्मिलित हैं।

मुझे इस बात के लिए भी प्रसन्नता है कि परिषद पुरस्कार प्राप्तकर्ताओं के उल्लेखनीय योगदान पर एक पुस्तिका भी प्रकाशित कर रही है। आज के संदर्भ में कृषि क्षेत्र में नई और बेहतर प्रौद्योगिकियों का तेजी से विकास और कृषि क्षेत्र में अनुसंधान, शिक्षण और विस्तार की नवोन्मेषी अवधारणाओं का अंगीकरण सर्वाधिक महत्वपूर्ण हो गया है क्योंकि हमें नई और अपेक्षाकृत बड़ी चुनौतियों का निरंतर सामना करना पड़ रहा है।

मुझे विश्वास है कि हमारे सभी कृषि वैज्ञानिक, अनुसंधानकर्ता, अध्यापक, विस्तार पदाधिकारी, किसान और अन्य सभी हितधारक इस तथ्य से भली-भांति अवगत होंगे और इस अवसर का लाभ उठाएंगे तथा इन समस्याओं का समाधान करने और इन जटिल चुनौतियों का सामना करने की दिशा में अपनी सामूहिक शक्ति से योगदान देंगे।

कृषि क्षेत्र में नई और बेहतर प्रौद्योगिकियां वह मुख्य आधार होगा, जिसकी वजह से वर्ष 2022 तक किसानों की आय को दोगुना करने और वर्ष 2024 तक हमारे देश की अर्थव्यवस्था को 5 ट्रिलियन डॉलर बनाने का मिशन पूरा हो पाएगा, जो कृषि क्षेत्र को शामिल किए बिना पूर्ण करना बहुत कठिन है।

मैं परिषद के प्रयासों की सराहना करता हूँ और आशा करता हूँ कि पुरस्कार प्राप्तकर्ताओं की उपलब्धियों से अन्य लोग भी प्रेरित होंगे और देश में कृषि-विकास के सभी क्षेत्रों में वैज्ञानिक प्रयासों को बढ़ावा मिलेगा।

(नरेन्द्र सिंह तोमर)

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कैलाश चौधरी  
KAILASH CHOUDHARY



कृषि एवं किसान कल्याण  
राज्य मंत्री  
भारत सरकार  
MINISTER OF STATE FOR AGRICULTURE  
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यह नोट करना उत्साहवर्धक है कि भारतीय कृषि अनुसंधान परिषद ने व्यक्तियों/वैज्ञानिकों की टीमों, विस्तार पदाधिकारियों, प्रगतिशील/नवोन्मेषी किसानों, देश में कृषि के अनुसंधान, विकास और प्रोत्साहन में संलग्नी विश्वविद्यालयों/संस्थानों तथा कृषि विज्ञान केन्द्रों की योग्यता और उपलब्धियों को मान्यता प्रदान करने एवं उनके बीच स्वस्थ प्रतिस्पर्धा सृजित करने के लिए कुल 16 पुरस्कार प्रदान किये जा रहे हैं। ये पुरस्कार और सम्मान देश में कृषि अनुसंधान, शिक्षा और प्रसार में श्रेष्ठता को प्रोत्साहित करने में महत्वपूर्ण भूमिका निभा रहे हैं। मुझे इस बात की भी खुशी हो रही है कि दिनांक 16 जुलाई, 2021 को भारतीय कृषि अनुसंधान परिषद के 93वें स्थापना दिवस के अवसर पर सम्मानित किए जाने वाले पुरस्कार विजेताओं के महत्वपूर्ण योगदान को रेखांकित करने के लिए परिषद द्वारा एक पुस्तिका का प्रकाशन किया जा रहा है। मेरा दृढ़ विश्वास है कि कृषि विज्ञानों सहित किसी भी क्षेत्र में उत्कृष्ट उपलब्धियों के लिए पुरस्कार और प्रोत्साहन, सृजनात्मक और नवोन्मेषी सोच को बढ़ावा देने के लिए अनिवार्य हैं जिससे अन्ततः नई और बेहतर प्रौद्योगिकियों तथा कौशल का विकास होता है। मुझे विश्वास है कि इन पुरस्कारों से पुरस्कारों की विभिन्न श्रेणियों के बीच प्रतिस्पर्धा सृजित होगी और कृषि उत्पादन एवं उत्पादकता में स्थायी वृद्धि करने के हमारे लक्ष्यों को प्राप्त करने के लिए पुरस्कार विजेता प्रौद्योगिकियों, ज्ञान और कौशल को विकसित करने की दिशा में कार्य करने के लिए प्रेरित होंगे जिससे हमारे लोगों की खाद्य और पोषणिक सुरक्षा सुनिश्चित होगी और किसानों की आय को दोगुना करने का लक्ष्य प्राप्त किया जा सकेगा।

शुभकामनाओं सहित।

(कैलाश चौधरी)



शोभा करांदलाजे  
SHOBHA KARANDLAJE



राज्य मंत्री  
कृषि एवं किसान कल्याण  
भारत सरकार

MINISTER OF STATE FOR AGRICULTURE  
& FARMERS WELFARE  
GOVT. OF INDIA

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## संदेश



मुझे यह जानकर अत्यंत हर्ष हो रहा है कि भारतीय कृषि अनुसंधान परिषद ने कृषि संस्थानों, वैज्ञानिकों, किसानों को मान्यता प्रदान करने के लिए कई पुरस्कार शुरू किए हैं, और भारतीय कृषि अनुसंधान परिषद के 93वें स्थापना दिवस के अवसर पर दिनांक 16 जुलाई, 2021 को सम्मानित किए जाने वाले पुरस्कार विजेताओं के उल्लेखनीय योगदान पर परिषद एक पुस्तिका भी प्रकाशित कर रही है। कृषि क्षेत्र में नवीनतर तथा बेहतर प्रौद्योगिकियों के निरंतर विकास ने न केवल देश में हरित, श्वेत और नीलक्रांतियों के युग का सूत्रपात किया है जिससे हम अधिकांश कृषि जिंसों के मामले में आत्म-निर्भर बन पाए हैं, बल्कि कई जिंसों के मामले में हमारा उत्पादन सरप्लस भी हो रहा है। इन लाभों को बनाए रखने के लिए तथा उन्हें और मजबूत बनाने के लिए, हमारे वैज्ञानिकों, शिक्षक एवं कृषक समुदाय के समर्पित प्रयास आवश्यक हैं। मुझे पूर्ण विश्वास है कि हमारे कृषि वैज्ञानिक, अध्यापक, विस्तार पदाधिकारी और कृषक समुदाय के सदस्य कृषि उत्पादन और उत्पादकता को और आगे बढ़ाने में सामूहिक रूप से योगदान प्रदान करने में कोई कोर-कसर नहीं छोड़ेंगे और बदलती जलवायु के कारण हमारे समक्ष प्रस्तुत हो रही नित नई और बड़ी चुनौतियों का समाधान करने में हमारी सहायता करेंगे। ये पुरस्कार तथा मान्यता इस क्षेत्र की वृद्धि एवं विकास के कार्य से जुड़े सभी श्रेणियों के व्यक्तियों में वैज्ञानिक उद्यम को प्रोत्साहित करने के लिए और अधिक प्रेरणादायक सिद्ध होंगे।

*Shobha Karandlaje*

(शोभा करांदलाजे)



डॉ. त्रिलोचन महापात्र  
Dr. T. MOHAPATRA



Secretary  
Department of Agricultural Research  
& Education and Director General  
Indian Council of Agricultural Research  
New Delhi 110 001

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## MESSAGE



Incentivizing individual employees and teams for their outstanding performance, across organizations, make them more efficient, responsive and productive apart from improving their level of job satisfaction. The awards, besides recognizing merit and accomplishments, generate healthy competition among individuals, groups and institutions to strive and attain still higher levels of excellence in their respective areas of work.

The Indian Council of Agricultural Research has been recognizing and rewarding the institutions, scientists, teachers and farmers every year. Unlike previous years, this year the ICAR is giving 16 awards in 4 major categories which are "National Award of Excellence for Agricultural Institutions, National Award for Excellence in Agricultural Research, National Award for Application of Agricultural Technologies and, National Award for Innovations and Technology Development by Farmers. It is satisfying to note that during this year; 60 awardees under 16 different categories have been selected. These comprise four Institutions, one AICRP, 4 KVKs, 39 scientists, 11 farmers. It is heartening to note that of the 50 awarded persons 12 are women. Among the Agricultural Universities and Deemed Universities, ICAR-Indian Agricultural Research Institute, New Delhi has been bestowed upon the Best Agriculture University Award for the rapid strides in all spheres of teaching, research, extension and innovations, ICAR-Central Institute of Agricultural Engineering, Bhopal and ICAR-Central Inland Fisheries Research Institute, Barrackpore has been awarded the Best Institution Award among the large institute category whereas, the ICAR-National Research Centre for Banana, Tiruchirapally has been adjudged the best ICAR institution among smaller ICAR Institutes category. First, second and third prize for Pandit Deendayal Upadhyay Krishi Vigyan Protshahan Puraskar 2020 has been conferred on KVK, Piprakothe; KVK, Kalaburgi-I, Karnataka and jointly upon KVK, Dhar, Madhya Pradesh and KVK, Korea, Chhattisgarh, respectively. All India Coordinated Research Project for Dryland Agriculture, ICAR-Central Research Institute for Dryland Agriculture, Hyderabad, Telangana has been conferred Chaudhary Devi Lal Outstanding All India Coordinated Research Project Award 2020.

Dr. Kajal Chakraborty from ICAR-CMFRI, Kochi has been conferred ICAR Norman Borlaug Award 2020. Rafi Ahmed Kidwai Award has been bagged by 7 scientists for outstanding contributions in Crop/Horticultural Sciences, NRM/ Agricultural Engineering, Animal/Fisheries Sciences and Social Sciences. Lal Bahadur Shastri Outstanding Young Scientist Award 2020 has been bagged by 4 scientists one each in Crop/Horticultural Sciences, NRM/ Ag. Engg, Animal/Fisheries Sciences and Social Sciences. The award for Panjabrao Deshmukh Woman Scientist Award has been bagged by Dr. Gurinderjit Randhawa, ICAR-NBPGR, New Delhi. Jawaharlal Nehru Awards for high quality Ph.D. thesis are being given to 5 scholars. The Vasant Rao Naik Award for Outstanding Research and Applications in Dryland Farming Systems for 2020 has gone to research team from Rajmata Vijayaraje Scindia Agricultural University, Gwalior, Madhya Pradesh. Fakhruddin Ali Ahmed Award for Outstanding Research in Tribal Farming Systems has been bagged by a team of the Scientists from Agricultural Research Station, Vizianagaram, ANGRAU, Andhra Pradesh. Swami Sahajanand Saraswati Outstanding Extension Scientist Award has been shared by scientists from ICAR-IISR, Lucknow and ICAR-NDRI, Karnal for their outstanding work with the farming community towards promotion of the sustainable development models.

Three national awards in Jagjivan Ram Abhinav Kisan Puraskar have been awarded to four farmers with two farmers sharing one award. The N.G. Ranga Award for Diversified Agriculture has been awarded to Shri Dipen Kumar Shah, a farmer from Anand, Gujarat for his outstanding achievements in diversified farming. Two farmers one each from Rajasthan and Telangana, are being recognized for their outstanding contributions in promoting organic farming through Haldhar Organic Farmer Award. Pandit Deendayal Upadhyay Antyodaya Puraskar for small and marginal farmer category has been bagged by outstanding farmers at National level, with two individual awards and one shared between two farmers.

I congratulate all the award winners and their family members and hope that these awards will encourage them to attain newer heights in future and also inspire their colleague to emulate them in pursuit of excellence. I wish to thank all the Chairmen and the members of the Award Judging Committees for the wonderful job. Our greetings to the NARES family on the occasion.



(T. Mohapatra)

Dr. SHIV PRASAD KIMOTHI  
Assistant Director General  
(Coordination)



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## ACKNOWLEDGEMENT



Indian Council of Agricultural Research (ICAR) acknowledges the outstanding contributions of Institutions, AICRPs, Scientists, Women Scientists, Students and Innovative Farmers, every year by giving away cash award, citation and certificate. The first of these awards was given in 1956. With the passage of time, new awards were added. In a major review exercise undertaken by the Government during 2020 to consolidate the awards, awards have been reorganized into 16 awards in 4 major categories namely "National Award of Excellence for Agricultural Institutions (3 awards), National Award for Excellence in Agricultural Research (5 Awards), National Award for Application of Agricultural Technologies (4 awards) and, National Award for Innovations and Technology Development by Farmers (4 Awards). In the year 2020, extraordinary contributions of 60 scientists, farmers, extension experts, and Institutions, are being recognized in 16 different award categories. The procedure for selecting the awardees involves many steps of meticulous planning and diligent efforts. The ICAR Awards were advertised in the month of Jan-Feb, 2021. Applications/nominations were received till 28th February 2020. The documents were scrutinized and classified either subject area or geographical zone wise as per guidelines of the awards. The soft copies of the documents along-with criteria for evaluation were sent to the Award Judging Committee members and Chairpersons. The committees were chaired by eminent scientists of national stature and consisted of experts in different disciplines and from different parts of the country as members. In view of the extraordinary situation caused by Corona Pandemic, the Judging Committees this year met through video conferencing in June, 2021 for finalizing the recommendations.

I express my sincere gratitude to Hon'ble Agriculture & Farmers Welfare Minister, Shri Narendra Singh Tomar ji, Shri Parshottam Rupala ji, Shri Kailash Choudhary Ji and Sushree Shobha Karandlaje ji for their patronage, constant encouragement and support to the Council in various activities. I am grateful to Dr. T. Mohapatra, Secretary DARE and DG, ICAR; the then Shri Sanjay Singh, SS (D) and Secretary, ICAR for continuous encouragement and guidance at all stages. The dedicated efforts made by all the Chairmen and members of the ICAR Award Committees in objectively evaluating each individual application carefully and providing suggestions are gratefully acknowledged. The painstaking efforts made by the staff of Award Cell especially Ms. R. Banerjee, Dr. Anjani Khulbe, Sh. Umed Singh and others in scrutinizing the applications, organizing the meetings deserve special mention.



(Shiv Prasad Kimothi)





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*Award 2020*

## NATIONAL AWARD OF EXCELLENCE FOR AGRICULTURAL INSTITUTIONS

### SARDAR PATEL OUTSTANDING ICAR INSTITUTION AWARD 2020

The Indian Council of Agricultural Research (ICAR) was set up on 16th July, 1929 on the recommendation of the Royal Commission on Agriculture. It was recognised in 1965. Over the years it has developed a large research and training infrastructure and operates through 102 Institutes including Bureaux, PDs & National Research Centres (NRCs) and 71 Agriculture Universities/Deemed Universities/Central Agricultural Universities.

In order to recognize the outstanding performance by the ICAR Institutes, Deemed Universities of ICAR, Central Agricultural University and State Agricultural Universities, three Awards of ₹ 10.00 lakh each, are given to two ICAR Institutes/NRCs/Project Directorates/National Bureaus (one to large and other to small) and one to State Agricultural University/DUs/CAU. The award has been named after Sardar Vallabhbhai Patel (1875-1950), the first Deputy Prime Minister and Home Minister of India. For the awards of the three categories viz. (i) ICAR's National Institutes/Large Institutes (scientific cadre strength more than 60) (ii) ICAR's NRCs/Project Directorate etc./small institutes (scientific cadre strength up to 60) and (iii) State Agricultural Universities/DUs/CAU.





### ICAR-CENTRAL INSTITUTE OF AGRICULTURAL ENGINEERING BHOPAL

**ICAR-Central Institute of Agricultural Engineering, Bhopal** has been awarded Sardar Patel Outstanding ICAR Institution Award 2020 in the category of Large Institute together with ICAR-Central Inland Fisheries Research Institute (ICAR-CIFRI), Barrackpore. During 2015-20, the ICAR-CIAE, Bhopal developed 68 new technologies in the frontier areas of agricultural engineering with great potential to increase productivity, reduce cultivation cost, reduce drudgery, value addition, nutritional security, conserve resources and provide alternate energy sources. The economic impact of some of the technologies has been estimated as ₹ 7210 crore/annum during the current year. Through its skill and knowledge development programmes, the institute organized around 67 events for about 2100 different types of stakeholders, in which 36 programmes were exclusively for the NEH region and four for 80 foreign participants. Knowledge dissemination among professional colleagues was done through 12 summer winter schools and short courses. Number of entrepreneurship programmes has resulted in establishment and successful operation of about 1000 custom hiring centers, 200 soy-based food production enterprises and 75 farmers adopting protected cultivation. The institute has obtained 1 patent, filed 15 patent applications and 10 software copyrights. Thirty six technologies have been licensed to different stakeholders during 2015-20. A total of about ₹ 924.79 Lakhs was the revenue generated during last five years. ICAR-CIAE has participated in 08 international, 46 National and 21 regional exhibitions fairs. Knowledge generation and dissemination has been accomplished through variety of its publications and offering Doctoral degree programmes as an outreach centre of ICAR-IARI in the discipline of Agricultural Engineering.



### ICAR-CENTRAL INLAND FISHERIES RESEARCH INSTITUTE (ICAR-CIFRI) BARRACKPORE

**ICAR-Central Inland Fisheries Research Institute (ICAR-CIFRI), Barrackpore**, has been awarded Sardar Patel Outstanding ICAR Institution Award 2020 in the category of Large Institute together with ICAR-Central Institute of Agricultural Engineer, Bhopal.

ICAR-CIFRI, Barrackpore has made outstanding contribution to the basic and strategic research on Inland open water fisheries in India. The reservoir fisheries development guidelines, developed by the institute, have been implemented in the reservoir resources of the country especially, in the states of Himachal Pradesh, Jharkhand, Chhattisgarh, Maharashtra, Odisha, Madhya Pradesh, Telangana, Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Gujarat, Mizoram and Nagaland. Wetland fisheries management protocols recommended by this institute have significantly contributed to enhance fish yield which consequently improved livelihood security of the poor fishermen communities involved in wetland fisheries of India. The guidelines provided by ICAR-CIFRI to the Chilka Development Authority has not only improved the livelihood support base of fisher folks but also helped in sustainable fisheries from the lagoon. Cage culture technology emanated from the institute is operating in reservoirs of 22 states of India. ICAR-CIFRI's recommendations on e-flow for ecosystem sustainability of the rivers Dri, Tangon, Teesta, Nyamjang Chhu, Mahanadi, Cauvery, Sone and Ganga, have been accepted for policy formulation by the concerned agencies. Based on the Hilsa fisheries management guidelines of ICAR-CIFRI, Ministry of Fisheries, Animal Husbandry and Dairying has formulated National Action Plan for Hilsa, and Govt. of West Bengal has devised Hilsa conservation policy and implemented through gazette notification. The institute has made significant contribution in ecotoxicological monitoring of river by gene expression patterns and identifying potential biomarkers in some fish species. The institute has disseminated inland catch assessment survey methodology and e-Atlas of waterbodies to Government through Department of Fisheries. It is the leading institute in India which has developed vulnerability assessment framework to mitigate climate change impact on inland fisheries. The institute has made continuous efforts in upgrading the knowledge of fishers, state government officials, students, researchers through training, FLDs, field visits, multidisciplinary interfaces.



**ICAR-NATIONAL RESEARCH CENTRE FOR BANANA  
TIRUCHIRAPPALLI**

**ICAR-National Research Centre for Banana, Tiruchirappalli**, which has been conferred Sardar Patel Outstanding ICAR Institution Award 2020 (under small Institutes category) has the vision of bringing out sustainable increase in the production and productivity of bananas in India. This is one of the premier institutes with global recognition that has contributed enormously for the growth of banana industry as a whole. It is privileged for the maintenance of Asia's largest field gene bank along with in-vitro and cryo genebanks and its concerted efforts has led to the development of six varieties which are unique in their characteristics. Drought mitigation methods developed have contributed to improved orchard productivity and profitability besides improving cropping intensity of low rainfall regions. Many nutritionally rich (high pro-VitA and low glycemic index), drought tolerant hybrids, Fusarium wilt resistant mutants and transgenic lines (biofortified with iron, beta carotene and bunchy top resistance) have been identified. 'Banana Shakthi', a micronutrient mixture is being well adopted across various banana growing states of India. Sea shipment protocol developed has enabled the export of ethnic bananas to the middle-east and European countries. The centre has confirmed the occurrence of dreaded disease Fusarium wilt-Tropical race 4 in Bihar. Eco-friendly management of leaf spot and Fusarium wilt has been successfully demonstrated and are being adopted. The centre has developed in situ virus detection kits and markers for the genetic fidelity and they have helped in the certification of more than 296.4 million tissue culture planting materials till date leading to a remarkable boosted productivity. More than 40 value added products were developed and transferred under ToT to reach the unreachable section of the society.



**ICAR-INDIAN AGRICULTURAL RESEARCH INSTITUTE  
DEEMED UNIVERSITY, NEW DELHI**

**ICAR-Indian Agricultural Research Institute, New Delhi** has been awarded Sardar Patel Outstanding ICAR Institution Award 2020 under University category. ICAR-IARI, New Delhi has made outstanding contributions in agricultural research, education and extension by addressing the emerging challenges of Indian agriculture. The Institute employed cutting-edge genomic and phenomic tools to develop 111 improved varieties/ hybrids of food crops including 18 biofortified varieties, vegetables, fruits and flowers with innate disease and stress tolerance, enhanced quality and productivity towards meeting the domestic and export needs. Rice, wheat and mustard varieties released by the Institute have contributed to the generation of produce worth ₹ 1,08,422 crores annually, thereby contributing to sustainable food, nutrition and livelihood security. Innovative technologies were developed for pest management, improving resource use efficiency, minimizing drudgery, agricultural residue management, post-harvest processing and mitigating the adverse effects of climate change. STFR Meter and Pusa Decomposer developed by the Institute are playing a key role in maintaining soil health and crop residue management. Socio-economic research enabled policy interventions led to technology driven empowerment of farmers, strengthening marketing linkages and value chain for doubling farmers' income. Maintaining its leadership role in developing globally competitive human resource, ICAR-IARI produced 1855 graduates in last 5 years to serve the National Agricultural Research Education and Extension System.



*Award 2020*

### NATIONAL AWARD OF EXCELLENCE FOR AGRICULTURAL INSTITUTIONS

## CHAUDHARY DEVILAL OUTSTANDING ALL INDIA CO-ORDINATED RESEARCH PROJECT (AICRP) AWARD 2020

The Council has several All India Coordinated Research Projects (AICRP). In order to recognize the outstanding performance of the AICRP and its cooperating centres for enhancement of agricultural productivity, one award of ₹3.0 lakhs (₹2.0 lakh for main coordinating unit and ₹1.0 lakh for the best centre) is given to the All India Coordinated Research Project. The Award has been named after Chaudhary Devi Lal (1914-2001) who had been the Deputy Prime Minister and Agriculture Minister of India.



## ALL INDIA COORDINATED RESEARCH PROJECT FOR DRYLAND AGRICULTURE ICAR-CENTRAL RESEARCH INSTITUTE FOR DRYLAND AGRICULTURE HYDERABAD, TELANGANA

The AICRP for Dryland Agriculture, ICAR-CRIDA, Hyderabad has been conferred Chaudhary Devi Lal Outstanding All India Coordinated Research Project Award 2020 for best AICRP having **AICRPDA Centre, Bengaluru** under UAS, Bengaluru as the Best centre. The All India Coordinated Research Project for Dryland Agriculture with network of centres across diverse rainfed agroecologies developed agroecology specific rainfed technologies in rainwater management, cropping systems, soil and nutrient management, farm mechanization and alternate land use systems. These technologies are integrated into development and policy programmes at national, state, district and watershed level such as NICRA, NRAA, NMSA, RKVY, PMKSY, National Drought Manual, DFI in Rained Areas, Krishibhagya scheme and Dryland Farming Mission in Karnataka, Panta Sanjeevani scheme in Andhra Pradesh, Dryland Farming Mission and PoCRA in Maharashtra, Agriculture Contingency Plans for 650 districts, Drought Proofing action plans for 24 districts in 3 states, and package of practices for rainfed crops. The experiences of managing weather aberrations through real-time contingency plan implementation in 23 districts under NICRA helped in operationalization of district agriculture contingency plans. The overall impact of the project enhanced productivity of rainfed crops from 30 to 143% and profitability by two to four folds. The outreach programmes of the project enhanced the capacities and livelihoods of the dryland farmers including the tribal farmers. AICRPDA centre, Bengaluru under UAS, Bengaluru, was adjudged the best for performance during the period.





*Award 2020*

### NATIONAL AWARD OF EXCELLENCE FOR AGRICULTURAL INSTITUTIONS

## PANDIT DEENDAYAL UPADHYAY KRISHI VIGYAN PROTSHAHAN PURASKAR 2020

Indian Council of Agricultural Research (ICAR) has instituted three National awards with nomenclature Pandit Deendayal Upadhyay Krishi Vigyan Protshahan Puraskar to promote healthy competition among Krishi Vigyan Kendras (KVKs) for application of science and technology in agriculture, provide incentives for improving the efficiency and performance of KVKs for espousing the cause of farming community and to promote a sense of Institutional pride among KVKs for large scale application of scientific methods and appropriate technologies for enhanced productivity, profitability and sustainability of farming systems. In view of the pivotal role envisaged for the KVKs in the National Missions on Doubling Farmers Income and Building New India, these awards assume special significance. KVKs are playing and shall continue to play key role in ensuring rapid growth, development and transformation of Indian agriculture. There would be three National award comprising first prize of ₹ 10.0 lakhs, second prize of ₹ 8.0 lakhs and third prize of ₹ 7.0 lakhs, certificate and citation.



## KRISHI VIGYAN KENDRA, PIPRAKOTHI, EAST CHAMPARAN DR. RAJENDRA PRASAD CENTRAL AGRICULTURAL UNIVERSITY, PUSA, BIHAR

**Krishi Vigyan Kendra, Piprakothi, East Champaran, DRPCA, Bihar** has been awarded Pandit Deendayal Upadhyay Krishi Vigyan Protshahan Puraskar-2020. KVK, Piprakothi, East Champaran established in 2006 at Piprakothi block has been engaged in devising sustainable programme for the farming community through dissemination of technologies and application of its mandates. The farmers of the district have started practicing organic farming for vegetables, orchards as well as grain crops with the established of integrated vermi-cum-bio gas production units, promotion of bio-fertilizers, NPV and Pheromone traps by the KVK. The KVK has facilitated formation 12 FPO's in different blocks. It has promoted integrated farming system with different components like fisheries, duckry, poultry, goatry, vermi composting, bee keeping and horticulture crops on embankment of ponds in addition to farming of fish in pond to face the diverse climatic situations prevalent in the district. It has also established a farm machinery bank, Integrated Honeybee Development Center and has also become a Resource Center for Mushroom for the farmers in the area. Through Farmers Participatory Seed production Program at KVK, 6544 q of wheat, 3356 q of pulses, 5993 q of paddy and 7623 q of vegetable seeds has been produced during 2015-2020 apart from sale of 1,08,805 quality saplings of mango, litchi, guava, aonla, bael, Banana, lemon, coconut, jackfruit etc,. The comprehensive drought/flood contingency plan drafted by KVK, Piprakothi has been implemented in all the 27 blocks of the district. In addition to this mechanical intervention like zero till drilling and FIRB (Furrow Irrigated Raised Bed), DSR, laser land leveler systems has been introduced as RCT. KVK has successfully introduced different integrated practices like mixed farming, multi- tier cropping system, agri-horti system, high density planting and also introduced new varieties of crops that has enhanced the productivity and profitability of the farmers in the district.



**KRISHI VIGYAN KENDRA, KALABURAGI-I  
UNIVERSITY OF AGRICULTURAL SCIENCES, RAICHUR, KARNATAKA**

**Krishi Vigyan Kendra, Kalaburagi-I, UAS, Raichur, Karnataka** has been awarded Pandit Deendayal Upadhyay Krishi Vigyan Protshahan Puraskar-2020. ICAR-KVK Kalaburagi, established during 1999, act as a knowledge resource centre for the district. Along with 50 acres of land for demonstration KVK Kalaburagi has various demonstrations and production units like Vermicompost unit, Compost unit, Medicinal plants unit, Solar fencing, Apiculture unit, Watershed model, Rain water harvesting structure, Roof top harvesting model, Borewell recharge etc. Introduced of TS-3R-A variety of pigeon pea, developed by UAS, Raichur, at Kalaburagi and other districts and states has led to 80% replacement of the old varieties. KVK has demonstrated and disseminated Pulse Magic, a climate smart product developed by UAS, Raichur; Nipping technology to facilitate the side branches in pigeon pea; IPM technology developed by UAS Raichur which has led to increase in the productivity of pigeonpea by avoiding flower dropping, making the grain bold and reduced use of chemicals. KVK, Kalaburagi has widely popularized Vermicompost production which has increased the capacity of production to 3000 tons/year which accounts about Rs 15 crores every year. KVK, Kalaburagi trained the farmers in processing and packing of millets. By motivating, facilitating, training and exposure visit etc., KVK, Kalaburagi help in establishing organized dairy farms, helping in upgradation of Non-Descriptive goats with Sirohi bucks. It has given the technology of High-Density Plantation in Guava (L-49 variety), and has populated and spread the watermelon cultivation during summer with recent technologies. It is successful in Geotagging the Pigeonpea and Kamalapur Red Banana.

KVK Kalaburagi has adopted the new extension technologies like e-Sap, Rapid roving survey, use of AV van and various social media which attracted the farmers towards KVK. Hand holding support to many progressive farmers has helped them to bag District, State, National Awards. KVK, Kalaburagi has played a pivotal role in transforming the lives of farmers and also as a change agent in the lives of future farming generations.



**KRISHI VIGYAN KENDRA, DHAR  
RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR, MADHYA PRADESH**

**KVK, Dhar, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior, Madhya Pradesh**, has been awarded Pandit Deendayal Upadhyay Krishi Vigyan Protshahan Puraskar-2020. The KVK, Dhar has earned credibility and visibility with the stakeholders and tribal farming community to realize the motto of Reach To The Unreached and is working with more than 60% tribal population and about 62% small and marginal farmers in various agro-ecological situations and soil conditions. KVK, Dhar has also made efforts to develop and implement the need based area specific technologies according to micro situation and agro eco-system based on the operational area through various on-farm testing, demonstrations, ICT tools and capacity development programmes.

Out of many technologies disseminated, most significant contribution of KVK during the five years (2015-16 to 2020-21) is the conceptualization, development and extension of the crops diversification especially through Polyculture multilayer high value horticultural crops, ICT, Hi- tech horticulture, promotion of IFS, Organic farming, Farm waste management, Fishery and Varietal replacement in major crops along with introduction of fruits and vegetable crops has provided secured income and natural insurance against abrupt weather conditions. With the efforts of KVK Dhar, more than 127093 farmers and other stake holders are linked for Kisan Mobile advisory services (KMA). In addition to these programmes, KVK Dhar is a pioneer institute in Madhya Pradesh to conduct Diploma in Agricultural Extension Services for Input Dealers (DAESI). For the outstanding contribution towards the farming community, KVK, Dhar was awarded Krishi Karman Puraskar in category of total grain production & productivity for last five years. KVK, Dhar has been awarded with best KVK ICAR Award 2015-Zone VII (Now Zone IX) and Fakhruddin Ali Ahmed Award for outstanding research in Tribal Farming System-2018. Under technical guidance of KVK scientists, Tribal farmer have received various appreciation certificates and awards from the Central, State Government and District administration on various occasion. The KVK, Dhar has become the light houses of resource and knowledge center for socio-economical and technological upliftment of the farming communities including rural youth of the district.



**KRISHI VIGYAN KENDRA, KOREA**  
**INDIRA GANDHI KRISHI VISHWAVIDYALAYA, RAIPUR**

**Krishi Vigyan Kendra, Korea, under Indira Gandhi Krishi Vishwavidyalaya, Raipur**, has been awarded Pandit Deendayal Upadhyay Krishi Vigyan Protshahan Puraskar-2020. KVK, Korea has mainly focused its activities in tribal villages situated in different blocks of Korea district of Raipur with traditional rainfed rice production system. The interventions in terms of improved package and practices, crop diversification, livestock production and natural resource management by adopting proven principles of integrated farming system models in location specific conditions paid big dividends in terms of sustainable livelihood. Hygienic stall feeding for rearing goats of Sirohi and Black Bengal breed; Hydroponic Fodder Production unit; Hygienic housing system for improved breed (Gir & Sahiwal), milk processing and value addition unit has been established by KVK, Korea. High quality spawn prepared from the Mushroom Spawn laboratory set up by the Center and sold to farmers that has been benefited 60 to 70 groups of farmers through front line demonstrations. The Center has established an Agrometeorology observatory for weather based timely advice for agriculture, horticulture and animal husbandry. It has established egg hatching for poultry and duck birds, a year-round green fodder production, a 2 cubic meter biogas plant, one NADEP Tank utilizing composting of farm waste. The KVK is involved in conserving and protecting many rare and endangered varieties. The KVK has organized 2044 FLDs on Pulses & Oilseeds conducted in 1034 ha under cluster and individual mode in NFSM, AICRP-Pigeon Pea, TSP and NWRP on arid legumes. KVK is facilitating Skilling in Crop Production, Horticulture, Farm Mechanizations, Dairy, Poultry, Income Generating sectors through Short Term Trainings (STT) and Recognition of Prior Learning (RPL) with bridge training. With the intervention of KVK, Farmers Producer Organization has been formed and more than 1000 farmers have been added to FPO. KVK, Korea for its outstanding contribution in the area has received Pandit Deendayal Upadhyay Krishi Vigyan Protshahan Puraskar 2016-17; IGKV Outstanding KVK Extension Service Award-2016; IGKV Outstanding KVK Extension Service Award-2015 and many more awards.



*Award 2020*

## NATIONAL AWARD FOR EXCELLENCE IN AGRICULTURAL RESEARCH

### ICAR NORMAN BORLAUG AWARD 2020

ICAR-Norman Borlaug Award has been instituted to recognize the outstanding achievements of a scientist, who may have provided a breakthrough in the field of agriculture and created high potential value for the future transformation of the Agricultural sector in the country. Frequency of this award is once every 5 years. All Indian Scientists working in any discipline of agricultural and allied sciences having reasonable time left for superannuation and not necessarily confined to National Agricultural Research System with original path-breaking research output are eligible for this award. The award carries a cash prize of ₹ 10.00 lakh besides Memento, Certificate and Citation. Apart from this, the selected scientist would be given a research contingency grant of ₹ 30.00 lakh per year for carrying out challenge research project in an area identified mutually by the scientist and the ICAR, with specified objectives and goals. The award is named after Norman E. Borlaug who was awarded the Nobel Peace Prize in 1970 for a lifetime of work to feed the hungry world.



**Dr. Kajal Chakraborty**

Principal Scientist, Marine Biotechnology Division  
ICAR-CMFRI, Kochi



**Dr. Kajal Chakraborty**, Principal Scientist, Marine Biotechnology Division, ICAR-Central Marine Fisheries Research Institute, Kochi has been awarded ICAR Norman Borlaug Award 2020. Dr. Chakraborty has extensive research contributions in the frontier area of bioactive molecule discovery from marine organisms as promising therapeutic agents against various diseases, food chemistry, aquatic food product technology, and development of high value products as dietary supplements and health management with proven research records in peer-reviewed journals, patents, and commercialized technologies. Taken a leading role to develop and commercialize the nutraceutical products to combat rheumatic arthritic pains, type-2 diabetes, dyslipidemia, hypertension, and hypothyroidism, respectively. The latest efforts in this line of research have yielded the antiosteoporotic and immune-boost nutraceuticals. His research group developed an antimicrobial therapeutic product of heterotrophic bacterium for use against multi-resistant Gram-negative pathogens. The libraries of specialized bioactives from marine organisms compose an abundant resource for future bioactivity research and will provide promising therapeutic leads against human ailments. His works on nutritional biochemistry have been noteworthy, and will contribute towards mariculture and human health.



*Award 2020*

**NATIONAL AWARD FOR EXCELLENCE IN AGRICULTURAL RESEARCH**

**RAFI AHMED KIDWAI AWARD FOR OUSTANDING RESEARCH  
IN AGRICULTURAL SCIENCES 2020**

The Council has instituted the Rafi Ahmed Kidwai Award for Outstanding Research in Agricultural Sciences in order to recognize outstanding research in agricultural and allied sciences and provide incentives for excellence in agricultural research. This award is to be given to agricultural scientists for outstanding contribution in specific areas defined as: (1) Crop and Horticultural Sciences; (2) Natural Resources Management and Agricultural Engineering; (3) Animal and Fisheries Sciences and (4) Social Sciences. A total of four awards are assigned one each in the above areas. Each award consists of ₹5.00 lakhs in cash. All Indian Scientists engaged in agricultural research and overseas Indian scientists working in the area relevant to Indian agriculture are eligible for these awards. The award has been named after Late Sh. Rafi Ahmed Kidwai (1894-1954) who was the president of ICAR from 1952-1954.

## CROP & HORTICULTURAL SCIENCES

### Dr. Om Parkash Yadav

Director, Central Arid Zone Research Institute  
Jodhpur



**Dr. Om Parkash Yadav**, Director, Central Arid Zone Research Institute, Jodhpur, has been awarded Rafi Ahmed Kidwai Award for Outstanding Research in Agricultural Sciences 2020 in the category of Crop & Horticultural Sciences. Dr. Yadav has focused his work for the last 30 years on genetic improvement of crops especially of pearl millet and maize for drought-prone areas. The focal point of his strategic research has been improvement of crops for water-limited environments through conventional and modern methods. His work has led to better understanding of adaptation of crops to drought stress conditions helping in evolving appropriate strategies for developing stress-adapted cultivars. The research on studying the cytoplasmic effects on disease incidence and agronomic traits in pearl millet has a great relevance in hybrid breeding. The results of research of his team led to the release of 12 commercial cultivars; and identification of 15 sources of drought tolerance, 7 sources of diseases resistance, 3 genetic stocks and a large number of germplasm, genetic stocks and breeding materials suitable for drought-prone areas. The most immediate impact of this research is the reorientation of the crop breeding activities for drought-prone areas and included changes in objectives, base material for breeding and approaches for selection.

## CROP & HORTICULTURAL SCIENCES

### Dr. Bijendra Singh

Vice-Chancellor, ANDUAT, Kumarganj, Ayodhya



**Dr. Bijendra Singh**, Vice-Chancellor, ANDUAT, Kumarganj, Ayodhya, has been awarded Rafi Ahmed Kidwai Award for Outstanding Research in Agricultural Sciences 2020 in the category of Crop & Horticultural Sciences. Dr. Singh has been instrumental in developing 54 vegetable varieties/hybrids, 15 in Okra (10 varieties and 05 hybrids), 07 in Vegetable Pea, 04 each in Radish and Sponge Gourd, 03 each in Cauliflower, Basella, Bottle Gourd, 02 each in Chenopium, Tomato, Chilli and 01 each in Amaranthus, Bitter Gourd, Brinjal, Carrot, Cucumber, Pumpkin, Pointed Gourd, Ash Gourd, and Ridge Gourd, released and notified through CVRC (26) and SVRC (28) which are both high yield potential and multiple disease resistance, resulting in their spread all over the country covering about 13-15% of total vegetable areas. He has also registered eight unique genetic stocks with NBPGR. For registration of new, farmers', and VCKs varieties, he has developed National DUS testing guidelines for nine vegetable crops. He has successfully addressed the problem of nutritional security through bio-fortified radish and carrots by developing 8 processing techniques of vegetables. He has published more than 200 research papers in national & international reputed journals; 11 books; 43 technical bulletins, 23 manuals and 39 book chapters.

Dr. Bijendra Singh, a NAAS Fellow in Horticultural Sciences and a NASI member is recipient of many prestigious awards from ICAR, Universities and State agencies like, Vigyan Ratan Award, Outstanding Multidisciplinary Team Research Award of ICAR for biennium 2003-04, LC Sikka Endowment award, Dr. Kirti Singh Gold Medal award, Dr. Biswajit Choudhury Memorial Award, Dr. Punjab Singh Vishisth Krishi Vaigyanik Puraskar, Kalayya Krishnamurthy National Award, Dr. Kirti Singh Life Time Achievement Award, Award Certificate of Recognition by Protection of Plant Varieties and Farmer's Right Authority, New Delhi and Distinguished Scientist Award. As Former Director, ICAR-IIVR, Varanasi and Project Coordinator, AICRP on Vegetable Crops, he was leading and coordinating overall vegetable research of the Country.

## NATURAL RESOURCE MANAGEMENT & AGRICULTURAL ENGINEERING

### Dr. Arvink Kumar Shukla

Project Coordinator, AICRP on MSNPE, ICAR-IISS  
Bhopal, Madhya Pradesh



**Dr. Arvink Kumar Shukla**, Project Coordinator, AICRP on MSPE, ICAR-IISS, Bhopal, Madhya Pradesh has been awarded Rafi Ahmed Kidwai Award for Outstanding Research in Agricultural Sciences 2020 in the category of Natural Resource Management & Agricultural Engineering. Dr. Arvind Kumar Shukla has made significant valuable contributions in developing eco-friendly integrated nutrient management technologies for improving soil-crop productivity, enhancing nutrient use efficiency and improving soil health through balanced and site-specific nutrient management options. He worked extensively on development and standardization of i) low cost customized leaf colour chart for real time N management and arresting nitrate leaching; ii) geo referenced soil fertility maps (560 districts) of sulphur and micronutrients and multi micronutrient deficiencies for site-specific nutrient management options, and iii) soil quality indices to monitor soil health and creation of soil fertility management zones for precision nutrient prescription and higher productivity. Integrated and balanced nutrient management technologies coupled with resource conservation technologies proved effective in increasing carbon sequestration potential and improving nutrient use efficiency under rice based cropping system. He developed technologies for managing iron toxicity in acid lateritic soils and using fly ash in improving productivity in rice based cropping system. His contribution in extending the sphere of micronutrient from soil plant system to soil-plant-animal-human continuum through green fodder enrichment has emerged as an important tool to alleviate zinc malnutrition in the country.

## NATURAL RESOURCE MANAGEMENT & AGRICULTURAL ENGINEERING

### Dr. Vinod Kumar Singh

Director, ICAR-Central Research Institute on Dryland Agriculture  
Hyderabad



**Dr. Vinod Kumar Singh**, Director, ICAR-Central Research Institute on Dryland Agriculture, Hyderabad has been awarded Rafi Ahmed Kidwai Award for Outstanding Research in Agricultural Sciences 2020 in the category of Natural Resource Management & Agricultural Engineering. Dr. V. K. Singh has made valuable contributions in the area of soil fertility appraisal and soil health restoration through site-specific nutrient management (SSNM) and inclusion of legumes in intensive cropping systems. Fertility appraisal using geo-statistical tools in different agro-ecologies revealed widespread multi-nutrient deficiencies. His extensive studies at research farms and cultivators' fields underlined the significance of soil test-based SSNM for addressal of multinutrient deficiencies and improving yields, nutrient use efficiency and profits under different cropping systems. In rice-wheat system, inclusion of forage cowpea during summer or pigeonpea as a substitute of rice reduced sub-soil compaction, enhanced organic matter accumulation, and minimized  $\text{NO}_3\text{-N}$  leaching. Recycling of leaf litter of extra-short duration pigeonpea through induced defoliation at physiological maturity was of additional advantage. Raised bed planting enhanced nutrient and water use efficiency, and net returns in pigeonpea-wheat system. IFS models developed by him is most viable option to raising income and employment of small holders along with sustainable livelihood. The results of their research found wide acceptability and adoption by the farmers.

## ANIMAL & FISHERIES SCIENCES

### Dr. Ashok Kumar Tiwari

Director, ICAR-Central Avian Research Institute  
Izatnagar, Uttar Pradesh



**Dr. Ashok Kumar Tiwari**, Director, ICAR-Central Avian Research Institute, Izatnagar, UP, has been awarded Rafi Ahmed Kidwai Award for Outstanding Research in Agricultural Sciences 2020 in the category of Animal & Fisheries Sciences. Dr A. K. Tiwari from last 29 years is working towards minimizing the loss from various dreaded disease, for which he has developed three different vaccines, 04 diagnostic kits, several advanced molecular diagnostics for accurate and timely diagnosis of different animal diseases, one cell line, gene therapeutics for treatment of animal cancer, 10 mobile Apps, 17 Educational videos, applied for three patents (one granted), 04 designs for addressing reproductive issues and 05 National standards for quality control of various vaccines. Beside these, he has published 209 research papers and 11 review articles in the journal of National and International repute with more than 2600 citation, NAAS Score-1362, Impact factor 242.77, h-index-28, i10-78 and contributed significantly in human resource development by supervising 20 students of MVSc and PhD, and organizing 22 short courses, 21 national workshops. He has also contributed in maintaining quality of veterinary vaccines being used in the country as Head, Division of Biological Standardization and in National Animal disease programme as Nodal point for quality control of FMD and Brucella.

## ANIMAL & FISHERIES SCIENCES

### Dr. Basanta Kumar Das

Director, ICAR-Central Inland Fisheries Research Institute  
Barrackpore, Kolkata



**Dr. Basanta Kumar Das**, Director, ICAR-Central Inland Fisheries Research Institute, Barrackpore, Kolkata, has been awarded Rafi Ahmed Kidwai Award for Outstanding Research in Agricultural Sciences 2020 in the category of Animal & Fisheries Sciences. He has been working on different aspects of Fish Health Management research, including diagnostics and therapeutics as well as novel immune-stimulants and its application in Aquaculture. He has developed three aquaculture medicines, three diagnostic kits, two novel antimicrobial compounds from algae and mango kernel for microbial diseases of freshwater fish. He has been continuously working for research, development, upscaling, and commercialization of important technologies of the institute among fish farmers and state fisheries departments of the country. He has contributed immensely in developing three technologies for enclosure culture and its commercialization. He has developed CIFACURE for controlling bacterial and fungal diseases in ornamental fish. He has published around one hundred and fifty research papers in high impact journals, twenty seven books, and sixty three book chapters. He is credited for designing Reservoir Database, Rohu, Labeo rohita database, Fish Disease App, and Nutrifish App. He has edited two Magazines, delivered many Television and Radio talks, and has attended 100 Disease outbreaks.

## SOCIAL SCIENCES



**Dr. Rakesh Chandra Agarwal**

Deputy Director General (Agril. Education) (Act.) &  
National Director, NAHEP, ICAR, New Delhi

**Dr. Rakesh Chandra Agarwal**, Deputy Director General (Agril. Education) (Act) & National Director, NAHEP, ICAR, New Delhi, has been awarded Rafi Ahmed Kidwai Award for Outstanding Research in Agricultural Sciences 2020 in the category of Social Sciences. Dr. Agarwal has made significant contributions to PGR management including database development & networking, registration of plant varieties, farmers' rights, IPR, agricultural higher education, agricultural development and policy research. Credit of initiating awarding and rewarding the conservator farmers through 'Genome Savior Award' also goes to him. His work on the revamping and establishing BPD units at ICAR institutes has been instrumental in setting the tone of commercialization of ICAR technologies. His work in the field of plant variety protection and farmers' rights has been recognized by Food and Agriculture Organization of United Nations (FAO of UN) and he has been appointed as head of the Adhoc Technical Group on Farmers' Rights of FAO of UN having 148 member countries. He has taken new initiatives to enhance the quality and relevance of agricultural higher education under Gol-WB project. He has worked in collaboration with a number of international organizations, like FAO Head Quarters at Rome; CGIAR centres; Bioversity International; World Bank; Plant Variety Protection office of Germany; The DUS Centre-Naktuinbouw (Netherlands); FAO Regional Office, Bangkok; Seed & Plant Certification & Registration Institute, Karaj, Iran; The National Biodiversity Centre, Bhutan; GRIN System of USDA, Maryland, USA and published widely in the journals of international repute. He has also made significant contributions to human resource development through training programmes in ICT, IPR, PPVFR, etc.



*Award 2020*

## NATIONAL AWARD FOR EXCELLENCE IN AGRICULTURAL RESEARCH

### LAL BAHADUR SHASTRI OUTSTANDING YOUNG SCIENTIST AWARD 2020

The council has instituted the Lal Bahadur Shastri Outstanding Young Scientist Award in order to recognize the talented young scientists who have shown extraordinary originality and dedication in their research programmes. Four individual awards are to be given annually across the disciplines, limited to only one award in any discipline. An individual award of ₹1.00 lakh in cash and a challenge project for three years with budgetary provision of ₹10.00 lakhs per year ₹5.00 lakhs for foreign training (3 months). The challenge project and foreign training will be administered/monitored by Division of Agricultural Education at ICAR Headquarters. All young scientists who possess a doctoral degree and are below 40 years of age, and hold a regular teaching, research, extension education job in the ICAR-SAU system of institutions and engaged in research in agricultural and allied sciences for at least five years continuously are eligible for consideration. The award has been named after Late Sh. Lal Bahadur Shastri (1904-1966) the former Prime Minister of India who gave the slogan 'Jai Jawan Jai Kisan'.



## CROP & HORTICULTURAL SCIENCES

### Dr. S.L. Krishnamurthy

Senior Scientist (Plant Breeding)  
Central Soil Salinity Research Institute, Karnal



**Dr. S.L. Krishnamurthy**, Senior Scientist (Plant Breeding), Central Soil Salinity Research Institute, Karnal, has been awarded Lal Bahadur Shastri Outstanding Young Scientist Award 2020 in the category of Crop & Horticultural Sciences.

Dr. S.L. Krishnamurthy has made noteworthy contributions in improvement of salt tolerance in rice by developing five salt tolerant rice varieties viz., CSR46, CSR49, CSR52, CSR56 and CSR60. Through effective integration of modern molecular tools with conventional breeding, he has developed salt tolerant lines in the background of Pusa44, and Sajoo52. He has contributed in mapping of novel QTLs governing salt tolerance at seedling and reproductive stage in rice. He is involved in genetic enhancement through effective utilization of Germplasm and enrichment of genomic resources in rice. He has developed and identified four salt tolerant genetic stocks in rice viz., CSR47, CSR51, CSR53 and CSR59. He has also developed the passport data of 9000 rice accessions for 30 qualitative and quantitative traits and has been submitted to NRRD portal for further utilization by the scientific community. He has strengthened the phenotyping and molecular facility through constructing of new microplots and adding new scientific instruments at CSSRI, Karnal.

## NATURAL RESOURCE MANAGEMENT & AGRICULTURAL ENGINEERING

### Dr. Upendra Kumar

Scientist (SS), ICAR-National Rice Research Institute  
Cuttack, Odisha



**Dr. Upendra Kumar**, Scientist (SS) from ICAR-National Rice Research Institute, Cuttack, Odisha, has been awarded Lal Bahadur Shastri Outstanding Young Scientist Award 2020 in the category of Natural Resource Management & Agricultural Engineering. Research strategy of Dr. Upendra Kumar is a blend of basic, strategy and applied research works, covering major aspects of soil microbiology, soil bio-geochemical cycles and soil fertility particularly under changing climatic scenario to cater the problems associated with rice. This has led to development of novel products like liquid and carrier-based rice-specific bioinoculants for nutrient management, Azolla-based biofertilizer (sporocarp), livestock feed and microbial-growth medium. Based on these products, Odisha government has given a grant of Rs. 284.36 lakhs to construct rice-specific liquid biofertilizer, Azolla, BGA and AM fungal production units at NRRRI, Cuttack for the first time. The documentations related to soil microbial community status in long-term fertility and pesticide experiments have been cited continuously by global researchers. Dr. Kumar has characterized the microbial resources in relation to nitrogen fixation, nitrification, denitrification and straw-decomposition in rice under varying nutrient and climatic conditions and has deposited cultures in authentic repositories and sequences registered in NCBI.

## ANIMAL & FISHERIES SCIENCES

### Dr. Sonal

Senior Scientist (Veterinary Biotechnology)  
ICAR-Indian Veterinary Research Institute, Izatnagar



**Dr. Sonal**, Senior Scientist (Veterinary Biotechnology), ICAR-Indian Veterinary Research Institute, Izatnagar, has been awarded Lal Bahadur Shastri Outstanding Young Scientist Award 2020 in the category of Animal & Fisheries Sciences.

Dr. Sonal, Senior Scientist, ICAR-IVRI, has contributed immensely towards development of new generation diagnostics and vaccines for Canine Mammary Tumour (CMT). She developed high throughput luminex technology based multiplex bead assay and SPR biosensor based assays for serological detection of CMTs. She has developed an intelligent expert system for automated computer assisted histopathological image analysis of CMTs, which is also available as user friendly tumour detection mobile app. She has identified many serum autoantibody, miRNA and antigen biomarkers associated with CMTs and developed ELISAs for screening autoantibody biomarkers associated with CMTs. Further she has worked on development of a vector for specific expression of any gene in canine cancer cells. She also designed and evaluated tumour specific constructs for targeted therapy and prophylaxis of CMTs. The vaccine developed for CMT therapy showed promise in clinical cases of CMTs. She has developed Sindivirus replicon based self-replicating DNA and RNA vaccine for Rabies and proved their efficacy in mice model. She has also contributed towards development of assays for pregnancy diagnosis in bovines, SPR based diagnosis of PPR and Brucellosis, novel peptide antibiotics for MDR bacteria and biomaterials for reconstructive surgery.

## SOCIAL SCIENCES

### Dr. Prabina Kumar Meher

Scientist (Statistical Genetics)  
ICAR-Indian Agricultural Statistics Research Institute  
PUSA, New Delhi



**Dr. Prabina Kumar Meher**, Scientist, Division of Statistical Genetics, ICAR-Indian Agricultural Statistics Research Institute, PUSA, New Delhi has been awarded Lal Bahadur Shastri Outstanding Young Scientist Award 2020 in the category of Social Sciences. Dr. Meher has been working in the field of computation genetics and genomics since last 8 years. He has developed statistical and artificial intelligence based algorithms for solving computational biology problems in crop, animal, fish and microbial domains which are implemented successfully in more than 15 prediction servers. He has successfully employed the machine learning algorithm for prediction of antimicrobial peptides, nitrogen fixation proteins, heat-shock proteins, localization of miRNAs, insecticide resistant genes, herbicide resistant genes and splice sites with higher accuracy. All his research works has been published in national and international journals of high repute, with averaging NAAS rating 8.4. He has also received 14 copy rights for his research work. He has also been involved in teaching Agricultural Statistics and Bioinformatics courses to the Master and Ph.D. students of PG School, IARI. Besides, he is involved in imparted training to several researchers, students and faculty of the NARE systems to analyze the genetics and genomics data.





*Award 2020*

## NATIONAL AWARD FOR EXCELLENCE IN AGRICULTURAL RESEARCH

### PANJABRAO DESHMUKH OUTSTANDING WOMAN SCIENTIST AWARD 2020

In order to recognize and encourage the women agricultural scientists for their outstanding research contribution in agriculture and allied sciences, the ICAR has constituted Panjabrao Deshmukh Outstanding Woman Scientist Award. One annual award is meant exclusively for outstanding women agricultural scientists. The award consists of ₹ 1.00 lakh in cash with provision of equal amount of ₹ 1.00 lakh for motivating Women Scientists and female students across the country including travel within a year of receiving the award. All women scientists engaged in research in agricultural and allied subjects/extension in a recognized institutions are eligible. The award is exclusively meant for individual woman scientists. The award has been named after Late Sh. Panjabrao Deshmukh (1898-1965) who was Minister of Agriculture in the first cabinet of Pt. Nehru in 1952.



#### **Dr. Gurinderjit Randhawa**

Head and Principal Scientist, Division of Genomic Research  
ICAR-NBPGR, New Delhi

**Dr. Gurinderjit Randhawa**, Head and Principal Scientist, Division of Genomic Research, ICAR-NBPGR, New Delhi has been awarded Panjabrao Deshmukh Outstanding Women Scientist Award 2020. Dr. Gurinderjit Randhawa, a NAAS and Commonwealth Fellow, Doctorate in Molecular Genetics, has served ICAR for 35 years in various institutes at different capacities. She has developed cost effective and robust GM Detection Technologies such as GMO Screening matrix, Visual and real-time LAMP based assays, DNA-based diagnostics for 15 GM crops and has transferred the technologies to public/private sector enabling their commercialization and widespread adoption. She has been instrumental in devising strategies to ensure GM free Conservation of Germplasm in National Gene Bank-NBPGR, establishing a high level Containment Facility (CL-4) and NABL accredited GM Detection Research Facility which is Notified as National Referral Laboratory for GM Detection. She has conceptualized and established an operational national network of GMO detection laboratories. She has promoted her GMO diagnostic technologies at national and global level and has participated in 32 International meetings organized by FAO, UNIDO, European Commission, and Secretariat of Convention on Biological Diversity in 17 countries as an expert member. The farsighted and strategic research of Dr. Randhawa deserve highest commendation as her efforts have steadily built, upgraded and harmonized the national capability in the area of diagnostics for GM crops and positioned it globally.



*Award 2020*

## NATIONAL AWARD FOR EXCELLENCE IN AGRICULTURAL RESEARCH

### JAWAHARLAL NEHRU AWARD FOR P.G. OUTSTANDING DOCTORAL THESIS RESEARCH IN AGRICULTURAL AND ALLIED SCIENCES 2020

The ICAR instituted in January, 1969, the Jawaharlal Nehru Awards for 'Post-graduate Agricultural Research' based on Ph.D. thesis of the young scientists as an incentive for high-quality fundamental or applied research among post-graduate students in India and to recognize outstanding research work done by them in different fields of agricultural research including Crop & Horticultural Sciences, Natural Resource Management & Agricultural Engineering, Animal & Fisheries Sciences and Social Sciences. There are 4 awards with a cash prize of ₹ 0.50 lakh each with a Gold plated silver medal, certificate and Citation. The award has been named after Late Pt. Jawaharlal Nehru (1889-1964), the first Prime Minister of India.

## CROP & HORTICULTURAL SCIENCES



### Dr. Victor Phani

Assistant Professor (Agricultural Entomology)  
College of Agriculture, Uttar Banga Krishi Viswavidyala  
West Bengal

**Dr. Victor Phani**, Assistant Professor (Agricultural Entomology), Uttar Banga Krishi Viswavidyala, West Bengal, has been awarded Jawaharlal Nehru Award for PG Outstanding Doctoral Thesis Research in Agricultural and Allied Sciences 2020 in Crop and Horticultural Sciences category for his doctoral thesis on the topic "Identification and functional validation of genes involved in interaction between *Pasteuria penetrans* and *Meloidogyne incognita*" pursued from ICAR-Indian Agricultural Research Institute, Deemed University, New Delhi. Dr. Victor studied the detailed life cycle of *P. penetrans* using the soil-less CYG media and documented some hitherto un-reported *Pasteuria* life stages. The transcriptional response of *M. incognita* J2s was analysed at 8 h post *Pasteuria* endospore attachment by RNA-Seq. A total of 582 transcripts were found differentially expressed in the endospore-encumbered juveniles, including 229 up-regulated and 353 down-regulated transcripts. The *Pasteuria* infection resulted in suppression of the protein synthesis machinery of the nematode; and several transcripts involved in innate immunity, signaling pathways, stress responses, cellular attachment and behavioral modification of the nematode were perturbed. Further, RNAi mediated silencing of fructose biphosphate aldolase, glucosyl transferase and mucin-like protein resulted in 5-6 fold reduction in endospore attachment; whereas, silencing of fatty acid and retinol binding protein, selenium -binding protein, aspartic protease and ubiquitin resulted in 7-8 fold higher attachment. The present investigation adds new and significant information on the developmental stages of *Pasteuria*, along with the early molecular dialogue between *M. incognita* and *P. penetrans* during the interaction.

## NATURAL RESOURCE MANAGEMENT & AGRICULTURAL ENGINEERING

**Dr. Brajesh Nare**  
ICAR-Central Potato Research Station  
Badshahpur, Jalandhar



**Dr. Brajesh Nare**, ICAR-Central Potato Research Station, Badshahpur, Jalandhar, has been awarded Jawaharlal Nehru Award for PG Outstanding Doctoral Thesis Research in Agricultural and Allied Sciences 2020 in Natural Resource Management & Agricultural Engineering category for his doctoral thesis on the topic "Design and Development of Machine Vision Integrated Sugarcane Bud Planting System" pursued from Indian Institute of Technology, Kharagpur, West Bengal. Dr. Brajesh Nare specifically planned the present investigation to design and develop a machine vision based mechatronic system for sugarcane bud cutting, and a tractor operated sugarcane bud planter integrated with an autonomous fungicide application system. The bud cutting machine involves three sub-mechanisms such as sugarcane feeding system, a machine vision system for identification of sugarcane buds and a mechatronic system for cutting of the identified bud. The throughput capacity of the system was observed as 1418 buds/h which is 3-4 times more than the conventional tools. A sugarcane bud planting machine was developed to plant the prepared buds in the field. To protect the seed from soil born disease, a sensor based spraying system has been designed and integrated with the planter to apply a predefined amount of fungicide over the bud and the surrounding soil. A significant chemical saving of 48% was observed with the sensor based application. This system also reduces the net planting material requirements upto 75% against the conventional methods adopted for sugarcane plantation. Out of this thesis research a patent has been filed on "A System of Sugarcane Bud Planter Integrated with Fungicide Application Unit" and five research papers has been published.

## ANIMAL AND FISHERIES SCIENCES

**Dr. Fasina Makkar**  
ICAR-Central Marine Fisheries Research Institute, Kochi, Kerala  
Mangalore University Mangalagangothri, Karnataka



**Dr. Fasina Makkar** has been awarded Jawaharlal Nehru Award for PG Outstanding Doctoral Thesis Research in Agricultural and Allied Sciences 2020 in Animal & Fisheries Sciences category for her doctoral thesis on the topic "Isolation and characterization of bioactive compounds from marine macroalgae *Kappaphycus alvarezii* and *Gracilaria opuntia*" pursued from ICAR-Central Marine Fisheries Research Institute, Kochi, Kerala/ Mangalore University Mangalagangothri, Karnataka. Dr. Fasina Makkar has extensive research contributions in the cutting-edge area of marine natural product discovery from marine macroalgae (seaweeds) as promising therapeutic agents against various diseases. Dr. Makkar has the credit to develop potential pharmacophores with antidiabetic, anti-inflammatory, and antihypertensive activities from red seaweeds *Kappaphycus alvarezii* and *Gracilaria opuntia*. The libraries of novel bioactive small molecular compounds and sulfated (1-3) linked polygalactans from these macroalgae compose an abundant resource for future bioactivity research and will provide promising therapeutic leads against various human ailments. She has in her credit publishing high impact research papers in peer reviewed journals of international repute and patent. Her work constitutes the first all inclusive document of bioactive properties of these seaweeds as novel sources of pharmacophore leads. Considering the promising perspective to utilize the marine macroalgae, her work on development of high value compounds will immensely contribute to seaweed-based value chain that is gaining momentum during the recent years.

## ANIMAL AND FISHERIES SCIENCES

### Dr. Meeti Punetha

Scientist, Division of Animal Physiology and Reproduction  
ICAR-Central Institute for Research on Buffalo, Hisar



**Dr. Meeti Punetha**, Scientist, Division of Animal Physiology and Reproduction, ICAR-CIRB, Hisar, has been awarded Jawaharlal Nehru Award for PG Outstanding Doctoral Thesis Research in Agricultural and Allied Sciences 2020 in Animal & Fisheries Sciences category for her doctoral thesis on the topic "Early Growth Response gene mediated modulation of VEGF and FGF signaling in bubaline luteal cells" pursued from ICAR-Indian Veterinary Research Institute, Deemed University, Izatnagar, Uttar Pradesh. Dr. Meeti Punetha conducted several studies for the first time in buffaloes that may help in development of novel reproductive strategies towards improvement of reproductive efficiency and optimal utilization of superior germplasm in buffaloes. This is the first study of its kind to demonstrate the role of EGR mediated regulation of VEGFA and FGF2 signaling in buffalo luteal cells. The functional validation of EGR1 gene was accomplished by knocking out (KO) of EGR1 in cultured luteal cells by CRISPR/Cas9 mediated gene editing technology. The study provides evidence convincingly that both VEGF and FGF mediate their biological action through a common intermediate, EGR1, to regulate corpus luteum function of buffalo. Dr Meeti Punetha has been awarded with prestigious award of Indo-U.S. Science and Technology Forum (IUSSTF) under Indo-U.S. Genome Engineering/ Editing Technology Initiative (GETin)- Student internship to undertake research at University of Missouri-Columbia, U.S.A for a period of six month.

## SOCIAL SCIENCES

### Dr. Sayanti Guha Majumdar

Centre for Agricultural Bioinformatics  
ICAR-Indian Agricultural Statistics Research Institute, New Delhi



**Dr. Sayanti Guha Majumdar**, Centre for Agricultural Bioinformatics, ICAR-IASRI, New Delhi, has been awarded Jawaharlal Nehru Award for PG Outstanding Doctoral Thesis Research in Agricultural and Allied Sciences 2020 in Social Sciences category for her doctoral thesis on the topic "Development of Integrated Model for Genomic Selection" pursued from ICAR-Indian Agricultural Research Institute, Deemed University, New Delhi. Dr Sayanti Guha Majumdar has developed an integrated robust statistical model based on an additive (viz. SpAM) and a non-additive (viz. HSIC LASSO) model for genomic selection. This model is suitable in real genomic datasets where the additive and epistatic effects are both present. The major advantage of this proposed integrated model is that (i) It can capture both additive and epistatic effects simultaneously, (ii) Bootstrap RCV and Ensemble method are two compute intensive novel efficient methods, (iii) Ensemble method of error variance estimation can be performed in small sample size genomic dataset, (iv) developed R package varEst and GSelection can be used by other researcher for error variance estimation and genomic selection purpose. The integrated model for Genomic Selection will be useful for increasing productivity in the domain of agriculture and allied sectors.



*Award 2020*

### NATIONAL AWARD FOR APPLICATION OF AGRICULTURAL TECHNOLOGIES

## NANAJI DESHMUKH ICAR AWARD FOR OUTSTANDING INTERDISCIPLINARY TEAM RESEARCH IN AGRICULTURAL AND ALLIED SCIENCES 2020

ICAR-Nanaji Deshmukh ICAR Award for Outstanding Interdisciplinary Team Research in Agricultural and Allied Sciences is instituted by ICAR to recognize and incentivize outstanding inter-disciplinary team research. The award is not limited to NARS i.e. Agricultural Scientists outside NARS are also eligible if they meet the eligibility criteria as mentioned above. From this year one award would be given annually across all streams of agricultural sciences. Award carries an amount of ₹ 5.00 lakhs.



### Dr. A.K. Nayak

Principal Scientist and Head, Soil Science & Fertility  
ICAR-National Rice Research Institute, Cuttack, Odisha

**Dr. A.K. Nayak**, Principal Scientist and Head, Soil Science & Fertility, ICAR-National Rice Research Institute, Cuttack, Odisha together with his team members which includes Dr. Sangita Mohanty, Sr. Scientist; Dr. Mohammad Shahid, Sr. Scientist; Dr. Rahul Tripathi, Sr. Scientist; Dr. Upendra Kumar, Scientist; Dr. J. Meher, Scientist (SG); Dr. S. D. Mohapatra, Pr. Scientist; Dr. Dibyendu Chatterjee, Scientist; Dr. Anjani Kumar, Scientist, from ICAR-National Rice Research Institute, Cuttack, Odisha has been awarded Nanaji Deshmukh ICAR Award For Outstanding Interdisciplinary Team Research in Agricultural and Allied Sciences 2020.

The team of Dr. A.K. Nayak took a multidisciplinary approach involving Soil Science, Agricultural Physics, Agricultural Microbiology and Plant Breeding to devise optimum N management strategy for rice to identify controlling factors of N use efficiency of rice, developing efficient genotypes and devising appropriate nutrient management strategy. Apart from this they have made efforts to understand fate of N in soil, water, plant and atmosphere in emerging scenarios of climate change and abiotic stress conditions. They have devised efficient N management strategy for flood moisture conditions. They have used GIS and RS technology to upscale their recommendation by delineating homogenous N management zone. Further, they have development digital platforms like riceXpert and riceNxpert for easy access and wider dissemination of the technologies. The team has also developed 12 products, 7 technologies and 13 concepts for improving nitrogen use efficiency under different rice ecologies. The product Customized Leaf Color Chart (CLCC) developed by the team has been commercialized and is also included in eNAM website of GOI for sale. The web-based rice crop manager (Odisha) is widely popularised in Odisha for site specific nutrient management. The team has also developed a nitrogen use efficient rice variety CR Dhan 308 which was released by the CVRC during 2020. The technologies developed by Dr Nayak and associates have been validated at large number of farmer's field which showed promising results and have motivated the farmers to willingly adopt these technologies. The outstanding contribution of the scientists, associated in the team, have been recognized at several platforms which include the recognition as NAAS Fellow; ARRW Fellow; ISSS Fellow; NAAS Associate; ICAR-Lal Bahadur Shastri Outstanding Young Scientist Award; ISSS-Golden Jubilee Commemoration Young Scientist Award (Indian Society of Soil Science); Endeavour Fellowship (Australia); Australia Award Fellowship (Department of foreign affairs and Trade, Australia) to name a few.





*Award 2020*

### NATIONAL AWARD FOR APPLICATION OF AGRICULTURAL TECHNOLOGIES

## FAKHRUDDIN ALI AHMED AWARD FOR OUTSTANDING RESEARCH IN TRIBAL FARMING SYSTEMS 2020

ICAR instituted Fakhruddin Ali Ahmed Award for Outstanding Research in Tribal Farming Systems primarily for any person or team (with two or three associates, if any) engaged in applied research and its applications in tribal areas of the country aimed at improving the biological resources and livelihoods or in original work directly applicable to tribal farming system. One award of the value of ₹1.00 lakh in cash, a citation and provision of equal amount for study on related subject in the geographical area for a year. The award has been named after Late Sh. Fakhruddin Ali Ahmed (1905-1977) who was president of ICAR Society from 1971 to 1974.



### Dr. Thanuku Samuel SK Patro

Principal Scientist and Head  
Plant Pathology, Agricultural Research Station  
Vizianagaram, ANGRAU, Andhra Pradesh

**Dr. Thanuku Samuel SK Patro** (Team Leader), Principal Scientist and Head, Plant Pathology, together with his team which includes Mrs. Yasarapu S Rani, Scientist, Soil Science; Mrs. Ungata Triveni, Scientist, Agronomy; Dr. Mantri MVS Rao, Sr. Scientist, Agronomy; Dr. Narasupalli Anuradha, Sr. Scientist, Plant Breeding from, ARS, Vizianagaram, ANGRAU, Andhra Pradesh has been awarded Fakhruddin Ali Ahmed Award for Outstanding Research in Tribal Farming Systems 2020.

High altitude and tribal zone of North Coastal Zone in Eastern Ghats is one of the most under privileged and resource poor area in Andhra Pradesh comprising 23 tribes. In this area Dr. TSSK Patro and his team focused on malnutrition, assured income and commercialization of value added products through financial assistance of ICAR under Tribal Sub Plan by organizing Front Line Demonstrations (FLD) in large scale through AICRP (Small Millets), AICRP (Groundnut), AICRP (IFS), Directorate of Millets, Govt. of India and Director of Agriculture, Integrated Tribal Development Agency (ITDA) and District Rural Development Agency (DRDA). With their efforts more than 40 seed villages have been developed in coastal AP for various crops, through supply of Foundation and Breeder seeds, continuously from 2012 to 2020. The farmers are also serving as seed banks and with commercialization of products, supply of high yielding birds; mineral mixture, high yielding napier grass and establishment of nutria- kitchen garden the farmers in tribal villages have become economically strong. Crop diversification with maize, millets and rice fallow has almost tripled the farmer's income that made the station to receive Best Performing Station in AICRP (Small millets) 2016-2020 and Best TSP Component for AICRP (IFS) 2017-2020, Best Research Station under ANGRAU - 2014 to 2020. Many tribal beneficiaries associated with the Research Station have also received several awards like "Nari Shakti Puraskar" by Hon'ble President of India; "One MP One Idea" by Hon'ble Vice President of India for promoting millets and upliftment of tribals; Krishi Karman award for their outstanding performance.



*Award 2020*

### NATIONAL AWARD FOR APPLICATION OF AGRICULTURAL TECHNOLOGIES

## SWAMI SAHAJANAND SARASWATI OUTSTANDING EXTENSION SCIENTIST AWARD 2020

The Council has instituted the Swami Sahajanand Saraswati Outstanding Extension Scientist Award in order to provide recognition to outstanding agricultural extension work done by agricultural scientists and teachers in the ICAR-SAU system and to provide incentive for excellence in agricultural extension scientist/teacher. One individual award has been provided which consist of ₹ 1.00 lakh in cash and a citation. The award has been assigned across the disciplines in agriculture and allied sciences. The award has been named after Late Swami Sahajanand Saraswati (1889-1950) a social reformer and the first president of All India Kisan Sabha.



### Dr. A.K. Shah

Principal Scientist (Agril. Extension) &  
Incharge, Extension and Training  
ICAR-Indian Institute of Sugarcane Research, Lucknow

**Dr. A.K. Shah**, Principal Scientist (Agril. Extension), ICAR-IISR, Lucknow has been awarded Swami Sahajanand Saraswati Outstanding Extension Scientist Award 2020, together with Dr. Sanchita Garai, Scientist, Dairy Extension Division, NDRI, Karnal, for his outstanding contributions in the field of research and extension activities. Dr. A.K. Shah as an extension scientist observed that developing entrepreneurial spirit among sugarcane farmers was centric to the income enhancement. He undertook entrepreneurship development activities in Public- Private-Partnership (PPP) mode in the state of Uttar Pradesh. The outcome of the project was overwhelming and was able to create substantial impact in profit maximization, converting farmers into entrepreneurs and influencing knowledge, attitude, skill, communication behaviour & adoption in positive direction. As a result more than 20000 small farmers, cultivating sugarcane and other crops in 15500 ha area, are now venturing out in agri-business and earning additional income of ₹1908 million annually, accruing ₹95400 of additional annual income to each of the farmers benefitted. Four sugar mills reaped the sweet harvest as they earned additional revenue of ₹1501.60 million per year. With this surplus income, sugar mills have implemented development activities for the farmers in the project area. More than 500 farmers are now doing seed cane business and producing more than 1.0 Lakh tonnes of healthy seed material every year. About 275 Million litres of water was saved due to better cultivation practices, many farmers are now enterprising in intercropping, compost pits and vermi-composting. The income of marginal, small and large farmers has increased by 2.0, 1.64 and 1.50 times, respectively.



### Dr. Sanchita Garai

Scientist, Dairy Extension Division, NDRI, Karnal



**Dr. Sanchita Garai**, Scientist, Dairy Extension Division, NDRI, Karnal has been awarded Swami Sahajanand Saraswati Outstanding Extension Scientist Award 2020, together with Dr. A. K. Shah, Principal Scientist (Agril. Extension), ICAR-IISR, Lucknow. Dr. Sanchita Garai has tried to accelerate contribution of dairy farming in the crop-livestock mixed system of Indian agrarian economy through the innovative model of dairy extension service i.e. Dairy Vikash Kendra conceptualized by the Eastern Regional Station of ICAR-NDRI, Kalyani. Findings of her study manifest the impact of extension interventions in improving knowledge, attitude, and adoption of scientific dairy farming practices, milk production and income from dairying which ultimately leads to the improvement of livelihood of rural dairy farmers of Nadia district of West Bengal. She also established that systematic extension intervention may not be a panacea to eradicate poverty from rural livelihood, but, may be a strongest weapon to improve livelihood of millions of rural masses throughout the world. Besides these, she studied sustainability of dairy-based livelihood in West Bengal district wise as per HDI of UNDP and found very low. This finding may help policy makers to lay out proper dairy development plan across the districts of West Bengal. Dr. Garai also constructed Livelihood Security Index (LSI) which may be used as litmus to appraise livelihood security generated through dairying in similar socio-economic scenario and accordingly suggest suitable interventions to improve livelihood of the least dairy developed region of the country.



*Award 2020*

### NATIONAL AWARD FOR APPLICATION OF AGRICULTURAL TECHNOLOGIES

### VASANTRAO NAIK AWARD FOR OUTSTANDING RESEARCH APPLICATION IN DRYLAND FARMING SYSTEMS 2020

In order to provide recognition for outstanding research application leading to improvement of dryland farming systems, ICAR instituted an annual Vasantao Naik Award for Research Application in Dryland Agriculture of ₹1.00 lakh which is given to a scientist or an extension worker who has made outstanding contribution in the areas of Water Conservation and Dryland Farming. One award is given which consists of ₹1.00 lakh in cash, Certificate and Citation. The award has been named after Late Sh. Vasantao Naik (1913-1979) who is regarded as Father of Green Revolution in Maharashtra.

**Dr. Deepak Hari Ranade**

Ex. Chief Scientist, SWCE  
Rajmata Vijayaraje Scindia Agricultural University, Gwalior



**Dr. Deepak Hari Ranade**, Ex. Chief Scientist, SWCE (Team Leader) and his team which includes Dr. Indu Swarup, Principal Scientist, Plant Breeding; Dr. M. P. Jain, Ex. Chief Scientist, Agronomy; Er. M. L. Jadav, Scientist, SWE and Dr. D. V. Bhagat, Senior Scientist, Agronomy, from Rajmata Vijayaraje Scindia Agricultural University, Gwalior have been awarded Vasantao Naik Award for Outstanding Research Application in Dry Land Farming Systems 2020. The team of Dr. D.H. Ranade made many significant achievements while working in an Operational Research Project for Dryland Agriculture and National Innovations on Climate Resilient Agriculture projects particularly for increasing farm productivity and farm income through crop improvement and agronomical technology for dryland crops. The usefulness of these techniques can be increased manifold by adopting natural resource management programmes and for sustainable agricultural productivity. The activities of Operational Research Project involve the adoption and evaluation of different soil and water conservation measures. For this, attempts have been made to conserve the natural resources like soil and water using earth moving machineries. The heavy machines have been used for the development of various water bodies viz., water harvesting tank, percolation tank, for drainage line treatment and even for the deep tillage operations to augment water requirement of different crops grown in the adopted villages. The results of these soil and water activities are found very promising and have been accepted and appreciated by one and all as it has increased the socio-economic condition of the farmers of the area. The work carried out under the project has been a source of information to farming community of Malwa and Nimar region and will surely bridge the existing gap and enhance the awareness for natural resource management through land developmental aspects and activities of Agricultural Engineering for soil and water conservation and Rainwater Management.



*Award 2020*

**NATIONAL AWARD FOR INNOVATIONS AND TECHNOLOGY DEVELOPMENT BY FARMERS**

**JAGJIVAN RAM ABHINAV KISAN PURASKAR /  
JAGJIVAN RAM INNOVATIVE FARMER AWARD 2020**

ICAR instituted this award for Innovative Farmers at National and Zonal levels in order to recognize the outstanding contribution of innovative farmers for initiatives in development, adoption, modification and dissemination of innovations and improved technologies for increased and sustained productivity, improve resource use efficiency and higher profitability. Three annual national awards are instituted with cash prize of ₹ 1.00 lakh each besides Memento, Certificate & Citation + equal amount of travel grants across the country to promote his achievement are given to farmers at national level. These awards have been named after Late Sh. Jagjivan Ram (1908-1986) who was the Deputy Prime Minister and Union Minister for Food and Agriculture in the Union Cabinet.

**Sh. Dhirendrakumar Bhanubhai Desai**

Vill. Panetha, Dist. Bharuch, Gujarat



**Sh. Dhirendrakumar Bhanubhai Desai**, a progressive farmer from village Panetha, district Bharuch, Gujarat, has been awarded ICAR-Jagjivan Ram Abhinav Kisan Puraskar 2020. Sh Desai, a progressive farmer, has truly conceptualized the slogan of More Crop per Drop by getting higher productivity in short duration through continuous cropping pattern with less infrastructure and lots of savings. He has adopted innovative approaches for Banana production which mainly includes Drip irrigation system and Plant tissue culture. With these approaches he has become the only farmer in the country to get 3 harvests of banana in 27 months from single planting. He has motivated many farmers for Hi-Tech Banana cultivation and has formed Cooperative society of banana growers for selling their produce which is helping them in getting higher income. He is also exporting good quality banana to the Middle East Countries. He has taken initiative in establishing Banana Chips manufacturing unit at village which is helping in generating employment at local level. Farmers from various districts of Gujarat, Madhya Pradesh and Uttar Pradesh frequently visit his farm for training of Hi-tech Banana Cultivation. For the outstanding contribution in the field of Banana cultivation he has received several awards- Jagjivan Ram Abhinav Kisan Puraskar for Zone VIII for the year 2017, Best Innovative Farmer Award-2018 by ICAR-IARI, New Delhi; Best Innovator Farmer Award 2019 by State Govt. to name a few.

Indian Council of Agricultural Research, New Delhi congratulates Sh. Dhirendrakumar Bhanubhai Desai for his extraordinary effort in the field of Banana Production and wishes him All the Best for his future endeavors.

**Sh. Sharanabasappa Patil**

Vill. Halasutanpur, Dist. Kalaburgi, Karnataka



**Sh. Sharanabasappa Patil**, a progressive farmer from village Halasutanpur, district Kalaburagi, Karnataka, has been awarded ICAR-Jagjivan Ram Abhinav Kisan Puraskar 2020 at the National level. Sh. Patil is known for innovating several technologies that are helping the farmers at ground level. He has developed 'Pigeon Pea Nipping machine' which has reduced time and cost of nipping together with increased uniformity. Apart from this he has developed 'Low cost Solar Fencing' to protect the crops from wild animals; 'Tap irrigation' for horticultural crops; 'Low cost timer' for irrigation water control which is an alternate tool for computerized irrigation; 'Low cost lime grader equipment'; 'Solar screened system' for bird dispersal; 'Solar powered hydroponics'; 'Animal scaring equipment' for monkey and pigs; 'Fox tail millet dehusking blade' and many more. With these innovations he has successfully motivated his fellow farmers in decreasing the cultivation costs, increasing yield and their economics status. The contributions of Sh. Sharanabasappa Patil has been recognitions at several platforms and he has received many awards like Farmer- Scientist Award by UAS, Raichur; Raita Ratna Award by Govt. of Karnataka; Krishi Pandit Award by State Govt., to name a few.

Indian Council of Agricultural Research, New Delhi congratulates Sh. Sharanabasappa Patil for his extraordinary effort in developing farmers' friendly technologies and wishes him All the Best for his future endeavors.

**Sh. Hariman Sharma**

Vill. Paniyala, Dist. Bilaspur, Himachal Pradesh



**Sh. Harman Sharma**, a progressive farmer from village Paniyala, district Bilaspur, Himanchal Pradesh, has been awarded ICAR-Jagjivan Ram Abhinav Kisan Puraskar, 2020. Sh Hariman Sharma has developed a new apple variety named as 'HRMN – 99' that can grow at low hill/ plain areas which are about 1800 feet above mean sea level or lesser and the variety does not require chilling hours. He has conducted multi-locations trails in tropical and subtropical regions with the support of National Innovation Foundation (NIF). Morphological and SSR DNA finger printing study by NIF and Gujarat State Biotechnology Mission confirms its diversity and superiority over other low chilling varieties Anna and Dorsett golden. An application on behalf of Hariman Sharma for the registration of HRMN-99 variety under PPV&FR Act 2001 has also been filed. The fruits of HRMN-99 have better quality and shelf life. The HRMN-99 Apple variety has been recognized across India, like Germany, Bangladesh, and Nepal. Sh. Hariman Sharma has distributed thousands of plants to hundreds of farmers throughout the country. More than 12,000 farmers and scientists of the country and abroad has visited his farm and appreciated his work. For his outstanding contribution he has received several awards like Jagjivan Ram Krishi Abhinav Award (Zonal) in 2019, Serve Shresth Bagwan Puruskar in 2018, Best Green Grass root Innovator Award in 2018, National Best Farmer Award 2018, Rashtriya Krishak Samrat Samman in 2018, National Innovative Farmer Award in 2016 and many more.

Indian Council of Agricultural Research, New Delhi congratulates Sh. Harman Sharma for his extraordinary effort in developing new apple variety HRMN-99, and wishes him All the Best for his future endeavors.

**Smt. Manorama Singh**

Vill. Agarpur, Dist. Vaishali, Bihar



**Smt. Manorma Singh**, a progressive farmer from village Agarpur, district Vaishali, Bihar, has been awarded ICAR-Jagjivan Ram Abhinav Kisan Puraskar 2020. Smt Manorama Singh has contributed in the development of King Oyster Mushroom production methodology and has also developed PDA medium in flat glass bottles for easy transfer of mushroom culture. She has started utilizing Mustard straw for cultivation of Button and Oyster Mushroom in place of Wheat straw. In order to reduce to cost of production she has started utilizing empty cement bags for cultivation of Button mushroom in place of Alfa PP packet, and for Oyster mushroom she is using bed system on the floor in place of Net/bag method. Her innovative and cost effective ideas have motivated the farmers and farm women in the area and nearby places. She has trained more than 10000 farmers and farm women out of which 200 women and 3000 farmers have started mushroom production as an entrepreneur. Apart from these 50 women and 10 rural youth has also started spawn production together with mushroom production. With her efforts the children in the village are using mushroom powder in place of protein supplements available in the market which will help in fighting problem of malnutrition. Smt. Manorma's work in the field of mushroom production has been recognized at various exhibitions and Kisan Melas.

Indian Council of Agricultural Research, New Delhi congratulates Smt. Manorma Singh for her extraordinary effort in the field of Mushroom Production and wishes her All the Best for her future endeavors.



*Award 2020*

**NATIONAL AWARD FOR INNOVATIONS AND TECHNOLOGY DEVELOPMENT BY FARMERS**

## N.G. RANGA FARMER AWARD FOR DIVERSIFIED AGRICULTURE 2020

The Council has instituted one annual N.G. Ranga Farmer Award for Diversified Agriculture in order to recognize the distinguished farmers for their outstanding contributions in the field of diversified agriculture. The award is aimed at creative and innovative approaches resulting in enhancement of production and productivity, resource conservation and application of improved farming techniques/practices in different disciplines of agriculture. The award carries a cash prize of ₹ 1.00 lakh and given annually. The award has been named after Late Prof. N.G. Ranga (1900-1995).



**Sh. Dipen Kumar Shah**  
Dist. Anand, Gujarat

**Sh. Dipen Kumar Shah**, from district Anand, Gujarat has been awarded N.G. Ranga Farmer Award for Diversified Agriculture-2020 for his progressive and innovative approach towards farming. He has switched over from Tobacco crop to Drumstick crop and has diversified from simply selling farm outputs to making value added products and developing his own brand following and fulfilling the concept of "Farm to Fork". Apart from selling drumsticks directly in the market Shri Dipen Kumar Shah developed a new product by converting the dried drumsticks into powdered form having high nutritional value and a good source of Vitamin C, Iron and Calcium. It is great nutraceutical supplement food which is compatible, flavor enhancer and healthier. Gujarat Govt. had decided to use this nutritional powder in Mid-Day Meal for curing malnutrition problems in children. Shri Shah has presented an example of 100 percent eco-friendly farming and best out of waste. With his efforts State Govt of Gujarat is promoting plantation of Moringa in the state. Due to his wide experience he has also been appointed as trainer by the Govt. for farmers to train them in doing value addition in drumsticks. He has also been Register with MSME, Udyog Aadhar, FSSAI, Barcode, VAT and GST. His company is also certified by ISO – 9001, ISO- 22000, HACCP, NSIC, DUNS & BRADSTREET and SMERA. He has received many recognitions like StartUp DPIIT No. 66333 for making Chocolate, Soup, spread and many more with using base ingredient innovative Drumstick powder under new unit named Amideep Supplement Foods LLP under parent company Pushpam foods; ICAR Jagjivanram Abhinav Kisan Puruskar National Level 2014-15 and VTV Krushi Ratna Award 2016 to name a few.





*Award 2020*

**NATIONAL AWARD FOR INNOVATIONS AND TECHNOLOGY DEVELOPMENT BY FARMERS**

## HALDHAR ORGANIC FARMER AWARD 2020

ICAR has instituted Haldhar Organic Farmer Award to recognize outstanding contribution of organic farmers. The award is annual in nature and carries cash award of ₹ 1.00 lakh besides Memento, Certificate & Citation. The award is given to any organic certified farmer/ grower in organic farming and related activities in field crops/ horticultural crops/ medicinal crops/ milk production etc., with an experience of 5 years in organic farming including certification period.



**Sh. Bandaru Venkateshwarlu**

Vill. Narsimhula Gudem, Dist. Suryapet, Telangana

**Sh. Bandaru Venkateshwarlu**, a progressive farmer from village Narsimhula Gudem, district Suryapet, Telangana, has been awarded Haldhar Organic Farmer Award 2020 together with Sh. Ratan Lal Daga from village Bhaiser, district Jodhpur, Rajasthan. Sh. Venkateshwarlu is the first one in his village to take up integrated organic farming in 12 acres of land. The main factors that have contributed to his success are his interest and passion towards advanced technologies. He is a hard worker who is self-motivated to take up new initiatives for profitable agriculture. He has adopted different models of Low cost semi-permanent pandals (Vertical) for cultivation of Cucurbitaceous vegetable i.e., Ridge gourd, Bitter gourd and Cucumber in organic farming. In his field, he has replaced chemical fertilizers with organic inputs like FYM, Vermi-compost, Jeevamrutham, Panchagavya, Waste decomposer, Ghanajeevamrutham, Bijamrutham etc., and biofertilizers like *Pseudomonas*, *Phosphobacteria*, *Azospirillum* etc., & entomopathogenic fungi *Beauveria bassiana*, *Verticillium lecani* and *Trichoderma viride*. In place of pesticides and fungicides he is using Cow urine, Neem oil, sticky traps, light traps and Pheromone traps to prevent pests and diseases. Sh. Venkateshwarlu has also successfully adopted crop rotation; trap crops (Marigold) and border crops and good farm sanitation practices. Many farmers from surrounding villages, mandals and even from other state visit his farm to see successful adoption of organic farming practices. Nearly 10 farmers from surrounding villages have already adopted organic farming. Sh. Venkateshwarlu's dedicated efforts towards organic farming have been recognized at several platforms. He has received 'Pudami Putra Farmer Award' during 2021 from collaboration of Gandhi Global Family, Gandhi Gnan Prathistan and KVK Rythu Mitra Foundation at Suryapet; 'Best Farmer Award' during 2019 at Annual function of Sri Aurobindo Dhyana Mandhir, Gaddipally and several other awards.

**Sh. Ratan Lal Daga**  
Vill. Bhaiser, Dist. Jodhpur, Rajasthan



**Sh. Ratan Lal Daga**, a progressive farmer from village Bhaiser, district Jodhpur, Rajasthan has been awarded Haldhar Organic Farmer Award 2020 together with Sh. Bandaru Venkateshwarlu from Narsimhula Gudem, dist. Suryapet, Telangana. Sh. Ratan Lal Daga, has done numbers of innovations in order to make organic farming productive and profitable. Also, he has modified some of the organic practices according the climatic conditions in western Rajasthan and now with these modifications he is successfully getting the profit by increased productivity and minimized cost of crop production. With traditional and organic farming methods, he has explored the right methods for seed treatment to prevent fungal and bacterial diseases and pests, weed management, storage and much more. He is using bio-agents, traps (Yellow, blue, white), pheromone traps, compost, matka khad, dahi hariyali khad having thirteen herbs in his farm etc. For seed treatment Sh. Daga is using sun drying method, seed dip in desi cow milk or 10% NaCl solution and many other modified traditional methods. He has installed drip irrigation system in his farm that is saving upto 30% water and also preventing diseases and pests. He has written a book on organic farming, 'A practical handbook on Organic Farming' published by Swadeshi Vichar Foundation, Jodhpur in the year 2018. Apart from this, he has delivered several radio talks on Aakashwani, 'Kheti Badi' TV programme on Doordarshan and lectures in trainings organized by Universities, ICAR-CAZARI Jodhpur, ATMA, Dr. S R Rajasthan Ayurved University, Jodhpur, Sardar Patel Police University, Jodhpur, DAESI, NGO etc. His products have been certified by Rajasthan State Organic Certification Agency (RSOCA). The contribution of Sh Daga towards organic farming has been recognized at several platforms and he has received Samay Kond Krishi Puraskar, Swadesi Gaurav Smmann, Crystal Agri National Award-2014, Dharti Mitra by Organic India and many more awards in organic farming.



*Award 2020*

**NATIONAL AWARD FOR INNOVATIONS AND TECHNOLOGY DEVELOPMENT BY FARMERS**

**PANDIT DEENDAYAL UPADHYAY  
ANTYODAY KRISHI PURASKAR AWARD 2020**

In order to recognize the contributions of marginal, small and landless farmers for developing sustainable integrated models of farming, the ICAR has instituted Pandit Deendayal Upadhyay Antyodaya Krishi Puraskar annually. Three awards comprising of ₹ 1.00 lakh each with Award Certificate and Citation to be given annually.



**Sh. Ganga Ram Sepat**  
Vill. Kalkh, Dist. Jaipur, Rajasthan



**Sh. Ganga Ram Sepat**, a progressive farmer from village Kalkh, district Jaipur, Rajasthan, has been awarded Pandit Deendayal Upadhyay Antyodyay Krishi Puraskar 2020. Sh Sepat has used new technologies and management strategies at his farm to bring about changes in the farming and ultimately to his income. He has set an example by cultivating strawberries and lettuce in adverse climatic conditions of Rajasthan apart from growing Broccoli and Sugar beet organically in mixed farming. He has adopted water conservation technology by adopting drip irrigation. He is using Bio-control agents, Botanicals and Organic manure at his farm. He is successfully doing round the year cucumber production in his poly houses. He is also converting the crop residues into compost, raising nursery in polyhouses and using mulching technology to reduce the use of weedicides. Sh. Ganga Ram Sepat is using soil solarization method to tackle the problem of nematodes in poly houses. He is using preventive measures like light traps, adhesive trap and Neem cake, Neem oil, Javik Kade and bio-cultures for crop protection purposes. He has also developed Bio-Organic culture, Jivaamrit, Ghan Jivaamrit, Javik Kade and Panch Gavya for vegetable production. He is known for using artificial insemination technology in animals for the first time in the area. He is using new technology like mobile apps, internet and other social media platforms to get latest information about farming. Being the first in adopting polyhouse technology in the area, he has motivated about 150 farmers of his village and about 400 farmers in the district towards protected cultivation. He has delivered talks on Doordarshan, News India, Patrika TV, Krishi Jagaran and many other TV Channels.

**Smt. Bandana Kumari**  
Vill. Merha, Dist. Banka, Bihar



**Smt. Bandana Kumari**, a progressive farmer from village Merha, district Banka, Bihar, has been awarded Pandit Deendayal Upadhyay Antyodyay Krishi Puraskar 2020. Smt Bandana Kumari has been engaged in animal husbandry and dairy enterprise and now she has diversified with other crops. With first crossbred cow of this village she started dairy business in 2013. For more milk production she started balanced feeding and all standard scientific management practices with the help of expert. After achieving milk production of more than 35 kg/day, she made SHG of 11 females, initiated a Dairy Farm with 30 Cows and linked it with Milk Cooperative Society, Banka. She started Roof water harvesting for dairy farming to resolve the problem of water scarcity and had conserved about 2 lakh liters of water. This technology have adopted by more than 62 farmers of Banka district. She utilizes dairy waste water for green fodder production and kitchen garden. She is also using new techniques like urea treatment of paddy straw, Palas leaves as green fodder and preserving it for silage, Azzola production for feeding animals. She has transformed 1 hectare barren land into mango plantation with the help of cow dung compost. She has taken initiative in forming milk cooperative society 'Sudha', Animal Health Advisory centre with help of KVK Banka, Promotion of Tribal female for Backyard poultry and Dairy, Starting of SHG in Merha for dairy and Mushroom through ATMA, Banka. With her efforts 25 women of her village became dairy entrepreneur. Her outstanding contribution in dairy farming and water conservation has been recognized at several platforms. She has received Mahindra Samridhi Zonal Award 2013, Krishak Awards for water conservation powered by Honda and New Holland-2021 and many more. She works as a resource person in different programmes for KVK, Banka.

**Sh. Arunbhai Jasmatbhai Patel**  
Vill. Bala Faliya, Dist. Navsari, Gujarat



**Sh. Arunbhai Jasmatbhai Patel**, a progressive farmer from village Bala Faliya, district Navsari, Gujarat has been awarded Pandit Deendayal Upadhyay Antyodyay Krishi Puraskar 2020 together with Sh. Sanjay Kumar from village Plauhta, district Mandi, Himachal Pradesh, Being an enthusiastic farmer, Sh. Arunbhai Patel with inspiration from Krishi Vigyan Kendra, Navsari, started vegetables and fruits cultivation in all season of the year in his backyard and became a wonderful example of Kitchen garden for sustainability in the area. Kitchen garden with fish farming, poultry and animal husbandry based IFS model has given very good recognition from different departments to Sh. Arunbhai. Amateurs from different places come to visit his farm and learn how to obtain maximum output from unit area. In addition to this, many farmers have tried to start such model on their backyard. By his successful efforts more than 30 kitchen garden models have been started by women in the district. One small initiative from Sh. Arunbhai has led to a major impact on implementation of kitchen garden with integration of other farming systems. Sh. Patel has participated in several Fruit, Flower and Vegetable Demonstration and Competition in Agriculture Fair organized by Farmers Training Centre, Navsari and has been awarded the 'Best ATMA Farmers Award' in 2017 from ATMA Gujarat, Sub-Mission on Agriculture Extension, Gandhinagar.

**Sh. Sanjay Kumar**  
Vill. Plauhta, Dist. Mandi, Himachal Pradesh



**Sh. Sanjay Kumar**, a progressive farmer from village Plauhta, district Mandi, Himachal Pradesh, has been awarded Pandit Deendayal Upadhyay Antyodyay Krishi Puraskar 2020 together with Sh. Arunbhai Jasmatbhai Patel from village Plauhta, district Navsari, Gujarat. Mr. Sanjay Kumar an innovative farmer has established an identity with an integrated farming system model in his farm with the inclusion of various components like protected cultivation, crop production, dairy, goat rearing, Zero Budget Natural Farming (ZBNF), ZBNF resource centre, mushroom cultivation and earning a net profit of ₹ 6.19 lakhs per annum. Not only this, he is a master trainer of Zero budget natural farming and involved in up-scaling the natural farming technologies among other farmers of the district. Till date, about 1000 farmers have been trained by him and trainees of various agencies used to visit his farm for experiential learning. He is a group leader of DFI selected village of KVK. He makes use of social media platforms, WhatsApp, facebook etc. in a better way for the promotion of farm produce and with the use of social media, many traders keep contacting him. He has received Krishi Doot Samman by Hon'ble Vice-Chancellor, CSKHPKV, Palampur for his outstanding contribution in the area.

## BEST ANNUAL REPORT AWARD 2020

### ICAR-Central Institute of Brakishwater Aquaculture, Chennai

The Best Annual Report Award-2020 in the category of Large Institute has been conferred on **ICAR-Central Institute of Brakishwater Aquaculture, Chennai**. The Annual Report of ICAR-CIBA-2019 presents salient accomplishments of the institute during the year 2019 (April to December 2019). The research work of the institute has been highlighted precisely with beautiful illustrations, colourful graphs and photographs that give a clear picture of the successful progress of the work carried out during the reporting period. The tabulated and pictorial representations make it easy for the reader to understand and analyze the research work. Action photographs of demonstrations at farmers' fields, trainings and other events have been given in the report. Enlistment of Ph.D Students, Workshops, meetings and Seminars attended and organized, Awards and Recognitions received, Linkages and Collaborations have been appropriately done. Also details of consultancies, technology development and transfer and patent granted have been mentioned. Separate mention of the official language implementation programme, research and administrative meetings, services and assignment have been done apart from presentation of programmes like ARYA, Swachhta Bharat Mission, Jal Shakti Abhiyan, Mera Gaon Mera Gaurav. A detailed list of distinguished visitors, staff members, infrastructure development during the year can be seen in the report. An account of library holdings has been given with total number of books, Journals, Abstracts, Bulletins and Miscellaneous. The Annual Report also includes list of publications and participation in conferences and meetings. The Annual Report 2019 of ICAR-CIBA, Chennai is a single window that gives the reader an overall insight into the research and development work undergoing in the Institute.

## BEST ANNUAL REPORT AWARD 2020

### ICAR-Central Institute of Arid Horticulture, Bikaner

The Best Annual Report Award-2020 in the category of Small Institute has been conferred on **ICAR-Central Institute of Arid Horticulture, Bikaner** together with ICAR-Indian Institute of Maize Research, Ludhiana. The research work of the institute has been highlighted precisely with beautiful illustrations, colourful graphs and photographs that give a clear picture of the successful progress of the work carried out during the reporting period. The tabulated and pictorial representations make it easy for the reader to understand and analyze the research work. The report include description of externally funded projects, transfer of technology programs through trainings, workshops and seminars along with capacity building events at National and International level. Comprehensive pictorial representation of field demonstrations, Swachh Bharat Abhiyan and other events has been given. Enlistment of participation in Seminar, Symposia and Conferences has been done. Special mention of empowerment of women and persons with disability can be seen in the report apart from awards and recognition. Both Hindi and English publications has also been enlisted in the report. The celebration of Rajbhasha Workshop has been mentioned under separate head in the report. The Annual Report 2019 of ICAR-CIAH, Bikaner can be said as a compact guide to the overall research and development work that took place during the reporting year.

## BEST ANNUAL REPORT AWARD 2020

ICAR-Indian Institute of Maize Research, Ludhiana

**The Best Annual Report Award-2020 in the category of Small Institute has been conferred on ICAR-Indian Institute of Maize Research, Ludhiana** together with ICAR-Central Institute of Arid Horticulture, Bikaner. Starting with the mission, vision and mandate of the institute, the Annual Report-2019 of ICAR-IIMR, Ludhiana precisely presents the summary both in Hindi and English language. The research work of the institute has been highlighted comprehensively with beautiful illustrations, colourful graphs and photographs that give a clear picture of the successful progress of the work carried out during the reporting period. The tabulated and pictorial representations given in the report make it easy for the reader to understand and analyze the research work. Action photographs of demonstrations at farmers' fields, trainings and other events have been given in the report. List of scientific events, training and capacity building programme organized, conference and seminar attended and awards and recognitions received have been given in the report. A detailed list of Cultivars identified and notified, DUS Testing and varietal registration, breeder seed production, Lectures/T.V./Radio talks delivered, publications and list of on-going projects have been given as annexure. The Annual Report 2019 of ICAR-IIMR, Ludhiana can be said as a compact guide to the overall research and development work that took place during the reporting year.