







Agrisearch with a Buman touch

NEWSLETTER

ICAR-Central Research Institute for Dryland Agriculture

January-June, 2017



Dr. K. Sammi Reddy, Head DRM has assumed the charge of Director CRIDA (Acting) with effect from 4th May, 2017. CRIDA family welcomes him and wishes that CRIDA would reach greater heights under his dynamic leadership.

Dr. K. Sammi Reddy

Dr. Ch. Srinivasa Rao, Director CRIDA is appointed as Director, NAARM w.e.f 28.04.17. CRIDA family wishes him all success in his future endeavors.



Dr. Ch. Srinivasa Rao

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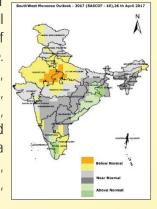
From the Director Desk.....

Agricultural Planning & Preparedness for Weather Contingencies during *Kharif* - 2017

The quantum and distribution of rainfall during *kharif* season is very important for agricultural production in general and for rainfed crops in particular. During the last few years, the national and international agencies are giving the seasonal forecast at the country level and in spatially disaggregated way covering the whole country. This availability of such forecasts enables better planning for the *kharif* season.

The consensus seasonal forecast made by SASCOF (South Asia Seasonal Climate Outlook Forum) issued on 26th April, 2017 for the

kharif season i.e. June to September indicated that the expected rainfall is above normal in Kerala, parts of Western Tamil Nadu, Eastern India i.e. Odisha, West Bengal and Jharkhand, normal in Chhattisgarh, Telangana, Maharashtra, Northern Karnataka, Bihar, North East Region & Gujarat and below normal in Rajasthan, Madhya Pradesh, Uttar Pradesh, Haryana, Uttarakhand, part of Andhra Pradesh, Tamil Nadu (Eastern) etc.



Keeping this forecast in view, interface meetings were organised in 6 states during May-June 2017, including Andhra Pradesh, Karnataka, Maharashtra, Odisha, West Bengal and Rajasthan states to enhance the preparedness on the part of state agriculture department for meeting contingency scenarios. Natural resource management interventions to be taken in both deficit and excess rainfall scenarios were discussed and action plans were prepared. Similarly, availability of contingency seed for different crops, mechanisms for dissemination was thoroughly discussed and plans are finalised.

During the interface meeting, it was stressed for preparation of realistic district action plans, organizing skill development programme for rural youth on farm machinery and micro-irrigation system and issuing of appropriate timely agro-met advisories.

K. Sammi Reddy
Director (Acting), CRIDA

New Research Initiatives

Development of District Drought Proofing Plans

The MoU is entered between ICAR-CRIDA and Department of Agriculture Cooperation and Farmers Welfare with a purpose to develop district drought proofing plan for selected 24 districts (16 districts of Karnataka, 4 districts of Andhra Pradesh and 4 districts of Rajasthan). ICAR-CRIDA would facilitate the process of preparation of drought action plan. The plans provide information which consists of identification of measures to be taken up in short or medium or long term to cope up with drought.

Carbon Dioxide and Temperature Gradient Chambers (CTGC) facility for changing climate studies

CTGC are state-of-art facility for measuring the impacts of elevated CO₂ and temperature, which are considered to be the major parameters of climate change. These types of chambers are used to study basically the crop growth and insect pest under the future climate change scenario conditions with both CO₂ enrichment and warming conditions. This facility will be able to provide reliable scientific parameters which will be of immense help to understand the impact of climate change on crop growth and biotic stresses. In these fully automatic controlled chambers, the air temperature can be increased to 5°C above ambient temperature with a gradient of 1 to 5°C lengthwise within 30 m chamber length and combined effects of elevated CO₂ and temperature condition can also be studied. The growth and pathogenicity patterns of *Alternaria alternata*, causing alternaria blight in pigeonpea was studied to understand the chances of its damage under both elevated CO₂

conditions and ambient conditions. A gradual increase in biomass, as a result of elevated CO_2 conditions, were suggestive of this pathogen to be a potential pathogen under future climate scenario on field crops like tomato, pigeonpea, *etc.* Contrary to this, the growth of *Fusarium oxysporum f. sp. ricini* was not favoured under elevated temperature condition. Similarly, sporulation rate of *Trichoderma viridae* was gradually reduced from 30 to 45°C. Thirteen isolates of *Trichoderma sp.* were screened for their ability to withstand different salt concentrations and except for a few isolates, all test isolates could withstand up to 2.2 M NaCl concentration.

Evaluation with Natural Nitrification Inhibitors

Urea coated plant based natural nitrification inhibitors like urea coated neem cake, karanjin cake, vitex leaf were evaluated under different moisture conservation practices, *viz.*, control, conservation furrow, and tank silt application. 100 kg N ha⁻¹ and 50 kg N ha⁻¹ was applied through these inhibitors to maize and castor crops. Amongst these conservation practices, conservation furrow and tank silt application had 11-12% higher yields than normal sowing. All the natural nitrification inhibitors treated plots recorded higher yield as compared to control. GHG fluxes in different treatment suggested that CO₂ fluxes are neither influenced by moisture conservation methods nor by the use of natural nitrification inhibitors. In all the treatments, methane absorption was observed. Among natural nitrification inhibitors, vitex cake coated urea has recorded lower N₂O fluxes, followed by neem cake coated urea.

Research Highlights

Development and Management of Integrated Water Resources in different Agro Ecological Regions of India (CRP on Water)

A watershed of 47 km² area (4700 ha) in the Krishna basin in Nagarkurnool district covering four tribal dominant villages were selected for assessing the rainwater harvesting potential through SWAT modelling. An annual total runoff was estimated to be 573 ha.m having average annual runoff depth of 122 mm out of an average annual rainfall of 734 mm. Leaving 30% of the runoff to the downstream requirements of the watershed, 401 ha.m can be harvested through farmpond in the watershed. Taking an average size of 500m³ capacity farmpond for a catchment of 1 ha land, 8000 farmponds can be planned in the watershed for critical irrigation to the field rainfed crops. An integrated farming system module was implemented in the tribal farmer having 3 acres land with farmpond as a water source. The cropping system includes Blackgram (2.5

acres), vegetables (0.4 acre) and fodder (0.1 acre) along with small ruminants with the farmer. Blackgram was given two critical irrigations of 30 mm during its critical stages of vegetative and pod filling stages. The effective rainfall calculated during its crop growth period (60 days) was 80 mm.

The water productivity of Blackgram with 3 q/ha yield was 0.21 kg/m³. For vegetables and fodder grown since October were given nine irrigations of 30 mm at 10 day intervals. Among the vegetables, chilly was grown in 0.2 acre, tomato in 0.1 acre and brinjal in 0.1 acre with the yields of 1, 5 and 10 q, respectively. The water productivity for chillies was 0.5 kg/m³, tomato 4.6 kg/m³, brinjal 9.2 kg/m³ and fodder 27.52 kg/m³. The total net income obtained from the above IFS module was Rs. 43,625.00 which is 3 times more than the traditional system followed by the farmer. Moreover, the IFS module has brought a food security to a chenchu family of 4 members with 3 times enhanced protein content over before the project.

Scientific Activities

ICAR-CRIDA and ICRISAT Collaborative Project Meeting

ICRISAT led by Dr. David Bergvinson, Director General, ICRISAT had consultations with Director, ICAR-CRIDA and CRIDA Scientists on identified research areas at CRIDA on 9th January, 2017. Both the Institutions agreed upon to work in the area of integrating systems modelling tools enabling informed decisions for up scaling climate resilient agriculture.



Brain Storming Session on Future Climate Change Research in Agriculture

A one day Brain Storming Session was organized on 23rd February, 2017 at NASC, New Delhi under the chairmanship of Dr. T. Mohapatra, Secretary, DARE & DG, ICAR. The meeting was attended by NICRA Expert Committee members, DDG (AS), several ADGs, Special invitees from other Ministries viz., DAC, Min. of Water Resources, Senior Officers from ICAR, few Directors from ICAR institutes and PIs of NICRA project from various partner institutes. Dr. T. Mohapatra, Secretary, DARE & DG, ICAR in his inaugural address appreciated the outcome of NICRA which is felt at National level, and appreciated the progress made so far. Dr. K. Alagusundaram, DDG (NRM & AE), ICAR felt the need to continue NICRA project with focused objectives. Dr. S.M. Virmani, Chairman, NICRA Expert Committee briefed on the importance of climate change research in Indian Agriculture. Dr. Ch. Srinivasa Rao, Director, ICAR-CRIDA made a brief presentation on the background and purpose of the meeting, with significant outcomes of NICRA project and its potential impact on adaptation and mitigation of climate change in agriculture sector and way forward.



Review Meeting on Operational Issues of Plant Phenomics Facility

Ameeting was held on 16th March, 2017 at ICAR-CRIDA, Hyderabad under the chairmanship of Dr. Ch. Srinivasa Rao, Director, ICAR-CRIDA to discuss issues related to service support plan and maintenance aspects for the Plant Phenomics Facilities, established under NICRA projects at various institutes. Director, SPL Tech, New Delhi along with his team of service and maintenance staff participated in this meeting. Scientists involved with Phenomics at ICAR-CRIDA, Hyderabad, ICAR-IIHR, Bangalore and ICAR-NIASM, Baramati deliberated on issues related to operation of this facility.

Dr. Ch. Srinivasa Rao, Director, ICAR-CRIDA expressed the need to make best use of this facility and also it should be made available to the local research institutes in Hyderabad. Interactions helped to understand the common issues across institutes and some specific problems in operating Phenomics facility.



Review Meeting on Operational Issues of Plant Phenomics Facility

First State Coordination Meeting on Doubling the Farmer's Income in Telangana by 2022

The first state coordination committee meeting on "Doubling the Farmer's income by 2022 in Telangana State" was held on 28th March 2017 at Professor Jayashankar Telangana State Agricultural University, Hyderabad under the chairmanship of

Dr. V. Praveen Rao, Vice-Chancellor, PJTSAU and chairman of the coordination committee. Various stakeholders from State agriculture, horticulture and veterinary universities, ICAR institutes (CRIDA, NAARM, IIRR, IIOR, IIMR, NRC on Meat, PDP, NBPGR, NABARD, MANAGE, APEDA, State Departments of Agriculture, Veterinary and Animal Husbandry, Fisheries, APEDA, CESS, ICRISAT, MOFPI) participated in the deliberations of the meeting. Dr. Ch. Srinivasa Rao, Director, ICAR-CRIDA and Convener, SCC welcomed the delegates and briefed about the necessity of the meeting to develop an action plan / strategy paper to realize the objective of doubling the Farmers income by 2022 considering opportunities and strengths of Telangana State.



IRC Meeting

IRC meeting was conducted during 1st, 2nd and 4th April, 2017 under the chairmanship of Dr. Ch. Srinivasa Rao, Director, ICAR-CRIDA and was attended by project coordinators, heads of the divisions/ sections/units and scientists. In his opening remarks, the Chairman, IRC suggested all the PIs to select a theme pertaining to the mandate of the Institute and apply for external funding projects. He further informed the house about the cut in the budget and suggested to workout modalities for meeting the maintenance cost of new state of art facilities created under NICRA. Once again, stress was laid on good quality publications having high impact factor which serves as one of the indicators of performance. The progresses of the ongoing projects under all the divisions were reviewed and suggestions were given. The new project proposals were also discussed.

ICAR-CRIDA Foundation Day Celebrated

ICAR-CRIDA celebrated its 33rd Foundation Day on 12th April, 2017. Dr. David Bergvinson, Director General, ICRISAT has graced the occasion as Chief Guest. Dr. Ch. Srinivasa Rao, Director, CRIDA while welcoming the invitees appreciated the efforts of all the staff members of the Institute and also predecessors of the Institute who brought laurels and recognition to the organization. Dr. Bergvinson appreciated the contributions of CRIDA to the rainfed farming community as well as climate change research. He opined that translating science to profitable adoption, integrating IT in agricultural research with ample use of spatial data and crop modelling for future climate could play a vital role in national agricultural productivity enhancement programs to meet food security challenges. On this occasion, 18 farm innovators from six states were honoured for achieving sustainable productivity through their novel innovations in agriculture and allied enterprises. The staff in administrative & accounts, technical and supporting categories were recognized for their significant contributions to the organization and felicitated. Apart from the employees, former Directors of CRIDA and Project Coordinators also participated in the programme.



ICAR-CRIDA Signed MoA with Agri-Industries on Farm Implements

CRIDA has signed MoA with two industries on 17th April, 2017 namely M/s Venturetech India Pvt. Ltd, Hyderabad and M/s. Avanti Bufa Pvt. Ltd, Zahirabad for manufacturing and sale of selected CRIDA designed farm implements. License was given to fabricate and sell Adjustable Raised Bed Planter cum Herbicide Applicator which has been developed by ICAR-CRIDA. The other equipment's include ICAR-CRIDA 3/4 row Bullock Drawn Planter, Vegetable Perseverator, Plough Planter, Manual Weeder which were licensed to the above industries for fabrication and sale to the farmers. Dr. Ch. Srinivasa Rao, Director, ICAR-CRIDA suggested the industries to maintain high quality standards and look in the direction of helping the farmers with a special focus on rainfed ecosystems. Dr. K. Sammi Reddy, Head, Division of Resource Management insisted on refinement of the machinery based on the location specific needs of the farmers to get more precision to reduce the input cost.



Signing of the MoA with Agri-Industries on Farm Implements

Technical Workshop for Collaboration between Project on Climate Resilient Agriculture (PoCRA), Govt. of Maharashtra and ICAR-CRIDA

A One-day workshop was held to discuss about the collaboration between PoCRA and ICAR-CRIDA as the Government of Maharashtra is planning to enhance climate-resilience and profitability of smallholder farming systems in 15 districts of Maharashtra involving about 5000 villages. Dr. Ch. Srinivasa Rao, Director, CRIDA in his welcome remarks emphasised the need for expanding the climate resilient villages and the need to address the variable rainfall and drought situation in Maharashtra. Shri Vijay Kolekar and Preetam Vanjari represented PoCRA and made presentation about the salient aspects of the project. Other areas of collaboration explored were on development of agro advisories, contingency plans for the clusters, technological backstopping and

development of monitoring and evaluation framework for climate resilient villages.



Technical Workshop for Collaboration between Project on Climate Resilient Agriculture (PoCRA), Govt. of Maharashtra and ICAR-CRIDA

Contingency Plans

Contingency Preparedness Meetings

ICAR-CRIDA along with Department of Agriculture, Co-operation & Farmers Welfare and Department of Agriculture of respective states organized contingency preparedness meetings in the various states to operationalize district contingency plans for *kharif* 2017. The meetings were attended by State Agriculture Department officials, other line department functionaries, state agricultural universities, Program Coordinators of KVKs, representatives of local ICAR Institutes, AICRPDA, AICRPAM centers, farmers, press and media.

Details of State wise Interface Meetings

S. No.	State	Place	Organised on
1.	Karnataka	Vikas Soudha, Bengaluru	11-05-2017
2.	Andhra Pradesh	ANGRAU, Lam, Guntur.	27-05-2017
3.	Maharashtra	Department of Agriculture, Government of Maharashtra, Pune	02-06-2017
4.	West Bengal	Nabanna, Department of Agriculture, Government of West Bengal, Kolkata.	06-06-2017
5.	Rajasthan	Pant Krishi Bhavan, Jaipur	16-06-2017

Karnataka

An interface meeting on enhancing the preparedness for agriculture contingencies in *kharif* 2017 for Karnataka was organized at Vikas Soudha, Bengaluru on 11th May, 2017. Shri M. Maheswara Rao, Secretary, Department of Agriculture, Government of Karnataka stressed on preparation of contingency action plans for each district by the respective district level officials and impressed upon the officials to intervene during the drought

periods with various inputs and for plans for supplemental irrigation. Dr. KV Rao, ICAR-CRIDA informed the status of monsoon and stressed upon the need for contingency preparation in view of expected below normal and above normal rainfall which, if not prepared well, leading to problems of drought and seasonal water logging in the state and advocated the measures for preparedness and real-time contingency measures.



Andhra Pradesh

An interface meeting on enhancing preparedness for agriculture contingencies in Andhra Pradesh for *kharif* 2017 was jointly organized at ANGRAU, Lam, Guntur on 27th May, 2017. Dr. KV Rao, ICAR-CRIDA informed purpose of the contingency interface meeting and region wise monsoon forecast for the state of Andhra Pradesh. Shri B. Rajasekhar, Special Chief Secretary, Department of Agriculture, Govt. of Andhra Pradesh and Vice Chancellor, ANGRAU, while appreciating efforts to ICAR-CRIDA in conducting these interface meetings, requested the field level

officials to gear up in view of the forecast to reduce agricultural distress in sensitive districts. Dr. M. Hari Jawaharlal, Special Commissioner, Department of Agriculture, Government of Andhra Pradesh emphasized on convergence of the programs including allied sectors of agriculture for ensuring livelihoods security. MS. A. Neeraja, Joint Secretary (RKVY), Government of India requested the State Government to send feedback along with necessary support from Ministry of Agriculture, Government of India.



Maharashtra

An interface meeting on enhanced preparedness for agriculture contingencies in Maharashtra for *kharif* 2017 was jointly organized at Pune on 2nd June, 2017. Dr. SL. Jadhav, Director (Extension), Government of Maharashtra, informed the status of kharif and rabi seasons in the state and the growth rates realized during the year 2016-17. Dr. Shakeel Ahammed, Joint Secretary (MIDH), Government of India advised the officials to make necessary efforts to meet any



West Bengal

An interface meeting for enhancing the preparedness of agriculture contingencies in *kharif* 2017 for West Bengal was jointly organized at Nabanna, Department of Agriculture, Government of West Bengal, Kolkata on 6th June, 2017. Dr. KV Rao, ICAR-CRIDA presented the purpose of meeting as well as weather forecast analysis of West Bengal and emphasized the need for adequate preparedness for any contingent situation which may arise due to above normal rainfall. Dr. RK. Singh, Joint Director, Agriculture has proposed various contingency measures for *kharif* 2017 including development of small community seed bed in villages affected by drought/floods in a contingency situation.

Shri Sanjeev Chopra, ACS, Deportment of Agriculture, Government of West Bengal appraised the satisfaction about the preparedness to tackle with contingent situation and advised the department officials to be prepared to meet agriculture contingencies. Shri Pradip Majumdar, Advisor to the Government of West Bengal advocated all JDAs of different divisions of the state to have a contingency plan in place and execute them in an effective manner so that farmers are least affected in case of drought/floods.



Rajasthan

An interface meeting on enhanced preparedness for agriculture contingencies in during *kharif* 2017 for Rajasthan was organized at Pant Krishi Bhavan, Jaipur on 16th June, 2017. The meeting was Chaired by Shri Suresh Gautam, Additional Director and Dr. PS. Rathore, Vice Chancellor, SKNAU, Jobner. The meeting was attended by Dr. Balraj Singh, Dr. GL. Keshava, Vice Chancellors and Directors (Res) and Director (Extn.) of other agriculture universities in Rajasthan, representatives of ICAR institutes, officials from Department of Agriculture KVKs. Dr. KV Rao, ICAR-CRIDA informed the status of monsoon and stressed upon the need for adequate preparedness for any contingent situation which may arise due to below normal rainfall. Shri SK. Hudda, Joint Director while presenting the agriculture situation during 2016 and agriculture plan for 2017, urged the department officials to modify agriculture plans and to prepare the contingency plans based on the forecast made for the *kharif* season.



General Recommendations

- Equal emphasis need to be given for both seed supply and management practices under contingency plans.
- Better natural resource management practices particularly insitu measures to be promoted among farmers in low rainfall drought prone regions and measures such broad bed and furrows in above normal rainfall areas.
- Ensuring the availability of sufficient quantity of seeds of tolerant varieties, preparation of small community seed beds by the department of agriculture.
- To explore incentivizing the farmers for growing contingency

- crops in place of risky crops like cotton and groundnut and providing insurance coverage for additional crops.
- Promotion of new technologies including varieties, management practices developed by state agriculture universities and farm ponds.
- Quantification of adoption of technologies such as ridges and furrows, BBFs, contingent seed varieties by district authorities to understand the utilization of developmental programs by farmers.
- Exploring the possibility to conduct interface meetings in every university with respective department officials before the state level interface meeting

Technology Transfer

National Productivity Week Celebrations

ICAR-CRIDA has celebrated National Productivity week from 12-18th Februrary, 2017 at main office, Research farms and Krishi Vigyan Kendra at HRF, and in its adopted villages namely Gaddamallaiahguda, Rangareddy district to mark the occasion of the establishment of National Productivity Council (NPC). The theme for the week was "From Waste to Profits through Reduce, Recycling and Reuse". On 12th February, 2017 National productivity Day was observed in Hayatnagar Research Farm. Dr. K. Sammi Reddy, Head DRM, explained to all the staff of the farm on the importance of crop residue recycling and vermicomposting methods. Krishi Vigyan Kendra organized various activities related to waste management in agriculture on 13th and 14th February, 2017 in their adopted villages. In the main campus, a series of competitions like elocution, essay writing, drawing and slogan writing on the theme "from waste to profits" were held from 15th to 18th February, 2017. Prizes were distributed to the winners of the competitions on the concluding day of the National Productivity Week by the Director Dr. Ch. Srinivasa Rao. He emphasized the need for innovativeness and creativity for enhancing the productivity from waste recycling. A general plan of action was adapted to enhance productivity by declaration of NICRA villages as "no residue burning villages and no use of plastics".



National Productivity Week Celebrations at ICAR-CRIDA

International Women's Day

KVK-CRIDA organized International Women's Day on 8th March 2017 in collaboration with COWE (Confederation of Women

Entrepreneurs). 60 KVK women trainees from Yellammathanda, Gaddamallaiahguda, Kolanuguda attended the programme. These trainees were trained in Tailoring, Zardosi, Banjara embroidery in this year. Smt. Lalitha Aluri, General Secretary, COWE interacted with the participants from Yellammathanda, Gaddamallaiahguda, Kolanuguda and shared tips on how to go about their business. SIDBI-AGM shared entrepreneurial tips with the participants. The participants organized a small exhibition stall and exhibited Multi grain Atta, Ragi flour, Korra, other nutritious recipes and Banjara embroidered items like blouse pieces, mirror work, cellphone pouches *etc.*

Organic Sheep Product for the First Time in India under Public Sector

ICAR-NRC on meat and ICAR-Central Research Institute for Dryland Agriculture, Hyderabad has been jointly conferred Scope certificate for sheep as organic product maintained at Livestock Farm, Hayathnagar Research Farm with Accreditation No. NPOP/NAB/008, Certificate No. ORG/SC/1704/000010 under India's National Programme for Organic Production Standards valid from 22-03-2017 to 21-03-2018.



ICAR-NRC on meat and ICAR-Central Research Institute for Dryland Agriculture, Hyderabad has been jointly conferred Scope certificate for sheep

The organic product is the result of ongoing inter-institutional research project on "Developing Organic Meat Production System for Promoting Sustainable Animal Husbandry, Enhancing Income to Producers and Health Benefits to Consumers (IXX08952)". The scientists involved in this prestigious project from ICAR-CRIDA, Hyderabad are Dr. DBV Ramana and Dr. P.K. Pankaj. The certificate was conferred by OneCert Asia Agri Certification Pvt. Ltd., Bengaluru after thorough inspection. The certificate was handed over to the Directors of institute (Dr. K. Sammi Reddy, ICAR-CRIDA and Dr. V.V. Kulkarni, ICAR-NRCM) by Hon'ble Secretary DARE and DG, ICAR Dr. Trilochan Mohapatra on 14/05/2017. Directors of ICAR Institutes located in Hyderabad also participated in the event.

Survey on Guava Decline Problem Caused by Root Knot Nematode in Rangareddy District

Team of scientists from KVK-CRIDA and NIPHM visited infected Guava orchards in the district from 17th to 20th June, 2017. Guava decline due to root knot nematodes spreading throughout the district in an alarming rate and threatens guava cultivation. In association with *Fusarium* wilt, the problem becomes even more severe causing complete plant death. Hence, there is an urgent need to create awareness among the guava growers to diagnose the nematode problems and manage them efficiently for sustaining the orchards and KVK disseminated the recommendation to control the nematodes.

Cluster Frontline Demonstrations

Under NFSM programme on Pulses CRIDA-KVK was allotted Cluster Front Line Demonstrations on Chickpea and Safflower for *Rabi* 2016 -17. KVK conducted Cluster Frontline Demonstrations on Bengalgram in 14 ha covering 35 farmers using variety Nandyala Senaga-1 along with production technologies in Mariyapuram village, Shabad Mandal. KVK also conducted Cluster Frontline Demonstrations on Safflower in 10 ha covering 25 farmers using variety PBNS-12 along with production technologies in Pamina, Ekkareddyguda village of Chevella Mandal and Nagargunta, Thimmareddyguda of Shabad mandal.

Seed Hub

CRIDA-KVK was allotted Seed hub on pulses by the Ministry of Agriculture and Farmers' Welfare under NFSM programme along with other centres in the Country. Under this programme, KVK has to take up the activity of seed production on pulses in Redgram, Greengram and Horsegram. CRIDA-KVK has initiated seed production activity of Redgram Variety PRG -176 in Farmers fields and Gunegal research farm-CRIDA in *Kharif* 2016-17. CRIDA-KVK was able to produce 107.72 quintals processed Foundation seed of redgram variety PRG-176 duly certified by

the Telangana State Seed and Organic Certification Authority for distribution to farmers and Seed Development Corporation for *Kharif* 2017.

Participation in Exhibitions

Agricultural Science Congress at GKVK, Bangalore

ICAR- CRIDA participated in the Agricultural Science Congress at GKVK, Bangalore during February 21- 24, 2017. The team comprising of Dr. K. Nagasree, Dr. PK. Pankaj and Sri S. Vijay Kumar showcased the climate resilient technologies to the visitors and also explained about the CRIDA research programmes. Dr. Ramesh Chand, Member, NITI AYOG, Dr. T. Mohapatra, DG, ICAR and Secretary DARE, Sri Krishna Byregowda, Hon'ble Minister of Agriculture, Govt. of Karnataka, Dr. H. Sivanna, VC, UAS, Bangalore and Sri Vajubhai Vala, Hon'ble Governor of Karnataka were the dignitaries who inaugurated the congress. Poster presentations on "Climate resilient technologies to rural stakeholders through 'VCRMC's-Institutional Innovation for enabling adaptive capacity under NICRA" and "Climate change and agriculture in India. Farmer's perceptions on causes, manifestations, impacts and policy requirements were made by Dr. CA Ramarao et al and Dr. K. Nagasree et al at the congress.



Participation in Krishi Unnati Mela

ICAR-CRIDA participated in the Krishi Unnati Mela held during March 15-17, 2017 at IARI exhibition grounds, Pusa, NewDelhi. Shri Radha Mohan Singh, Union Minister of Agriculture and Farmers Welfare inaugurated 3-day Krishi Unati Mela being held at ICAR-Indian Agricultural Research Institute, New Delhi. Shri Singh, in his address, said development and upliftment of farmers is the first priority of the government and to achieve it, the government aim is to double the income of farmers by 2022. The team comprising of Dr. K. Nagasree, Principal Scientist and Sri S. Vijaya Kumar explained NRM technologies particularly soil and water conservation technologies and NICRA achievements. Free publications are provided to interested visitors based on theme area of interest. The event provided a platform for sharing information on CRIDA technologies to the farmers with the overall objective of development, empowerment, and progress of the farmers.



First National Agripreneurs' Convention, Agri Startups Exhibition

ICAR-CRIDA had participated at the First National Agripreneurs' Convention, Agri-Startups Exhibition 7th to 9th March, 2017 Hyderabad. On this occasion an exhibition stall was put up to showcase CRIDA technologies, achievements and services to farming community. Shri Shobhana K Pattanayak, IAS, Secretary (A&C), MoA & FW, Gol and Smt. V. Usha Rani, IAS, Director General, MANAGE visited the stall. Agripreneurs from across India participated in the programme. Dr. G Nirmala, Principal Scientist (Agrl. Extension), Dr. B Sanjeeva Reddy, Principal Scientist (FMP), Dr. Ravi Shankar Principal Scientist (Agrl. Extension), Dr. K Nagasree, Principal Scientist (Agrl. Extension), Dr. Jagriti Rohit, Scientist (Agrl. Extension) and technical staffs participated in the exhibition.

ICAR-CRIDA Stall at Kisan Kalyan Mela

ICAR-CRIDA had participated in Kisan Kalyan Mela at Motihari, Bihar from 13-19th April, 2017. On this occasion, an exhibition stall was put up to showcase CRIDA technologies, achievements and services to farming community. The Honorable Union Minster of Agriculture & Farmers Welfare, Shri Radha Mohan Singh inaugurated 'Kisan Kalyan Mela'- the National Level Agriculture Fair-cum-Exhibition. About 10000 farmers, farm women participated in the programme. Dr. K Ravi Shankar, Principal Scientist (Agrl. Extension), Dr. Prabhat Kumar Pankaj, Senior Scientist (Livestock Production Management), Mr. Ashish Dhimate, Scientist (FMP), and Dr. Jagriti Rohit, Scientist (Agrl. Extension) participated in the event.



Mera Gaon Mera Gauray activities

Teams of Scientists of CRIDA have visited villages of Mahabubnagar, Nalgonda and Medak districts in Telangana state under MGMG programme during January to June 2017. During the period January-June, 2017 the following activities were undertaken in the programme.

District	Villages	Activities
Mahabubnagar	Padara, Chittam Kunta, Udimalla, Petrallachenchu and Ippalpally	Fodder 0.1 ha, 1 acre each of horticulture crops chilli, tomato and cotton
Medak	Kandi and Terpole	Regular Agro advisory messages on weather and crop practices to be followed were issued.
Medak	Chikpaldurthy thanda Ginnaram, Venkataraopet	Regular Agro advisory messages were issued to farmers pests and disease management
Nalgonda	Dupahad cluster - Chinna Seetharam Thanda, Peda Seetaramthanda, Lalsinghtanda	Awareness building on soil health management

News from AICRPs

XXV Biennial Workshop of All India Coordinated Research Project for Dryland Agriculture (AICRPDA)

The XXV Biennial Workshop of All India Coordinated Research Project for Dryland Agriculture (AICRPDA) held at AICRPDA Centre, Akola, Dr. PDKV during 17-21 January, 2017 to review the research progress during 2014-16 and to develop technical programme for 2017-18 of main / sub / voluntary / ORP centres. Dr. S. Bhaskar, ADG (A, AF & CC), ICAR appreciated the

contributions of AICRPDA and emphasized on the focused research in thematic areas keeping in view of the emerging challenges in dryland agriculture particularly Doubling the Farm Income More from Less for More. Dr. Ch. Srinivasa Rao, Director, ICAR-CRIDA suggested to address location specific problems with emphasis on NRM research. Dr. D.M. Mankar, Director of Research, Dr. PDKV suggested that since rainfed agriculture has a role to play in the country's agriculture economy, the scientists in the



Dr. S. Bhaskar delivering the Chief Guest address

network to develop technologies for higher productivity and income. Earlier Dr. G. Ravindra Chary, Project Coordinator (AICRPDA) briefed about the purpose of the workshop. On this occasion, "Best Dryland Farmer Award" was given to 21 innovative farmers across the country who led farmer to farmer extension by adopting and disseminating rainfed technologies, inaugurated AICRPDA website and released 29 publications including 3 from PC Unit, AICRPDA with information on doable technologies, contingency plans and impact of rainfed technologies. The action points during the deliberations led to major recommendations that include right sizing of the experiments in various thematic areas, strengthening collaboration with relevant AICRPs at common centres and strengthening on-farm assessment/refinement/upscaling of rainfed agricultural practices / technologies.

AICRPDA-NICRA Technical Review Workshop

A Two day Technical Workshop of AICRPDA-NICRA was held at ICAR-CRIDA during 26-27 May, 2017, with the objective to review the overall progress of the centres and to develop technical programme for next phase of NICRA(2017-20). Dr. S. Bhaskar, ADG (AAF & CC), NRM Division, ICAR, Dr. K. Sammi Reddy, Director (Acting), ICAR-CRIDA, Dr. G. Ravindra Chary, Project Coordinator (Dryland Research), Dr. M. Prabhakar, PI (NICRA), Dr. P. Vijaya Kumar, PC, AICRPAM, Dr. M. Maheswari, Head, DCS, and Heads of KVK and sections & scientists from CRIDA and Chief scientists/scientists from 23 AICRPDA Centres participated. Dr. Bhaskar



Dr. G. Ravindra Chary briefing purpose

appreciated the contributions of AICRPDA centres in locationspecific real time contingency technologies to cope with weather aberrations, their validation and implementation in farmers' fields. Dr. S. Bhaskar suggested that the main challenge in rainfed farming is management of midseason drought, and suggested to develop/ refine technologies for a) efficient utilization of farm pond water, b) foliar sprays, and c) soil management to cope with midseason drought. Dr. K. Sammi Reddy, Director, ICAR-CRIDA emphasized the need for focused work under AICRPDA-NICRA programme and also suggested to bring out experiences from real-time contingency plan implementation during 2011-17, and also publish the results in reputed journals. Dr. M. Prabhakar PI (NICRA) suggested to bring out flyers/short video films of successful technologies. Dr. G. Ravindra Chary, Project Coordinator (Dryland Research), while welcoming the participants, briefed about the aim of the workshop and presented the overall progress of AICRPDA-NICRA.



AICRPDA-NICRA Technical Review Workshop

National Innovations in Climate Resilient Agriculture (NICRA)

Thematic Technical Program Finalization workshops of NICRA Partner Institutes

The Technical Program Finalization workshops of NICRA Partner Institutes for various thematic areas were organized to finalize technical program to be taken up during 2017-18 to 2019-2020. Detailed discussions were held and experts gave the suitable suggestions for the programme finalization. During workshop the annual progress was reviewed and future road map was discussed.

Details of the Technical Program Finalization workshops of NICRA Partner Institutes

SI. No.	Themes	Place	Date
1.	Crop Sciences Division	IIPR, Kanpur	11 May, 2017.
2.	Technology demonstration component	ICAR-CRIDA, Hyderabad	18 May, 2017
3.	AICRPAM-NICRA	Dr BSKKV, Dapoli	22-23 May, 2017
4.	Fisheries and Animal Sciences	NASC, New Delhi	27 May, 2017
5.	NRM	KAB-II, New Delhi	8 June, 2017
6.	Horticultural Sciences Division	ICAR-IIVR, Varanasi	17 June, 2017

Technical Program Finalization Workshops - Crop Sciences Division

One day workshop was organized to discuss and finalize Technical Programme of NICRA Partner Institutes under the division of Crop Sciences on 11th May, 2016 at ICAR-IIPR, Kanpur. The workshop was chaired by Dr. N.P. Singh, Director, IIPR, Kanpur and co-chaired by Dr. K. Sammi Reddy, Director (Acting), CRIDA, Hyderabad. Dr. N.P. Singh in his welcome address suggested formulating technical programme considering the reduced budget allocation for NICRA. He also advised to avoid duplication of work and the need for coordinated efforts between the partner institutes for effective outputs. Dr. K. Sammi Reddy, Director, CRIDA in his opening remarks emphasized the need to bring out tangible outputs from strategic research partner institutes which can be tested under Technology Demonstration Component (TDC) by KVKs across the country. He further requested the PIs for rationalization of available resources for optimum outputs and also suggested to make best use of the infrastructure established for climate change research. After detailed deliberations it has been decided to prepare a detailed technical programme for each institute along with monitoring indicators and submit to CRIDA for further processing.



Technical Program Finalization Workshop Technology Demonstration Component

A one day workshop was organised on 18th May 2017 to finalise the programme for Technology Demonstration Component of NICRA. The workshop was chaired by Dr. A.K. Singh, Deputy Director General (Agricultural Extension)-ICAR and Co-chaired by Dr. K. Sammi Reddy, Director (Acting), CRIDA, Hyderabad. Dr. A.K. Singh emphasised the need for scaling up of the proven resilient practices and to address the complexity associated with the climatic variability. He stressed the NICRA villages be models for the climate resilience, doubling farm incomes, small farm mechanisation, low cost agriculture and integrated farming systems. Dr. K. Sammi Reddy, Director, CRIDA in his opening remarks explained the approach adopted and the work accomplished so far in TDC by KVKs. He expressed the need to focus towards achieving quantifiable outputs in the next phase. Dr. SK Dhyani from NRM Division ICAR, explained the climatic variability in the

country, the impacts of the NICRA programme and explored the opportunities for convergence with other developmental programs.





Technical Program Finalization Workshop in Progress

Technical Programme Finalization Workshops of AICRPAM-NICRA

The annual workshop of AICRPAM component of NICRA project was held at Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli during 22-23 May 2017. The inaugural function was presided over by Dr. Tapas Bhattacharya, Hon'ble Vice Chancellor, Dr. BSKKV, Dapoli. Dr. K. Sammi Reddy, Acting Director (ICAR-CRIDA), Dr. SK Dhyani, Principal Scientist from NRM Division, ICAR, Dr. M. Prabhakar, PI (NICRA) and Dr. UV Mahadkar, Director of Research (Dr BSKKV, Dapoli) attended the function as guests of honour. Scientists from all cooperating centers and coordinating unit of AICRPAM and experts from CRIDA participated in the workshop. During the finalization of technical program, it was decided to extend the micro-level agromet advisory services to selected AICRPDA-NICRA villages and TDC-NICRA villages across the country. Dr. M Osman (Co-PI, TDC-NICRA) from CRIDA deliberated on various issues for implementation of proposed technical program at AICRPAM cooperating centers.



Technical Program Finalization Workshop of NICRA under Fisheries and Animal Sciences

A one-day Technical Program Finalization Workshop of NICRA-Partner institutes from Fisheries and Animal Science Division was held at NASC, New Delhi on 27th May, 2017. The workshop was chaired by Dr. Joykrushna Jena, DDG (Fisheries & Animal Science). In the inaugural address, Dr. Jena reiterating the importance of NICRA project in bringing resilience to Indian Agriculture he suggested to take corrective measures based on lessons learnt in the past five years. He further highlighted the importance of Fisheries and Livestock in bringing the resilience under the changing climate. Dr. K. Sammi Reddy, Acting Director, CRIDA, Hyderabad in his opening remarks felt the need to bring more visibility of NICRA outputs among all the stakeholders and suggested to propose

technical programme for the next phase of NICRA keeping in view the reduced budget and revised objectives.





Technical Program Finalization Workshop in progress

Technical Program Finalization Workshop of NICRA Partner Institutes under NRM Division

One day workshop was organized on June 8th, 2017 at NRM Division KAB-II, New Delhi to discuss and finalize Technical Programme of NICRA Partner Institutes under the division of Natural Resource Management. The workshop was chaired by Dr. K. Alagusundaram, DDG (NRM) and co-chaired by Dr. K. Sammi Reddy, Director (Acting), CRIDA, Hyderabad. Dr. K. Sammi Reddy in his welcome address highlighted the importance of Natural Resource Management in the changing climate and the efforts made so far in the project. Dr. S. Bhaskar, ADG (AAF & CC) in his initial remarks suggested to revalidate the technologies developed under Strategic Research through KVKs under Technology Demonstration Component and bring visibility to project. Dr. S.K. Chaudhari, ADG (SWC) complemented the outcomes of NICRA project and suggested to fine tune the technical programme in view of the budget restriction. Dr. K. Alagusundaram felt the need for extension of NICRA project for next three years and reiterated to study impact assessment of climate resilient technologies in the NICRA villages across the



country. He further emphasized the need to address the issue of conservation of food in the changing climate.

Technical Program Finalization Workshop of NICRA Partner Institutes under Horticultural Sciences Division

A One-day Technical Program Finalization Workshop of NICRA-Partner institutes from Horticultural Sciences was held at IIVR, Varanasi on 17th June, 2017. The workshop was Chaired by Dr. AK Singh, DDG (Horticultural Science), ICAR and co-chaired by Dr. K. Sammi Reddy, Acting Director (ICAR-CRIDA). Dr. B Singh, Director, IIVR, Varanasi in his welcome address appreciated the funding from NICRA in establishing climate change research facilities at IIVR. Dr. M Prabhakar, Pl, NICRA, CRIDA, Hyderabad highlighting the achievements from Horticulture Division briefed the purpose of the workshop. Dr. K. Sammi Reddy in his remarks requested to prioritize the resources in the next phase of NICRA and propose time bound activities with tangible outputs. He further suggested the need to bring more visibility to NICRA project by publishing outcomes in print & electronic media, short video clips of successful climate resilient technologies and involving policy makers in different NICRA programmes. Dr. AK Singh in his opening remarks advised to address critical issues in different Horticulture crops while finalizing the technical programme. He suggested covering the major Horticulture commodities in the project so as to realize the national objective of doubling the farmers income by 2022.









Technical Program Finalization at Varanasi workshop

Important Visitors

Visit of Dr. K. Alagusundaram, DDG (NRM), ICAR

Dr. K. Alagusundaram, DDG (NRM & Agricultural Engineering) made a brief visit to CRIDA on 20th January 2017. In his maiden visit to CRIDA he reviewed the facilities in the institute including infrastructure established under NICRA. He appreciated and complemented the efforts by CRIDA for its outstanding work at National and International level. DDG interacted with the project team of NICRA and felt the need to highlight the outputs at National level. Dr. Ch. Srinivasa Rao, Director, CRIDA, Heads of divisions, CAO, SFAO, Senior Officers along with Team NICRA participated in the meeting.

Dr. A.K. Singh, DDG (Agriculture Extension) visited KVK-CRIDA at Hayathnagar Research Farm (HRF)

Dr. A.K. Singh, DDG (Agriculture Extension) visited KVK-CRIDA at Hayathnagar Research Farm (HRF) on 22nd January 2017 along with Dr. Y.G. Prasad, Director, ATARI, Hyderabad. DDG reviewed the activities of KVK-CRIDA and interacted with scientists and staff. He appreciated the good work under NICRA by CRIDA and felt the need for capacity building to KVKs under TDC Component of NICRA. Dr. Ch. Srinivasarao, Director, CRIDA in his welcome



address proposed to conduct national level workshop on TDC Component of NICRA and invite all the 121 KVKs. The DDG along with CRIDA staff visited KVK demonstration plots like fodder cafeteria, livestock unit, horticulture unit and NICRA research complex at HRF. Several senior officers from CRIDA and staff of KVK participated in the meeting.

Visit of Shri K.S. Srinivas IAS, Joint Secretary (DM), Ministry of Agriculture & Farmers Welfare

Shri K.S. Srinivas IAS, Joint Secretary (DM), Ministry of Agriculture & Farmers Welfare, visited CRIDA on 27th January 2017 and held discussion with scientists on institute mandate, research activities, NICRA programme & Up-scaling strategies for Technology Demonstration Component, District Agriculture Contingency Plans & updation and held general interaction with scientists.

Guest Lecture

NAAS-Hyderabad chapter has organized an Invited Lecture on "Climate Smart Agriculture-Concept for Sustainable Land Management" at ICAR-CRIDA on 13th January 2017 by Dr. J. C. Katyal, Former Vice-Chancellor, CCS HAU, Hisar. Eminent Fellows of NAAS from Hyderabad and scientists, research associates and senior research fellows from CRIDA participated in lecture.



Human Resource Development

Skill Development Training programme on Floriculturist-Open Field cultivation and Animal Health worker

Skill Development Training programme on Floriculturist-Open Field cultivation and Animal Health worker was organized by Krishi Vigyan Kendra, CRIDA, Rangareddy District during 20th February to 20th March, 2017 and 4th to 29th March, 2017 respectively. It covered 200 hours duration in 25 days as residential programme for improving skills in both theory and practical outlook of package of practices in flower crops cultivation on Animal health Worker respectively. Twenty young and educated farmers were identified for this training from the Rangareddy district as per the guidelines of Agriculture Skill council of India. These training programmes were sanctioned by Ministry of Skill Development and Entrepreneurship, Government of India.

In-Service Capacity Building Program - AICRPAM

All India Coordinated Research Project on Agrometeorology (AICRPAM) has conducted ten-day output oriented in-service capacity enhancement program on "Application of advanced Agro-meteorological tools in agricultural production system" from 22nd February to 3rd March 2017

at CCS HAU campus, Hisar, Haryana. The program consisted of two day hands on training on spatial weather data analysis (gridded climate data analysis) provided by experts from IMD, Delhi; preparation of crop weather calendars; extreme weather event analysis; analysis of pest/disease-weather-crop data analysis etc.



Skill Development Training Program on Farm Pond Construction and Lining

A skill development training program was organised by the ICAR-CRIDA in association with KVK, Rangareddy District for rural youth and farmers on "Farm Pond Construction and Lining" during June 2 to 16, 2017 at KVK, Rangareddy district. Hundred rural youth and farmers were trained from five districts namely Nalgonda, Siddipet, Medchal, Mahaboobnagar and Rangareddy district from Telangana state. The trainees were imparted with skills of location of farm pond based on the slope direction, marking for the farm pond, construction procedure with machinery, calculation of farm pond capacity for different catchment areas, inlet and outlet structures along with silt trap, size of the lining material and selection of lining material etc. The trainees were also exposed to the field visit of farm pond technology in Gunegal Research Farm and Hyathnagar

Research Farm. The trainees were explained about ARYA and PMKSY schemes introduced by Govt. of India for implementation of the farm pond scheme in the Telangana state.



Forthcoming Events

Title of the event	Duration
Training Course on "Efficient watershed management in rainfed agriculture" sponsored by Watershed Development	19-32 September, 2017
Department, Government of Karnataka	
Model Training Course on "Participatory Natural Resource Management for Sustainable Agricultural Productivity in Rainfed	4-11 October, 2017
Areas"	
ICAR Short Course on Tools on Monitoring, Evaluation and Impact Assessment of Rainfed Technologies and Agricultural	1-10 November, 2017
Development programmes	
Training on Agrometeorological Data Collection, Analysis and Management	11- 23 December, 2017

For details please visit the website: www.crida.in

Participation in Seminars and Symposia

Name of the Scientist	Workshop/Meeting/Seminar/symposia	Duration	Venue
V. Maruthi	Orientation of KVK trainers for conducting skill development programmes	6-8 January, 2017	GBPU & AT,
			Pantnagar,
K.S. Reddy	1st Asian Conference on Water and Land management for Food and	20-22 January	IGKV,
	Livelihood Security		Raipur
G. Nirmala, K. Nagasree,	8th National Extension Education Congress-2017 on "Nutrition-Sensitive	28-31 January,	NAARM,
R. Nagarjuna Kumar, K. Ravi Shankar	Agriculture: Changing Role of Extension	2017	Hyderabad
K. V. Rao	Workshop on Drought Monitoring by IWMI	29-31 January, 2017	New Delhi
G. Ravindra Chary	ICAR Directors' Conference	14-15 February, 2017	New Delhi
M. Maheswari, M. Vanaja, K. Srinivas,	XII Agricultural Science Congress on Agriculture under Climate	21-22 February,	UAS,
K. Nagasree, P. K. Pankaj	Change: Threats, Strategies and Policies	2017	Bengaluru
C. A. Rama Rao	National Conference on 'Adaptation interventions for climate resilient	9-10 March, 2017	ANGRAU,
	agriculture in coastal agro-ecosystems'		Guntur
G. Nirmala	National Review Workshop cum sensitization of farmers First programme	18-19 March, 2017	NAARM,
			Hyderabad

Awards and Recognition

Dr. K Ravi Shankar, Principal Scientist was awarded the Best Paper Presentation Award for the paper "Extension's Role in ensuring Nutritional Security of the Rural Poor" presented during the 8th National Extension Education Congress-2017 on "Nutrition-Sensitive Agriculture: Changing Role of Extension" jointly organized by Society of Extension Education, Agra and ICAR-NAARM, Hyderabad during January 28-31, 2017 at NAARM, Hyderabad.

Dr. B. Sanjeeva Reddy, Principal Scientist was awarded the Commendation Medal Award of the Indian Society of Agricultural

Engineers (ISAE) for the Year 2016 in the 51st Convention of ISAE held at CCSHAU, Hissar from 16-18th February, 2017 for significant contributions in the field of Farm Power and Machinery.

Dr. Prabhat Kumar Pankaj, Senior Scientist (Livestock Production Management) was awarded the Editorial Excellence Award for having significant contribution as Editorial Board Member of the Asian Journal of Dairy and Food Research by ARCC Journals on dated 14th April, 2017.

Personnel Information

Appointments / Transfers / Joining / Promotion

Name	Promoted / Appointed	Date w.e.f
Dr. P. Vijay Kumar	Project coordinator (AICRPAM)	09.03.2017
Dr. Manoranjan Kumar	Sr. Scientist - Principal Scientist	01.07.2015
Dr. B. Krishna Rao	Sr. Scientist - Principal Scientist	03.08.2015
Dr. Ravi Kant V Adake	Sr. Scientist - Principal Scientist	31.08.2015
Dr. K. Nagasree	Sr. Scientist - Principal Scientist	28.10.2015
Sri B. Krishna	Technical officer - Sr. Technical officer	18.02.2014
Sri Mukund Chalkarpur	Technical officer - Sr. Technical officer	22.02.2014
Sri P. Yadagiri	Technical officer - Sr. Technical officer	01.01.2015
Sri E. Ravindranath	Technical officer - Sr. Technical officer	01.01.2015
Sri S. Yadagiri	Technical officer - Sr. Technical officer	01.07.2017

Our Hearty Congratulations to all of them

Retirements

Name	Designation	Date of retirement
Dr. B. Bapuji Rao	Principal Scientist	Voluntary retirement on 1.02.2017
Dr. Jaya Ram Reddy	Scientist (Sr. Scale)	31.5.2017
Smt. M. Pushpalatha	A.C.T.O	28.02.2017
Sri A Nageshwar Rao	Assistant	28.02.2017
Smt. Buggamma	SSS	28.02.2017
Sri R. Lingamaiah	Technical officer	30.06.2017
Sri T. Ravi Kumar	Technical officer	30.06.2017
Smt. B. Anjamma	SSS	30.06.2017
Smt. Roshni Devi	SSS	30.06.2017

Our best wishes for happy and peaceful retired life to all of them

Cultural and Welfare Activity

Republic day celebration

CRIDA celebrated the 68th Republic Day of India on January 26, 2017 with enthusiasm and gaiety. Director hoisted the National Flag and addressed the gathering. On this occasion, the CRIDA staff members who completed 25 years of service were honored with certificates by the Director. On the eve of Republic day CRIDA, Cultural and Recreation Club (CCRC) conducted various games and singing competition for all the staff of CRIDA. On this occasion Dr. Ch. Srinivasa Rao, Director distributed prizes to the winners in the conducted competitions. He motivated the staff with his message to work with dedication and boost institute's growth and contribution to ICAR mandate.



International Day of Yoga

The 3rd International Day of Yoga was celebrated in ICAR-CRIDA on 21st June, 2017. To initiate staff and research scholars in yoga practices, the Isha Foundation sent volunteers to teach Upa Yoga, a subset of yoga designed by Sadhguru Jaggi Vasudev. Over 120 members of staff of CRIDA actively participated in a 2-hr session starting from 10 am onwards at the campus. The Upa Yoga postures are devised to give health, success, peace, wellbeing, joy, inner exploration and love. The seven sets of practices devised for increasing agility, strength in limbs, correction of posture of spinal cord, lumbar region, *etc.*, were demonstrated to the participants.



निदेशक की कलम से



खरीफ-2017 के दौरान कृषि आकस्मिकताओं के लिए कृषि योजनाएं और तैयारी

खरीफ मौसम के दौरान, कृषि उत्पादन और विशेष रूप से वर्षा <mark>आधारित फसलों के लिए, वर्षा की मात्रा और</mark> उसका वितरण <mark>अत्यधिक महत्त्वपूर्ण है। विगत वर्षों में,</mark> विभिन्न राष्ट्रीय और अंतर्राष्ट्रीय एजेंसियां, राष्ट्रीय स्तर पर कुछ कुछ जगहों का विघटित तरीकों से मौसमी पूर्वानुमान दे रही हैं। इस तरह के पूर्वानुमानों दवारा, खरीफ मौसम के लिए, बेहतर तरीकों से योजनाएं बनाई जा सकती हैं।

<mark>26 अप्रैल, 2017 को एसएएससीओएफ</mark> (दक्षिण एशिया मौसमी जलवाय् दृष्टिकोण मंच) द्वारा आम सहमति से जारी किए गए <mark>अनुमान के अनुसार खरीफ मौसम अ</mark>र्थात् जून से सितंबर तक, <mark>केरल, पश्चिमी तमिलनाड् के कुछ</mark> हिस्सों, पूर्वी भारत अर्थात् <mark>ओडिशा, पश्चिम बंगाल और झारखं</mark>ड में सामान्य से अधिक; <mark>छत्तीसगढ़, तेलंगाना, महाराष्ट्र, उत्तरी</mark> कर्नाटक, बिहार, उत्तर-पूर्व <mark>क्षेत्र और गुजरात में सामान्य; त</mark>था राजस्थान, मध्य प्रदेश, उत्तर प्रदेश, हरियाणा, उत्तराखंड, आंध्र प्रदेश, तमिलनाड़ (पूर्वी) आदि क्षेत्रों में सामान्य से अधिक बारिश होने की संभावना है।

uthWest Monsoon Outlook - 2017 (SASCOF - 10),26 th April 2017

इस पूर्वान्मान को ध्यान में रखते हए, मई-जून 2017 के दौरान, छह राज्यों में जिसमें आंध्र प्रदेश, कर्नाटक, महाराष्ट्र, ओडिशा, पश्चिम बंगाल और राजस्थान सम्मिलित हैं, इंटरफेस बैठकों का आयोजन किया गया ताकि राज्य कृषि विभाग के आकस्मिक परिदृश्यों को पूरा करने के लिए तैयारी की जा सके। कम और अधिक वर्षा परिदृश्यों की स्थिति में, प्राकृतिक संसाधन प्रबंधन हस्तक्षेपों दवारा इन परिस्थितियों से निपटने की कार्ययोजनाएं बनाई गई और उन पर चर्चा की गई। इसी प्रकार, विभिन्न फसलों के लिए आकस्मिकता बीज की उपलब्धता, प्रसार के लिए तंत्र इत्यादि पर चर्चा करनोपरांत उन योजनाओं को अंतिम रूप प्रदान किया गया।

इंटरफेस बैठक के दौरान वास्तविक कार्य योजनाओं की तैयारी, य्वाओं के लिए कृषि यंत्र एवं सूक्ष्म-सिंचाई प्रणाली पर कौशल विकास कार्यक्रमों का आयोजन एवं उपयुक्त समय में कृषि-मौसम सलाहों को जारी करने पर ज़ोर दिया गया।

> के. सम्मी रेडडी निदेशक (कार्यकारी), क्रीडा

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