



**NICRA News**  
**Monthly e-Newsletter**  
on  
**Climate Resilient Agriculture**  
November 2011



Vol.1; No.2

## Contents

[From across the KVKs](#)

[Project launch events](#)

[Special Event](#)

[Technology Demonstration Component](#)

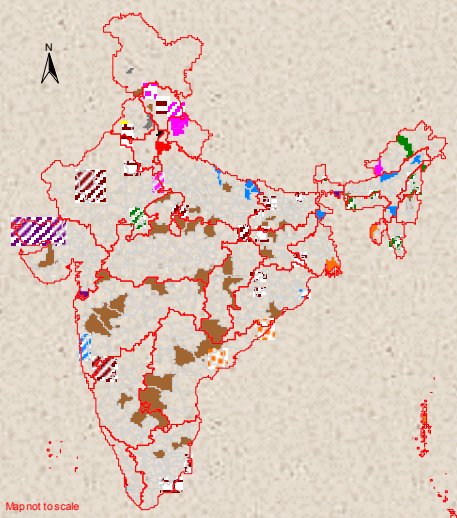
[KVKs](#)

[AICRPDA](#)

[Photo gallery](#)

[Feed back](#)

[Announcements](#)



Map not to scale



[www.nicra-icar.in](http://www.nicra-icar.in)



Strategic Research on climate resilient agriculture has been initiated at 21 key institutions of ICAR on crops, natural resources, horticulture, livestock and fisheries during the year. Thirty projects under sponsored and competitive grants schemes were also approved covering key research themes like hailstorm management, pollinators, estuarine fisheries and germplasm collection from climate hotspots. Nearly 500 research personnel are working on this project across the country. The main achievement during the year is commissioning four high-through-put phenotyping facilities at CRIDA, IHR, IARI and NIASM. Large-scale field phenotyping of the germplasm of wheat, rice, pigeonpea, groundnut, blackgram and greengram were undertaken for drought, heat and submergence tolerance and several promising lines were identified.

**B. Venkateswarlu**  
Director

## From across the KVKs



During the past one month three launch workshops were conducted, one each in Undi, West Godavari, Andhra Pradesh; Anemangalam, Nagapattinam, Tamil Nadu and Wyrva, Khammam, Andhra Pradesh. Besides, this a field review was conducted by Dr. A.K. Singh, DDG (NRM) at D Nagenahalli, Tumkur, Karnataka. During this period, I visited Sikhera village in Baghapat district, Uttar Pradesh where zero till drill machine is being used to reduce energy usage as well as inter sowing period. Meanwhile, efforts are on to identify more districts, which are vulnerable to climate variability for extending the technology-demonstrating component to these districts under NICRA during the XII Plan. Monitoring committees are being constituted to streamline project implementation across the KVKs. This issue of the newsletter highlights the launch workshops conducted at different KVKs and a few promising climate resilient interventions being implemented in some of the KVKs. I invite all the KVKs share their experiences with others through this forum. Looking forward to your interesting contributions.

**Sreenath Dixit**  
**Coordinator**

## Project Launch Events

### KVK Undi, West Godavari, Andhra Pradesh

National Initiative on Climate Resilient Agriculture (NICRA) project was launched at Matsyapuri village, Undi KVK, West Godavari district on 25.10.2011. Dr.B.Venkateswarlu, Director CRIDA and Dr. K. Suryanarayana, Associate Director of Research, RARS, Maruteru launched the project in the presence Sri A. Satyanarayana, Assistant Director of Agriculture, Bhimavram, Ms M. Yani Sardus Agriculture Officer, Veeravasaram, block level officers of the Department of Agriculture, Officers of the District and Panchayat, village Panchayat. Almost all the households of the village participated in the launch program. A series of activities were conducted as part of the launch project. viz., inauguration of manually operated weather station, inauguration of Custom Hiring centre for farm implements. Dr. P. Israel, Programme Coordinator and his colleagues of the KVK organized the event.



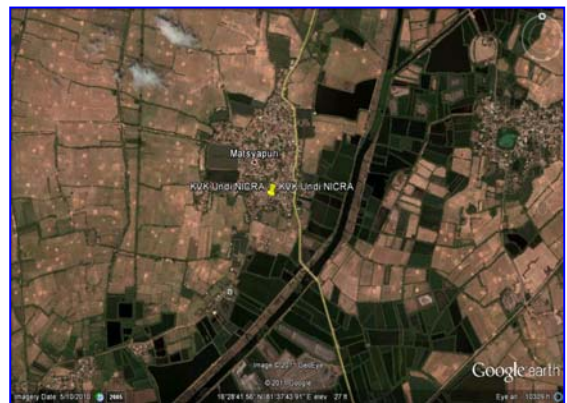
Dr P. Israel addressing NICRA launch programme



Dr.B.Venkateswarlu and scientists observing AWS



NICRA farm implements in Matsyapuri village



Satellite image of NICRA village Matsyapuri

## KVK Sikkal, Nagapattinam, Tamilnadu

National Initiative on Climate Resilient Agriculture (NICRA) project was launched at Anemangalam village, Sikkal KVK, nagapattinam district on 17.11.2011. The District Collector, Mr.Munni Swamy launched the programme and released NICRA pamphlets. Dr. P.Murgesa Boopathi, Hon'ble Vice Chancellor, TNAU, Dr. Kalai Selvan, Director of Extension, TNAU, Dr.P.Rajendran, Project Coordinator, KVK, Sikkal, Dr.D.V.S.Reddy, Principal Scientist, ZPD, Bangalore and media reporters and representatives of AIR., Officials of the line departments, Mr. Mahalingam, Member of Legislature Assembly of Kil Velur participated in the programme.

The Hon'ble Vice Chancellor and the Director of Extension gave a brief on the project and the proposed intervention. Followed by this, the District Collector invited the people to the village who had gathered in large numbers to make use of the benefits of this unique project. Followed by the meeting, a series of activities were conducted including opening of SWTL, exhibition centre, release of KVK newsletter Ulavan, KVK Sikkal Brochure etc. Dr. T. Rajendran, Programme Coordinator and his colleagues organized the event successfully.



NICRA launching by the district collector Mr. Muni Swamy



Mr Mahalingam, Kilvelur MLA addressing the gathering



Hon'ble VC, TNAU opened the exhibition centre



DEE, TNAU, Kalai Selvan lighting the lamp

## KVK Wyra, Khammam, Andhra Pradesh

NICRA village level Launch was organized on 26-11-2011 at Nacharam village near Wyra, Khammam district, Andhra Pradesh. The Programme was inaugurated by Dr.B.Venkateswarlu, Director, CRIDA. The Joint Director of Agriculture, Dr.K.Hema Maheshwar Rao, Associate Director of Research, RARS, Warangal, Dr.D.Vishnuvardhan Reddy, Deputy Director (Horticulture), Dr.B.Subba Rayudu participated in the campaign. All the KVK staff participated in the event. Two farmers, Mr.T.Venkateswarlu & Mr.D.Satyanarayana gave general agricultural scenario of the village. They said that cotton, chilli & paddy are the main crops besides plantation of Subabul and cultivation of vegetables. The village is surrounded by 3 hamlets and total number of households is about 600. They felt that emphasis on reviving check dams to enable better rainwater harvesting would build drought resilience among the community. The Joint Director of Agriculture and Deputy Director of Horticulture enlisted different development schemes and asked the farmers to benefit from these. Dr. M. Satyanarayana, Programme Coordinator and his colleagues of the KVK organized the event.



Director, CRIDA addressing the gathering



Dy. Director of Horti. addressing farmers



Farmers highlighting their expectations from the project



## DDG visits D.Nagenahalli in Tumkur, Karnataka

Dr.A.K.Singh, DDG, visited NICRA village D.Nagenahalli, KVK, Hirehalli on 20-11-2011 along with Director, CRIDA, and Director, IIHR, Dr.Sreenath Dixit, Co-ordinator, NICRA-TDC, CRIDA, Hyderabad and Dr.D.V.S.Reddy, Principal Scientist, ZPD, Bangalore. Dr.L.B.Naik, Project Coordinator, gave an overview of the progress made so far in the NICRA village D.Nagenahalli. He stated that 56 different kinds of interventions have been taken up over an area of 600 acres. The most important interventions included renovation of rainwater harvesting structures and planting of saplings in the wastelands, block plantings of horticultural species, besides introduction of new varieties of finger millet, groundnut and pigeonpea.

Dr.A.K.Singh, DDG (NRM) suggested to obtain satellite imagery of NICRA villages to help quantify the tree cover at the end of the project and, so that carbon credits can be claimed by villagers. He also suggested to plot yearly weather data along with all important weather parameters like rainfall, temperature (min. & max.), humidity and sunshine hrs. etc, to develop a case study for each KVK in terms of status and functioning of the custom hiring centers, climate risk management committee, convergence with development programmes etc.

Followed by this Dr.A.K.Singh, DDG (NRM) and Dr.B.Venkateswarlu, Director, CRIDA interacted with the farmers to know about their initial reaction to the project interventions. A press meet was organized in the post lunch session in which the representatives of Doordarshan, Bangalore and the local media.



Dr. L.B. Naik, PC explaining about custom hiring centre



At village tank where sluice gate is repaired



Dr. A.K. Singh, DDG (NRM) interacting with the farmers



Addressing media personnel

## Technology Demonstration Component

### Zero till drill helps farmers cope with Terminal heat stress in *Rabi* crops, Baghpat, Uttar Pradesh

The principal source of irrigation in Sikhera village are canals and tube-wells. The underground water levels are declining due to over-exploitation, which is one of the major causes of concern. Sugarcane is the main cash crop of the district and people mostly follow paddy - wheat or mustard – sugarcane + pulses cultivation. In this system, *khari* sown paddy is generally harvested by mid to end of October. Followed by this, *rabi* wheat or mustard is sown by the mid to end of November and harvested by mid to end of April. After this *summer* sugarcane is planted in May.



Pulses can not be grown as intercrops if sowing is delayed as their harvesting would coincide with onset of monsoon. Besides this, late sown wheat or mustard yields also get affected by the rising temperatures at the end of the winter season. This is one of the principal reasons for declining yields of wheat and mustard in this region. The zero till drill machine offers an opportunity for the farmers to cope with this climatic risk. The following table compares farmer's traditional cultivation practices with the use of the zero till drill machine:



Details	Sowing <i>rabi</i> crop with zero till drill machine	Farmers' practice for <i>rabi</i> cropping
Field preparation	Not required	Required*
<i>Rabi</i> Wheat /Mustard sowing time	Mid October	Mid to end November
Sowing method	Line sowing enabling better intercultural and plant protection operations	Continuous broadcasting, little or no scope for intercultural operations
Seed rate required in kg/ha	Wheat: 100 Mustard: 2.5	Wheat: 130-140 Mustard: 4-5
<i>Rabi</i> Wheat /Mustard harvesting time	February	April
<i>Summer</i> Sugarcane sowing time	Mid to end of March	Mid to end of May
Possibility of inter-crop (Urd /Mung) with Sugarcane	Possible as it will be harvested before onset of monsoon	Not possible as their harvesting would coincide with onset of monsoon

\* The land is ploughed 2-3 times after paddy harvest. Each ploughing is preceded by irrigation

### **New Rice Variety helps farmers cope with drought in Sarkoraha (Jehanabad)**

Rice is the major Kharif crop in the village, Sakroraha, KVK, Jehanabad, Bihar, Zone II, where farmers cultivate long duration (155-160 days) paddy varieties like MTU 7029, BPT 5204, Sita etc. These are usually sown at the beginning of June for raising the nursery and transplanted during the end of June to 1<sup>st</sup> week of July. Due to delayed monsoon the farmers could not take up transplanting in time. Therefore they lost their seeds used for nursery raising. Farmers did not have seeds to meet the contingent situation where replanting was necessary.

KVK Jehanabad introduced an improved paddy variety, Rajendra Suwasini, a fine scented, short duration (around 120days) and drought tolerant. Nearly 90 farmers were provided with the seeds of R Suwasini for taking up trials in 35 hectares. Farmers took up sowing with R Suwasini during 3<sup>rd</sup> week of July with the receipt of rainfall. They used single seedling method of transplanting in 1<sup>st</sup> week of August when plenty of rainfall was received (350 mm approx). The crop is harvested now (End November) with 10-15 healthy panicles per plant and no incidence of diseases/pests.



45-50 day old R Suwasini Paddy crop



Around 100-110 day old R Suwasini Paddy crop



## Hybrid Maize helps farmers to cope with drought, Bhoimunda (Odisha)

The Project adopted the village Bhoimunda, operating under KVK, Jharsuguda (Odisha) which is mainly drought prone area. The farmers of the village were in search of short duration & profitable crops suitable to moisture stress condition. Basing on this problem, demonstration on hybrid maize variety Bisco-740 was conducted in 4 ha of area under NICRA project .The performance of this variety was excellent compared to local variety as expressed by the maize cultivators. The demonstrated Maize variety Bisco-740 gave a yield of 162 q/ha of green cobs and the weight of each green cob is 200-250 gm, which is the motivating criteria to put more area under maize cultivation. To spread the success of the technology, a field day & an exposure visit were organised where the successful maize cultivators of Bhoimunda village interacted with the other area farmers of villages like Sialrama, Gudigaon and Kanaktura in the district during the exposure visit. The visiting farmers expressed their extreme willingness to cultivate Bisco-740 in the next season in their area. The other farmers of the NICRA village were also inspired during the field day to cultivate this variety in at least 10 ha of area in next year.



Bumper maize crop in the field serving as good learning site; women deseeding maize cobs (below)



## Technology Demonstration by AICRPDA Centre

### Coping with deficit rainfall, Pangri village, taluka Jintur, Parbhani, Maharashtra

NICRA village Pangri, Jintur taluk, Parbhani district, received only 636 mm of rainfall as against the average annual ( 870 mm, 29 % deficit) during kharif 2011. This resulted in moisture stress at various stages of soybean which is a major crop of this region. To mitigate the dry spells, the farmers were advised to adopt *in situ* moisture conservation practices by opening conservation furrows 30 days after sowing. Thus, the rainwater particularly in the month of August was conserved and utilized efficiently. The soybean crop has been harvested and the yields are significantly higher when compared to the yields under farmer practice. The farmer, Mr. Tukaram Palwe could realize highest soybean yield of 22.5 q/ha by opening furrow after every 4 rows at 30 DAS. Another farmer, Mr. Ramrao Budhwant also obtained soybean yield of 21.5 q/ha by adopting conservation furrows. Others like Mr. Shankar Budhwant, Mr. Kashinath Budhwant, Mr. Deepak Ghuge and Mr. Bhagwan Budwant who did not practice any *in-situ* moisture conservation practices could attain only 17.5 to 18.25 Q/ha. This practice has emerged as a significant mid term drought coping strategy and resulted in yield increase up to 28.5 % over farmer practice.



Opening of conservation furrow in soybean at 30 DAS



Good performance of soybean with conservation furrow

## Photo Gallery



Before repair of water structure, Jalgaon, Baramati, Pune, Maharashtra



Water storage after repair of defunct water structure on Karha River at Jalgaon k.p. under NICRA



Mud-housing structures of backyard poultry promoted at Sakroraha village in Jehnabad, Bihar



Protective nursery of chilli production at Rasidpur, Haveli, Kalan, Roper, Punjab



Construction of diversion channel in Dimapur, Nagland

## Feedback

***The practice of opening furrows in soybean after every four rows appears very simple yet very effective. This low cost practice I never imagined would be so effective. I feel every farmer must make use of this knowledge and put into practice in his farm. This hardly costs much. I am thankful to the AICRPDA scientists who advised me at the right time.***

Mr. Tukaram Palwe, Pangri village Parbhani district Maharashtra  
who realized nearly 30 % higher yield of soybean.

[Home](#)

## Announcements

We invite short write-ups (not more than 200 words) with good quality photos (not more than two in JPEG format) from the KVKs on any interesting outcome of the project so far. It may be on why some interventions worked and why some did not. We also encourage you to report those that did not work. In fact such learnings will be more useful to our colleagues. From the next issue onwards we will recognize the best write-up and feature it in a box under the “**Best Write-up**” heading. So send in your write-ups and photographs! to [coord.nicra@gmail.com](mailto:coord.nicra@gmail.com)

[Home](#)