



हर कदम, हर डगर  
किसानों का हमसफर  
भारतीय कृषि अनुसंधान परिषद

*AgriSearch with a human touch*



# NEWS LETTER

Central Research Institute for Dryland Agriculture

July - December, 2013

## From the Director's Desk.....



CRIDA Staff congratulate & convey their best wishes to Dr. B. Venkateswarlu, who has been selected as Hon'ble Vice Chancellor, VNMKV-Vasanta Rao Naik Marathwada Krishi Vidyapeet Parbhani, Maharashtra.

- Staff, CRIDA

## Importance of Agro - Climatic Analysis

Agroclimatic analysis of the region provides clues about the trends in climate variability and climate change. For any agricultural planning, agro-climatic analysis is the basic prerequisite. Understanding the temporal and spatial distribution of rainfall and temperatures in a given geographical location helps in studying the availability of water resources for agriculture, type of storage structures required for harvesting rain water and choice of methods for efficient use of irrigation water and rainfall. Temperature distribution over crop growing season helps in working out the crop water balance and management practices that help in minimizing moisture loss from the soil. Changes in agro-climate of a region over time assists in understanding the insect, pest and pathogen dynamics and emergence of new diseases.

The All India Coordinated Research Project on Agrometeorology (AICRPAM) has undertaken the task of preparing the agro-climatic atlas of different states giving detailed information on rainfall, number of rainy days, length of growing period and probability of drought occurrence etc. which has been released during 2013. The information is provided at district and block level. Similar atlas has been prepared for Haryana and is under preparation for other states. It is sincerely hoped that these state level atlases will be useful to the planners in the Ministry of Agriculture and Rural Development for taking up water conservation and crop management interventions.

**Dr. B. Venkateswarlu, FNAAS**

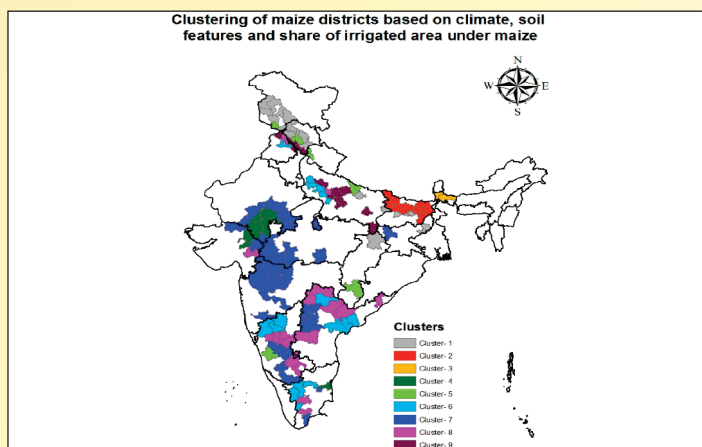
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## Research Highlights

### Identifying Sources of Yield Growth in Maize at District Level – A Multivariate Clustering Approach

Maize is an important cereal crop in India predominantly grown as rainfed (76% area). The crop has witnessed significant area expansion and productivity growth in recent times indicating the profitability and technological change. The demand for maize in India is projected to be around 121 m t in 2050. The present study included 146 major maize growing districts (each having at least 10,000 ha area under maize)



that accounted for about 79% area under the crop in India. Climate, soils and irrigation are the key determinants of crop choice and its productivity in a region. While climate and soils are 'given' as they cannot be manipulated by policy instruments and investment interventions, the access to irrigation to some extent, does respond to such interventions. The productivity is also influenced by technology and input use represented by use of improved crop varieties and chemical fertilizer nutrients and which are relatively more amenable to policy and investment decisions in technology generation and transfer. Therefore, the major maize growing districts were delineated into nine clusters that are relatively homogeneous in terms of climate, soils and irrigation so that the intra-cluster variation in yield could be attributed to the policy-responsive variables like technology and input use. The resources being similar for all the districts in a cluster, the district producing highest yield in a cluster may be regarded as potential target for the remaining districts. The difference between yield of a

given district and potential yield may be regarded as unrealed yield potential that can be realized in that given district (for a given level of resources in the cluster).

Average yield of a cluster ranged from 1496 to 4331 kg/ha. Though maize is predominantly a rainfed crop, it was cultivated under irrigation in clusters 2, 6 and 8. In cluster-6, Etah (UP) was lowest yielding district and Guntur (AP) was highest yielding district. The low yield in Etah may be attributed to less area under HYV and low phosphorus and potassium use. Similarly in cluster 7, Pali (Rajasthan) was lowest yielder (785 kg/ha) and Toothukudi (Tamilnadu) was highest yielder. Much of this yield variation may be attributed to variation in use of N, P, and K and extent of area under HYV. Insufficient nitrogen use and relatively less area under HYV may explain the low yield (648 kg/ha) of Sitapur district of UP as compared to high yielding (3311 kg/ha) Rupnagar district of Punjab in cluster-9. Such information is useful in planning for technology transfer at the district level. Similar methodology is being employed to identify the sources of productivity growth in other important rainfed crops as well.

**B.M.K. Raju**

### Seed Endophytes from Maize

Eighty morphologically different endophytic bacteria were isolated from surface sterilized seeds of 34 maize genotypes. The isolates were screened *in vitro* for different levels of moisture stress (10, 20, 30, 40% PEG-6000), high temperature (30, 35, 40, 45, 50, 55, 60°C and salinity tolerance (0, 2, 4, 6, 8, 10% NaCl). Among eighty isolates, eleven isolates were tolerant to 40% of PEG-6000, twenty nine isolates could tolerate 10% NaCl and five isolates could grow at high temperature (60°C). Two isolates were found tolerant to extreme levels of all three abiotic stresses and were able to grow well at 40% PEG-6000, 10% NaCl and 60°C temperature. *In vitro* multiple stress tolerance evaluation of the two isolates is in progress.

**Meenakshi Grover**

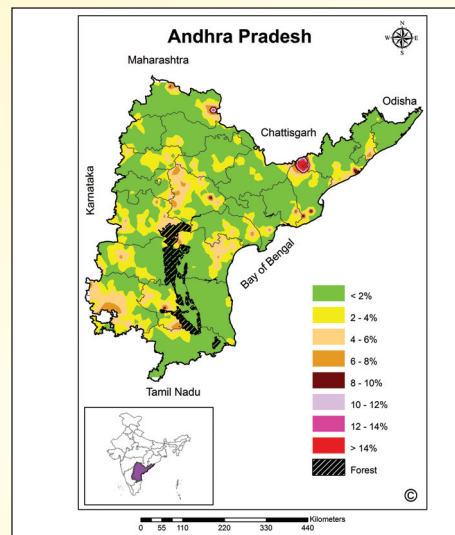
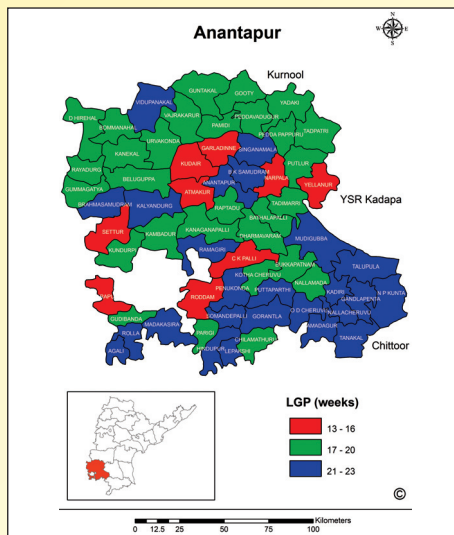
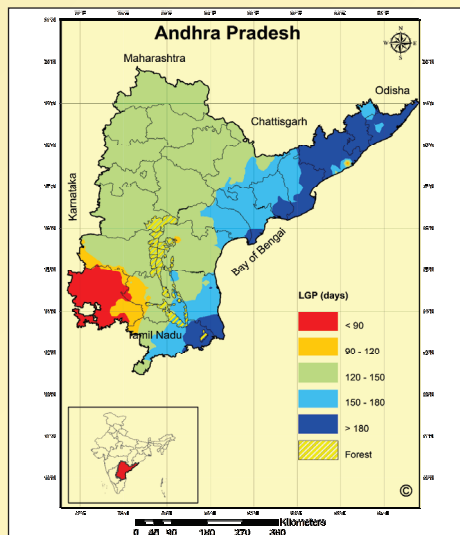


## Scientific Achievements

### Agroclimatic atlas of Andhra Pradesh

Agroclimatic atlas was prepared for Andhra Pradesh. The salient results from the study include:

- ◆ The total annual rainfall is received in 39 to 58 rainy days with a variability of 15%. On an annual basis, the average



number of rainy days in coastal Andhra region are 52 followed by 46 in Telangana and 39 in Rayalaseema regions.

- ◆ In 8 out of 22 districts, the growing season commences generally during 25th SMW and in the remaining districts, it commences during 26th to 29th SMW.
- ◆ In general, the Length of Growing Period of the state varies from 120-150 days, with North coastal area districts showing maximum (>180 days) and Anantapur district showing the least (<90 days). Mandal-wise LGP map of Anantapur district helps in prioritizing soil moisture conservation and crop management practices for mandals with least LGP.
- ◆ Probability for occurrence of severe drought is very less (less than 2%) in the state, except a few locations where probabilities up to 6% exists.

### Scientific Activities

#### Brainstorming session

An Innovation cell has been created in June, 2013. The objective of this Cell is to obtain ideas for improving overall efficiency of the Institute. In this connection, a brainstorming session was held on 13th December, 2013 to orient the CRIDA staff on innovation cell activities

### IMC meeting

The 43rd Institute Management Committee (IMC) meeting of CRIDA was held on 24th August, 2013 under the Chairmanship of Dr. B. Venkateswarlu, Director, CRIDA. The meeting was attended by IMC members Dr. V.U.M. Rao, PC

(Agro. Met), CRIDA, Dr. M. Maheswari, Head, DCS, CRIDA, Dr. P. Ramesh, Principal Scientist, NAARM, Dr. S.R. Voleti, principal Scientist, DRR, Shri Ashish Roy, CAO, CRIDA & Member Secretary, IMC and special invitees from CRIDA.

The research highlights on soil health management, conservation agricultural practices, farm machinery, cropping systems, rain water management & climate resilient agriculture were presented during the meeting. Besides regular agenda items, publications, patents and technologies



IMC meeting in progress

developed were discussed. The status of works under plan, non-plan and NICRA were reviewed.

## RAC meeting

XXII RAC meeting of CRIDA was held on Oct 3-5, 2013 under the chairmanship of Dr. M.C. Saxena, Honorary Senior Advisor to ICARDA, Members Drs. Y.S. Rama Krishna, A. Padma Raju, K.D. Singh, R.P. Singh and Member Secretary G. Rajeshwar Rao, Principal Scientist, CRIDA attended the meeting. The committee reviewed the progress of ongoing research projects and major research programmes like

NICRA, NAIP, etc. The team also visited both the research farms and appreciated the contributions of the institute, current research and quality of experiments. The RAC has recommended for monitoring of farmer groups for farming systems, production, income and livelihood patterns to know the impact of technology and policy etc. in relation to changing climate conditions.



Field visit by RAC members



RAC meeting in progress

## TOLIC Meeting

The TOLIC Core committee meeting was held on 10th Oct, 2013. The experts, dignitaries from the different organizations in Hyderabad have attended the meeting to discuss the modalities and functioning of TOLIC core committee.

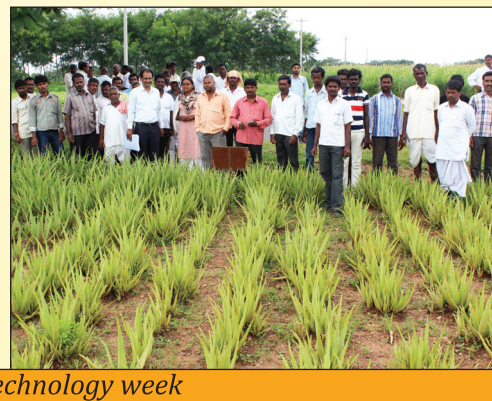
## Important Events

### Technology Week

The 'Agricultural Technology Week' was organized by the Krishi Vigyan Kendra, Ranga Reddy District, Central Research Institute for Dryland Agriculture (CRIDA) from 11 to 13, September, 2013. Dr. B. Venkateswarlu, Director, CRIDA has inaugurated the Technology Week on 11.09.2013 at Hayathnagar Research Farm.

The themes of Technology week were "Crop Production, Natural Resource Management, Horticulture, Farm Mechanization", "Livestock management and "Women empowerment". Several Officers from Ranga Reddy District,

ICAR institutes participated in the Technology week. Director, CRIDA urged the farmers to concentrate on cultivation of vegetables, fruits crops and flower crops as there is a great demand for these items in Hyderabad. About 260 farmers from Ranga Reddy district and ATMA beneficiary farmers witnessed the demonstration plots at Crop Cafeteria, Fodder block, KVK watershed, Flower crops demonstration unit, High density mango planting demo unit, Plastic mulching demo unit of Vegetables, Shade net nurseries, Farm implements demonstrations. Question-Answer session was organized to respond to the farmer's queries.



Events during Technology week



## Farmers' Day

The third day of the Technology week (13.09.2013) was celebrated as "Farmers' Day". Dr. A. Padma Raju, Vice Chancellor of Acharya N.G. Agricultural University and Sh. K. Madhusudhana Rao, IAS, Commissioner of Agriculture, Govt. of Andhra Pradesh were the chief guests.

Sh. Madhusudhan Rao, urged the farmers to utilize the dryland technologies developed by CRIDA. For prevention of wild boar problems in fields, he explained the government scheme of 50 % subsidy on solar fencing. He also assured

farmers for inclusion of some of the CRIDA implements in subsidy programme of the Government. Dr. A. Padma Raju, appreciated the research work carried out by CRIDA particularly on farm mechanization. Five brochures published by KVK and one technical bulletin by CRIDA Scientists were released during the occasion (Clean milk production and quality testing, Vegetable nursery raising using shadenets, Preparation of multigrain rotis, Alternate wetting and drying in rice, Vermi Compost, Low-cost portable kiln for biochar production).



Glimpses of farmers day

## Vigilance Awareness Week

Vigilance Awareness Week was celebrated in CRIDA from 29 Oct to 3 Nov, 2013. The vigilance oath was taken on Oct 29, 2013 and activities were carried out in the week to raise awareness about vigilance procedures. A guest lecture was organized and given by Shri T. Ram Babu, Additional Controller of Defence Accounts, on Transparency in Public Procurement on 1st November, 2013.

## AICRP News

### Working Group Meeting of AICRP on Agrometeorology:

Working Group Meeting of AICRP on Agrometeorology was held at Assam Agriculture University, Jorhat during 11-13 November, 2013. The meeting was presided over by Dr. K.M. Bujarbaruah, Vice Chancellor, AAU, in which Dr. S.M. Virmani, Former Program Leader (Farming Systems), ICRISAT and Dr. B. Venkateswarlu, Director, CRIDA, Dr. Y.S. Ramakrishna, Former Director, CRIDA provided their valuable advice. Dr. V.U.M. Rao, Project Coordinator, AICRPAM, Scientists from 25 AICRPAM cooperating centers in SAUs and Scientists from AICRPAM unit, CRIDA participated in the meeting. Review of work done by individual AICRPAM centre was presented. Suggestions were provided by the experts on



Agrometeorology on developing agro climatic atlas for all the states, developing weather events and their impacts and adaptation.



## AICRPDA-NICRA Second Annual Review Workshop

To review the progress made during 2012-13 under AICRPDA-NICRA network programme, the second annual review workshop was held at AICRPDA centre, Bijapur (UAS, Dharwad) during 15-17 December 2013. The workshop was inaugurated by the Chief Guest Dr. A.K. Sikka, DDG (NRM), ICAR, New Delhi and presided over by Dr. H.S. Vijay Kumar, Hon'ble Vice Chancellor, UAS, Dharwad. Dr. B. Venkateswarlu, Director, CRIDA, Dr. B.M. Khadi, Director of Research, UAS, Dharwad, Dr. Ch. Srinivasa Rao, Project Coordinator, AICRP for Dyland Agriculture (AICRPDA), the chief scientists from 23 AICRPDA centres, scientists from UAS, Dharwad and CRIDA, Hyderabad, participated. Dr. A. K. Sikka, emphasized the growing importance of climate change/vulnerability research to deal with various weather aberrations, and also informed the priorities of XII plan in this direction. Dr. Vijay Kumar expressed concern about the frequency of droughts in the recent past and their impacts on agriculture and emphasized on the need of drought management.

Dr. Venkateswarlu, briefed about the implementation of NICRA (National Initiative on Climate Resilient Agriculture) project with focus on strategic research at national level and technology demonstrations in 130 locations in the country. He highlighted the initial positive experiences in minimizing drought impacts at village level through AICRPDA - NICRA programme.

Dr. Srinivasa Rao, presented on the purpose and agenda of the three day workshop. He also briefed about the package of technologies such as rainwater management, crops/cropping systems, energy management, alternate land use, which were demonstrated by AICRPDA centres in about 3500 farmers fields covering 1436 ha in 15 States, effectively could manage weather aberrations and helped in realizing better crop yields and income. Earlier Dr. Khadi welcomed the gathering.

The three day workshop deliberated on how Real Time Contingency Plan (RTCP) implementation at farm and village level with the interventions on rainwater management, soil



*AICRPDA-NICRA Second Annual Review Workshop*

health, crops and cropping systems, alternate land use, farm mechanization and energy management helped in minimizing the negative impacts of weather aberrations across diverse rainfed agroecologies.

## NICRA Activities

### Training cum Workshops on “Real Time Pest Surveillance (RTPS)”

The Training cum Workshops on “Real Time Pest Surveillance (RTPS)” for rice, Pigeonpea, groundnut and tomato crops under National Initiative on Climate Resilient Agriculture (NICRA) were held at NCIPM, Pusa campus, New Delhi on 26th, 30th of July and 02nd and 06th of August, 2013. Dr. C. Chattopadhyay, Director, NCIPM inaugurated the training cum workshops with his introductory remarks and importance of RTPS theme in NICRA. The scientists from CRIDA, Drs YG Prasad, MS Rao and S Desai attended the workshops and explained about the origin of data formats and importance of methodology of sampling in RTPS. Hands-on training on the software to all the participants from the RTPS centres was imparted. Technical progress made in respect of RTPS centres was explained by respective PIs of the centres. Crop

co-ordinators and team leaders of all four crops from NCIPM, summarised the specific progress and immediate requirements of RTPS. Work plan for the XII plan relating to RTPS was also discussed.

### Annual Review Meeting of NICRA

Annual Review Meeting of National Initiative on Climate Resilient Agriculture (NICRA) AICRPAM was held at University of Agricultural Sciences, Dharwad during 16-17th September, 2013. The annual review meeting of AICRPAM-NICRA was held at UAS Dharwad during 16-17, September, 2013 to evaluate the progress of activities undertaken by cooperating centres during 2012-2013. This meeting was presided over by Dr. H.S. Vijaya kumar, Vice Chancellor, UAS-Dharwad and Dr. B. Venkateswarlu, Director, CRIDA, Dr. VUM Rao, PC, AICRPAM acted as experts. Scientists, RAs and SRFs from all the 25 AICRPAM centers and Scientists from





*AICRPAM Annual review meet at UAS, Dharwad*

AICRPAM unit, CRIDA participated in the meeting. Individual centres presented the progress reports of AICRPAM - NICRA project. Director CRIDA provided a few important guidelines to the centers and asked them to establish strong linkages with PC, KVK.

He advised that advisories invariably have to be issued jointly by PC, KVK and AICRPAM scientists. The technical program has been finalized for the year 2013 -14.

### High Level Monitoring Committee Meeting of NICRA

The 5th High Level Monitoring Committee meeting of NICRA was held at DG's committee room, Krishi Bhavan, New Delhi on 30.09.2013 to review the progress of the project under various



*Meeting in progress*

components. The meeting was chaired by Dr. S. Ayyappan, Secretary (DARE) & DG, ICAR and attended by DDGs of ICAR and representatives from few other Ministries..

Dr. A.K. Sikka, DDG (NRM) welcomed the participants and explained about the progress made under infrastructure development, network research programme and technology demonstration component. He stated that the output of NICRA

will be linked to NATCOM and NMSA missions and emphasized the scope of enhancing the resilience of Indian agriculture to climate variability. Dr. S. Ayyappan, DG, ICAR in his opening remarks noted the importance of NICRA in the context of present climate change scenario and emphasized on the application of climate change interventions at field level. He suggested maintaining the sustainability fund under custom hiring centers, aimed at long-term usability of equipments.

The 'Vulnerability Atlas' was released by DG, ICAR during this meeting. The Atlas presents an analysis of relative vulnerability of 572 rural districts of India in terms of sensitivity, exposure and adaptive capacity. The Action Taken Report on the recommendations of previous meeting was presented by Dr. B. Mohan Kumar, ADG (Agro & AF) & Member-Secretary. Dr. B. Venkateswarlu, Director, CRIDA made a presentation on the overview of NICRA during 2012-13 and the implementation issues involved. Dr. S. Dixit presented the progress of Technology Demonstration component of the project being implemented in 100 KVKs across the country. Thereafter, the agenda items were taken up for discussion. The Chairman and members of the committee appreciated the significant progress made under the project and rendered constructive suggestions for future action.



*Director, CRIDA interacting with the scientists and NICRA village farmers*

A field visit to NICRA village, Kavalagi, Bijapur district, Karnataka was arranged on 16-12-2013 as a part of AICRPDA - NICRA Second annual review Workshop. Dr. B. Venkateswarlu, Director, CRIDA, Dr. Ch. Srinivasa Rao, Project Coordinator, AICRPDA and 56 AICRPDA Scientists participated and interacted with farmers.

### NICRA Expert Committee meeting

An expert committee meeting of NICRA project was held on December, 22 - 23, 2013 to discuss modalities, issues and functioning of NICRA project.



## Participation In Meetings / Seminars / Symposia

- ♦ **Dr. G. Nirmala**, Senior Scientist presented a paper in National workshop on 'Water quality Issues opportunities and Socio cultural concerns of wastewater use in agriculture' during 7-8 August, 2013.
- ♦ **Dr. K. Sammi Reddy**, Principal Scientist participated in the Awareness Building and Sensitization Workshop on National Fund for Basic, Strategic and Frontier Application Research in Agriculture (NFBSFARA) organized at NAARM, Hyderabad during 12-13 August, 2013.
- ♦ **Dr. B. Venkateswarlu**, Director, CRIDA attended Brainstorming meeting for formulating projects for CESCRA and developing a policy paper on GHGs mitigation at IARI, New Delhi on 14th August, 2013.
- ♦ **Dr. B. Venkateswarlu**, Director, CRIDA attended first Meeting of Agriculture Committee of FAPCCI for the year 2013-14, Hyderabad on 22nd August, 2013.
- ♦ **Minakshi Grover** Participated in UNEP – GEF – MoEF- ABS – Project - State Level Capacity Building Workshop on Economic Valuation of Bio-Resources for Access and Benefit Sharing at MCRHRD institute, Hyderabad during 22-23 August, 2013.
- ♦ **Dr. B. Venkateswarlu**, Director, CRIDA attended Media Workshop on Climate Change on 17th September, 2013 at MSSRF, Chennai.
- ♦ **Dr. Ch. Srinivasa Rao**, Project Coordinator, AICRPDA presented a policy paper "Improving phosphorus use efficiency in crop production at Brainstorming Session (BSS) on Efficient Utilization of Phosphorus organized by National Academy of Agricultural Sciences (NAAS) on 7th October, 2013.
- ♦ **Dr. B. Venkateswarlu**, Director, CRIDA attended Brainstorming Workshop on Land Use Planning for Multi-Functional Agriculture and Land Use Policy at Delhi on 18th October, 2013.
- ♦ **Dr. Ch. Srinivasarao**, Project Coordinator, AICRPDA delivered lecture "Land Use Planning for Low Rainfall Regions (450-750 mm)" during the Special Symposium on Agro-Ecozone Based Land Use Planning on 24th October, 2013 at CAZRI, Jodhpur during Annual Convention of Indian Society of Soil Science.
- ♦ **Dr. B. Venkateswarlu**, Director, CRIDA attended East Asia Summit on Climate change on 8th November, 2013 at Delhi.
- ♦ **CRIDA Scientists**, participated in Training on project MIS module under NAIP sub project implementation of Management Information System (MIS) from Nov 25 to 30, 2013 at NAARM. The Administrative & Financial staff of CRIDA were trained on administration and finance modules.
- ♦ **Salini K** attended Regional training workshop on GIS and Climate Analogue Tools for PGR Management and Enhanced Use 02-06 December, 2013 NBPGR, New Delhi.
- ♦ **Sh. AVM Subba Rao** and **Sh. Sarath Chandran**, M.A. attended a seminar on "Climate change-Impact on Agriculture in India" on 7 Dec, 2013 at National Institute of Nutrition (NIN), Tarnaka, Hyderabad.
- ♦ **Drs. K. Nagasree, K. Ravi Shankar, P.K. Pankaj** participated in International Conference on "Extension Educational Strategies for Sustainable Agricultural Development – A Global Perspective Jointly Organized by UAS, Bangalore, & INSEE conducted at Bangalore during December 5-8, 2013 and made paper presentations.
- ♦ **Dr. K. Nagasree** attended Capacity Building Workshop on Appropriate Technologies and Innovative Approaches for Agriculture Knowledge Sharing during 9-14 December, 2013, at ICRISAT, Hyderabad.
- ♦ **Dr. C.A. Rama Rao**, participated in 73rd Annual Conference of the Indian Society of Agricultural Economics, organized by NAARM and ISAE, Mumbai at NAARM, Hyderabad during December 18-20, 2013.
- ♦ **Dr. B.M.K. Raju**, Participated in 67th Annual Conference of Indian Society of Agricultural Statistics at Institute of Agricultural Sciences, Banaras Hindu University, Varanasi - 221 005, during December 18-20, 2013.
- ♦ **Dr. Minakshi Grover** Participated in National Symposium on Soil Biology and Ecology at UAS, Bangalore on 20 Dec., 2013.
- ♦ **Dr. B.M.K. Raju** Participated in the Statistics-2013 International Conference on 'Socio-Economic Challenges and Sustainable Solutions, at C.R.RAO AIMSCS, University of Hyderabad during December 28-31, 2013.

## Important Visitors

- ♦ The trainees of International Training programme on 'Rural Credit for poverty alleviation' visited CRIDA on 26th September, 2013. Twenty four Participants from Ghana, Nigeria, Thailand, Niger, Colombia, Iraq, Jordan, Zimbabwe and other countries interacted with scientists of CRIDA and gained orientation on dryland techniques.



- ◆ Trainees of International Programme on “Community Based Disaster Management Preparedness and coping strategies” from Afghanistan, Armenia, Bangladesh, Bhutan, Jordan, Mauritius, Nigeria, Oman, Srilanka, Tanzania, Tunisia, Uganda, Yemen & Zimbabwe visited

carried out at CRIDA. Later the trainees visited different laboratories and gained exposure on research facilities.

- ◆ During the period from July to December, 2013, a total number of 1006 Students have visited CRIDA from 15 colleges of different agricultural Universities i.e., Andhra



*Trainees at CRIDA museum*



*Visitors from NIRD on Sept. 2, 2013*



*Felicitating Dr.A.Padma Raju*

CRIDA on 2nd September, 2013. The participants were exposed to climate resilient agriculture technologies.

- ◆ 98th Batch of Foundation Course Trainees from NAARM visited CRIDA on 21st September, 2013. Dr. B. Venkateswarlu, Director, CRIDA addressed the gathering and gave a glimpse of research activities

Pradesh, Karnataka, Tamilnadu, Gujarat, Maharashtra and Arunachal Pradesh.

- ◆ The Indian Society of Agricultural Engineering - Andhra Pradesh chapter felicitated Dr. A. Padmaraju Garu, Honorable Vice - Chancellor, ANGRAU.

## Visits Abroad

Dr. Ch. Srinivasarao, Project Coordinator, AICRPDA participated 3 day workshop during 26-29 August, 2013, Kathmandu, Nepal in South Asia Target Region Implementation and Partnership Workshop of CGIAR Research Programme on Dryland Systems (CRP 1.1) “Integrated Agricultural Production Systems for the Poor and Vulnerable in Dry Areas” of ICARDA.

Deputation of Dr. Mohammed Osman, Principal Scientist, CRIDA, Hyderabad for participation in the South Asia Target Region Implementation and Partnership Workshop of CGIAR Research Programme on Dryland Systems (CRP 1.1) “Integrated Agricultural Production Systems for the Poor and Vulnerable in Dry Areas”, 27-28 August, 2013 at Kathmandu, Nepal.

Dr. B. Venkateswarlu, Director, CRIDA attended BRICS

Conference at Pretoria, South Africa as Member of High Level Delegation led by Shri Sharad Pawar, Hon'ble Union Minister of Agriculture during 28-29 October, 2013.

Dr. KV Rao, Principal Scientist (SWC Engg.) visited Australia (Western & South Australia) during 3rd – 16th November, 2013, to participate in the review meeting and field visit of experimental watersheds to study water management & Governance under the on-going ACIAR collaborative research project on “Impacts of Meso-scale watershed development in Andhra Pradesh”.

Dr. C.A. Rama Rao Participated in the Workshop on 'Institutions and policies for scaling out climate smart agriculture and prioritization tools for adaptation planning' organized by CCAFS at Colombo, Srilanka during December 2-5, 2013.

## Human Resource Development

Around 20 Associate Executives from WALAMTARI, Hyderabad, visited CRIDA on 25th July, 2013 for hands on training in Agrometeorological aspects.

### A Training Programme on Eddy Covariance:

A Training programme on Eddy covariance was organized at CRIDA, Hyderabad during 25-27 November, 2013. The

training programme imparted technical knowhow and skills to the trainees on Eddy Covariance technique.

### Model Training Courses

#### Model Training Course on "Climate Change"

A Model Training course on “Impact of Climate change on Rainfed agriculture and adaptation strategies” was organized

by TOT section from September 26-October 03, 2013, Eighteen trainees from twelve states participated in the training course. The course covered various aspects of climate change, its impact on rainfed agriculture, mitigation options, adaptation strategies, clean development mechanism, carbon trading and climate risk management.

### Model Training Course on “Farm Mechanization ”

A Model Training Course on “Mechanization in Dryland Agriculture” sponsored by DOE, Ministry of Agriculture, Government of India, New Delhi and organized during November 19-26, 2013. Seventeen trainees from eight states

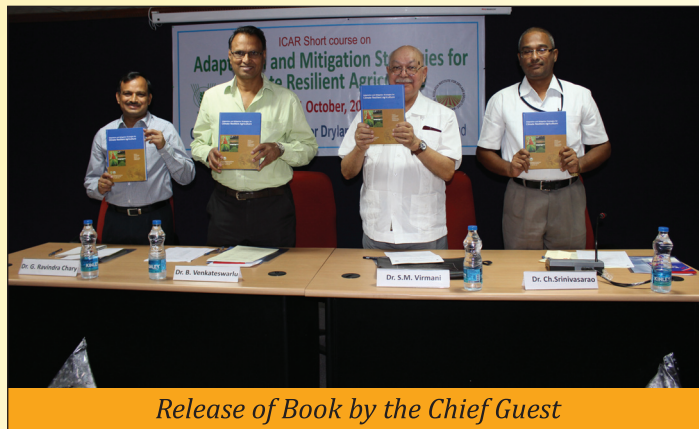


*Orientation of Trainees*

participated in the training course. The course covered various aspects of Mechanization in Dryland like energy use pattern and power availability, Gender issues, Mechanization in Rainfed Horticulture, application of IT tools, Custom Hiring Centres, Community based initiatives and automation in Dairy.

### ICAR Short Course

ICAR sponsored 10 day Short Course, from 22- 31 October, 2013 on Adaptation and Mitigation Strategies for Climate



*Release of Book by the Chief Guest*

Resilient Agriculture was conducted at CRIDA, Hyderabad. During the inaugural session, Dr. S.M. Virmani, former Principal Agro climatologist, ICRIASAT, was the Chief Guest Dr. G. Ravindra Chary, Principal Scientist (Agronomy) is the Course Director. 24 participants from ICAR institutes, SAUs and Climate Research Centres in Andhra Pradesh and Tamilnadu participated. During the course the participants were exposed to theory, practical's and field visit focused on agro climatic analysis, crop, soil, land and water management based adaptation and mitigation strategies. Dr.M.V.Rao, IAS,DG,NIRD, Hyderabad was the chief guest during plenary session.

### Guest lecture

Dr. D. Gangadhar Rao, Former Principal Scientist of CRIDA delivered a talk on 19th November, 2013. The topic was ‘The story behind the discovery of Higgs Boson (God Particle)’.

### Summer School on Agroforestry

Summer School on Agroforestry as a Strategy for Adaptation and Mitigation of Climate Change in Rainfed Areas was conducted in CRIDA during September 4-25, 2013 at CRIDA.

## Forthcoming Events

S.No.	Title of the event	Duration
1	Republic Day	January 26, 2014
2	Tribal Sub Plan (TSP) review workshop at Jagdalpur, AICRPDA centre	February 03-4, 2014
3	AICRPDA District level Stake holders meeting at Anantapur	Second week of February,2014
4	National Science Day	February 28, 2014
5	International Women's Day	March 8, 2014
6	CRIDA Foundation Day	April 12, 2014
7	World Environmental Day	June 5, 2014
8	District Level consultancy Meeting on "Dryland Technologies" at varanasi, AICRPDA centre	March 10, 2014
	District Level consultancy Meeting on "Dryland Technologies" at Solapur, AICRPDA centre	March 15, 2014



## Awards And Recognition

**CRIDA** received the **Fakruddin Ali Ahmed Award**. The award was given for the outstanding research in tribal farming systems by the team led by Dr. B. Venkateswarlu, Director CRIDA in association with Drs Sreenath Dixit, Md. Osman and KV Rao in five tribal districts of Andhra Pradesh as part of NAIP Component 3 sub-projects during the period 2007-2012 on the 85th Foundation Day of ICAR (16 July, 2013).

**Dr. K. Sammi Reddy**, Principal Scientist (Soil Science) received the 12th International Congress Commemoration Award of Indian Society of Soil Science (ISSS). The award was given by Dr. R. B. Singh, President, NAAS, New Delhi



*Dr. K. Sammi Reddy receiving award*

on 23 October 2013 during the Annual Convention of the ISSS at CAZRI, Jodhpur.

**Dr. K. Sammi Reddy**, Principal Scientist (Soil Science) elected as the Fellow of National Academy of Agricultural Sciences (NAAS), New Delhi.

**Dr. K. Sammi Reddy**, Principal Scientist (Soil Science) received the "FAI Golden Jubilee Award for Excellence" for the best work done in the field of 'Nutrient Management in Wheat'. The award was presented by Shri Sharad Pawar, Honourable Union Minister of Agriculture, Government of India during FAI Annual Seminar on 11 December 2013.



*Dr. Ch. Srinivasa Rao receiving the award*

**Dr. Ch. Srinivasa Rao**, Project Coordinator (AICRPDA) received a **Dhiru Morarjee Memorial Award** of FAI from Shri Sharad Pawar, Union Minister of Agriculture and Shri Srikant Jeena, Union Minister for Chemicals and Fertilizers on 11-12-13 at Hotel Ashoka, New Delhi.

**Meenakshi Grover**, Senior Scientist (Micro biology) is recognized as Associate Editor, World Journal of Microbiology and Biotechnology (Springer) w.e.f, Dec. 2013.

**Dr. M. Maheswari**, Head, Division of Crop Sciences received the **J.J. Chinoy Gold Medal Award-2013** for her outstanding research contribution in the field of **Plant Physiology**. The award was presented by the **Indian Society for Physiology**, New Delhi during the National Conference of Plant Physiology held at Directorate of Groundnut Research, Junagarh on December 13, 2013.

**Dr. M. Maheswari**, Head Division of Crop Sciences has been elected as the **Fellow** of the **Indian Society for Plant Physiology**, New Delhi on December 13, 2013 for her contributions in the field of **Plant Physiology & Cognate Sciences**.

## Personnel Information

### Transfers/ Promotions/Joinings

Name	Post	Effective Date
Dr. Sreenath Dixit	Selected as Zonal Project Director, Bangalore	06-01-2014
Sri K. V. G. K. Murthy	[Grade T.7/8 to T.9]	03-02-2012
Sri K. Surender Rao	[Grade T.7/8 to T.9]	01-07-2012
Dr. Manoranjan Kumar	Senior Scientist	July, 2012
Smt. N. Lakshmi Narsu	Personal Assistant to Private Secretary	31-08-2013
Dr. K. Nagasree	Senior Scientist	October, 2012
Dr. R VAdake	Senior Scientist	September, 2012



**Dr. Sammi Reddy,**

Principle Scientist  
appointed as Head D.R.M.

We wish him success in future endeavours.

Our hearty congratulations to all of them

## Retirement

Name	Designation	Effective Date
Mrs. G. Varalakshmi	Private Secretary	31.07.2013
Shri B. Chandra Mohan Reddy	Chief Technical Officer	31.08.2013
Shri T. Laxmaiah	Technical Officer	31.10.2013
Shri N. Dasarath	SSS	31.12.2013
Smt. Lachamma	SSS	31.12.2013

*Our best wishes to them for happy and peaceful retired life*

## Cultural and Welfare Activities

### Independence Day

The Independence Day was celebrated on August 15, 2013 with enthusiasm and gaiety. The director hoisted the flag and addressed the staff of CRIDA. He motivated the staff to work with commitment so as to help farmers during 2013 drought situation. Later Cash awards (CCS & CCRC) were distributed to the SSC toppers of CRIDA staff children on this occasion.



*Independence Day Celebration*

### Vanamahotsavam

CRIDA Cultural and Recreation Club organized a Vana Mahotsavam at Hayathnagar Research Farm of the Institute on November 21, 2013. 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. B. Venkateswarlu**, Director, CRIDA

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