









# NEWSLETTER

**Central Research Institute for Dryland Agriculture** 

July - December, 2014



## New Director takes Reigns of CRIDA

Dr. Ch. Srinivasa Rao, PC, AICRPDA took over as Director, CRIDA on 26<sup>th</sup> August, 2014. The staff of CRIDA heartily welcome Dr. Srinivasa Rao, who has contributed immensely for the progress of Dryland Agriculture in India. We all wish that under his dynamic leadership, CRIDA will reach new heights.

— CRIDA Staff



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## From the Director's Desk



उभरती जलवायु परिवर्तन परिस्थितियों के अंतर्गत कमजोर वर्षा आधारित पारिस्थितिक प्रणालियों में कृषि से प्राप्त होने वाली आय में सुधार करना ही संस्थान के अनुकूल एवं प्रायोगिक अनुसंधान का मुख्य लक्ष्य है। वर्षा आधारित क्षेत्रों में उन्नयन के लिए संस्थान ने अपने 65 नेटवर्क भागीदारियों के सहयोग से इन चुनौतियों का समाधान एवं स्थान विशेष की प्रौद्योगिकियों का विकास किया है। सूखा एवं अन्य मौसम प्रतिकूलताओं वाले 120 से अधिक जिलों में जलवायु समुत्थान मॉडल गांवों का विकास, जिलों में कृषि की आकस्मिक योजनाओं का कार्यान्वयन एवं कम जल एवं कम ऊर्जा से अधिक खाद्यान्न उत्पादन प्रमुख पहल हैं जो संस्थान के अधिदेश को पूरा करने में सहयोग देता है।

Improving farm profits in fragile rainfed agro ecosystems under emerging climate change scenario is the major goal of CRIDA's strategic and applied research. CRIDA, with its 65 network partners addressed these challenges and developed location specific technologies for upscaling in rainfed areas. Developing climate resilient model villages in more than 120 districts covering drought and other weather aberrations, implementation of district agriculture contingency plans and producing more food with less water and less energy are the major initiatives contributing to fulfilling CRIDA's mandate.

सी.एच. श्रीनिवासा राव / Ch. Srinivasa Rao निदेशक / Director, CRIDA

### NEW RESEARCH INITIATIVES

#### Inauguration of plant phenomics facility

Dr. S. Ayyappan, Secretary, Department of Agricultural Research and Education (DARE) and Director General, Indian Council of Agricultural Research (ICAR) inaugurated high-throughput plant phenotyping platform facility at CRIDA, Hyderabad, on 1st July 2014. This unique state of the art facility has been created under the National Initiative on Climate Resilient Agriculture (NICRA) launched by ICAR to develop adaptation and mitigation strategies to deal with climate change impacts on Indian agriculture.

Speaking on the occasion, Dr. Ayyappan highlighted the importance of investing on such state-of-the art high end research facilities for climate resilient agriculture. He appreciated the lead role taken by CRIDA for creation of such facility not only in Hyderabad but in other parts of India as well through NICRA. He complimented CRIDA scientists and staff for their dedicated work for meeting the country's expectations. Dr. A.K. Sikka, Deputy-Director General (DDG) Natural Resource Management (NRM), in his remarks emphasized the need to

develop guidelines for the use these facilities by all stakeholders. Dr. M. Maheswari, Director (Acting), CRIDA while welcoming the dignitaries briefed about the facility and outlined the roadmap for its scientific use in climate research with special reference to multiple abiotic stress tolerance. Dr. B. Venketeswarlu, Vice Chancellor, VNMKV, Parbhani, senior officers from ANGRAU, Directors of ICAR institutes located in Hyderabad graced the occasion.

National adaptation fund: CRIDA has submitted a proposal for a National Adaptation Fund addressing climate risks in agriculture. The fund will address the current climate risks faced by farmers and also quantify adaptation and mitigation cobenefits across 154 model sites spread across the country.

Water platform: CRIDA has submitted a proposal on IWRM (Integrated Water Resource Management) in rainfed ecosystems for water platform research to ICAR. The project would focus on the sustainable technologies for enhancing the water productivity of rainfed agroecosystems.

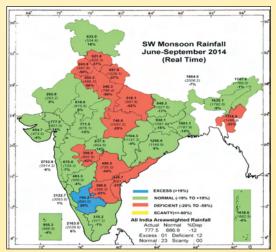


Dr.S. Ayyappan, DG, ICAR inaugurating 'Phenomics' facility

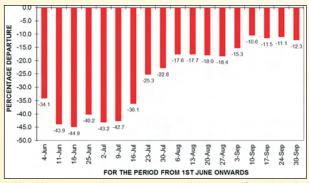
### RESEARCH HIGHLIGHTS

# Drought situation in India during 2014 southwest monsoon

The southwest monsoon season of the year 2014 received 12% less rainfall than long period average, making 2014 a drought year. Twelve Met subdivisions out of the total 36 subdivisions, covering about 30% area of the country received deficient rainfall. They are Nagaland, Manipur, Mizoram and Tripura (NMMT), eastern Uttar Pradesh, western Uttar Pradesh, Haryana, Chandigarh and Delhi, Punjab, Himachal Pradesh, Uttarakhand, eastern Madhya Pradesh, Marathwada, Coastal Andhra Pradesh, Rayalaseema and Telangana. Of the 641 total districts of the country, 223 received deficient rainfall (-20 to -60 per cent) during the season. Number of districts severely affected by drought during the 2014 kharif is 68 out of 71 in Uttar Pradesh, 16 out of 20 in Punjab and all 31 districts in Haryana, Chandigarh & Delhi. Percentage departure of the



Sub-division wise rainfall distribution over India during southwest monsoon season (June to September) – 2014 (IMD)



Weekly progress of the monsoon rainfall - 2014 (Cumulative)

cumulative rainfall of the country from its long period average (week wise) showed that departure was negative throughout the rainy season with greater deficit in the first part of the season. Rainfall deficit during the month of July, which is critical to Indian agriculture, impacted sowings of major crops throughout the country.

According to the assessment on final acreage of kharif crops by Ministry of Agriculture, total area coverage of kharif crops was 999 lakh hectares in 2014 against 1033 lakh hectares in 2013. Decline in acreage of millets was by 2.02% and of kharif oilseeds was by 1.63% over last year and in rest of the crops it was less than 1%. As per the first advance estimates of food grain production for the kharif 2014-15 by the Ministry of Agriculture, India's kharif grain production was estimated at 120.3 million metric tons (MMT), nearly 9 MMT lower than the last year, and 11 MMT lower than the record kharif grain production in 2011-12.

- AICRPAM

### **Evaluation of polymers for improving water productivity**

Application of super absorbent polymers into the soil could be an effective way to increase water use efficiency in crops. Laboratory and field investigations were conducted to study water retention and release characteristics of a cross linked polymer of polyacrylamide and potassium acrylate (PAM) and to evaluate its effect on yield and water productivity in tomato and maize grown on sandy loam soils. Results of two year field experimentation on tomato showed that the spot application of PAM polymer at 25 kg/ha with alternate week irrigation produced higher tomato yield and increased the water productivity to 291 kg/ha-mm saving 180 ha-mm irrigation water. Effect of row application of PAM polymer at 25-50 kg/ha on rainfed maize





Wilting of maize leaves in control plots on 22 DAS

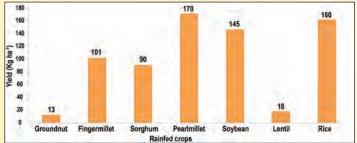
Maize leaves in PAM treated plots on 22 DAS

revealed that application of polymers at 25 kg/ha delayed the wilting by 5-6 days during initial dry spell at early growth stage and produced 16% higher maize yield as compared to control.

- Dr. K Sammi Reddy, Head, DRM

# Enhanced productivity of rainfed crops with soil carbon sequestration

Increase in agronomic productivity through increased soil organic carbon (SOC) stock in the root zone was evaluated in major rainfed production systems under All India Coordinated Research Project on Dryland Agriculture, AICRPDA in diverse soil and climatic conditions, viz., Anantapur and Bengaluru (Alfisol), Solapur and Indore (Vertisol), Sardar Krushinagar (Entisol), and Varanasi (Inceptisol). Seven rainfed long term cropping system experiments involving major crops of the region (viz., groundnut, fingermillet, winter sorghum, pearlmillet, clusterbean, castor, soybean, safflower, lentil and upland rice) with diverse nutrient management treatments including cattle manure, green leaf manure, crop residues and chemical fertilizers were studied for carbon sequestration. Results showed that increase of the SOC stock in the root zone led to a significant increase in yield in several rainfed crops. These increases were 13, 101, 90, 170, 145, 18 and 160 kg ha-1 for groundnut, fingermillet, sorghum, pearlmillet, soybean, lentil and rice, respectively, for Mg ha<sup>-1</sup> increase in SOC stock.



Yield increase (kg ha<sup>-1</sup>) in different crops with 1 Mg increase in SOC stock in the root zone

- Dr. Sumant Kundu, Scientist, DRM

#### **SCIENTIFIC ACTIVITIES**

#### **Drought impact assessment in Telangana**

A team of scientists from CRIDA, DSR and NAARM, Hyderabad led by Dr M Maheswari, Director (Acting) visited Gadda Malliahguda, Yacharam Mandal, Ranga Reddy District, Telangana State on 13 July, 2014. Drs VUM Rao, PC AGROMET; Ch Srinivasa Rao, PC, AICRPDA; YG Prasad, TDC Coordinator,

NICRA; SS Rao, Principal Scientist, DSR, Hyderabad; BS Sontakki, Principal Scientist, NAARM; VK Jayaraghavendra Rao, Principal Scientist, NAARM; M Prabhakar, Principal Scientist and Program Coordinator, KVK, Ranga Reddy District along with subject matter specialists of KVK participated in the field visit and interacted with farmers. About 70 farmers actively

participated in the program. The team visited some of the affected fields in the village and interacted with the farmers to sensitize them about the prevailing monsoon situation. As per the prevailing farming situations in the village, contingency measures were suggested.

#### **CRIDA** receives ISO certification

Audit team from BIS. Chennai visited CRIDA on 17-18 July, 2014 and recommended grant of QMS License as per ISO 9001-2008. Based on these recommendations CRIDA has been granted License for the Quality Management Systems Certification for a duration of three years from 21st August, 2014 to 20th August, 2017.



# Workshop on use of biochar in agriculture and pollution control

One day workshop on "Use of Biochar in Agriculture and Pollution Control" was organized jointly by CRIDA, Hyderabad and Gujarat Technological University (GTU) Board of Environment & Green Technologies on 24<sup>th</sup>August, 2014 at GTU, Ahmedabad. Prof. Dr. K. N. Sheth, Dean – GTU welcomed the delegates and stressed the importance of biochar in agriculture. The valedictory session of workshop was chaired by Dr.Akshai Agarwal, VC, GTU. Major recommendations on usage of biochar in agriculture and pollution control emerged from the workshop.

# ICAR-CRIDA-DAC interface meeting for upscaling of climate resilient practices through NMSA

Indian Council of Agricultural Research (ICAR) and Department of Agriculture and Cooperation (DAC) interface meeting on CRIDA-National Initiative on Climate Resilient Agriculture (NICRA) - National Mission on Sustainable Agriculture (NMSA) was held at NRM Division of ICAR, New Delhi on October 13, 2014. It was envisaged to scale up the successful interventions developed in CRIDA-NICRA-TDC through NMSA so that the improved technologies can reach large number of farmers. The meeting was chaired by Dr AK Sikka, DDG, NRM and attended by Sri R B Sinha, Joint Secretary, Ministry of Agriculture and Mission Leader of NMSA and ADGs. The meeting was attended by officials from NFSM and Director - CRIDA, PI and project



Interface meeting of NICRA -NMSA in NRM division of ICAR, Inset (Book release)

staff of NICRA, Zonal Project Directors of various zones and the staff from NRM division of ICAR. Successful drought proofing practices and technologies developed by CRIDA and AICRPDA that have potential for upscaling under various ongoing government schemes by the Department were shortlisted. Lessons from implementation of real time contingency plans in various agroclimatic zones of the country were also presented. During the meeting, a publication on "Compensatory Rabi Production Plan for 2014" was released. The main outcome of the meeting was theme-wise identification of climate resilient practices/technologies along with recommended domain, specifications/design, cost and anticipated benefits. Action points were identified with a time frame.

## ANGRAU-ICAR team visit to Hudhud cyclone affected districts of AP

Directors of ICAR institutes deputed their scientists CRIDA (3), DOR (3), DRR, DOPM and CTRI to Srikakulam, Vizianagaram, Visakhapatnam and East Godavari Districts during 15-17 October, 2014 on the request of Honorable Vice Chancellor, ANGRAU to DG, ICAR. Sugarcane, maize and cotton were extensively damaged. The fields in Srikakulam, Vizianagaram and Visakhapatnam districts were inundated. The teams along with the scientists of ANGRAU and Department officials examined cyclone and post-cyclone flood affected areas and submitted report with recommendations.

RFD meetings: RFD is a Result Frame Work document which has been introduced by the ICAR for monitoring and evaluating the performance of Institutes. The RFD document contains agreed objectives, success indicators and project targets to measure the progress and to evaluate the institute overall performance at the end of the year. CRIDA's RFD for 2013-14 has been rated excellent with a score of 96%. RFD meetings were held on 2<sup>nd</sup> August, 2014, 2<sup>nd</sup> September, 2014, 1<sup>st</sup> October, 2014, 3<sup>rd</sup> November, 2014, 1<sup>st</sup> December, 2014 and 1<sup>st</sup> January, 2014, during the period.

# Brainstorming session on constraints in upscaling of watershed programmes

CRIDA organized a brainstorming session on "Technical and non-technical constraints impeding the up-scaling of watershed programmes in rainfed areas and a way forward" on 20<sup>th</sup> October, 2014. About 65 delegates from institutions associated with watershed programmes such as research institutes, agricultural universities, ICRISAT, NGOs, line departments, KVKs, and lead farmers participated in the brainstorming session. On this occasion, the Online Contingency Crop Planning Tool was launched for public use. It is a menu-driven tool which can be accessed by farmers and other end users readily to get contingency practices suitable for different climatic situations.





Brainstorming session in progress

The objective of the session was to identify the constraints, particularly those of a non-technical nature, that impede the scalingup of watershed programmes in rainfed areas and to identify ways to overcome those constraints. Chief guest Dr KPR Vittal, former Director, NIASM, Baramati emphasized on implementation of holistic approach to tackle water scarcity for overall development of watersheds. Altogether 7 invited speakers from research institutes, NGOs, State Governments and AICRP on Dryland Agriculture from different rainfed regions of the country spoke on the occasion. A progressive farmer shared his experiences and highlighted the issues faced by farmers in watershed areas. In the concluding session, institutional, policy, socio-economic, research & development and technical constraints hindering the scalingup of watershed programmes in rainfed areas of India were identified.

# ACIAR-CRIDA workshop on "Assessing scale impacts of watershed development"

The three day ACIAR-CRIDA national workshop on "Assessing Scale Impacts of Watershed Development" was held at the NASC Complex, ICAR, New Delhi from November 17-19, 2014. The workshop was aimed to share the planning, design, implementation issues while addressing hydrology, bio physical, production systems and human and social issues within a meso watershed by the implementing agencies. The workshop was attended by Mr. Bernard Philip, Acting High Commissioner, Australia, Dr AK Sikka, DDG (NRM), ICAR, Dr Ch. Srinivasa Rao, Director, CRIDA and representatives from different NGOs - WASSAN, FES, BAIF, PRADAN, Dhan Foundation, RDT, etc., besides project staff from organizations in India and Australia. Dr. AK Sikka described the need for planning and implementing watershed management projects in an integrated manner taking into account the hydrology, hydrogeology and socio-economic



National workshop on "Assessing Scale Impacts of Watershed Development"

issues. Dr. Ch Srinivasa Rao, Director, CRIDA Hyderabad, in his remarks thanked ACIAR for funding the project which addresses the resource management issues at watershed scale. Mr. Bernard Philip, the Chief Guest, shared his experiences about the collaboration and partnership existing between India and Australia. Since natural resources related challenges faced by India and Australia are similar in nature, the ACIAR developed strong partnership with India to address these issues. The project team shared their research findings of the integrated approach (ACIAR project) and facilitated a discussion on feasibility of adopting this integrated approach in watersheds.

#### **RAC Meeting**

The XXIII meeting of the Research Advisory Committee (RAC) and IV Common RAC of CRIDA & CAZRI was held at CRIDA, Hyderabad during 20<sup>th</sup> and 21<sup>st</sup> November, 2014 and was attended by Dr. MC Saxena, Chairman and members Dr. YS Ramakrishna, Dr. A Padmaraju, Dr. KD Singh, Dr. RP Singh,



Book release in RAC meeting



Field visit to on-farm trial sites of CRIDA in tribal village

Dr. CL Acharya, Dr. S Pandey, Dr. MM Roy, Director, CAZRI, Dr. BM Kumar, ADG, (Agronomy, Agroforestry & Climate Change), Dr. Ch Srinivasa Rao Director, CRIDA and Dr. G Rajeshwar Rao Member Secretary. Dr. Ch Srinivasa Rao, Director CRIDA welcomed the chairman and members of the RAC and briefed them about the achievements made by the institute during last year. There was brief presentation on three Consortium Research Platforms viz., conservation agriculture, water, and small farm mechanization. RAC members interacted with all the scientist of CRIDA in 7 thematic group meetings. In the concluding session, chairman and members gave their views and suggestions on R&D programs being undertaken by the Institute. The RAC appreciated the progress made by the institute during the last one year and encouraged the scientists to continue the good work. RAC approved long term and short term collaborative projects proposed by CRIDA and CAZRI. The RAC team visited on-farm trial sites of CRIDA in tribal village of Peddamalkapur in Sitagondi gram panchayat of Adilabad District located at 280 km from Hyderabad on 21st November, 2014 and were impressed with pond technology and reuse of water for supplemental irrigation.

#### Women in Agriculture Day

Women in Agriculture Day was celebrated on 4 December, 2014 at KVK, Ranga Reddy District, CRIDA. On this occasion a program was organized to create awareness on value addition



Women in Agriculture Day

of agriculture produce and women empowerment to about 50 women farmers from four different villages of Ranga Reddy District. Director, CRIDA, Dr. Ch Srinivasa Rao presided over the inaugural function and interacted with them over women related issues in agriculture. In his inaugural address, he narrated his experiences in the NAIP project with the tribal women of Nalgonda District and shared success story of community biogas production linked to community vermicomposting in the tribal areas. He further emphasized the need for strengthening the Self Help Groups (SHGs) in the villages, development of entrepreneurship among rural women through community approach and enhanceing nutritional security in adolescent women and children, particularly in rural areas.

### Formation of VCRMC at KVK village

Village Climate Risk Management Committee (VCRMC) was formed at Gadda Mallaiguda (KVK-CRIDA adopted village), Yacharam Mandal, Ranga Reddy District, Telangana on 30<sup>th</sup> August, 2014. The committee consists of 6 members from the village and a resolution to this effect was passed in presence of Sarpanch and ZPTC of the village. The main functions of the committee are to facilitate custom hiring of agriculture machinery, climate literacy and NRM activities in the village. Dr. M Prabhakar, Principal Scientist & PC, KVK-CRIDA and Dr. K Ravi Shankar, Senior Scientist, CRIDA coordinated the event.

### **NEWS FROM AICRPS**

#### **AICRPDA**

# Consultation workshop for upscaling of rainfed technologies at Anantapur

A one-day District level consultation workshop was held on 12-9-2014 at AICRPDA Centre, Anantapur, Andhra Pradesh to develop an action plan for upscaling of rainfed technologies developed by AICRPDA centre, Anantapur for the domain districts of Anantapur, Kurnool and Kadapa located in the rain shadow region of Southern Andhra Pradesh. Dr. P. Raghunadh Reddy, Minister for IT, Govt. of AP, Dr. A. Padma Raju, VC, ANGRAU, Dr. Ch. Srinivasa Rao, Director, CRIDA, Mrs Yamini Balaguru, MLA, Singanamala, District officials, scientists from regional research stations,



Dr. P. Raghunadh Reddy, Minister for IT, Govt. of AP addressing the participants

AICRPDA and AICRPAM, Ananatpur, DAATT centre and ATMA KVK programme coordinators, officials from NGOs, progressive farmers from the domain districts and villages adopted under ORP, NICRA and KVK, and representatives of electronic and print media participated in the discussions. The objective of the workshop was to sensitize stakeholders about the rainfed technologies emanated from AICRPDA centre, Anantapur, their performance and impact on productivity and farm income, potential, refinement and scope for convergence with the national/state government programmes/schemes for upscaling in the 3 domain districts of the centre.

Interaction session was held with the line departments, KVKs, ATMA and farmers on dryland technologies presented by Dr. B. Sahadeva Reddy, Chief Scientist, AICRPDA centre, Anantapur centre. An action plan was developed for dissemination of these technologies in the domain districts with possible convergence strategies, institutional and policy support.

#### Stakeholder consultation workshop at Faizabad

A one-day district level stakeholder consultation workshop was held on 15<sup>th</sup> October 2014 at AICRPDA Centre, Faizabad (Kumarganj), NDUA&T, Uttar Pradesh, to sensitize stakeholders about the rainfed technologies emanated from AICRPDA centre, Faizabad regarding the performance and impact on productivity



Interaction in progress



Farmer presenting his views at Faizabad

and farm income, potential, refinement and scope for convergence with the national/ state government programmes/ schemes for upscaling in the domain districts of the centre viz. Faizabad, Gonda, Basti, Ambedkarnagar, Sultanpur and Barabanki of eastern Pradesh. Dr. PK Gupta, Honorable Vice-Chancellor, NDUA&T, Dr. SP Singh, Director of Extension, NDUA&T, Dr. G Ravindra Chary, Principal Scientist, Project Coordination Unit, AICRPDA, CRIDA, Hyderabad, Sri OP Singh, Joint Director of Agriculture, Faizabad, Heads of various departments and scientists from various AICRPs and research schemes located at Kumarganj, Programme Coordinators of KVKs from the districts, officials from line departments, and farmers from the domain districts participated.

#### Consultation meeting at AICRPDA, Bangalore

A one day district level stakeholder consultation workshop was organized at AICRPDA centre, UAS, Bangalore on Tuesday, 21st October, 2014 with the objective of sensitizing the doable rainfed technologies developed at AICRPDA centre, Bangalore and for upscaling of these technologies in 11 domain districts of the centre, Bangalore rural, Bangalore urban, Tumkur, Chikkaballapur, Ramnagara, Chitradurga, Mysore, Chamrajnagar, Kolar, Hassan and Mandya. Participants included



Consultation meeting



Field visit at AICRPDA, Bangalore

Dr. DP Kumar, Honorable Vice Chancellor, Joint Directors of Agriculture from 10 domain districts, Dr. MA Shankar, Director of Research and Dr. N. Nagaraja, Director of Extension, Associate Directors of Research, UAS Bangalore, scientists from UAS, Bangalore, ICAR Institutions, programme coordinators/ and subject matter specialists of KVKs, Deputy Directors/ Assistant Directors/Agriculture officers, officials from Watershed Development Department, officials from NGO's and progressive farmers. All the participants visited Dryland Agri-Tech Park at AICRPDA, Bangalore Centre where different dryland technologies were demonstrated in large plots. The participants thoroughly interacted on farm pond technology, contingency crop planning, nutrient management and agri-horti-systems.

#### XXIV Biennial Workshop of AICRPDA, Indore

The XXIV Biennial Workshop of All India Coordinated Research Project for Dryland Agriculture was inaugurated at AICRPDA



Workshop in progress

centre, College of Agriculture, RVSKVV, Indore on 27<sup>th</sup> December, 2014 and 140 scientists participated. The objective of the workshop was to review the progress of rainfed network research across 22 AICRPDA centres achieved during 2012-14 and finalization of technical programme for 2015-16. Dr. Panjab Singh, Former Secretary, DARE & DG, ICAR inaugurated the workshop. He suggested to focus on technology upscaling and ground level implementation of developed rainfed technologies



Innovative Rainfed Farmer Awarded

through national programmes. Dr. A.K. Singh, Honorable Vice Chancellor, RVSKVV, Gwalior, in his presidential address, advocated efficient harvesting of rainwater, its conservation and efficient utilization, adaptation and mitigation to climate change and variability, soil carbon management with focused research in dryland agriculture. Dr. Ch. Srinivasa Rao, Director, CRIDA presented the objectives of the workshop and the refined agenda for rainfed agriculture research in India. On the occasion, "Best Dryland Farmer Award" was given to 18 innovative farmers across the country who are leading the implementation of rainfed technologies among rainfed farming community and also Best Centre Award to 3 AICRPDA centres and 2 ORP centers.

#### **AICRPAM**

#### **Annual Workshop of AICRPAM-NICRA**

The annual review meeting of AICRPAM-NICRA was held at CRIDA, Hyderabad during 26-27, August, 2014 to evaluate the progress of activities undertaken by cooperating centers during 2013-2014. There were eight technical seesions to review the performance and elicit action plan. The major recommnedations



emerged were issuing micro-level Agro advisory services based on inputs from Field information facilitator (FIF), climate change/variability impact analysis for KVK district and economic impact assessment of AAS. The concluding session was attended by Dr. Ch. Srinivasa Rao, Director (CRIDA). Dr. V.U.M. Rao, PC (AICRPAM) briefed the major recommendations from the two-day workshop and presented the technical program for 2014-15.

### XIIIth biennial workshop of AICRPAM, Raipur

XIIIth biennial workshop of AICRPAM was held at IGKV, Raipur



during 5-7 November, 2014. The meeting reviewed the progress of various AICRPAM centres and finalized the technical programme for 2014-16. The major recommendations include strengthening of agromet database, climate change crop modeling and real time contingency plans.

# Development of weather software & technical bulletin on hail storm data

Weather Cock v1.0 was developed to analyze climatic data for characterizing crop growing environments. So far, more than 250 scientists were imparted hands on training on the use of the software. A bulletin on hail storm damage caused in India was published. Based on long-term hail storm incidence data, hail storm sensitive districts were mapped. Management options to overcome this extreme weather event for different agro ecological regions were brought out in the bulletin.

### NATIONAL INITIATIVE ON CLIMATE RESILIENT AGRICULTURE (NICRA)

# Brainstorming workshop on "Evolving a framework for climate resilient villages"

A one day Brainstorming workshop on "Evolving a framework for climate resilient villages" was organized on 29<sup>th</sup> November, 2014 at CRIDA. DDG, NRM, Dr. Sikka explained that this workshop, intended to evolve a broad framework, will be followed



Events during brainstorming workshop

up with a focused interaction meeting for understanding and measuring resilience to climate variability involving ICAR, CCAFS & IFPRI. Best NICRA KVK awards for the period 2011-14 were presented to NICRA implementing KVKs on this occasion. Two publications on custom hiring equipment by CRIDA and zonal monitoring committee report (Zone VI) were released. The workshop brought together different stakeholders

working towards climate resilient agriculture for cross-fertilization of ideas, innovations, processes and delivery mechanisms and to evolve a broad framework for climate resilient villages. Earlier, Dr. Ch. Srinivasa Rao, Director, CRIDA in his welcome address reiterated that Technology Demonstration Component is the life line of NICRA project and will feed climate resilient practices and technologies into NMSA for upscaling. Dr. M. Maheswari, Principal Investigator, NICRA and Dr. YG Prasad, Coordinator, Technology Demonstration Component, outlined the workshop objectives. Nodal officers of NICRA at ZPDs, program coordinators of KVKs, principal investigators of NICRA TDC at ICAR research institutes and scientists of CRIDA participated in the event.

# Seventh meeting of High Level Monitoring Committee (HLMC)

The seventh meeting of High Level Monitoring Committee of National Initiative on Climate Resilient Agriculture (NICRA) was held on 10<sup>th</sup> December, 2014 to review the progress of the project under various components. The meeting was chaired by Dr S. Ayyappan, Secretary (DARE) and Director General (ICAR) and co chaired by Dr AK Sikka, DDG (NRM). Several dignitaries from various departments participated in this meeting.

#### **IMPORTANT VISITORS**

Visitor(s)	Date(s)	
INTERNATIONAL		
Dr. Dath Mita, Senior Crop Analyst, International Production Assessment Division, USDA and two of his colleagues	25.08. 2014	
NATIONAL		
Dr. S. Ayyappan, Secretary DARE & DG, ICAR, and Dr. A.K. Sikka, DDG (NRM)	01.07.2014	
Dr. MCR HRD Trainee IAS Officers of 2013 Batch	12.08.2014	
Dr. A.K. Sikka, DDG (NRM)	23.09.2014	
Shri N. Sudhakar, Senior Manager- Rural Livelihoods of Dr. Reddy's Lab	12.11.2014	
Farmers from M.Venkatarangayya Foundation to Gunegal Research Farm	22.11.2014	

### **HUMAN RESOURCE DEVELOPMENT**

#### **Training Programme on Insurance Products**

A customized training programme on "Agrometeorology" for Officers of Agricultural Insurance Company of India was organized during August 11-16, 2014. The participants were



Training Programme in progress

oriented on various meteorological concepts and basics in agriculture and practical insights for recording weather data in automatic weather stations.

# Training on "Resource conservation technologies in rainfed farming"

CRIDA organized a model training course sponsored by Directorate of Extension, Ministry of Agriculture on "Sustainable conservation technologies for enhancing resource use efficiency in rainfed farming" during 16<sup>th</sup> to 23<sup>rd</sup> September, 2014. Twenty five participants from twelve states participated in the course.



Release of "Compendium of lectures" by Dr. A.K. Sikka, DDG(NRM)

The plenary session of the training programmme was held on 23<sup>rd</sup> September, 2014 and Dr A. K. Sikka, DDG (NRM) emphasized resource conservation technologies and their potential in sustainability of rainfed ecosystem. Dr S. M. Virmani, Chief Guest of the plenary session emphasized on several technologies which improve the use efficiency of water, nutrient

and energy. Dr Ch. Srinivasa Rao, Director, CRIDA indicated the upscaling strategies of various RCT's into national programmes. Three books, the compendium of lectures, AICRPDA technical programme 2014-15 and AICRPDA- NICRA technical program 2014-15, were released by DDG, NRM. Drs. M.S. Prasad and G. Nirmala were course directors and Drs. K. Nagasree, K. Ravi Shankar, K. Sridevi Shankar, Ravikant Adake, and P.K. Pankaj were course co-directors of the training programme.

# ICAR sponsored winter school on "Advances in pest forecast models and decision support systems for crop protection in changing climate scenario"

A winter school on "Advances in Pest Forecast Models and Decision Support Systems for Crop Protection in Changing Climate Scenario" was organized at CRIDA during 29 October to 21 November, 2014. The winter school was inaugurated by Dr N.K. Krishna Kumar, Deputy Director General (Horticulture). The school offered an opportunity to share the outputs of the NATP mission mode project (2002-05), NAIP component 4 subproject on DSS (2009-2014) and AICRPAM. Dr. Y.G. Prasad, Principal Scientist (Entomology) was course director, Dr. M. Prabhakar, Dr. N. Ravi Kumar and Dr. G. Rajeshwar Rao were the course coordinators. The valedictory session was presided over by Dr. Ch. Srinivasa Rao, Director, CRIDA and the chief guest was Dr. C. Chattopadhyay, Director, NCIPM, New Delhi.

#### Farmers' training on watershed management

A one-day training cum exposure visit on watershed management was organized for 30 farmers at KVK-CRIDA on 5<sup>th</sup> December, 2014. The participants were watershed committee members, user group members and few practicing farmers from Oruturu mega watershed project, VN Pally Mandal, Kadapa District, A.P. Dr.K. Srinivas Reddy and Dr. B. Sanjeeva Reddy stressed the need for integrated approach to develop watersheds and emphasized on different technologies available for soil and water conservation and shared their experiences with farm pond technology. In the field visit, farmers showed keen interest in CRIDA farm implements, mini watershed, farm ponds, fodder cafeteria and other technological demonstrations at KVK farm. This program was coordinated by Dr. M Prabhakar, Principal Scientist and Program Coordinator, KVK in collaboration with Dr. K Radha Rani, Course Director, DWMA, Kadapa, and attended by Dr. Manoranjan Kumar, Senior Scientist (S&WCE), Mr. S Vijay Kumar, SMS (Agril. Engg.) and other KVK Staff.

### FORTHCOMING EVENTS

S.No	Title of the Event	Date
1.	National mission for sustainable agriculture (NMSA) technical committee meeting	Jan 9, 2015
2.	Mid IRC Meeting	Jan 29, 2015
3.	Capacity building on technology demonstrations for climate resilience and value-added agromet advisories	Jan 19-31, 2015
4.	National Science Day	Feb 28, 2015
5.	CRIDA Foundation Day	April 12, 2015
6.	IRC meeting	May-June, 2015
7.	World Environment Day	June 5, 2015

### **AWARDS AND RECOGNITION**

AICRP on Agrometeorology (AICRPAM, CRIDA) was awarded the Chaudhary Devilal Outstanding All India Co-ordinated Research Project (AICRP) Award – 2013 for significant progress in terms of climate characterization of majority of the states, bringing out several agro-climatic atlases, taking up frontier research on climatic variability, preparation of real-time contingency plans, issuing of Agromet advisories to farmers, networking of 100 automatic weather stations in KVKs and providing data support to weather based insurance products in several crops. Project Coordinating Unit at CRIDA, Hyderabad was selected as the best centre of the AICRP on Agrometeorology.

Dr.K. Ravi Shankar received Young Scientist Award -2014 of the Society of Extension Education, Agra. The award was presented by Honorable A.L. Hek, Minister of Meghalaya at the 7<sup>th</sup> National Extension Education Congress.

Dr. G. Ravindra Chary, Principal Scientist (Agronomy), PC Unit, AICRPDA, was made Fellow of the Indian Society of Agronomy on 18<sup>th</sup> November, 2014 by Indian Society of Agronomy at PAU, Ludhiana during National Symposium on Agricultural Diversification for Sustainable Livelihood and Environmental Security.



Dr. A.K. Shanker, Principal Scientist (Physiology), from Division of Crop Science was honored with Fellow Award 2014 of the Society of Applied Biotechnology in recognition of outstanding achievements and contribution to the field of bioinformatics.



The research project entitled "Assessing Agricultural Vulnerability Using Satellite Data to Improve Adptative Capacity of Rainfed Farmers in India" (project ID 14 14) was selected for the Asia Geospatial Awards by an external panel of jury. Dr. Kaushalya Ramachandran, National Fellow is Principal Investigator of the project.

7<sup>th</sup> NATIONAL EXTENSION EDUCATION CONGRESS 2014
TRANSLATIONAL RESERVED-EXTENSION
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rime Minister of India







of Society for Scientific Development in Agriculture and Technology (SSDAT) for the best work done in the field of computer applications in agriculture.

Er. R. Nagarjuna Kumar, Scientist

(Computer

Applications in

Agriculture) received

Scientist of the Year Award-2013

### PERSONNEL INFORMATION

#### New Entrants/Appointments/ Promotions/Study leave

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Name	Discipline	Date of joining		
Study leave				
Shri. Rajkumar Dhakar, Scientist	On study leave pursuing Ph.D at IARI, New Delhi	28.07.2014		
Shri. Ravi Dupdal, Scientist	On study leave pursuing Ph.D at U.A.S. Dharwad	02.08.2014		
Promotions				
Shri. V. Sanu	Personal Assistant to AAO	15.09.2014		
Dr.AVM Subba Rao	Scientist Sr. Scale to Sr. Scientist	31.12.2014		
Mr.G.Venkatesh	Scientist to Scientist Sr. Scale	31.12.2014		
Mr.N.S.Raju	Scientist to Scientist Sr. Scale	31.12.2014		
Mr.Sudhakar	Assistant to AAO	31.12.2014		
Mrs.Manikyam	PA to PS	31.12.2014		
Mrs.Durga	Financial upgradation	31.12.2014		
Mr.Ratna Shankar	Financial upgradation	31.12.2014		
CRIDA staff wish them all success				

#### Retirements

Name	Designation	Date of super-annuation	
Shri.V. Sree Ramulu	Chief Technical Officer	31.07.2014	
Dr.G.R.Maruthi Shankar	Principal Scientist	31.08.2014	
Dr. A.S. Rao	Principal Scientist	31.08.2014	
Shri. P. Pushpakar,	Asst. Administrative Officer	31.10.2014	
Smt. B. Vijaya Lakshmi	Private Secretary	31.10.2014	
Shri.K. Yadaiah	SSS	31.10.2014	
Shri. J. Seshavadhanulu	Assistant	30.11.2014	
Shri. C. Gopal	Technical Assistant	01.12.2014	
CDIDA family wishes them all a hanny & necessful retired life			

CRIDA family wishes them all a happy & peaceful retired life

### CULTURAL AND WELFARE **ACTIVITIES**

Independence Day Celebration: The 67th Independence day was celebrated on August 15, 2014 with enthusiasm and gaiety and Director hoisted the flag and addressed the staff of CRIDA. Later, cash awards (CCS&CCRC) were distributed to the X class toppers of CRIDA staff children on this occasion.

Biodiversity Programme: Awareness programme on biodiversity was organized on 5th September 2014 and addressed by Dr. R. Hampaiah, Chairman, APSBDB, who explained the activities of APSBDB.

Swachh Bharat: With reference to ICAR Cr.No.GAC/21-46/2014-CD.dated 25th September, 2014 regarding launching of "Swachh Bharat Mission" a nation-wide programme for cleaning the country on 2<sup>nd</sup> October, 2014 by the Hon'ble Prime Minister, Swachh Bharat mission was organized at CRIDA. All the staff participated in the event.





Event during "Swachh Bharat Campaign" at CRIDA

ICAR sports meet: ICAR sports meet was held during October 11-18, 2014 at IIHR, Bangalore. A strong CRIDA sports contingent participated in the ICAR South Zone Sports Tournament 2014 at Bangalore. In this tournament, Smt. D G M Saroja, of CRIDA won all matches and was declared as the South Zone Chess Champion (Women).



Mrs. Saroja receiving winner medal & certificate

Vigilance awareness week: "Vigilance Awareness Week" was observed from 27th October, 2014 to 1st November, 2014. The Vigilance oath was taken and activities were carried out in the week to raise awareness about vigilance procedures.



Vigilance Oath by CRIDA Sta

Rashtriya Ekta Diwas: The institute observed "Rashtriya Ekta Diwas" on 31st October, 2014



Observation of Rashtriya Ekta Diwas

Vanamahostavam: CRIDA Cultural and Recreation Club organized a Vana Mahostavam at Hayathnagar Research Farm of the Institute on 15th November, 2014. All the CRIDA staff members actively participated in the cultural activities. The



events generated great enthusiasm and unity among staff.

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Dr. S.R. Yadav & Sri Prabhakar Photo credits : Mr. K.Surender Rao, CTO

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