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# NEWSLETTER

ICAR-Central Research Institute for Dryland Agriculture

July-December, 2017

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

### Strategies for Doubling Farmers' Income in Rainfed Regions of the Country

Rainfed agriculture with nearly 53 per cent of the cultivated area contributes to 40 per cent of country's food production. Nearly 83% of the area under pulses, 85% of the area under coarse cereals, 70% of the area under oilseeds and 42% of the area under rice is rainfed. Rainfed regions are home to about 40% of the human and 60% of the livestock population and the performance of rainfed agriculture is critical to achieve and sustain higher growth in agriculture, enhance incomes and improve livelihoods.

The productivity of several rainfed crops is around 1 t/ha and the adoption and diffusion of key rainfed technologies is still low resulting in large yield gaps between research stations and farmers' fields. Decline in the size of the holdings, continuous and unabated land degradation, widespread nutrient deficiencies, increasing climatic variability and climate change poses new challenges in the form of deficit rainfall, droughts and floods impacting the productivity and profitability. Besides, large livestock population inhabiting the rainfed regions require nutrient rich fodder and the demand and supply of fodder is widening. By 2025, the deficits will be to the tune of 65% in case of green fodder and 25% in case of dry fodder. The real incomes of the farmers are declining due to growing labour and input costs.

In order to achieve doubling of farmers' income, besides meeting food and nutritional security of the growing population, enhancing the productivity of crops as well as an accelerated growth of livestock, fishery and horticulture sub-sectors will be required in rainfed areas. The short-term strategy would be deployment of location specific proven rainfed technologies depending on the resource endowments for bridging the yield gaps, cropping intensification in medium to high rainfall regions with appropriate water harvesting and efficient use, diversification of agriculture at farm level. Emphasis on strengthening of the farming system and enhancing income from livestock component, focus on market intelligence and dissemination of market information is key for enhancing income at farm. Upscaling of climate resilient integrated farming system modules with diversifying enterprises with high farm income is an essential strategy particularly for small and marginal farmers.

The medium term strategy would be on high value crops and commodities including horticulture, protected cultivation of high value crops, value chain development for rainfed crops, capacity building of communities on market intelligence, skill up-gradation towards value addition, cost minimization by way of establishment of farmers producers groups, and risk minimization by way of providing access to water and insurance. For long-term sustainable agriculture, building

soil organic carbon and promotion of application of organic manures and crop residues with reduced tillage to improve soil health is needed.

These strategies have to be implemented in a system mode in association with all the relevant stakeholders so as to establish scalable and evidence based models for doubling of income for various rainfed agro-ecosystems in the country.

The action plan need to be implemented in a mission mode pattern by DAC&FW and State line departments by converging with ongoing Central (PMKSY, PMPKVY, MGNREGA, RKVY, PMFBY, etc) and State (eg. Krishi Bhagya program of Karnataka, PantaSanjivani of Andhra Pradesh, PoCRA of Maharashtra, drought management program of Odisha, TSMIP of Telangana etc) programs. This may require adequate fund allocation and manpower. The focus should also be on capacity building/skill development of all relevant stakeholders at various levels. ICAR-CRIDA along with network partners through AICRPDA, AICRPAM, NICRA and SAUs would contribute for implementing the mission mode program through technical backstopping.



**Dr. K. Sammi Reddy**

**K. Sammi Reddy**

Director (Acting), CRIDA

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## New Research Initiatives

### Development of Microbial Consortia for Drought Tolerance in Rainfed Crops

Plant beneficial microorganisms have great potential to enhance the drought tolerance and crop productivity. They exhibit variety of plant growth promoting characteristics, which help in modifying the physiological responses to water scarcity and enhances the survival and growth of crop plants. Combination of microbial cultures potentially aid in multiple functions, which are not possible otherwise. Since the constituent individual species perform different functions such as nitrogen fixation, phosphorus solubilization, drought tolerance etc. which gives

additive benefit for crop growth and development. At ICAR-CRIDA, a project entitled 'Development of microbial consortia for drought tolerance in rainfed crops' has been initiated in collaboration with AICRP on Dryland Agriculture to evaluate microbial consortia already developed at CRIDA under different rainfed regions of the country and to identify potential isolates/consortia of microorganisms if any for drought tolerance and plant growth promotion from native soils. This study would help in characterizing the location specific effective consortia that could be used to improve plant growth and yield under drought stress conditions.

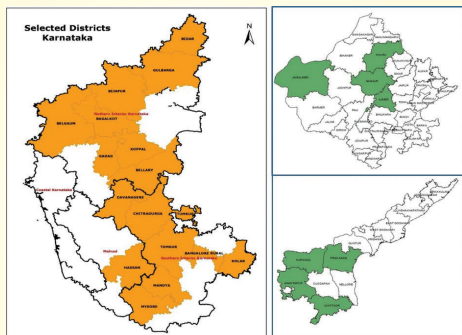
## Research Highlights

### District Action Plans for Drought Proofing

ICAR-CRIDA has been given the responsibility to develop district action plans for drought proofing for 24 selected districts in 3 states i.e Karnataka (16), Andhra Pradesh (4), Rajasthan (4).

The plans being developed in association with participation of district level officials of different line departments including agriculture, horticulture, animal husbandry, irrigation, groundwater and rural development and KVKs and state agriculture universities.

A common template has been prepared by ICAR-CRIDA and circulated to all districts to collect the relevant information on all sectors covering climate information, crops, animals, water resources availability and prioritisation basis to identify the crops/horticulture systems/ livestock systems to assess the vulnerability and the possible interventions in



terms of water management, watershed activities and crop based interventions for inclusion in developmental programmes. Capacity building workshops were organised for 3 states separately on the template and review meetings are also completed for district level officials.

### Farmers FIRST Project

Farmers FIRST project on "Farmer Centric Natural Resource Development for Socio- Economic Empowerment in Rainfed areas of Southern Telangana Region" being implemented since October, 2016 in Pudur mandal of Vikarabad district of Telangana State in a cluster of four villages namely: Thirumalapur, Rakamcharla, Pudurgurthy and Devanonguda comprising 400 households. Based on PRA and baseline survey information, an



*Co-4 fodder in the farmer's field*

action plan and technology package for the area has been implemented. The technology package modules comprised of soil and water conservation, crops and cropping systems, horticulture, livestock, farm mechanization and socio-economic studies. Development of model irrigation system, vegetable nursery raising at farmers level utilizing portraits with cocopeat; seed and shade nets, backyard poultry; mineral supplementation; crop residue management by making total mixed ration and use of chaff cutter; ram lamb technology; fodder technology var.CO- 4 series were some of interventions carried out in the villages in participatory mode.



## Unreaped Yield Potentials of Major Rainfed Crops

A Decision Support System (DSS) has been developed which can be hosted online. The DSS accommodates 15 rainfed crops. For a selected crop and district, the DSS identifies model district having agro-climatic features similar to target district and provides potential yield achieved by model district. It further explores the scope for bridging the yield gap with adoption of HYVs

and proper nutrient management. Some validation checks were incorporated for nutrient use. Testing is being done for hosting the application on CRIDA server. Yield efficiency of a district was assessed under rainfed conditions by building a composite index. The index was built by combining crop-wise efficiencies (20 crops) using area sown under a crop as weight. There were 60 districts which have potential for doubling of yield under rainfed production system.

## Scientific Activities

### Orientation Workshop on Drought Management

An Orientation Workshop on “Drought Management in Odisha” at Watershed Mission Building, Bhubaneswar was organized on 7<sup>th</sup> July, 2017 by Department of Agriculture and Farmers’ Empowerment, Govt. of Odisha, involving all line departments. The workshop was attended by Director, CRIDA and Scientist representatives from CRIDA, IIWM and OUA&T. The meeting was chaired by Smt. Sujata Kartikeyan, Commissioner cum Director, Odisha Watershed Development Mission. Dr. K. Sammi Reddy, Acting Director, ICAR-CRIDA in his opening remarks, appraised the delegates about short, medium and long-term action plans of Drought management to be taken up and role of various stakeholders in carrying out the MoU. Two presentations were made, first by Dr. P. Vijaya Kumar, ICAR-CRIDA on the detailed approach for drought management and the other by Dr. G. Kar of ICAR-IIWM on Mitigation Strategies. Deliberations were made on identification of blocks which are vulnerable to drought based on data available for selected parameters. Further, stress on inclusion of socio-economic parameters was laid, as Odisha is lagging behind in these aspects though it has better natural resources. A core group was formed to work out the methodology of prioritizing blocks for drought



*Orientation Workshop on Drought Management in Odisha*

management. Smt. Sujata suggested for development of detailed technical programme for the selected blocks at the earliest to initiate the activities and also for monitoring and evaluation of the Programme by ICAR and SAU.

### Institute Advisory Committee (IAC) Meeting under Farmers FIRST Project

Institute Advisory Committee (IAC) under Farmers FIRST Project was conducted on 26<sup>th</sup> July, 2017 at ICAR-CRIDA, under the chairmanship of Dr. K. Sammi Reddy, Director (Acting), ICAR-CRIDA in the presence of Dr. Y.G. Prasad, Director, ICAR-ATARI (Zone-X), Smt. S.V. Bharati, ADA, Vikarabad Dist., Ms. Vijayanti, HO, Parigi division, Dr. G. Nirmala, PI and all Co-PIs of the Farmers FIRST Project. A brief presentation on activities of project was made by Dr. G. Nirmala, PI which included the progress of work done and action plans for the year 2017-18. Some suggestions made by official includes to sum up each parameter of survey of 400 households in 4 villages, establishment of fodder bank, seed bank and IFS module in each village.



*Institute Advisory Committee (IAC) under Farmer FIRST Project*

### Interface Meeting on Agriculture Contingencies

An interface meeting was organised on 8<sup>th</sup> August, 2017 at ICAR-CRIDA, Hyderabad, to assess the prevailing crop condition due

to deficient rains in Telangana state under the chairmanship of Sri Parthasarathi, Agriculture Prin. Secretary, Govt of Telangana which was attended by District Level Officials and representatives of various institutes in Hyderabad.

The rainfall for Southwest monsoon 2017, was predicted to be normal for the entire state. Rainfall during June month observed to be very good with majority mandals receiving normal to large excess rainfall in the state. A total of 264 mandals out of 584 mandals in the state received large excess rainfall. Only 63 mandals received deficient (59 mandals) to large deficient (4 mandals) rains in the state.

Contingency measures to be taken up under the present condition were discussed. An assessment of available water in major, medium and minor tanks was also discussed. District level officials were advised to be cautious and also requested to monitor the emerging pests for cotton and other crops and requested to issue timely advisories to farmers using electronic media.



*Interface Meeting*

## Standing Technical Committee (STC) Meeting of National Mission for Sustainable Agriculture (NMSA).

The Standing Technical Committee (STC) meeting of National Mission for Sustainable Agriculture (NMSA) was held on 8<sup>th</sup> September, 2017 at ICAR-CRIDA, Hyderabad under the Chairmanship of Dr.K. Sammi Reddy, Chairman, STC & Director, ICAR-



*Meeting in progress*

CRIDA. Sri B.V.N. Rao, Deputy Commissioner, Department of Agriculture, Cooperation & Farmers Welfare gave a brief on the importance of the pilot research projects being implemented by the various ICAR institutes sanctioned under NMSA.

The committee reviewed these projects and suggested to develop Climate Resilient Farming System models. The committee advised to develop a withdrawal strategy for maintenance of assets created under the project and the outcome of the projects should indicate how the interventions of the project would contribute towards the vision of doubling of the farmers' income and reducing the risk due to extreme climate events.

## Hindi Fortnight Celebration

The Hindi Fortnight was organized from 1-14 September, 2017. On this occasion Hindi Noting Drafting, Hindi-English technical, terminology, Hindi competitions and many others were organized. Winners were awarded with cash prizes on the concluding day by Director, CRIDA.



*Hindi Fortnight Celebration*

## Field Institute Research Council (IRC) Meeting

Field Institute Research Council (IRC) Meeting for 2017-18 was held on 21<sup>st</sup> September, 2017 at Gunegal Research Farm (GRF) and 27<sup>th</sup> September, 2017 at Hayathnagar Research Farm (HRF) under the chairmanship of Dr. K. Sammi Reddy, Director (Acting). The chairman IRC, Dr.K.Sammi Reddy, Project coordinators, Heads of Divisions/Sections and scientists visited various experiments and discussed thoroughly on various treatment effects. Various suggestions like displaying of the experimental and treatment boards at the experimental site, periodical



*Dr.K.Sammi Reddy, Director (Acting) visited various experimental plots during Field IRC*



monitoring of soil moisture in CA related experiments, correlation of rainfall amount, rainy days and crop were made in Field IRC.

### Quinquennial Review Team (QRT) Meeting

A two-day Quinquennial Review Team (QRT) meeting was organized at ICAR-CRIDA, Hyderabad during 20-21 December, 2017 under the Chairmanship of Dr. J.C. Katyal, Former VC, HAU, Hisar & Ex. DDG (Edn.), ICAR. The meeting was attended by Dr. V.M. Mayande, Former VC, PDKV, Akola; Dr. A. M. Shekh, Former VC, AAU Anand; Dr. V.S. Korikanthimath, Former Director, ICAR-CCARI, Goa; Dr. S.D. Gorantiwar, Head, (Dept. of IDE), MPKV, Rahuri and Dr. Rajender Parsad, Principal Scientist, ICAR-IASRI. Dr. K. Sammi Reddy, in his welcome

address briefed the members about historical background of the institute, organizational structure, achievements in brief. The QRT members appreciated the efforts of ICAR- CRIDA and recommended inter-divisional approach for carrying out research. An interaction session was also organized with the scientists of the institute.



QRT meeting in progress



Interaction session with scientists

## Technology Transfer

### Exposure Visit under Farmers FIRST Project

An exposure visit was conducted for nearly 80 farmers from Devoniguda and Rakamcherla villages of Pudur cluster, Vikarabad district, Telangana state on 30<sup>th</sup> August, 2017 to expose the farmers to the horticulture exhibition which has been organized at Peoples plaza, Necklace road, Hyderabad by the State Department of Horticulture and Sericulture, Government of Telangana. During the visit the farmers were exposed to various horticultural technologies. A technical session was arranged on horticulture schemes of department and subsidies and prospects of organic farming in vegetable cultivation, and best management in vegetables particularly chillies which is grown by the farmers. The exposure visit provided farmers an opportunity to meet promoters of organic farming, medicinal and aromatic products, Bonsai practitioners etc.

distribute improved implements to the farmers, in the awareness programme organized in Rangareddy district. Dr. K. Sammi Reddy, Director (Acting) emphasized the need of various improved implements and machinery and presented machines to the selected beneficiaries. CRIDA Farm machinery team under the guidance of Dr. I. Srinivas conducted demonstrations to farming community.

### Participation of Farmers in National Workshop

Farmers from Pudur cluster under FFP project participated in 'A National Workshop on Doubling Farmers Income' from 22-23 December, 2017 at ICAR-NAARM. Feedback and suggestions on technology generation and dissemination for doubling farmers' income were provided to Telangana farmers during the meet.

### Farm Implements Distribution to Tribal Farmers

In the month of October, 2017 two programmes were organized in Kothwalguda cluster of Adilabad district and another in Yellamma thanda cluster of Rangareddy district (27<sup>th</sup> October, 2017) to create awareness among tribal farmers and to



Participation of farmers in National Workshop



Dr. K. Sammi Reddy, Director (Acting) distributing power sprayers to farmers of Rangareddy Cluster



Adilabad cluster village farmers display power sprayers received from CRIDA

### Mera Gaon Mera Gaurav (MGMG) Activities

Teams of Scientists from CRIDA have visited villages of Adilabad and Rangareddy districts in Telangana state under MGMG programme during July to December, 2017. During the period the following activities were undertaken in the programme:

Districts	Villages	Activities
Adilabad	Seetagondi gram panchayat: Chinna Malkapur, Pedda Malkapur, Kothwalguda and Garkampet	Demonstration and distribution of ten 5-hp pump sets and power sprayers to eligible beneficiaries, acquired under TSP plan
Rangareddy	Yellamthanda, Dadipallithanda, Venkateswarthanda and Rangapur	Distribution of power sprayers
Nalgonda	Kothathanda, Boringthanthanda, Lakma thanda	Voice based Agro-advisories

### National Nutrition Week Celebration

ICAR - KVK, Ranga Reddy district, CRIDA organized National Nutrition Week from 1 - 7 September, 2017 in the KVK adopted villages Narrepally and Gummadivelli. The theme of the event envisaged by the Govt. of India was "Better health and Improved diet in Infants and children". In Narrepally village, the programme was conducted on 6<sup>th</sup> September, 2017, where about 200 farm women, farmers and Anganwadi teachers attended the programme. Dr. V. Maruthi, Head KVK emphasized the traditional diets, their importance in nutrition to rural women. Smt. Shantisree, ICDS CDPO and chief guest presented a detailed picture of Nutritional programme for women nutritive value of synthetic diets nutritional disorders etc. In Gummadivelli, Kandukur Mandal, Ranga Reddy District the National Nutrition Week was celebrated on 7<sup>th</sup> September, 2017. Around 200 farm women attended the programme. Sri M.Babu Sarpanch, Sri Rameshwara Rao, District Training Officer, Zilla Parishad, Smt. Shobana CDPO, Kandukur mandal participated in the programme as Chief guests. Nutritional aspects of farm women and nutrition requirements were the topics of discussion during the programme.

### Field Day on Usage of Agricultural Implements

ICAR-CRIDA KVK has conducted field day and an awareness programme on usage of agricultural Implements in field demonstrations on 18<sup>th</sup> September, 2017 at Gummadivelly village, Kandukur mandal, Ranga Reddy District. Dr. V. Maruthi, Head, KVK briefed the farmers on the need to adopt mechanization in all operations for cost reduction and yield enhancement with different implements and other technologies. Dr. B. Sanjeeva Reddy, Principal Scientist and OIC of farm Implements ICAR-CRIDA emphasized on CRIDA developed implements usage and availability. Er S. Vijayakumar, SMS (Agricultural Engineering), organized 30 field demonstrations in two villages with seed-cum-fertilizer planter and the performance of demonstrated farmer fields with comparison to farmers' method and was found

to be effective. About 67 farmers participated in the field day programme from two villages Gummadavelly and Kolanguda villages. The Farmers were educated on the improved production technologies through interactions and brochure prepared in local language. An exhibition was also arranged during this occasion to exhibit different agricultural implements developed from ICAR-CRIDA.

### Technology Week

Technology week was organised at KVK-Ranga Reddy, ICAR-CRIDA, Hyderabad during 14-16 October, 2017. On the first day Dr.V.Maruthi, Head, KVK and Principal Scientist chaired the event and the Chief Guest of the day was Er.M.Mallikarjuna Swamy, State Technical Expert, State Level Nodal Agency, PMKSY and WDC, Telangana State, Guest of Honour was Dr.K.Dattatri, Principal Scientist, ICAR-ATARI, Hyderabad. Exhibitions were organized on farm machinery, livestock medicines, feed mixtures, bio-products, micro-irrigation, fodder cafeteria, books and literature on agriculture.

### National Women Farmers' Day

National Women Farmers' Day (Mahila Kisan Divas) was organized by Krishi Vigyan Kendra, CRIDA on 15.10.2017 at Hayathnagar Research Farm with the participation of 250 women farmers from Ranga Reddy district. Dr. V. Maruthi, Head, KVK and Principal Scientist briefed the importance of the day and women's role in agriculture.



National womens day celebration at CRIDA-KVK.

Dr. K. Uma Maheswari, Head, PGRC, PJTSAU in her lecture discussed about the problems faced by women in farm activities. Dr. Sarah Kamala, Professor, AICRP (H.Sc.) discussed the issues related to drudgery reduction technologies for farm women, farm women's role and problems in agriculture. Dr. K. Sammi Reddy, Director (Acting), ICAR-CRIDA, Chief Guest of the programme addressed the women farmers by highlighting the KVK role in women empowerment, drudgery management and nutritional aspects. Dr. Y.G. Prasad, Director, ICAR-ATARI, Guest of Honour in his address sought the farmers to utilize the services of KVK by women farmers related to nutrition garden, drudgery equipment, trainings on farm and non-farm activities. Live demonstrations, exhibits, technical sessions and farmer interactions with the experts were organized.



## National Agriculture Education Day

**ICAR-CRIDA** celebrated National Agriculture Education Day on 3<sup>rd</sup> December, 2017 by organizing essay writing competitions for Class VIII & IX students and painting competitions for Class VI & VII students to mark the birth anniversary of first President of Independent India and Union Minister of Agriculture, Bharat Ratna (Late) Dr. Rajendra Prasad. Total 36 students from 12 different Kendriya Vidyalaya Schools located in Hyderabad and Secunderabad participated in the competitions. Dr. R.Nagarjuna Kumar, Scientist, briefed about the celebrations of Nation Agriculture Education Day. Dr. K. Sammi Reddy, Director (Acting), ICAR-CRIDA distributed prizes to the winners. In his address, he advised the students to choose agriculture science as a career option and also said that agriculture as a discipline which has huge opportunities and awareness of this has to be created through such science based programmes.



*National Agriculture Education Day Celebration*



**KVK-CRIDA** celebrated Agriculture Education Day on 3<sup>rd</sup> December, 2017 at KVK, Hayathnagar Research Farm. A batch of 164 school children from Ravindrabharathi School and St. Patrick School of 8<sup>th</sup> -10<sup>th</sup> standard actively participated. These school children were exposed to live field crops technologies, fodder cafeteria, farm mechanization, agricultural implements, livestock demonstrations etc. and also emphasized the importance of soil health status for agriculture crops and importance of soil by demonstration of soil testing in the laboratory. A debate competition on "Importance of organic Agriculture" was organized for students. Dr. V. Maruthi, Head, KVK and Principal Scientist and KVK staff interacted with children on various issues concerned to Agriculture education, followed by the distribution of appreciation certificates for the winners.

## World Soil Day Celebrations

**ICAR-CRIDA** celebrate World Soil Day on 5<sup>th</sup> December, 2017 at Rakamcharla village, Pudur Mandal, Vikarabad district under the Chairmanship of Dr. K. Sammi Reddy, Director (Acting), ICAR-CRIDA, Hyderabad. Around 200 farmers from the villages of Pudur cluster attended the Soil Health Card distribution program. Dr. G.Nirmala, Principal Scientist, Head, TOT welcomed the participants and explained the objectives of the programme. Shri Ram Mohan, Agricultural Officer from the Agriculture department

oriented the farmers about soil testing facility, procedure of soil sample collection, analysis and usage of recommendations for higher crop yields. Sri. Pentaiah, Village Sarpanch thanked the CRIDA efforts in preparation and distribution of soil health cards and requested for similar cooperation and support in future. CRIDA scientists and extension functionaries from Agriculture department and Horticulture department interacted with the farmers. 140 Soil Health Cards were distributed with the crop related recommendations to the farmers of Rakamcharla, Tirumalapur and Devanoniguda villages of Pudur cluster under Farmers' First Project. Dr. K. Sammi Reddy, Director (Acting), ICAR-CRIDA explained the usage of Soil Health Cards and its



*World Soil Day Celebration at Rakamcharla Village*

interpretation for effective nutrient management for sustainable crop yields. On this occasion farm literature on "Soil Health Cards", "Soil and Water Conservation measures" and "Nursery raising through portrays" were released by the dignitaries. Dr. K. Sammi Reddy along with CRIDA scientists reviewed the progress of Farmers FIRST project activities during the field visit.

World Soil Day was celebrated by conducting programme in one of the **KVK adopted villages**: Nagireddipalli, Nawabpet Mandal on 5.12.2017. Honorable MLA Sh. K. Yadaiah, Chevella Assembly Constituency participated in the programme along with other local representatives, government officials, NGOs and 188 farmers and farm women. Expert lecture by Dr. K. Srinivas, Principal Scientist (Soil Science), ICAR-CRIDA was arranged on soil health, nutrient management and soil test based recommendations to the farmers. Dr. V. Maruthi, Head, KVK and Principal Scientist briefed the importance of world soil day to the farmers. Hon'ble MLA distributed few soil health cards to the farmers from 4 villages. Pledge on Soil Day was also taken. Video message was displayed. A total of 300 soil health cards were distributed. Exhibits on soil testing kit, bio-fertilizers and fodder were also arranged.



*World soil day celebration at CRIDA-KVK*



## News from AICRPs

### Farmers-Scientists Interaction Meeting

**AICRPDA Centre, Rakh Dhiansar** organized Farmers-Scientists interaction meeting in AICRPDA-NICRA village Khaner, District Samba on 26<sup>th</sup> November, 2017. Dr K. Sammi Reddy, Director (Acting), ICAR-CRIDA, Dr. G. Ravindra Chary Project Coordinator (AICRPDA), Dr. S. K. Dhyani, Principal Scientist, NRM Division ICAR, Dr. J. P. Sharma, Director of Research and other officials from SKUAST-Jammu, Scientists from AICRPDA centres, Rakh Dhiansar, Ballawal Saunkhri and farmers from the AICRPDA-NICRA villages Khaner and Dangervala participated in the meeting. Farmers appreciated the real-time contingency measures to cope-up with weather aberrations and farmers emphasized on farm mechanization in rainfed crops.



*Farmers-Scientists interaction in the AICRPDA-NICRA village*

### Brainstorming Session on "Automation of Agromet Advisory Services"

A meeting of scientists from IMD, AICRPAM and ICAR-CRIDA was organized on 3<sup>rd</sup> August, 2017 at ICAR-CRIDA. The meeting was chaired by Dr. K. J. Ramesh, Director General, IMD, in which Dr. K. Sammi Reddy, Director (Acting), ICAR-CRIDA, Dr. P. Vijaya Kumar, PC-AICRPAM and other scientists from IMD, AICRPAM Unit and



*Brainstorming meeting on Automation of Agromet Advisory*

from three AICRPAM centers attended and discussed about the collaboration between AICRPAM and IMD in preparation and dissemination of Agromet advisories.

### AICRPAM Annual Working Group Meeting

The Annual working group meeting of AICRP on Agrometeorology was held at Sher-e-Kashmir University of Agriculture Sciences & Technology (SKUAST) Jammu, Chatha during 27<sup>th</sup>-29<sup>th</sup> November, 2017 to evaluate the research progress made during *Kharif* 2016 and *Rabi* 2016-17. All the scientists from AICRPAM Unit and cooperating centers participated. The center-wise progress of AICRPAM was reviewed under each individual research theme. QRT member Dr. AM Shekh and other invited experts have provided their valuable suggestions.



*AICRPAM Annual Working Group meeting*

### Training to IMD Scientist

In a series of trainings to IMD scientists, Dr. (Mrs.) Lata Bishnoi was trained under AICRPAM, ICAR-CRIDA in Agrometeorology from 21-08-2017 to 8-09-2017.

## National Innovations in Climate Resilient Agriculture (NICRA)

### Annual Action Plan and Review Workshop of NICRA-KVKs

Annual action plan and review workshop of NICRA-KVK's of various ATARI Zones were conducted in July, 2017 to review the progress in 2017- 18 and to discuss and finalize the action plan for 2018-19. The meetings captured the salient achievements

and success stories from technology demonstrations in NICRA adopted villages. Dr. JVNS Prasad, Co-PI, TDC-NICRA emphasized about the approaches for scaling up of the proven resilient practices in the NICRA villages which is to be adopted in the next phase of NICRA in various workshops. Various suggestions were given to make the NICRA-KVK's achievements visible to other farmers and stakeholders. NICRA-KVK's of the zone presented



the consolidated achievements of the NICRA programme in the last 6 years and the action plan for the next year.

### **Details of the Annual Action Plan and Review Workshop of NICRA-KVKs**

Sl.No	Zones	Place	Date
1	Zone VIII	Krishi Vigyan Kendra- Baramati (Pune)	3 July, 2017
2	Zone III	ICAR-ATARI, Jodhpur	5 July, 2017
3	Zone V	ICAR-ATARI, Kolkata	12 July, 2017
4	Zone VI	College of Veterinary Sciences, Assam Agricultural University, Khanapara, Guwahati	10-11 July, 2017
5	Zone X	ICAR-CRIDA, Hyderabad	13 July, 2017
6	Zone XI	ICAR-ATARI, Bengaluru	29 July, 2017



*Glimpses of Annual Action Plan cum Review Workshops*

### **Expert Committee to Review the Research Projects**

A two-day NICRA Expert Committee meeting was organized at NASC, New Delhi during 23<sup>rd</sup>-24<sup>th</sup> October, 2017. Dr. T. Mohapatra, Secretary, DARE and DG, ICAR in his address set the road map for next phase of NICRA with outputs that have impact at national level. Progress of 13 ongoing projects from Competitive Grants and two projects under Sponsored component were reviewed under the Chairmanship of Dr. K. Alagusundaram, DDG (NRM) and co-chaired by Dr. S Bhaskar, ADG (AAF & CC). Dr. K Sammi Reddy, Director (Acting), ICAR-CRIDA, Hyderabad presented the overview of progress under NICRA under CG and Sponsored components so far and the need for thorough monitoring of the progress by the expert committee. For each project a sub-committee of relevant members from NICRA Expert Committee was formed to mentor and monitor the progress of the projects. The committee deliberated on the identification of themes for inviting new proposals under Competitive Grants component for the next phase of NICRA. On this occasion, four publications from ICAR-CRIDA, Hyderabad viz., Farm innovations in climate

resilient agriculture, Up-scaling farm machinery custom hiring centres in India: A policy paper, "Roots of rainfed crops and Issues and remedies in rainfed farming" (in Hindi) were released by the Hon'ble DG, ICAR.



*Expert committee meeting in progress*

### **Zonal Monitoring Committee (ZMC) Visits**

Zonal monitoring committee's visits to various zones were organized to review the technical progress of different modules like NRM, crop production, livestock & fishery and institutional interventions in NICRA villages and for making appropriate suggestions for improvement.

#### **Details of ZMC visits during 2017-18**

Sl. No	Name of the ATARI	Name of the KVK	Date	Name of the participating Member from CRIDA
1	Kolkata	Kendrapara, Jharsuguda	31 October - 1 November, 2017	Dr. M. Osman
2	Barapani	Ri-Bhoi and Imphal East	23-24 November, 2017	Dr. JVNS. Prasad
3	Hyderabad	Nalgonda & Khammam	12-13 December, 2017	Dr. I. Srinivas, Dr. G. Pratibha
4	Patna	Buxar, Jehanabad and Aurangabad	13-15 December, 2017	Dr. S.K. Bal, Dr. D.B.V. Ramana
5	Jodhpur	Sirsa, Yamunangar	21-23 December, 2017	Dr. S.K. Yadav, Dr. K. Nagasree



*ZMC visit at Kendrapara*



*ZMC visit at Jharsuguda*

## Important Visitors

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

Dr. K. Alagusundaram, Deputy Director General (NRM) has visited ICAR-CRIDA on 16<sup>th</sup> August, 2017 to review the research activities and oversee the completion of Climate Research Facilities (FATE, CTGC and SCADA) at Hayatnagar Research Farm (HRF). Dr. K. Sammi Reddy, Director (Acting) along with Project Coordinators, Heads of Divisions/Sections, other Scientists, staff of Administration and Finance have accompanied the DDG to HRF. The DDG (NRM) expressed his satisfaction

about the progress made in installation of Climate Research Facilities. He visited the farm machinery workshop and gave valuable suggestions for improving the workshop facilities.

### Canadian Delegation Visit to ICAR-CRIDA

Canadian delegation visited ICAR-CRIDA on 17<sup>th</sup> November, 2017. The team interacted with the Director and Scientists of the institute. The team got acquainted with the technologies developed by the institute displayed in Dryland Gallery and were exposed to various research facilities present at CRIDA.



*Dr. K. Alagusundaram, Deputy Director General (NRM) Interacting with Scientists*



*Canadian delegation visit to ICAR-CRIDA*

## Visits Abroad

Dr. D.B.V. Ramana participated in the International Conference on Recent Advances in Animal Nutrition (RAAN) held at School of Environmental and Rural Science, University of New England, Armidale, New South Wales, Australia from 25-27, October, 2017 under 2015 Norman E. Borlaug International Agricultural Science and Technology Fellowship Programme (Borlaug Fellowship) of United States Department of Agriculture (USDA), Foreign

Agricultural service, USA. The purpose of the visit was to get exposed to the recent advances in animal nutrition and had dialogue with mentor for possible future research linkages.



*Dr. D.B.V. Ramana participated in the Recent Advances in Animal Nutrition (RAAN) conference*

## Human Resource Development

### Training Programme on Efficient Watershed Management in Rainfed Agriculture

A five day training programme on "Efficient Watershed Management in Rainfed Agriculture" sponsored by watershed development department, Govt. of Karnataka was organized at ICAR-CRIDA from 19-23 September, 2017. Twelve officials from the Karnataka agriculture departments participated in the programme. The training covered various aspects of soil and water conservation, water harvesting, farm machineries along



*Participants of the training programme*



with field visits and practical exposure to the water harvesting structures. Dr. K. Ravi Shankar, PS, TOT was the course director for the training course.

### Model Training Course on Participatory Natural Resource Management for Sustainable Agricultural Productivity in Rainfed areas

Model Training Course on “Participatory Natural Resource Management for Sustainable Agricultural Productivity in Rainfed areas” sponsored by DOE was organised at CRIDA during October 4-11, 2017. Fifteen officials from eight different states viz., Telangana, Andhra Pradesh, Maharashtra, Odisha, Tamil Nadu, Goa, Punjab and Karnataka attended the model training course. The course covered focus on various technologies for sustainable NRM, horticulture systems in rainfed agriculture, enhancing productivity of crops and cropping systems through effective use of natural resources, farming systems approach, role of livestock and their management for enhancing productivity and income in drylands, gender mainstreaming, communication tools and techniques for sustainable NRM. Dr. K. Nagasree, Principal Scientist was the course director for the training programme.



*Participants of the training programme*

### Training Programme on Farm Mechanization under CRP-Farm Mechanization and Precision Farming

The programme was organized by the ICAR-CRIDA under CRP-Farm Mechanization and Precision Farming in association with KVK, RR District for TSP farmers on 27<sup>th</sup> October, 2017 at Yellamma Thanda village, Manchal Manda, Rangareddy District. The participants were addressed by Dr. K. Sammi Reddy, Director (Acting), B. Venkteswar Rao, ADA, Alair Reddy District, Smt. G. Jayamma, MPP, Mr. Jagadeswar, village Sarpanch and ICAR-CRIDA Staff. The participants explained about the importance of farm mechanization in agriculture. Different farm machinery

viz. manual weeder, six row multi crop CRIDA planter, bed planter cum herbicide applicator, bullock drawn weeder etc. were demonstrated. Around 200 farmers were trained from Yellamma Thanda village. The trainees were imparted skills in operation of different crop based agricultural implements.

### ICAR Short course on Tools on Monitoring, Evaluation and Impact Assessment of Rainfed Technologies and Development Programmes

ICAR Sponsored Short course on “Tools on Monitoring, Evaluation and Impact Assessment of Rainfed Technologies and Development Programmes” was conducted for 10 days from 1-10 November, 2017 at ICAR-CRIDA. Dr. Y. G. Prasad, Director, ATARI (Zone-X) was the Guest of Honour for the inaugural session. Dr. Y. G. Prasad addressed the participants about the importance of Tools on Monitoring, Evaluation and Impact Assessment of Rainfed Technologies. Dr. K. Sammi Reddy, Director (Acting), ICAR-CRIDA highlighted significance of M&E for impact assessment of rainfed technologies in the context of doubling farmers' income. Dr. G. Nirmala, Principal Scientist and Course Director briefed the objectives of the short course. During the ten days of short course, the participants were familiarized with topics like concepts and principles of M&E, results-based management, theory of change, protocols for organic livestock interventions, impact assessment of KVK, IWDP and agricultural development programmes.



*Inaugural session of the short course*



*Participants of the training programmes*

### ICAR-Sponsored Training Program for ICAR Technical Staff

ICAR-sponsored training program on ‘Agrometeorological Data Collection, Analysis and Management’ for ICAR technical staff was organized at ICAR-CRIDA during 11-23 December, 2017. All the trainees were exposed to various agro-climatic analysis techniques, and on hands on practicals. Besides these, they were exposed to national and international institutes where the Agrometeorological research is going on through field visits.





*Participants of the training programme*

## Capacity Building Activities of Farmers

### Training on Crop Colonies and Soil Health Management in Horticulture Crops

Department of Horticulture, Telangana and KVK-CRIDA organized the training programme on “Crop colonies and soil health management in horticulture crops for sustainable net returns” organized at Center of Excellence, Govt. of Telangana, Jeedimetla, Medchal on 8<sup>th</sup> September, 2017. About 150 practicing farmers from Ibrahimpatnam cluster attended the training. Sri. S. Parthasarathi, IAS, APC & Secretary to Govt. Agriculture & Cooperation, Government of Telangana, Sri L. Venkatram Reddy, Commissioner of Horticulture (FAC), Government of Telangana and department officials interacted with farmers and visited the fields. Importance of soil testing, procedures for soil sampling, soil test based fertilizer recommendations, vulnerability of small and marginal farmers in rain-fed/dryland areas, integrated farming with agri-horti-animal husbandry for sustainable net income, crop diversification, inter crops/mixed cropping, strip cropping, trap crops, boarder crops, sticky traps, pheromone traps, water traps etc were also demonstrated.



*Training on “Crop colonies and Soil health management”*

### Training Programme on Soil Health Management, IPM and Vegetable Cultivation

An off-campus training programme in collaboration with SEED NGO under the sponsorship of NABARD was organized on 14<sup>th</sup> September, 2017 on Soil Health Management, Integrated

Pest Management and Vegetable Cultivation in Nawabpet Mandal of Vikarabad Division (Kesavapalli and Thimmareddy palli villages). Dr. SM Vidya sekhar and Sh. G. Sri Krishna from KVK-CRIDA, Ranga Reddy District, Telangana, Sh. Nagabrahma Chari, CEO of Seed NGO and Village Sarpanch along with 67 farmers participated in the programme. The soil test based fertilizer recommendations were given to 200 farmers for crops like Rice, Cotton, Redgram, Maize, Vegetables and soil health management aspects were explained to farmers by Dr. S.M. Vidya Sekhar, KVK during the training programme. Around 200 soil health cards prepared by KVK were distributed to farmers of the two villages. Integrated Pest Management of Cotton and Redgram crops were covered and the farmers were given the demonstration of inputs of pheromone traps with lures for Pink bollworm, Helicoverpa, Spodoptera for Cotton and Redgram and bio-fertilizers, Trichoderma etc.



*Off-campus training on “Soil Health Management and IPM”*

### Training on Good Horticultural Practices in Tuber Crops

KVK, ICAR-CRIDA conducted on-campus training on Good horticultural Practices in Tuber crops suitable for Ranga Reddy district farmers on 29<sup>th</sup> November, 2017 at KVK, CRIDA. About 42 vegetable growers and KVK staff attended the programme. Dr. D.Anitha Kumari, Scientist (Entomology) VRS, SKLTSHU explained about suitable major tuber crops viz. Colacasia, Sweet potato and Yam with reference to improved varieties, climate, soil characters, seed rate, spacing, planting methods, weeding, irrigation, fertilizers, pest, disease management, harvesting and yield. GHPs like Bio-fertilizers, Bio-control agents, plant derivatives, Raised bed cultivation, Use of Drip irrigation, Adaptation of Fertigation, Need based Micronutrient foliar sprays, trap crops, Boarder crops, sticky traps, pheromone traps, water traps etc. which will reduce the cost of cultivation were demonstrated.



## Forthcoming Events

Sl. No.	Title of the event	Duration
1	26 <sup>th</sup> Meeting of RAC at ICAR-CRIDA, Hyderabad	January 11-12, 2018
2	International training on Strategies for Enhancement of Farmers Income in Dryland Agriculture" under the program Feed the Future - India Triangular Training (FTF-ITT)	January 16-30, 2018
3	Republic Day	January 26, 2018
4	XVI Working Group Meeting of AICRPDA at AICRPDA centre, Jagdalpur	February 1-5, 2018
5	International Training programme on Rainwater Management for Climate Resilient Agriculture in Dryland under India-Africa Forum Summit-III	February 15 - March 07, 2018
6	CRIDA Foundation Day	April 12, 2018
7	IRC meeting	April/May, 2018
8	World Environment Day	June 5, 2018

For further details please visit the website : [www.crida.in](http://www.crida.in)

## Participation in Seminars and Symposia

Name of the scientist	Workshops/seminars/meetings/symposia	Duration	Venue
K. Sammi Reddy	Chaired the Thematic Session-5 on Climate Resilient Agriculture in the 3 <sup>rd</sup> World Congress on Disaster Management	Nov 7, 2017	Visakhapatnam, AP
	Delivered a lecture in Summer School on "Recent Advances in Abiotic Stress Management in Climate Smart Agriculture"	Sep 15, 2017	NIASM, Baramati, Maharashtra
	Attended World Bank aided Project meeting on Climate Resilient Agriculture (POCRA) and to give inputs regarding the effective dissemination	Sep 22-23, 2017	World Trade Centre, Mumbai, Maharashtra
	Attended Interactive Seminar on the foresight – Agrimonde – Terre : 2050 The Indian Perspective	Dec 7, 2017	NASC, New Delhi
	Attended International Groundwater Conference and delivered a keynote address	Dec 11, 2017	New Delhi
C.A.Ramarao	Zonal Review and Progress Workshop for KVKs of Andhra Pradesh, Telangana and Maharashtra	July 13, 2017	ICAR-ATARI, CRIDA, Hyderabad
	Workshop on 'Green Revolution in Eastern India: Constraints, opportunities and way forward' organized by IFPRI & TCI	Oct 9-10, 2017	NASC, New Delhi
	77 <sup>th</sup> Annual Conference of the Indian Society of Agricultural Economics.	Oct 12-14, 2017	CGPS, CAU, Umiam, Barapani
	Silver Jubilee Conference of Agricultural Economics Research Association on "Doubling farmers' income : Options & Strategies"	Nov 7-9, 2017	ICAR-NAARM, Hyderabad
	Planning Workshop on Research Impact Assessment	Nov 13, 2017	ICAR-NIAP, New Delhi
C.A.Ramarao, V.Girija Veni	International Seminar on 'Global climatic change : Implication for agriculture and water sectors' organized by VNMKV, Parbhani	Dec 14 -16, 2017	WALMI, Aurangabad
B.M.K.Raju	ICAR, DAC and Dept. of Agriculture, Govt. of Telangana Interaction Meeting on 'Kharif 2017 Agriculture Scenario Assessment and Contingency Plan Preparation for Telangana'	Aug 8, 2017.	ICAR-CRIDA, Hyderabad
R. Nagarjuna-kumar	National conference on "Technological Challenges in Social, Environmental and Agricultural Reforms"	Sep 9-10, 2017	ICAR-IIRR, Rajendra-nagar, Hyderabad
	International Conference on Agriculture and Veterinary Sciences	Oct 23 -25, 2017	PJTSU, Hyderabad
Er. Ashish S Dhimate	Workshop on "Advanced Farm Mechanization: Crop Sector"	Sept 25-29, 2017	NIRDPR, Hyderabad

## Awards and Recognition

AICRPDA-Ananthapuramu centre received “ICAR-Vasanta Naik Award for Outstanding Research and Application in Dryland Farming Systems 2016” during ICAR Foundation Day and Award Ceremony on 16<sup>th</sup> July, 2017 at NASC, New Delhi.

Dr. R.Nagarjuna Kumar, Scientist was awarded the best Ph.D. Thesis award and best paper award for the paper “Mobile Applications : Shaping the future of agricultural extension and advisory services” presented during the National conference on “Technological Challenges in Social, Environmental and Agricultural Reforms” organized at ICAR-IIRR, Hyderabad during 9-10, September, 2017.



Receiving Award at ICAR-IIRR, Hyderabad

Ms B. Saraswati won 1<sup>st</sup> Prize in session on “Creativity and Innovation for excellence” and 3<sup>rd</sup> prize in session on “Effective Media Communication Skills” in training programme on “Enhancing Efficiency and Behavioral Skills for Stenographers

Grade III, PAs, PSs, & Sr. PPSs” of ICAR organized at ICAR-NAARM, Hyderabad during 25-31 October, 2017

Dr. Ravi Shankar received the Young Scientist Award-2017 from Indian Society of Extension Education, New Delhi at the ISEE National Seminar on “Doubling Farmers’ Income and Farm Production through



Receiving Young Scientist Award at Sabour, Bihar

Skill Development and Technology Application” organized by the Department of Extension Education, Bihar Agricultural University, Sabour and Indian Society of Extension Education, New Delhi at Sabour, Bihar during 28-30 November, 2017.

Mr. G. Venkatesh, Scientist (Senior Scale) awarded with the Doctor of Philosophy in Environmental Science and Technology by the Jawaharlal Nehru Technological University, Hyderabad on 15<sup>th</sup> July, 2017.

Mr. AVM Subba Rao, Sr. Scientist was awarded Doctor of Philosophy on 12<sup>th</sup> December, 2017.

## Personnel Information

### Appointments/Promotions/Transfers/Joining

Name and Designation	Transferred/Joined/Promoted/Appointed	Date w.e.f
Dr. S.K. Bal, Principal Scientist (Agrometeorology)	Transferred from ICAR - NI-ASM, Baramati, Pune	01.07. 2017
Dr. T. V. Prasad, Principal Scientist (Entomology)	Transferred from ICAR-NB-PGR, New Delhi	07.07.2017
Mr. Rajkumar Dhakar, Scientist (Agril. Physics)	Joined back in ICAR-CRIDA after Ph.D. at ICAR-IARI, New Delhi.	01.08.2017
Shri. Ravi Dudpal, Scientist (Agril.Econ.)	Transferred to ICAR-IISWC Research Centre, Bellari	28.09.2017
Ms. Sneha Verghese, Assistant	Appointed in ICAR-CRIDA	07.12.2017
Shri. Putta Santosh	Appointed in ICAR-CRIDA	06.09.2017
<b>Promotions</b>		
Dr. T. V. Prasad	Sr. Scientist - Principal Scientist	17.06.2015
Shri. D. Sudheer	STO - Assistant Chief Technical Officer	16.10.2015
Shri. Sri Krishna	STO - Assistant Chief Technical Officer	28.12.2015

Name and Designation	Transferred/Joined/Promoted/Appointed	Date w.e.f
Shri. I. R. Khandgond	STO - Assistant Chief Technical Officer	16.10.2015
Smt. P. Laxmi Narasamma	ACTO - Chief Technical Officer	01.07.2014
Shri. S. Srinivas Reddy	ACTO - Chief Technical Officer	01.01.2014
Smt. Vidyadhari	ACTO - Chief Technical Officer	01.07.2016
Smt. V. L. Savithri	STO - Assistant Chief Technical Officer	01.07.2016
Shri. Manish Tomar	Tech. Asst. - Sr. Technical Assistant	16.03.2017
Shri. Hemant Sahu	Tech. Asst. - Sr. Technical Assistant	21.03.2017
Shri. P. Satish	Tech. Asst. - Sr. Technical Assistant	02.03.2017
Shri. P. Ramakrishna	Tech. Asst. - Sr. Technical Assistant	08.04.2016



Name and Designation	Transferred/Joined/Promoted/Appointed	Date w.e.f
Shri. Prem Kumar	STO - Asst. Chief Technical Officer (Retired)	01.01.2011
Smt. D. Kalpana	Assistant - Assistant Administrative Officer	30.12.2017
Shri. J. Mallesh & Shri. Ch. Balaiah	Granted MACP from level 3 to level 4	28.07.2017
Smt. Avula Lalitha	Granted MACP from level 2 to level 3	11.07.2014

*Our hearty congratulations to all of them*

## Retirements

Name	Designation	Date of superannuation
Mr. E. Ravindranath	STO	31.11.2017
Shri. Bandari Sathaiah	SSS	31.08.2017
Shri. Sama Sathi Reddy	SSS	31.07.2017
Shri. P.Srinivasa Rao	Assistant	31.07.2017

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

## Cultural and Welfare Activities

### Independence Day Celebration

The 71<sup>st</sup> Independence Day was celebrated on 15<sup>th</sup> August, 2017 with pride, patriotic zeal and gratitude towards the sacrifices of our freedom fighters. The Director hoisted the flag and addressed the staff of CRIDA. On this occasion Director distributed cash awards (CCS&CCRC) to the X class toppers of CRIDA staff children and motivated the staff with his message to work with dedication and boost institute's growth.



*Independence Day Celebration*

### Sadbhavana Diwas

"Sadbhavana Diwas" was observed on 18<sup>th</sup> August, 2017. Accordingly, a pledge taking ceremony was held on 18<sup>th</sup> August, 2017.



*Oath taking ceremony on Sadbhavana Diwas*

### Swachhta Hi Seva

"Swachhta Hi Seva" was organized at ICAR-CRIDA during 14<sup>th</sup> September to 2<sup>nd</sup> October, 2017. The inaugural day started with oath by all the staff and various activities were carried out under "Swachhta Hi Seva". All the staff participated in the event for

cleanliness in office premises and residential quarters. Trees were planted in KVK adopted village, HRF, GRF, CRIDA main office and residential complex. Samagra Swachhata Diwas Sharamadann was celebrated in KVK adopted village.



*Glimpses of Swachhta Hi Seva*

### South Zone Sports Meet

ICAR-CRIDA contingent participated in ICAR South Zone Sports Meet held at ICAR-Sugarcane Breeding Institute, Coimbatore, Tamil Nadu from 9-13 October, 2017. Mr. Mukund, Technical Assistant secured 2<sup>nd</sup> place in 1500 meters cycle race.

### Vanamahostavam

CRIDA Cultural and Recreation Club organized Vana Mahostavam at Hayathnagar Research Farm of the Institute on 28<sup>th</sup> October, 2017. All the CRIDA staff members actively participated in the cultural activities. The events generated great enthusiasm and unity among staff.

### Vigilance Awareness Week

"Vigilance Awareness Week" was observed from 30<sup>th</sup> October to 4<sup>th</sup> November, 2017. Dr. K. Sammi Reddy, Director (Acting) in his address emphasized the importance of vigilance week and suggested all the staff to be vigilant in day to day office activities. As part of vigilance awareness week Shri. B. Viswanath, Deputy Chief Vigilance Officer, South Central Railway delivered the lecture on "My Vision : Corruption Free India" on 2<sup>nd</sup> November, 2017.

## निदेशक की कलम से.....

### देश के वर्षा आधारित क्षेत्रों में कृषक आय को दुगुना करने की नीतियां

भारत में वर्षा आधारित कृषि क्षेत्रफल लगभग 53 प्रतिशत है, जो कि देश के कुल खाद्यान्न उत्पादन में लगभग 40 प्रतिशत का योगदान देता है। दलहन का लगभग 83 प्रतिशत, मोटे अनाज का लगभग 85 प्रतिशत, तिलहनों का लगभग 70 प्रतिशत एवं चावल का लगभग 42 प्रतिशत क्षेत्र वर्षा आधारित कृषि क्षेत्रफल के अंतर्गत आता है। वर्षा आधारित क्षेत्रों में लगभग 40 प्रतिशत मानव एवं 60 प्रतिशत पशु निवास करते हैं। वर्षा आधारित कृषि में अधिक उत्पादन को निरंतर बनाए रखना तथा आय एवं जीविकोपार्जन को प्राप्त करना बड़ा ही जटिल कार्य है।

कई वर्षा आधारित फसलों की उत्पादकता लगभग 1 टन प्रति हेक्टेयर है। हालांकि, किसानों में प्रमुख वर्षा आधारित प्रौद्योगिकियों को अपनाने की प्रक्रिया एवं प्रसार अभी भी काफी धीमा है जिसके परिणामस्वरूप किसानों के खेतों एवं अनुसंधान केंद्रों के बीच के उत्पादन में काफी अंतर है। दिन-प्रतिदिन कृषकों हेतु घटता कृषि क्षेत्रफल निरंतर एवं अक्षुण्ण भूमि निम्नीकरण, पोषक तत्वों में काफी अंतर, बढ़ती जलवायु विविधता एवं जलवायु परिवर्तन ने वर्षा की कमी, सूखा एवं बाढ़ के रूप में नई चुनौतियां पैदा की हैं, जो उत्पादकता एवं लाभ को प्रभावित करती हैं। इसके अलावा, वर्षा आधारित क्षेत्रों में पशुओं की आबादी अधिक होने के कारण पोषकतायुक्त चारे की आवश्यकता होती है लेकिन चारे की मांग एवं आपूर्ति में अंतर बढ़ता ही जा रहा है। अनुमानतः वर्ष 2025 तक, हरे चारे की कमी 65 प्रतिशत एवं सूखे चारे की कमी 25 प्रतिशत तक होने की संभावना है। मजदूरी एवं निवेश लागतों में वृद्धि के कारण किसानों की वास्तविक आय घटती जा रही है।

कृषि से आय को दुगुना करने के लिए, बढ़ती आबादी की खाद्य एवं पोषक सुरक्षा की मांग को पूरा करने के अलावा, फसलों की उत्पादकता में वृद्धि के साथ-साथ वर्षा आधारित क्षेत्रों के उप क्षेत्रों में पशु-पालन, मछली पालन एवं बागवानी को बढ़ावा देने की आवश्यकता है। लघु अवधि की नीति के रूप में उत्पादन अंतर को कम करने के लिए स्थान विशेष के लिए तैयार की गई वर्षा आधारित प्रौद्योगिकियों पर आधारित संसाधन संपन्न प्रक्रिया अपनानी होगी। उपयुक्त जल संग्रहण एवं जल के बेहतर उपयोग से अधिक वर्षा वाले क्षेत्रों से मध्यम वर्षा वाले क्षेत्रों में फसल सघनता एवं कृषि विविधता को फार्म स्तर पर पहुंचाने हेतु समन्वयन करना होगा। कृषि आय बढ़ाने के लिए कृषि प्रणाली की मजबूती पर ध्यान देना, पशुपालन से आय बढ़ाना, बाजार की मुख्य सूचना का ज्ञान एवं प्रसार करना प्रमुख हैं। विशेषकर छोटे एवं सीमांत किसानों को अधिक आय प्राप्त करने में सक्षम करने हेतु विभिन्न उद्यमों के साथ मिलकर जलवायु समुत्थान समेकित कृषि प्रणाली का उन्नयन करना अत्यावश्यक है।

बागवानी, अधिक मूल्य वाली फसलों की संरक्षित कृषि, वर्षा आधारित फसलों के लिए मूल्य श्रृंखला का विकास, बाजार ज्ञान पर समुदायों की क्षमता का निर्माण, मूल्य संवर्धन की दिशा में कौशल विकास, किसान उत्पादक दलों की स्थापना करते हुए लागत में कमी लाना एवं जल तथा फसल बीमा प्रदान करने से जोखिम में कमी लाना आदि को शामिल करके अधिक मूल्य वाली फसलों एवं उत्पादों पर मध्यम अवधि की नीति अपनाई जानी चाहिए। लंबी अवधि की टिकाऊ कृषि के लिए मृदा जैविक कार्बन का निर्माण तथा मृदा स्वास्थ्य सुधार के लिए जैविक खाद के प्रयोग को बढ़ावा देना एवं कम कर्षण सहित फसलावशेषों के प्रयोग की नितांत आवश्यकता है।

इन नीतियों को सभी संबंधित पणधारियों के सहयोग से प्रणाली के रूप में कार्यान्वित किया जाना चाहिए ताकि देश में विभिन्न वर्षा आधारित कृषि पारिस्थितिक प्रणालियों में कृषि आय को दुगुना करने के लिए मांपने योग्य एवं प्रमाणयुक्त मॉडलों की स्थापना की जा सके।

केंद्र स्तर पर (पीएमकेएसवाई, पीएमपीकेवीवाई, एमजीएनआरईजीए, आरकेवीवाई, पीएमएफबीवाई आदि) एवं राज्य स्तर पर (कर्नाटक की कृषि भाग्या, आंध्र प्रदेश की पंतसंजीवनी, महाराष्ट्र का पीओसीआरए, ओडिशा का सूखा प्रबंधन कार्यक्रम, तेलंगाना का टीएसएमआईपी आदि) चलाए जा रहे कार्यक्रमों की समाभिरूपता से डीएसी और एफडब्ल्यू एवं राज्य सरकार के संबंधित विभागों द्वारा मिशन मोड पद्धति में कार्य योजना को कार्यान्वित करने की नितांत आवश्यकता है। भाकृअनुप-क्रीडा अपने नेटवर्क भागीदार के रूप में एक्कीपडा, एक्कीपाम, निक्का एवं राज्य कृषि विश्वविद्यालयों के साथ मिलकर तकनीकी सहयोग द्वारा मिशन मोड कार्यक्रम के कार्यान्वयन के लिए सहयोग देगा। इसके लिए पर्याप्त निधि आबंटन एवं श्रम शक्ति की आवश्यकता हो सकती है। विभिन्न स्तरों पर सभी संबंधित पणधारियों के क्षमता निर्माण/कौशल विकास पर भी ध्यान देने की आवश्यकता है।



डॉ.के. सम्मी रेड्डी

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