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NEWS LETTER

Central Research Institute for Dryland Agriculture

January - June, 2012



From the Director's Desk....

Monsoon 2012

Monsoon is the key driver of Indian agriculture. Timely onset and uniform temporal and spatial distribution of rainfall during South-West monsoon is key for the success of Indian agriculture. CRIDA has been monitoring the progress of monsoon and its impact on crops and providing advisories on contingency planning from time to time. During 2012, South-West monsoon onset was delayed by 5-10 days in most states. Even upto 31st July several parts of the country have remained under deficit category. South-Karnataka, Saurashtra and Kutch, West Rajasthan, Madhya Maharashtra, Punjab & Haryana are experiencing deficit or scanty rainfall impacting sowing operations and standing crops in the field.

CRIDA has completed preparation of district-wise contingency plans for over 340 districts, most of which are under deficit rainfall. The Institute has provided these plans to all the stakeholders including the agricultural universities, state line departments and KVKs. CRIDA is also providing daily cumulative rainfall charts to all the senior officers of Ministry of Agriculture and a weekly contingency planning bulletin on the rainfall and crop situation in the country. These services have been well appreciated by all the stakeholders. The institute has made these services web-based. For daily rainfall updates and weekly bulletins please visit www.crida.in or www.nicra-icar.in.

B. VENKATESWARLU
Director

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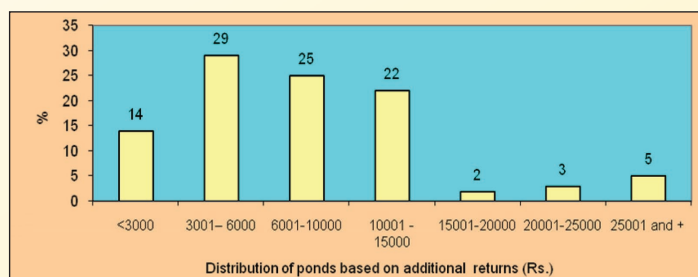
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RESEARCH HIGHLIGHTS

Water harvesting through Farm Ponds : An economic analysis

Farm ponds are important rain water harvesting structures useful for supplementary irrigation to rainfed crops. Economic viability of this technology has been assessed in Andhra Pradesh.

The extent and determinants of viability were examined using the data from 100 ponds in Anantapur district. Based on changes in cropping pattern and the yield gains attributed to the introduction of ponds, additional returns generated in the plots where ponds were located were computed. The results show that 14 out of 100 ponds generated an additional return of less than Rs.3000 and 10 ponds generated more than Rs.15000. Majority of ponds generated an additional return varying between Rs. 3000 and 6000. Assuming these returns would occur every year for a period of 15 years, the economic viability in terms of NPV and BC ratio was calculated. Thirty three out of 100 ponds gave an NPV of less than Rs.30000. It is interesting to note that four ponds recorded an NPV in excess of Rs. two lakhs and investment in 15 ponds was found to be unviable with a negative NPV. The BC ratio varied between 2-4 in a majority of ponds studied.



Distribution of farm ponds based on benefit-cost ratio

In order to examine the determinants of profitability, additional returns generated was regressed on independent variables, viz., size of the plot holding where the pond is located (ac), size of the pond (M3), change in cropping intensity (%), whether water is lifted to irrigate the crop, whether there is a bore well in the plot and number of fillings in the season. The results indicated that four variables, size of plot, size of pond, change in cropping pattern and use of water for irrigation were found to have significant positive effect on the profitability. Slope of the plot, presence of a bore well and number of fillings were not found to have significant effect. Overall it was found that larger the plot size it was more profitable. Highest returns are possible with high value horticultural crops.

SCIENTIFIC ACTIVITIES

Workshop on Land and Water Productivity

A National Workshop on ‘**Opportunities for Enhancing Land and Water Productivity in Rainfed Agriculture**’ - ‘**Policy and Institutional Options for Inclusive Agricultural Growth**’ was organized at CRIDA on 10.03.2012. It was chaired by Director, CRIDA and attended by social scientists and economists of ICAR and SAUs. The discussions revealed adoption levels of these technologies have to be increased through appropriate enabling mechanisms in terms of better awareness, improved input availability and favorable policies and institutions. Appropriate incentive structure must be identified and implemented for sustainable use of surface water in agriculture.



Discussions during workshop

IRC meeting

The Institute Research Council (IRC) meeting for 2012 was held on 23, 24, 25, 26 May and 15, 17 June, 2012. The meeting reviewed the progress of ongoing, institute, externally funded projects, and the progress of AICRPDA and AICRPAM. A total of 46 projects were concluded and 9 new projects were approved and 3 projects were extended. Three flagship programmes were identified for XII Plan viz. i) *In situ* and *Ex situ* water conservation, ii) NRM for enhancing productivity and profitability and iii) Rainwater management.

Consultation on Application Technologies for Harvested Rainwater in Ponds

A National consultation was held on “Application technologies for harvested rainwater in ponds” at CRIDA during 19-20th March, 2012. The participants included researchers, industry, innovative farmers, NGOs and administrators. During the two-day deliberations, the participants discussed various solutions for lifting harvested rainwater for applying as critical irrigation/life saving irrigation. These include Cycle-operated, solar powered and light weight lifting devices run by diesel. The highlight of

the consultation was the case study on series of farm ponds dug in Adilabad district under how low lift pumps were popularized in participation with farmers. The participants appreciated the diversity of ideas and solutions offered by different people across the country.



DDG, NRM addressing the participants

State level ICAR-SAU Interface Meeting

An ICAR-SAU-Line Department interface meeting was organized at CRIDA, Hyderabad on 21.04.2012 under the Chairmanship of Shri V. Nagi Reddy IAS, Principal Secretary (Agriculture) and Vice Chancellor, ANGRAU. The participants included 19 ICAR Institutes/Regional Stations; three State Agricultural Universities; 8 State Department officers related to Agriculture; 5 Central Government Departments and NABARD. All ICAR institutes

made presentations of available technologies and issues related to their upscaling in the state. The Principal Secretary and Commissioner (Agriculture) advised all institutes to prepare a list of promising technologies which can be upscaled in 2012-13 itself. Soil health management and farm mechanization were particularly emphasized.



Interface meeting in progress

Constitution of RAC

The Director General, ICAR has constituted a new Research Advisory Committee (RAC) for the Institute with Dr. M.C. Saxena, former Principal Scientist, ICARDA as Chairman and Drs.Y.S.Ramakrishna, A. Padma Raju, K.D. Singh and R.P. Singh, as members for a period of three years w.e.f.18.6.2012. CRIDA welcomes the committee.

NATIONAL INITIATIVE ON CLIMATE RESILIENT AGRICULTURE (NICRA)

First NICRA annual review workshop

The first Annual Workshop of the National Initiative on Climate Resilient Agriculture (NICRA) was organized at CRIDA, Hyderabad during 12-14 June, 2012. Dr.A.K.Singh, DDG (NRM), Dr.Y.P.Abrul, Chair of the Expert Committee and Dr.B.Venkateswarlu, Director, CRIDA addressed the inaugural session during which the research highlights and action plans for climate resilient agriculture for 100 vulnerable districts were released. The Workshop was attended by nearly 200 scientists from NARS system, other universities, IITs and NGOs who are partnering in different components of the Project. The work under strategic research, sponsored and competitive grant components were reviewed for 2011-12 and the action plan for 2012-13 and the approach for XII Plan were finalized.

The workshop was organized in five technical sessions covering the themes of (i) vulnerability and impact assessment. (ii) adaptation and mitigation through natural resources management, (iii) crop improvement for multiple abiotic stresses, (iv) pest and disease dynamics under changing climate and impact on pollinators (v) adaptation strategies in livestock and fisheries. The major recommendations emerged from the workshop are to develop strategies to reduce losses at the farm level when a climatic event like droughts, floods, cyclone and frost and focus more on developing and testing technologies which help farmers to cope with current climate variability, while we continue to assess the long term impacts of climate change through policy initiatives.



Various events during review workshop

NAIP NEWS

Brainstorming on Post Project Sustainability

A brainstorming session was organized by MARI at Warangal on 25th January, 2012 to discuss the post project sustainability of institutions created under NAIP during the past 4 ½ years. A large number of representatives from NGOs, government organizations and federations of SHGs and farmers'



Brainstorming session in progress

cooperatives participated and shared their experiences. The brainstorming session arrived at a protocol for all the partners of the project to follow while handing over the assets created under the project and also to manage the sustainability fund created as part of the project.

Project Completion Workshop

The NAIP component 3 sub project on sustainable rural livelihoods was formally concluded on 31st March, 2012 and a Closing Workshop was held on 29th March, 2012 at CRIDA. All the partners and CCMT members from CRIDA participated. Dr.Sreenath Dixit, CPI complimented all the project staff of CRIDA and farmers who willingly participated in making the



Project completion workshop-NAIP SRL3

project a success. Many recalled how initially it was difficult to comprehend the complexity of the project and how the flexibility and facilitation by the lead center made it easy for implementation. They were particularly impressed with the fairness and transparency with which the project was carried out. Many lauded the consortium approach which brought them in contact with other partner institutes. It was resolved that the successful outcomes from NAIP need to be mainstreamed into other projects by all partners.

NEWS FROM AICRPs

Workshop of AICRPAM - NICRA Project

A training workshop of AICRPAM - NICRA Project was held during 18-19 February 2012 at CRIDA, to the Agrometeorologists of AICRPAM and RAs/SRFs of NICRA. During the workshop, the activities to be undertaken under the NICRA project were discussed. The participants were exposed to tools and techniques of collecting data for different weather parameters, through the newly installed automatic weather stations.

- A Vetting Workshop on **'District level Contingency Plans'** was organized by Dr.MP. Jain, Chief Scientist, Indore at Rajmata Vijayaraje Scindia Krishi Viswa Vidyalaya (RVSKVV), Gwalior during 26-28 March 2012 to finalize the contingency plans of 25 districts in Malwa region of Madhya Pradesh.
- Training-cum-Workshop on "Extreme Rainfall Events Analysis for Maharashtra State" was held at CRIDA during

07-10 May 2012 for scientists of four AICRPAM centres, viz., Akola, Dapoli, Parbhani and Solapur of Maharashtra. It was decided that joint publication on extreme events in Maharashtra will be brought out based on this training.



Participants in the field

IMPORTANT EVENTS

Expert team visit to Anantapur

At the request of the public representation from A.P. state, a high level technical team was constituted by Secretary, DARE and D.G., ICAR to assess agricultural situation in Anantapur district of Andhra Pradesh and suggest measures to improve crop productivity, profitability, and livelihoods in a holistic manner. Under the chairmanship of Dr. A.K. Singh, Deputy Director General (NRM), ICAR, the team had extensive interactions with the farmers and public representatives to understand the underlying causes for stagnation of agricultural growth in the district and the associated technological and social factors and drafting recommendations. CRIDA served as the nodal point for



Interaction with different groups of stakeholders

this visit. This was followed by a review visit by Secretary, DARE and DG, ICAR wherein the draft recommendations were presented before public representatives, farmers' leaders, NGOs, scientists and department officers.

Based on this detailed exercise and a critical analysis of the performance of agriculture, horticulture, animal husbandry, irrigation and groundwater sectors in the district, the committee made several recommendations which need to be implemented in short term and medium term to improve production and incomes of farmers and landless. One of the salient recommendations was formulation of a holistic model project for development of this drought-prone district in the name of **project Ananta** for special funding under RKVY to the Government of India. The outcome of this pilot project can serve as a guide for undertaking similar development efforts in other drought-prone districts in the country, which remained vulnerable despite significant investments in the past.

Foundation Day

CRIDA Foundation Day was organized on 12.04.2012. The Foundation Day lecture was delivered by Dr. V.M. Mayande, hon'ble Vice Chancellor, PDKV, Akola on "Farm Mechanization in Rainfed Agriculture". On this occasion, CRIDA also felicitated 10 innovative farmers from across the Country who made significant contributions in agriculture and allied sectors. Mr. P. Pushpakar from administrative, Mr. KVGK Murthy from technical and Mr. Veeraiah from supporting staff categories were awarded as best workers in their categories.



Director felicitating farm innovators

PARTICIPATION IN MEETINGS / SEMINARS / SYMPOSIA

| Name of the Scientist | Workshop/Meeting/Seminar/symposia | Duration | Venue |
|---|---|------------------------|--|
| Dr.N.N.Reddy, Principal Scientist | National Dialogue on Climate Resilient Horticulture | 28-29, January 2012 | IIHR Bangalore |
| Dr.N.N.Reddy, Principal Scientist | National Seminar on "Sustainable Agriculture and Food Security : Challenges in Changing Climate" at CCS HAU, Hisar. | 27-28, March 2012 | CCS Haryana Agricultural University, Hisar |
| Dr. Ch Srinivasarao, Principal Scientist | NAAS brain storming session on Crop residue management and conservation agriculture | 16th April, 2012 | NAAS, New Delhi. |
| B.Venkateswarlu, Director, Dr. V.U.M. Rao, Project Coordinator, Dr GR. Maruthi Sankar, Project Coordinator (I/C) | XII plan meeting of NRM division | 27-28 April 2012 | New Delhi |
| B.Venkateswarlu, Director Dr.G. Ravindra Chary, Principal Scientist | National Workshop on Integrated Land Use Planning | 18-20 June 2012 | NIRD Hyderabad. |
| Dr. BMK Reddy, PC, KVK | Zonal workshop (Zone – V) for 2011-12 | 21-23 June, 2012 | Babaleshwar, Maharashtra |

IMPORTANT VISITORS

| Visitor(s) | Date(s) |
|---|------------|
| 23 member delegation of faculty and students from the Cornell University along with Indian students and faculty from TNAU Coimbatore, BHU Varanasi and SVPUAT, Meerut | 13.01.2012 |
| 25 trainees from 14 countries of NIRD International Training Programme (ITEC-SCAPP) | 23.01.2012 |
| Dr. Javed Rizvi, Country Programme Manager (Afghanistan), ICARDA | 01.03.2012 |
| Padmashree Dr. M.V. Rao, Former spl DG(ICAR) | 21.05.2012 |
| Shri Siraj Hussain, IAS, Additional Secretary, DAC | 27.06.2012 |



Visit of Cornell University faculty and student delegation



International trainees from NIRD interacting with CRIDA scientists

GUEST LECTURES

Prof. Dr T K Shivdas from Cochin on the “Use of Sensors and their calibration in agriculture” on January 17, 2012.

“Evapotranspiration measurement using Eddy covariance technique” by M/S Campbell Instruments, on 8.5.2012.

Dr. K.P.C. Rao, ICRAF, on “New tools and techniques in Climate Change Research” on 7th June, 2012.

VISITS ABROAD

Ch. Srinivasa Rao visited Dhaka, Bangladesh to attend FAO workshop on Carbon balance models during 6-8 February, 2012.

Dr.J.V.N.S. Prasad, Senior Scientist (Agronomy) participated in the “Carbon Footprint Assessment Training and Climate Change Research Planning” workshop during April 23-27, 2012 at ICRAF, Nairobi.

Dr. P. Vijaya Kumar, Senior Scientist (Agricultural Meteorology) to Kandy, Sri Lanka for attending Second Training Workshop on cropping systems modeling from 26 May – 01 June, 2012.

Dr. G. Prathibha, Sr. Scientist (Agronomy) participated in South Asia Regional Fulbright Alumni Conference during 27-29 April, 2012 at Khatmandu, Nepal.

Dr. B. Venkateswarlu, Director, CRIDA visited Sri Lanka to attend IWMI-ICAR Steering Committee Meeting from 20-24 June, 2012 at Colombo.

Drs. G.R. Maruthi Sankar, M. Osman and Sreenath Dixit, visited Dubai for participation in CGIAR Research Programme Workshop on Dryland Systems (CRP 1.1) during 25-27 June, 2012.

HUMAN RESOSURCE DEVELOPMENT

Training on “DSSAT Model” for Rice

AICRPAM conducted Training on “DSSAT Model” for Rice to the Agrometeorologists of AICRPAM and scientists from selected ICAR Institutes at CRIDA, Hyderabad during 13-17 February 2012.

Short Courses on “Database Analysis and Management

Two Short Courses on “Database Analysis and Management in Climate Variability and Rainfed Agriculture” under NICRA was organized by AICPRDA during 21- 25 February, 2012 and 27th February to 2nd March, 2012.



Participants of Organic farming

The training focused on concepts of database management, Weathercock software, Remote sensing and GIS tools, updation

and maintenance of the designed web pages, economic analysis of resource conservation technologies, and updating of Agricultural Field Experimental Information Systems (AFEIS).

Training Programme on Integrated Crop Management

A Training Course on “Integrated Nutrient, Pest and Disease Management in Dryland Crops” sponsored by ICAR, New Delhi was organized during February 28 to March 12, 2012. This programme was attended by 24 participants from 15 districts of Andhra Pradesh, one participant from Chhatisgarh, one from Karnataka, two from Punjab, two from Rajasthan, one from TamilNadu and one from Uttarakhand.

Training programmes on “Use of High Science Tools”

Two Capacity building training programmes on “Use of High

Science Tools and Methodologies in Planning, Implementation & Monitoring of Watershed Programmes under IWMP ” Sponsored by Ministry of Rural Development, Govt. of India, New Delhi were organized from February 3-9, 2012 and March 13-19, 2012. The focus was to empower district/block level officers on use of modern tools and techniques in IWMP.

Training on Organic farming

A three day Training Programme on Organic Farming was organized for officers of Tobacco Board during 26-28 June, 2012. Twenty four officials from Karnataka and A.P were imparted training on concepts and principles of organic farming, role of bio products in pest and nutrient management, organic tobacco production and organic certification guidelines.

FORTHCOMING EVENTS

| Title of the event | Duration |
|---|---------------------------------|
| DST Sponsored Training Program on “Crop - Weather Dynamics” | August 24 to September 13, 2012 |
| ICAR Sponsored 10 days Short Course on “Conservation Agriculture Strategies for Resource Conservation and Mitigation of Climate Change” | September 24-October 3, 2012 |
| ICAR Sponsored 10 days Short Course on “Modern Monitoring Tools for Enhanced Resource Use Efficiency in Rainfed Agriculture” | October 4-13, 2012 |
| Training programme on “Organic Farming & Rainwater Harvesting and utilization” to officers of the Tobacco board | October 16-22, 2012 |
| MTC on “Impact of Climate Change in Rainfed Agriculture and Adaptation Strategies” | October 30 to November 5, 2012 |

For details please visit the: www.crida.in

AWARDS AND RECOGNITION

Commendation Medal received by Dr.K.Srinivas Reddy, Principal Scientist (SWCE), at 46th ISAE Annual Convention and International Symposium on grain storage held at GBPUAT, Pantnagar. He also received ISAE best chapter award.

‘Best Research Paper Award’ for the paper entitled “Trends in occurrence of extreme rainfall events over India” by AVMS Rao, et.al. during National Seminar on Sustainable Agriculture and Food Security: Challenges in Climate Change, CCS Haryana Agricultural University, Hisar on 27-28 March, 2012.

Recognition : VUM Rao, Project Coordinator (Ag. Met.) has been nominated by Department of Agriculture & Cooperation, Government of India as Member, Expert Committee for implementation of the Hail Control System in the State of Himachal Pradesh.

VUM Rao, Project Coordinator (Ag. Met.) has been nominated by Department of Science & Technology, to coordinate SERB School on “Agrometeorological Aspects of Extreme Weather Events” to be conducted at CRIDA, Hyderabad under HRD in Atmospheric Sciences.

Dr.N.N.Reddy was selected as **Fellow of Horticulture Society of India (FHSI)**

INFRASTRUCTURE DEVELOPMENT & FACILITIES

Automatic weather stations : Installation of AWS in 100 KVKs was completed under NICRA. Real time weather data on 8 parameters from all these 100 KVKs is being received at CRIDA Central Server. Current data can be viewed at AICRPAM-NICRA-AWS in CRIDA website.

Co₂ Growth chambers : Five Growth chambers (temp Co₂, humidity) and one walk-in plant growth chamber were commissioned in May-June, 2012 under NICRA as a central facility at CRIDA.

De mineralized (DM) water plant : A de mineralized (DM) water plant set up in central growth chambers facility under NICRA became functional on 10.5.2012.

PERSONNEL INFORMATION

Appointments / Transfers / Joining / Promotion

| Name | Transferred/ Joined Promoted/ Appointed | Date w.e.f |
|---|---|-------------|
| Dr P.K. Mishra, Project Coordinator (Dryland) | Selected as Director, CS&WCR&TI, Dehradun | 17.01.2012 |
| Shri Y.Venkatesha Reddy, Technical Officer, T-6 | Transferred to NBSS &LUP, Regional Centre, Bangalore | March, 2012 |
| Dr. Sammi Reddy, Principal Scientist | Transferred from IISS, Bhopal | 23.05.2012 |
| Dr.(Mrs) R. Rejani, Scientist (Sr.Sc.,) | Transferred from Directorate of Cashew Research, Puttur | 07.06.2012 |
| Shri K. Venkanna | Promoted to T(7/8) | |
| Shri R. Jainender | Promoted to T(7/8) | |
| Smt. Pushpalatha | Promoted to T(7/8) | |

Our Hearty Congratulations to all of them

Retirement

| Name | Designation | Effective date |
|--------------------------|--------------------------------------|----------------|
| Smt A.Prem Kumari (VRS) | AAO | 29.02.2012 |
| Sri M.Pentaiah | SSS | 29.02.2012 |
| Sri T.Madhusudhana Swamy | T.7/8 | 31.03.2012 |
| Shri A. Jangaiah | SSS | 31.03.2012 |
| Dr P.R.Reddy | Principal Scientist (Plant Breeding) | 30.04.2012 |
| Smt. Y. Padmini | Private Secretary | 30.06.2012 |
| Shri S. Gnaneswar | Assistant | 30.06.2012 |
| Sri V.Sagar Reddy | Assistant | 30.06.2012 |
| Sri Ch.N. Murthy | Assistant | 30.06.2012 |

Our best wishes to them for happy and peaceful retired life

Obituary

Mr.K. Venkata Chari, Assistant, passed away on March 10, 2012 and Mr. Khadar, SSS passed away on June 11, 2012. All the CRIDA staff deeply mourn and express their condolences to the bereaved family.

CULTURAL AND WELFARE ACTIVITIES

Sports meet

CRIDA participated in ICAR Southern Zone Sports Meet at NAARM, Hyderabad during February 27 to March 2, 2012 and won second place in Table Tennis (men). The team consisted of Mr. K. Surender Rao, (Captain), Dr. Y.G. Prasad, Dr. N.N. Reddy, Dr. G. Rajeswara Rao. Mr. Mukund got second prize in cycling.

Republic Day

CRIDA celebrated 63rd Republic Day on January 26, 2012 with enthusiasm and gaiety. Director hoisted the National flag and addressed the gathering. On the occasion, four members of CRIDA staff who completed 25 years of service were honoured with Certificates by the Director. He motivated the staff with his message to work with commitment and team spirit.

Health awareness programme

To generate health awareness among staff, a lecture on cardiac problems was delivered by Dr. Rajeev Garg, M.D. (Med). DNB (Cardiology), MNAMS Interventional Cardiologist, Yashoda Hospital, Malakpet on 11.4.2012.



Director's message to CRIDA staff on Republic day

Published by : Director, CRIDA
Editorial Board : **Chairman** : Dr. B.Venkateswarlu, Director
 Dr. (Mrs.) K. Nagasree, Scientist (Sr.Sc.)
Photographs : Mr. K.Surender Rao, Sr. Technical officer



Central Research Institute for Dryland Agriculture

Website: www.crida.in

BOOK-POST

To
