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Shri Hanumantharaya Educational and Charitable Society

KRISHI VIGYAN KENDRA

Executive Summary

Technology Demonstration Component under NICRA Project

Name of the village : Yagantipalle, Meerapuram

District: Kurnool

No. of households : 361,381

Total cultivated area : 640 ha,200ha

Area under rainfed: 70%

Major soil types : Sandy clay loam to clay loam

Mean annual rainfall: 546.4 mm

Major cropping systems: red gram and cotton in kharif, Jowar and sunflower in rabi.

Climate vulnerability: Drought

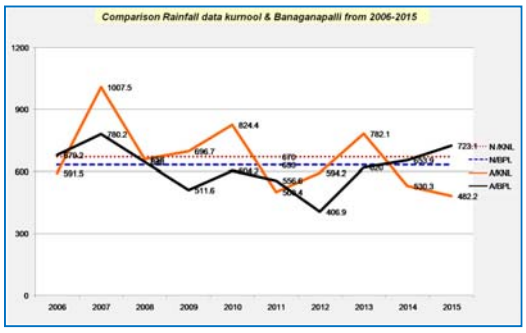
Major intervention: Short duration Setaria SIA 3085and Suryanandi, intercropping with short duration red gram PRG 158and Asha, drought tolerant Bengal gram Nandyala sanaga-1 for Rabi, conservation practices such as dead furrows in Castor and sunflower crops, ridge and furrow irrigation in Bt.cotton and Maize, gypsum treatment for reclamation of alkaline soils, crop diversification with Castor PCH 111 in place of desi cotton, direct seeding with drum seeder in paddy, zero tillage maize and drip irrigation in mango, drumstick and vegetables as conservation of moisture under irrigated crops.

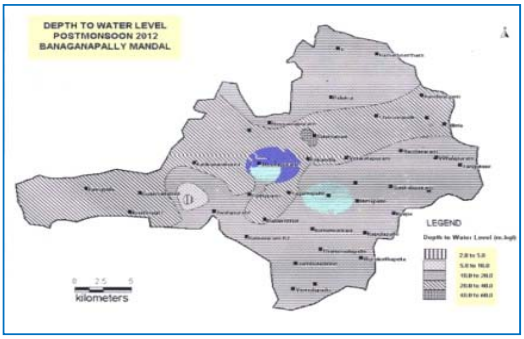
NRM Interventions : Farm ponds, bore well recharge pits, compost pits.

Live stock intervention: rearing of milch animals, back yard poultry, animal health camps, promotion of fodder cultivation and fodder conservation through silage and haylage making.

Kurnool district falls under scarce rainfall zone of Rayalaseema with average annual rainfall of 630 mm. Banaganapalle mandal represents rain shadow area of the district which is most Vulnerable to drought. The rainfall in the mandal is mostly erratic, unevenly distributed with frequent occurrence of prolonged dry spells which usually affect most of the kharif crops.

Yagantipalle is one Village, where in ground water is over exploited, hence declared as notified village under APWALTA act for arresting further drilling of bore wells. NICRA-programme was implemented in the Yagantipalle village from October 2010 onwards.





The Project was being implemented with the following objectives:

- Demonstration of site Specific technology interventions on Farmers fields for coping climatic variability with regard to NRM, crop production and live stock.
- Creating awareness and Capacity building among farmers and other stake holders on resilient Agriculture.
- Innovative Institutional mechanisms at Village level that enable the farmers to respond climatic stresses

For **C**onservation of soil and water, conservation furrows were taken up in rainfed crops like castor and redgram. Recharge of bore wells with recharge pits near bore wells were taken up in farmer fields. Farm ponds were dug in farmers' fields which were utilized for life saving irrigations to kharif crops Korra and Redgram.

The de-silting of Burrakunta (PT) was taken up during July 2012. The silt was applied to farmers' fields and transportation cost was borne by them. Deepening of percolation tank increased the additional water storage capacity (30.60 lakh litres)

It was observed that and recharge of defunct borewells increasing from 2013 to 2015 due to more storage water in Burrakunta by desilting.

Compost pits were dug in the farmers' fields for utilization of farm waste as enriched compost, which was burnt to ashes otherwise. Bio gas units were established near the farmers' houses for domestic gas, which was supported by NEDCAP, Kurnool.

Drip irrigation was fully capitalized by the farmers in the village and they could realize some reasonable yield by minimizing cost of cultivation and diversification to floriculture and vegetables. One hundred and twenty five acres was brought under drip cultivation of vegetables and fruits.

Most of the soils are alkaline in nature making unfit for cultivation of common crops. Hence, reclamation of problematic soils was taken up as demonstration with gypsum treatment based on soil test.

The **S**hort duration millets viz., Foxtail millet varieties SIA 3085and Suryanandi with 70-75 days duration and tolerance to drought and downy mildew were introduced in place of jowar and desi cotton. The performance of the crop was very economical due its short duration nature drought tolerance. Likewise Varietal demonstrations of redgram under NICRA Project with PRG 158, Asha and PRG-176 gave better yields due to its short duration than local variety LRG 30/41.

In order to utilize the bi-model distribution of rainfall and also to insure against crop failure due to drought during crop growth period, millet based inter cropping systems were demonstrated. Introduced Redgram + Seteria (1:5) and Redgram+ castor inter cropping systems in the village, along with sole crop of Redgram/Seteria/Castor in order to increase cropping intensity and net returns of the farmers. This technology is being widely adopted by the farmers as it is more viable and climate resilient.

As the area falls under scarce rainfall zone, prolonged dry spells at critical crop growth stages resulting poor yields is a common phenomenon. To cope up with this problem, in- situ moisture conservation measures by formation of conservation furrows between rows of redgram, sunflower and castor was taken up which helped the crop to cope up with drought.

KVK play a key role in formation of Dairy Farmers cooperative society in the village. The private vendors and the other private dairies are not allowed in the village to collect the milk. The entire milk is supplied to Cooperative Dairy, Nandyal. Farmers have got additional bonus of Rs.2,30,000/- within six months from the society. Now the village is the second highest milk producer in the district. As a result of dairy intervention the household annual income from dairy was increased from Rs.17956/- to Rs.59781.00.

With an objective to control the calf mortality, KVK also introduced calf registration programme which was well received by the farmers. The calves registered under this programme get medical and nutritional attention up to six months.

Fodder bank was also being maintained at the village to meet the fodder needs of the dairy farmers. As there was no rainfall, lack of green grass and fodder. Haylage making and silage making helped the farmers to come out of the situation to some extent. Low cost hydroponic

technology was introduced for the first time in the district to overcome the green fodder scarcity with available limited source of water. It is very effective technology suitable to drought areas. Seven to eight kg fodder can be grown from 1kg maize seed within seven days.

As a part of NICRA programme trained farmers for Seed bank purpose. Vijaya baskar reddy, who received best NICRA farmer award took up seed production with his fellow farmers and with guidance of kvk supplied 150 quintals of Seteria seed, which approximately covers 5000 acres. Likewise red gram and Bengal gram seed banks were being maintained by the farmers.

Custom hiring center in the NICRA village was established with investment of 12 Lakhs. The center procured the equipment to provide hiring services for different crops. The center is operated by Village climate Risk management committee(VCRMC).The committee identified the equipment which have demand for providing hiring services in the village and it is running successfully.

Millet and dhal processing units were established at the village by SHG. Seteria was being procured from local farmers and dehulled then marketed to different places. Likewise jowar was being processed and sold to consumers across the state with FSSI certificate. Dhal processing was initiated recently and meeting the local household needs.

KVK extended their services in transferring technologies related to climate resilient agriculture. Awareness programmes were also organized on climate resilient agriculture. Agro advisory services through mobile alert systems and through news paper are given twice in a week.

Farmers from NICRA village also received awards from department of agriculture horticulture and animal husbandry. Some farmers also received best climate resilient award from CRIDA.

* * *

National Innovations in Climate Resilient Agriculture

(NICRA)

Annual Progress Report 2016-17

Kurnool district of Andhra Pradesh is one of the drought prone districts of the state. Yagantipalle village which is located at a distance of 4 km from Banaganapalle Panchayat of Banaganapalle mandal with 70% of rainfed agriculture was selected for implementing NICRA project. Desi cotton and redgram were the main crops grown during kharif and Jowar, sunflower in rabi. Most of the crops get affected with late onset of monsoons followed by dry spells during critical crop growth periods, which in turn severely affecting yield.

Under NRM diversion canal was dug and water was diverted into defunct open well with an idea to recharge and to increase ground water table of existing bore wells. This operation could yield satisfactory results in recharging the nearby bore wells and helped to irrigate the crops continuously.

During Kharif-16, the short duration millets viz., Foxtail millet SIA 3085 and Surya nandi varieties of 70-75 days duration and tolerance to drought and downy mildew were introduced in place of jowar and desi cotton. Like - wise inter copping systems with korra and red gram (5:1), in red gram replacement of long duration Variety with Asha-87119 and PRG-176 were taken up.

This Kharif-16 has started with early monsoon rains during first week of june and normal to near normalrain fall was received in july month also. By taking the advantage of rains received earlier Kharif sowings were taken up and all crops had good germination and good vegetative growth.But subsequent dry spell (prolonged) for 22 days during August had greater deleterious effect on early duration crops like Setaria , Blackgram and Greengram. The redgram was massively taken up suffered due to early phase drought. The rains that received during last week of August could help to recoup from ill effects of drought. The setaria and other pulses which were adversely at reproductive phase failed express full yield potential as a result of which poor grain yields were recorded.

As there was no rainfall, livestock suffered from lack of green grass and fodder. Haylage making demonstration helped the farmers to come out of the situation to some extent.

As water was scarce, drip installation saved from drought, under crop diversification (paddy to vegetables) which boosted the income of the farmers. Drip irrigation was fully capitalized by the

farmers in the village and they could realize some reasonable yield by minimizing cost of cultivation and diversification to floriculture and vegetables.

With an objective to control the calf mortality, KVK also introduced calf registration programme which was well received by the farmers. The registered calves under this programme were provided medical and nutritional attention up to six months.

For conservation of soil and water, conservation furrows, sub soiling and demonstrations on Dead furrows were taken up in rainfed crops like red gram, cotton and bengalgram. Thirty bio gas units were established near the farmers houses for domestic gas, which was supported by NEDCAP, Kurnool. This technology attracted the attention of other farm families.

Burrakunta after desilting

Farm Pond filled with water

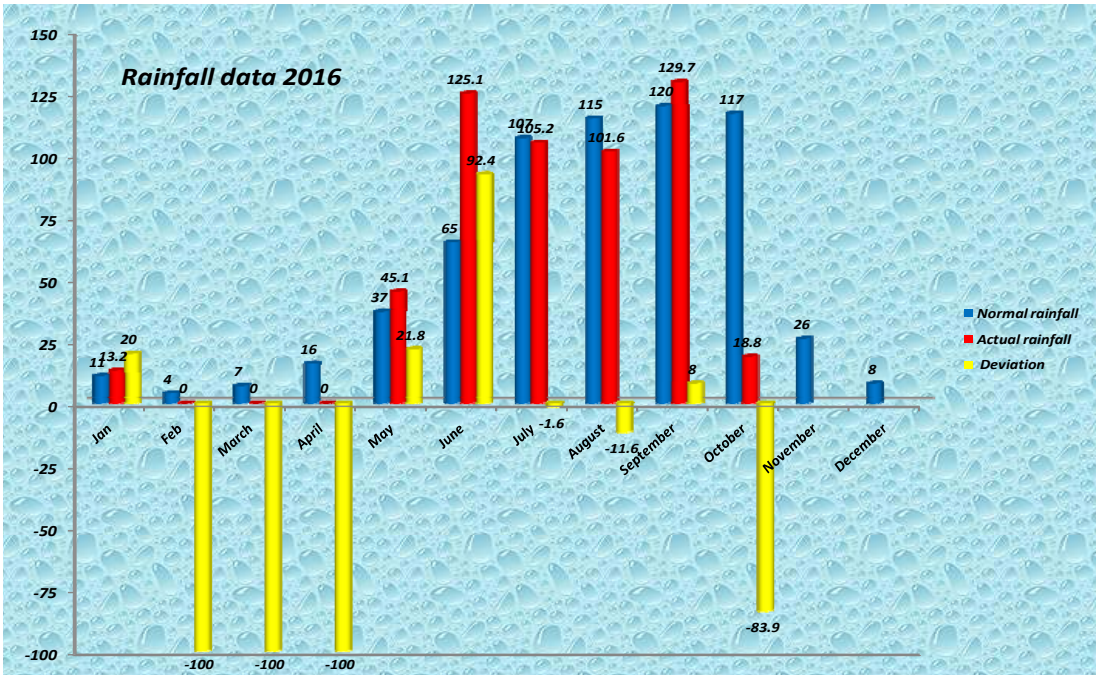
Major Climatic Details of the Village:

Table 1: Distribution of rainfall in comparison with normal 2016

Month	Normal rainfall (mm) Based on min.10 years	Rainfall (mm)	Difference of rainfall in comparison with normal rainfall (mm)	% Deviation i.e., Actual – Normal × 100 / Normal
		2016	2016	
Jan	11.0	13.2 (2)	(+) 02.2	+ 20.0
Feb	4.0	0.0	(-) 04.0	- 100
March	7.0	0.0	(-) 07.0	- 100
April	16.0	0.0	(-) 16.0	- 100
May	37.0	45.1 (3)	(+) 08.1	+ 21.8
June	65.0	125.1 (6)	(+) 60.1	+ 92.4
July	107.0	105.2 (7)	(-) 01.8	- 1.6
August	115.0	101.6 (6)	(-) 13.4	- 11.6
September	120.0	129.7 (4)	(+) 09.7	+ 8.0
October	117.0	018.8 (2)	(-) 98.2	-83.9
November	26.0	000.0	(-) 26.0	-100
December	8.0	000.6	(-) 07.4	-92.5
Total	**633.0**	**616.7**	**(-) 17.0**	**(-)2.57**
Total actual rainfall during cropping season (Sowing to harvest)				

Table 2: Distribution of rainfall in NICRA Village during 2016:

Day	June	July	August	September	October	ovember	December
1	000.0	000.0	002.0	000.0	000.0	000.0	000.0
2	000.0	000.0	000.0	000.0	000.0	000.0	000.0
3	024.4	000.0	000.0	000.0	004.2	000.0	000.0
4	000.0	000.0	000.4	000.0	000.0	000.0	000.0
5	000.0	000.0	000.0	000.0	000.0	000.0	000.0
6	000.0	000.0	000.0	000.0	000.0	000.0	000.0
7	000.0	000.0	000.0	000.0	000.0	000.0	000.0
8	062.3	000.0	001.6	000.0	000.0	000.0	000.0
9	000.0	000.0	000.0	000.0	014.6	000.0	000.0
10	000.0	000.0	000.0	001.2	000.0	000.0	000.0
11	000.0	000.0	000.0	002.2	000.0	000.0	000.0
12	000.0	000.0	000.0	013.6	000.0	000.0	000.6
13	000.0	000.0	005.0	000.0	000.0	000.0	000.0
14	000.0	000.0	000.0	083.0	000.0	000.0	000.0
15	000.0	000.0	000.0	000.0	000.0	000.0	000.0
16	000.0	000.0	000.0	000.0	000.0	000.0	000.0
17	000.0	037.0	002.2	000.0	000.0	000.0	000.0
18	002.3	000.2	000.0	000.0	000.0	000.0	000.0
19	002.3	000.0	000.0	000.0	000.0	000.0	000.0
20	000.0	000.0	000.0	002.0	000.0	000.0	000.0
21	010.6	000.0	000.0	007.4	000.0	000.0	000.0
22	000.0	000.0	000.0	001.0	000.0	000.0	000.0
23	000.0	016.6	000.0	000.1	000.0	000.0	000.0
24	000.0	011.8	004.6	000.0	000.0	000.0	000.0
25	000.0	024.0	000.0	002.0	000.0	000.0	000.0
26	012.6	003.6	000.0	000.0	000.0	000.0	000.0
27	007.4	009.0	009.4	000.0	000.0	000.0	000.0
28	003.2	000.0	000.0	017.2	000.0	000.0	000.0
29	000.0	000.0	065.0	000.0	000.0	000.0	000.0
30	000.0	000.0	008.8	000.0	000.0	000.0	000.0
31	--	003.0	002.6	--	000.0	--	000.0
Total	125.1	105.2	101.6	129.7	018.8	000.0	000.6



During the Kharif-16 (June- October) a total quantity of 480.4 mm rainfall was received as against normal rainfall of524.0mm. Kharif sowings were taken up with the rain fall received during 1st week of June.

Rabi sowings i.e Bengalgram were taken up with rain rainfall received during 2 nd week of October.

Weather – Crop – Pests & Diseases Situation in NICRA Village (2016-17)

Item/Month	June,2016	July, 2016	August, 16	Sep., 16	October, 16	Nov., 16
Rainfall	125.0 (6)	105.2(7)	101.6(6)	129.7(4)	18.8(2)	
Temperatures	21.0-37.4^{0}C	22.2-36.5^{0}C	23.5-36.0^{0}C	21.4-34.0^{0}C	18.0-34.0^{0}C	
Dryspells	29th	Upto 16th	1/8/16 to 23/8/16	1/9/16 to 12/9/16	10/10/16 to 31/10/16	Upto 7th
	18 days,		22days	11 days	29 days	
Setaria		17th to 5th Aug		Vegetative to PI stage	Harvested	
Pest/Disease				No pest/disease		
Redgram		17th to 5th Aug		Vegetative	Vegetative	Bud initiation
Pest/Disease					Jassids	Jassids, Webber (1 - 2%)
Bt Cotton		17th July to 15th Aug		Vegetative/ Square	Square/Flowering/Boll	Flower/Boll
Pest/Disease					Jassids, Thrips, Whiteflies	Jassids, Whiteflies, Pink boll worm (1-3%)

Maize	20th to 30th	Vegetative	Tasseling	Cob formation	Grain maturation to harvest & Rabi Sowing	Harvesting & Rabi crop in vegetative stage
Pest/Disease		Stem borer (5-8%)		No pest		Stem borer (1-5%)
Jowar				17th to 10th October		Vegetative
Pest/Disease					Shoot fly (10-12%)	Aphids (8-10%) Stem borer (1-5%)

Incidence of biotic and abiotic stress:

1. **Setaria :** No pest incidence was observed during the crop growth period. The crop suffered due to dry spells in August, September and October, which affected the yields (3-4 q/ac only obtained).
2. **Bt. Cotton :** The crop was sown during last week of July. During early vegetative stage, crop received good rains and growth was good. But due to increased temperatures in August and September, Incidence of sucking pests (Aphids 6% and Jassids 8-10/leaf) were observed in August and September and (Jassids 10-12/leaf and Whiteflies 6-8/leaf) in October due to dry spell prevailed. The square drop is also high.
3. **Jowar :** The crop was sown with the rains of September. The growth of the crop is affected due to continuous dry spell after sowing. Incidence of shoot fly (10-12%) and Stem borer (1-5%) was observed during this period.
4. **Maize:** The crop was sown in 2nd FN of June. The crop suffered the damage of Stem borer (5-8%) in Kharif and the existing Rabi Maize (1-5%)). Due to dry spells of August, September and October the crop was affected. The yields recorded were only 8-10q/ac.
5. **Redgram:** Majority of the crop was sown during 2nd FN of July. The rains of August and September helped the crop to put forth good vegetative growth. But due to drought in October (24 days), jassids and webber incidence were noticed. Now the crop is at flower bud initiation stage, experiencing moisture stress.

Effect of Dry spells on standing crops and management practices:

Crop/cropping system	Time of drought	Management strategies
Redgram	Early season drought 1/8/16 to 23/8/16)22 days dry spell after sowing)	Foliar spray of 2% urea or 1.0% kno3 Formation of conservation furrows between two rows of Redgram as preventive measure
	10/10/16 to 31/10/16 (23 days)	Frequent inter cultivation to conserve soil moisture Foliar spray of 2% urea or 1.0% kno3
	Reproductive phase	Foliar spray of 2% urea or 1.0% kno3
Seteria	Mid season drought 1/8/16 to 23/8/16)22 days Reproductive phase	Frequent inter cultivation to conserve soil moisture Foliar spray of 2% urea or 1.0% kno3
Bt cotton	Vegetative stage to(Oct-8 th to oct-31)(24 days)Reproductive phase	Frequent inter cultivation to conserve soil moisture Spray of urea/DAP @2%.
		Boran application @0.2% Supplemental irrigation with harvested rain water in farm ponds
Jowar	10/10/16 to 31/10/16 (23 days)	Foliar spray of 2% urea or 1.0% kno3 Formation of conservation furrows .
Maize	Mid season drought 1/8/16 to 23/8/16)22 days dry spell after sowing)	Earthing up to conserve soil moisture Foliar spray of 2% urea or 1.0% kno3
	10/10/16 to 31/10/16 (23 days)	Foliar spray of 2% urea or 1.0% kno3

Thematic area: NATURAL RESOURCE MANAGEMENT

In-situ moisture conservation

1. Name of the technology	In-situ moisture conservation technologies in Redgram
2. Objectives of the study	To enhance the productivity of rain fed Redgram
3. Thematic area	NRM
4. Problem diagnosis	Low and uncertainty of productivity due to recurrent intermittent drought/erratic rainfall
5. Micro farming situation	Rainfed MediumBlack soils
6. Year of start	2011
7. Year of completion	2016
8. Comparisons/treatments	
a) Farmers practice* (Describe the practice) b) Improved technology (mention test crop and varieties/variety used in demonstration)	a)Farmers practice (No conservation measures between two rows of Redgram) a)Formation of Conservation furrows in between two rows of Rdgram at 30-35 DAS
9. Area covered for each Demonstration (ha)	0.4
10. No. of farmers covered	15
11. Amount spent for each demonstration/each farmer	400/-
12. Contribution of demonstration from a) Project b) Farmers	 200/- 200/-
13 Results (Yield, Cost of cultivation, Gross income, Net income, B:C ratio, Soil moisture. Water stored (Cum) in depth, Water used for supplemental irrigation/life saving.	In progress

Treatments	Seed yield (kg/ha)	Fodder Yield (kg/ha)	Cost of cultivation (Rs/ha)	Gross income (Rs/ha)	Net income (Rs/ha)	B:C ratio
Farmers practice	810	--	19720	40500	20780	1:2.05
Improved technology	1045	--	20020	52300	32280	1:2.63

Seed Cost Rs. 50/- per kg.

This area falls under scarce rainfall zone and frequent prolonged dry spells at critical crop growth stages resulting poor yields were observed. To cope up with this problem, in- situ moisture conservation measures by formation of conservation furrows between rows of redgram during Kharif in an area of 10 ha , sub soiling in Redgram and& Bengalgram in an area of 1.0 ha and formation of dead furrows in an area of 10.0ha were taken up.

1.Effect of Conservation furrows on soil moisture retension/ conservation in Redgram:

S.No	*Treatments*	*Soil moisture %*	
		0-15	*15-30*
1	*Redgram with conservation furrows*	*16.5*	*13.0*
2	*Redgram without conservation furrows*	*6.07*	*8.4*

Thematic area: NATURAL RESOURCE MANAGEMENT

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9. Comparisons/treatments	
c) Farmers practice* (Describe the practice)	a)Farmers practice (No conservation measures)
d) Improved technology (mention test crop and varieties/variety used in demonstration)	a)Sub soiling with sub -soiler
10. Area covered for each Demonstration (ha)	0.4
11. No. of farmers covered	15
12. Amount spent for each demonstration/each farmer	400/-
12. Contribution of demonstration from a) Project b) Farmers	 200/- 200/-
14 Results (Yield, Cost of cultivation, Gross income, Net income, B:C ratio, Soil moisture. Water stored (Cum) in depth, Water used for supplemental irrigation/life saving. **(Brief results to be summarized)**	In progress

Effect of Sub soiler on soil moisture retension/ conservation in Redgram:

S.No	***Treatments***	***Soil moisture %***	
		0-15	***15-30***
1	*Redgram with sub soiler*	*15.15*	*16.2*
2	*Redgram without sub soiler*	*6.07*	*8.4*

Treatments	Seed yield (kg/ha)	Fodder Yield (kg/ha)	Cost of cultivation (Rs/ha)	Gross income (Rs/ha)	Net income (Rs/ha)	B:C ratio
Farmers practice	977	-	19720	48850	29153	1:2.48
Improved technology	1124	-	20970	56200	35278	1:2.68

Seed Cost Rs. 50/- per kg.

The results indicated that Redgram variety ICPL-87119 with In-situ conservation measures and sub soiling gave higher yield(1045 kg/ha) and 1124 kg/ha respectively, which were 29 and 15 per cent than that of farmers practice (810 kgs/ha) and 977 kg/ha in medium black soils.

De-silting of existing percolation tank:

The project committee proposed to de-silt the existing percolation tank (Burrakunta) for deepening and use of tank silt for marginal soils to improve soil physical properties and fertility. Focus group interactions were held with the villagers to sensitize them on the importance of water harvesting and application of tank silt. The de-silting of Burrakunta (PT) was taken up during July 2012 and 1260 Cu.mt silt was excavated. The silt was applied to 6 ha covering 10 farmers and transportation cost was borne by the farmers.

Chemical properties and nutrient status of tank silt was analyzed before application into the fields and the average pH and EC of tank silt was 7.95 and 0.35 dSm^{-1} respectively which were under normal range. The organic carbon content of silt was high (0.89 %), available phosphorus (112 ppm), Potassium (883ppm), Calcium (52me.eq/100gsoil), magnesium (5.5me.eq/100gsoil), ferrous (33.5ppm), copper(3.62ppm) were found in high range. The farmers were ready to transport the tank silt to their poor soils, since it was good nutrient status.

Out comes:

- Deepening of percolation tank increased the additional water storage capacity (12.60 lakh litres)
- It was observed that number of defunct borewells decreasing from 2013-14 to 2015-16 and recharge of defunct borewells increasing from 2013 to 2015 due to more storage water in Burrakunta by desilting (Table.1).
- Water table is increased during monsoon period.

Table. Impact of desilting of Burrakunta on borewell recharge during the year 2016-17

Month	Water table in the bore well (ft)	Availability of water in Water storage structure (ft.)	Average area irrigated acre / Bore well	Rainfall (mm)
June-16	120	4.0	-	125.1
July-16	96	4.0	**2.0**	105.2
August-16	89.5	6.0	**3**	101.6
September-16	84.3	8.0	**4**	129.7
October16	114.3	4.0	**4.6**	018.8

(Details (Average of Six bore wells taken for data)-Total number of bore wells - 40

Table.:Year wise impact of Burrakunta on borewells recharge:

Year	No. of borewells under Burrakunta	No.of defunct borewells during summer	No. of defunct borewells recharged during monsoon period	Depth of water table(ft.) during summer	Depth of water table(ft.) during monsoon period	Average rainfall(mm)
2013-14	110	70 (64%)	64 (91 %)	158.4	71.4	594.3
2014-15	110	63(57%)	60 (95%)	150.2	74.6	668.6
2015-16	114	26(23%)	26(100%)	145.4	106.4	621.6
2016-17	114	72(63%)	56(78%)	156.6	96.4	616.7

Impact of Soil Testing :

One hundred soil samples (0~0.15m depth) were collected before implementation of project (2011) and after 5 years of implementation of NICRA activities (2016) in Yagantipalle village of Banaganapalle mandal and analyzed at soil testing laboratory, KVK, Yagantipalle. The soil pH was measured by glass electrode using a soil to water ratio of 1:2.5, electrical conductivity (EC) was determined by an EC meter using a soil to water ratio of 1:2.5. Soil samples were analyzed for organic C by Walkley and Black method (Page et al., 1982), available nitrogen was analyzed by alkaline permanganate method (Subbaiah and Asija, 1956), available phosphorus by Olsen et al.(1954)'s method , available potassium by ammonium acetate method (Hanway and Heidal, 1952)and available micronutrients (Z,Fe,Cu and Mn) by DTPA extracting reagent (Lindsay and Norvell,1978).

Comparison of soil nutrient status before and after implementation of NICRA activities

S.No	Particulars	Unit	Before (2011)	After (2016)
1	**Organic carbon**	**Percent**	**0.47**	**0.51**
2	**Nitorgen**	**Kg./ha**	**201**	**189**
3	**Phosphorus**	**Kg./ha**	**71**	**62**
4	**Potash**	**Kg./ha**	**543**	**749**
5	**Sulphur**	**ppm**	**11.78**	**10**
6	**Zinc**	**ppm**	**0.34**	**1.18**
7	**Iron**	**ppm**	**13.5**	**16.2**
8	**Copper**	**ppm**	**1.56**	**1.93**
9	**Manganese**	**ppm**	**12.6**	**17.2**
10	**Boron**	**ppm**	**0.68**	**0.59**

The data in Table.1 revealed that the average available soil nitrogen, Phosphorus and sulphur were low (189,62,10 ppm respectively) after Implementation of NICRA activities (After 5 years) when compared to bench mark study (201,71,11.78 ppm respectively) due to judicious use of use of chemical fertilizers based on soil test based nutrient management.

However the organic carbon (OC) content was increased from 0.47% to 0.51% after implementation of NICRA activities due to introduction of green manuring insitu, recycling of farm waste by different composting methods like Pit method, NADEP method, Composting tubs with locally available Kadapa slabs and increased FYM quantities due to increased live stock population particularly milch animals in project village. And also similar trend was observed in micronutrient status before and after implementation of NICRA activities.

2. Theme Area: CROP PRODUCTION

Demo I: Testing of drought tolerant varieties in Pigeon pea:

1. Name of the technology	Performance of Drought tolerant varieties
2. Objectives of the study	To identify the varieties Suitable under Drought Situation.
3. Thematic area	Crop production
4. Problem diagnosis	Low yields due to frequent drought Conditions and terminal moisture stress during pre-flowering and Pod development stages respectively.
5. Micro farming situation	Rain fed red soils
6. Year of start	2011
7. Year of completion	
8. Comparisons/treatments (mention test crop and varieties/ variety used in demonstration)	1.Local:LRG-30/LRG-41 2.Improved variety :,PRG-176
9. Area covered for each demonstration (ha)	0.4
10. No. of farmers covered	87
11. Amount spent for each demonstration/each farmer	405/-
12. Contribution of demonstration from a) Project b) Farmers	 205/- 200/-
13. Results (yield, cost of cultivation, gross income, net income B:C ratio, soil moisture. Indicators /plant characters of flood/ drought tolerance in terms growth and yield components etc., **(Brief results to be summarized)**	In progress

Introduction of drought tolerant variety of Redgram i.e Asha-87119 and PRG-176 which is tolerant to drought, suitable for medium to light soils with 150 days and 135days duration respectively, where long duration (180 days) varieties were facing moisture stress at flowering and pod dev. Stage (Terminal moisture stress).

Table: Year 2016-17

Treatments	Seed yield (kg/ha)	Fodder Yield (kg/ha)	Cost of cultivation (Rs/ha)	Gross income (Rs/ha)	Net income (Rs/ha)	B:C ratio
Farmers practice(LRG-41)	995	--	24697	49766	25068	1:2.02
Improved variety(PRG-176)	1096	--	23324	54817	31493	1:2.37

Seed Cost Rs. 50/- per kg.

The results indicated that Redgram variety PRG-176 with Improved production technologies gave higher yield (1096 kg/ha), which was 10.0 per cent than that of farmers practice (995 kg/ha) in medium black soils.

The Economic Viability of improved technology over farmers practice was calculated depending on prevailing prices of input and output costs. The improved technologies resulted increased income with cost benefit ratio of 1:2.37/2.02

Demo II: Testing of drought tolerant varieties in Bengalgram:

1. Name of the technology	Performance of Drought tolerant varieties
2. Objectives of the study	To identify the varieties Suitable under Drought Situation.
3. Thematic area	Crop production
4. Problem diagnosis	Low yields due to frequent drought Conditions and terminal moisture stress during pre-flowering and Pod development stages respectively.
5. Micro farming situation	Rain fed red soils
6. Year of start	2011
7. Year of completion	
8. Comparisons/treatments (mention test crop and varieties/ variety used in demonstration)	1.Local:JG-11 2.Improved variety :,NBeG-3
9. Area covered for each demonstration (ha)	0.4
10. No. of farmers covered	30
11. Amount spent for each demonstration/each farmer	1325

12. Contribution of demonstration from a) Project b) Farmers	 1325/- 1325/-
13. Results (yield, cost of cultivation, gross income, net income B:C ratio, soil moisture. Indicators /plant characters of flood/ drought tolerance in terms growth and yield components etc., **(Brief results to be summarized)**	

Table: Year 2016-17

Treatments	Seed yield (kg/ha)	Fodder Yield (kg/ha)	Cost of cultivation (Rs/ha)	Gross income (Rs/ha)	Net income (Rs/ha)	B:C ratio
Farmers practice(JG-11)	1134	-	29500	79380	49880	1:2.69
Improved Variety(NBeG-3)	1326	-	30750	92828	62078	1:3.05

Seed Cost Rs. 70/- per kg.

Results of Bengalgram demonstrations indicated that among desi varieties NBeG-3 Performed well in medium to light soils. These varieties are fairly tolerant drought with well developed root system and also tolerant to wilt diseases.

The increased grain yield with Improved production technologies was mainly because of more no of pods/plant and higher 100 grain weight. Economics of demonstration and Farmers practice indicated that the cultivation of Nandyala sanaga-1 with improved technologies, additional returns of Rs 12120/- /ha were obtained with BC ratio of 1:3.05/2.69 ***The performance of nandyal senega was superior to the control for its rooting traits and heat tolerance***

Demonstration on Intercropping:

1. Name of the technology	Demonstration of Red gram and Seteria as a intercropping
2. Objectives of the study	To minimize the risk and bring stable income in rain fed situations
3. Thematic area	Crop production
4. Problem diagnosis	Low productivity and income in erratic rainfall Frequent Drought Conditions During crop growth stages and Crop failures due to prolonged dry spells, low net returns.

5. Micro farming situation	Rain fed , Red soils
6. Year of start	2011
7. Year of completion	
8. Comparisons/treatments	
a). Farmers practice* (Describe the practice) b). Improved technology (mention test crop and varieties/variety used in demonstration)	Seteria as a Sole crop Intercropping System(Seteria+Redgram5:1)
9. Area covered for each demonstration (ha)	0.4
10. No. of farmers covered	63
11. Amount spent for each demonstration/each farmer.	645/-
12. Contribution of demonstration from a) Project b) Farmers	 345/- 300/-
13.Results (yield, cost of cultivation, gross income, net income B:C ratio, other parameters like yield components, soil moisture depth etc.,	

Crop/Cropping System	Seed yield (kg/ha)		Fodder (kg/ha)		Cost of cultivation (Rs/ha)	Gross income (Rs/ha)	B:C ratio
	Crop 1	Crop 2	Crop 1	Crop 2			
1.Setaria	993		1588		14070	19860	1:1.4
Seteria+Redgram	919 (S) 394 (R)		1470		15228	38080	1:2.5

Inter Cropping systems for drought mitigation:

Adverse weather conditions like delay onset of rains and prolonged dry spells during the crop period is very common in rainfed situation. Such situation results in economic losses to the farmers due to the partial or total failure of the sole crops. In order to utilize the bi-model distribution of rainfall and also to insure against crop failure due to drought during crop growth period, millet based inter cropping systems were demonstrated.

Introduced Redgram + Seteria (1:5) inter cropping systems in the village, along with sole crop of Redgram/Seteria in order to increase cropping intensity and net returns of the farmers.

Seed Cost (Seteria) Rs. 17/- per kg., Redgram Rs. 50/- per kg.

- Results of demonstration on intercropping of Redgram + Seteria in row ratio of 1:5 indicated that the gross income was higher (Rs.38080/-) than sole crop of seteria (Rs. 19860/-)

- The results on cropping system oriented demonstrations against drought mitigation clearly indicates that above inter cropping systems are economically advantageous than sole crops nder rainfed situations. In the long run the fertility and microbial activity of the soil also increases with addition of biomass of redgram.

Introduction of alternate crops i.,e Seteria

1.Name of the technology	Performance of Seteria as alternate crop to desi cotton
2.Objectives of the study	To Maximize yield and higher returns under harsh weather conditions
3.Thematic area	Crop production
4. Problem diagnosis	Low productivity and income in erratic rainfall
5.Micro farming situation	Frequent Drought Conditions During crop growth stages.
6.Year of start	2011
7.Year of completion	
8.Comparisons/treatments	

a). Farmers practice* (Describe the practice) b). Improved technology (mention test crop and varieties/variety used in demonstration)	Desi Cotton SIA-3085 as a alternate crop and Castor
9.Area covered for each demonstration (ha)	0.4
10.No. of farmers covered	48
11. Amount spent for each demonstration/each farmer.	240/-
12. Contribution of demonstration from a) Project b) Farmers	 140/- 100/-
13.Results (yield, cost of cultivation, gross income, net income B:C ratio, other parameters like yield components, soil moisture depth etc.,	1st year 2nd Year Current year.

Results

Crop/Cropping System	**Seed yield (kg/ha)**	**Fodder (kg/ha)**	**Cost of cultivation (Rs/ha)**	**Gross income (Rs/ha)**	**B:C ratio**
cotton	693		22936	31185	1:1.36
Seteria	1078	1724	14071	18334	1:1.30
Castor	1124		21919	39354	1:1.80

Seed Cost (Cotton) Rs. 45/- per kg., Castor Rs. 35/- per kg., Seteria Rs. 17/- per Kg.

Table: Influence of *alternate crops i.,e Seteria and Castor* on yields and income in rain fed environment 2016-17

In View of drought tolerance and minimum requirement of water seteria crop is preferred Sustainable yield and income was obtained under harsh weather conditions. Inview of its superior performance the crop area increased from 40 to 2000 acres insorrounding the villages during kharif 2016. Area expansion under this crop is expected during ensuing season also .*The adoption of seteria crop by the farmers was due to its suitability to delayed monsoon, its duration and additional benfit of fodder.*

With this high yielding variety Farmers were getting on an average of 10.78 q /ha of grain and more fodder yield.

Economics of demonstration and Farmers practice indicated that the cultivation of alternate crop castor with improved technologies, additional returns of Rs 8169/- /ha were obtained with BC ratio of 1:1.30/1.80.

Theme area: CROP PRODUCTION: PLANT PROTECTION

1. Name of the technology	Management of sucking pests in Bt cotton
2. Objectives of the study	To economize the cost of plant protection of chemicals in Bt cotton by adopting IPM for sucking pests
3. Thematic area	IPM
4. Problem diagnosis	The yield of Bt Cotton is affected due to regular incidence of sucking pests like Jassids, Aphids and Whiteflies. The cost of plant protection is increasing year by year.
5. Micro farming situation	Rainfed Red/ black soils
6. Year of start	2013
7. Year of completion	
8. Comparisons/treatments	Test crop: Bt Cotton
a). Farmers practice* (Describe the practice) b) Improved technology (Mention test crop and varieties/variety used in demonstration)	1. Farmers method of plant protection (Spraying Mono, Imida and Triazophos after witnessing the incidence of pests) 2. IPM technology : Stem application at 20, 40 and 60 DAS with Mono or Imidacloprid, Instlling Yellow Sticky Traps @ 25/ha, Need based spraying of Imidacloprid @ 0.25 ml/lt or Acetamaprid @ 0.3 g/lt or Triazophos @ 2 ml/lt.
9. Area covered for each demonstration (ha)	0.4
10. No. of farmers covered	45
11. Amount spent for each demonstration/each farmer	470/-
12. Contribution of demonstration From a) Project b) Farmers	 370/- 100/-

13. Results (yield, cost of cultivation, gross income, net income B:C ratio, other parameters like incidence of pests or disease (No.of plants damaged/sq.m), name the pest/ disease, No. of plants recovered/sq.m after imposition of treatment.etc.,	The crop was infested with sucking pests viz., Aphids, Jassids and Whiteflies due to continuous dryspells prevailed after sowing. However, the plots where stem application with Imida and Mono was taken up at 40 and 60 DAS were healthy and less damage was noticed compared to farmers practice.
14. Any other information/details	The incidence of sucking pests noticed was as under. Aphids (3-7%), Jassids (4-7/leaf) and Whiteflies (12-16/leaf) at its peak in Farmers Practice, which was 1-4%, 0-3/leaf and 4-6/leaf respectively in Demonstration after Stem application.

During the season the incidence of Jassids, Aphids and Whiteflies were observed in bt cotton, due to dry spells prevailed during August (22 days), September (11days), October (22 days). Stem application with Imidacloprid and Monocrotophos at 40 and 60 DAS, effectively managed Aphids and Jassids. And spraying of Acetamaprid @ 0.5g/lt with Neem oil 0.03% - 5 ml/lt checked the incidence of whiteflies effectively in the demonstrations.

Year 2016-17

Treatments	Seed/Grain yield (kg/ha)	Fodder Yield (kg/ha)	Cost of cultivation (Rs/ha)	Gross income (Rs/ha)	Net income (Rs/ha)	B:C ratio
Farmers practice	1278		42905	69873	26969	1:1.62
Improved method /IPM	1334		39765	73346	33580	1:1.84

Cotton Rs. 55/- per kg

Theme area: LIVE STOCK AND FISHERIES

Reduction of calf mortality through calf registration programme

1. Name of the technology	Calf registration and healthy calf programme
2. Objectives of the study	To reduce the calf mortality To improve the growth rate in calves
3. Thematic area	Livestock and fisheries
4. Problem diagnosis	High calf mortality and low growth rate in calves
5. Micro farming situation	Dairy farming
6. Year of start	2012-13
7. Year of completion	-
8. Comparisons/treatments	
a). Farmers practice* *(Describe the practice) b) Improved technology (mention test crop and varieties/variety used in demonstration)	1 Farmers practice 2. Calf registration (Monthly de-worming + Vit.A and B-complex supplementation and feeding of calf starter for 5 months@500g/day)
9. Area covered for each demonstration (ha)	50 calves
10. No. of farmers covered	50
11. Amount spent for each demonstration/each farmer	250/-
12. Contribution of demonstration from a) Project b) Farmers	 225/- 25/-
13. Results (Initial body weight and final body weight of small ruminants, cost of feeding, market value or amount realized due to selling (gross income) and net income etc.**(Brief results to be summarized)**	In progress
14.Any other information/details	

Results

Particulars	*Farmers practice*	*Demonstration*	*Remarks*
Initial body weight (kg)	28.4	26.9	***The increased growth rate helps the calf to come into heat early.***
Final body weight (Kg)	76.7	84.3	
Body weight gain (kg)	48.3	57.4	
% increased in body Weight gain (Rs)	**18.84**		
Mortality	12%	**4%**	

Mitigation of mineral deficiency in milch buffaloes:

1. Name of the technology	Improvement of nutrition in live stock
2. Objectives of the study	To improve the productivity of milk through improved feeding practices
3. Thematic area	Livestock and fisheries
4. Problem diagnosis	Low production of milk due to imbalanced nutritional methods
5. Micro farming situation	dairy animals
6. Year of start	2012
7. Year of completion	
8. Comparisons/treatments	Mention species. cow or buffalo Type: local or improved
a). Farmers practice* (Describe the practice) b) Improved technology (Mention test crop and varieties/ variety used in demonstration)	1. Farmers practice of feeding (FMF) Only dry fodder + Rice brawn 2. FMF+ Mineral mixture (150gm/animal/day)
9. Area covered for each demonstration (ha)	10
10. No. of farmers covered	10
11. Amount spent for each demonstration/each farmer	490/-
12. contribution of demonstration from a) Project b) Farmers	 390/- 100/-
13. Results (fodder yield, cost of cultivation, gross income, net income B:C ratio, other parameters like by product quantity and its value after imposition of treatment.etc., **(Brief results to be summarized)**	In Progress
14. Any other information/details	

Results

Table: Influence of Urea molasses /mineral mixture on productivity of live stock (2016-17)

Treatments	Average milk yield/animal (L/day)	Total milk yield per animal (L/60days)	Cost of feeding (Rs/animal)	Gross Returns (Rs/animal)	Net returns (Rs/animal)
Farmers practice	3.47	208.2	1395	6770	5375
FPF+ urea molasses	4.01	240.6	1965	9990	8025

Horticulture

Introduction of drip irrigation in Horticulture crops:

Total cultivable area is 1600 acres, of which 70 % is rainfed and remaining area is under irrigation. Main source of irrigation is bore wells. It is one of the examples, where ground water is over exploited, hence declared as noted village under APWALTA act, for arresting further drilling of bore wells. In last ten years water table depleted rapidly from 60 feet to 150feet.In view of the above alarming situation, drip irrigation is one of the water saving technology with better WUE.

Total area under irrigation	**600 Acres**
Area under Horticulture crops	215 Acres
Number of bore wells	150
Area brought under drip irrigation	**131.16 Acres**
Area under pipeline	20 Acres
Target	40 Acres

Details of the area brought under Drip irrigation.

Based on problem identified through PRA conducted in the village, Demonstrations were proposed under NICRA for 2012-15 to extend drip irrigation for horticultural crops in an area of fifty acres and installation was completed in 30 acres. Among total expenses 90% was contributed from APMIP and remaining 10% was contributed by NICRA and farmer equally. A total of 125.21 acres covered during the period 2012-15.

Fifty one farmers cultivating different horticultural crops were selected and the drip system was installed.

Crop	Number of farmers	Area(Acre)
Papaya	02	16.0
Mango	24	72.36
Jasmine	7	10.4
Drum stick	02	5.0
Banana	01	1.0
Vegetable	15	20.45
Total	**51**	**125.21**

Micro irrigation:

1.Name of the technology	Drip irrigation in Mango
2.Objectives of the study	To improve the water use efficiency
3.Thematic area	Micro irrigation
4. Problem diagnosis	Low water use efficiency with surface methods of irrigation
5.Micro farming situation	Rainfed Red/ black soils
6.Year of start	2011-12
7.Year of completion	2014
8.Comparisons/treatments	
a). Farmers practice* (Describe the practice) b) Improved technology (Mention test crop and varieties/variety used in demonstration)	a) Flooding the trees basins with water through field channels b) Drip irrigation with double laterals CROP: Mango Variety: Baneshan
9.Area covered for each demonstration (ha)	1.0
10.No. of farmers covered	10
11.Amount spent for each demonstration/each farmer	5,000/-
12.Contribution of demonstration from a) Project b) Farmers	 5000/- 5000/-
13.Results	

The Economic Viability of improved technology over farmers practice was calculated depending on prevailing prices of input and output costs. The improved technologies resulted increased income with cost benefit ratio of 1:4.6/2.8.

The data clearly indicated that with drip irrigation gave higher fruit yield (12542 Kg/ha), which was 50.0 per cent more than that of obtained with farmers practice of basin method of irrigation.

INSTITUTIONAL INTERVENTIONS:

FARM MACHINERY:

CHCs are basically a unit comprising a set of farm machinery, implements and equipment meant for custom hiring by farmers. Though certain implements and equipment are crop specific,. Therefore, an ideal model envisaged in this project comprise farm machinery that are commonly used for tillage operations for all crops, multi crop equipment and a minimum of crop specific machinery.

Objectives:

- To make available various farm machinery / equipments to small and marginal farmers
- To improve mechanization in places with low farm power availability
- To provide hiring services for various agricultural machinery/implements applied for different operations.
- To expand mechanized activities during cropping seasons in large areas especially in small and marginal holdings.
- To provide hiring services for various high value crop specific machines applied for different operations.

CROP PRODUCTION: FARM MACHINERY

1. Name of the technology	Seeding methods in Jowar & Bengal gram
2. Objectives of the study	To reduce the cost of sowing of agricultural crops and increase precision and to cover more area in unit time
3. Thematic area	Crop production- Farm Machinery
4. Problem diagnosis	Traditional method of seeding with bullocks involves high cost, less coverage and less precision
5. Micro farming situation	Rain fed black soils
6. Year of start	2011
7. Year of completion	2016
8. Comparisons/treatments	Test crop: Jowar and Bengalgram
a). Farmers practice* (describe the practice) b) Improved technology (mention test crop and varieties/variety used in demonstration)	1. Farmers method of seeding 2. Improved method of seeding with seed drill in Jowar & Bengal gram
9. Area covered for each demonstration (ha)	1.0
10. No. of farmers covered	50 (25+25) Jowar ,Bengalgram
11. Amount spent for each demonstration/each farmer	
12. Contribution of demonstration from a) Project b) Farmers	
13. Results	
14. Any other information/details	

Year 2016-17 Bengal gram

Treatments	Seed / Grain yield (kg/ha)	Fodder Yield (kg/ha)	Cost of cultivation (Rs/ha)	Gross income (Rs/ha)	Net income (Rs/ha)	B:C ratio
Improved seed drill	1261	--	36600	88270	51693	1:2.4
Farmers method of seeding	1125	--	37286	78750	41463	1:2.1

Seed rate (Bengalgram) Rs. 70/- per kg.

Year 2016-17 Jowar

Treatments	Seed / Grain yield (kg/ha)	Fodder Yield (kg/ha)	Cost of cultivation (Rs/ha)	Gross income (Rs/ha)	Net income (Rs/ha)	B:C ratio
Improved seed drill	2265	-	16535	45300	28765	1:2.7
Farmers method of seeding	1876	-	17560	37520	19960	1:2.1

Indicate price of Jowar seed Rs 20 /Kg at the time of computing gross income.

Custom Hiring center:

Custom hiring center with seed drills, Rotavator, Drumseeders, Taiwan sprayer, sprinklers with Pumpset and sheep de- worming gun etc. was established and the same is running successfully.

Custom Hiring center

1. Name of the technology	Custom hiring center
2. Objectives of the study	To establish community based custom hiring center to provide hiring services of agricultural operations in a village
3. Thematic area	Institutional innovations
4. Problem diagnosis	Low productivity of crops due to lack of timely operations
5. Micro farming situation	Group based activity in a village
6. Year of establishment	2011
7. No. of families as members in community based custom hiring center	-
8. Contribution for the establishment of the center (Rs) (a) From the Project	6.25 +4.85lakhs
(b) Farming community	0.69 lakshs
(c) Loan from the Bank	-
(d) Other sources	-
Total	11.79 lakshs
9. Process of establishment	
10. Date of formation of Management committee	
11. Type s of equipments procured for running the center	Annexure
12. No. of persons engaged on hire basis in running and maintenance of equipments	-
13. No. of meetings held by the Management committee in a year with dates	
14. Recommendations of the committee for improved functioning	
15. Results/ performance	
16. Key leanings for sustainability of the center	

Table: Performance of custom hiring center

Year	Crops in demand for servicing custom hiring center	Area covered with hiring services (ha)	Amount realized due to services with custom hiring services (Rs)	Amount spent on contact service personnel For running the center	Amount incurred in maintenance of tools and center	Net amount realized due to custom hiring center	Any other information
2016	*Kharif*						
	1.Redgram						
	2.Jowar						
	3.Bengalgram						
	4.seteria	90	12310	---		12310	

- ❑ Contribution from Farmers : Rs 3,22,711-00
- ❑ Amount invested to purchase implements : Rs 81,900-00
- ❑ Net amount realized : Rs 2,40,811-00

S.No.	Name of the implement	No of Units
1	GPS unit	1
2	Seed drills	3
3	Rotavator	2
4	Power weeder	1
5	7- Tyned gorru	2
6	Sprinkler set	2
7	Oil engine	2
8	Taiwan Sprayers	8
9	De-worming gun	1
10	Soil augers	5
11	2-Plough set	1
12	Sub Soilar	1
13	Bullock drawn seed drill	1

Custom Hiring Centre

Land preparation with Rotavator

Sowing with seed drill

Sowing with seed drill

Supplemental irrigation with Pipes

Oil Engine for lifting Irrigation water

Spraying with Tiwan Sprayer

Seed Production (Seed Bank):

Quality seed of improved varieties is an important basic input for enhancing productivity of any crop species. The existing mechanisms are not adequate to meet the seed requirements of small-scale farmers and have serious limitations. Particularly to small holder farmers at affordable prices and at the right time to enhance crop productivity and household food security.

The baseline studies in the project area identified key problems related to seed supply system. Lack of timely availability of good quality seeds of high-yielding varieties is one of the major constraints contributing to stagnant yields of crops in the project area.

The project devised alternate seed systems, which ensure availability of quality seed of improved varieties at local level. The concept of village seed banks was promoted and successfully validated in the project village. It not only ensured timely availability of quality seed of farmer-preferred varieties at affordable prices at local level but also enhanced crop productivity and local seed enterprises leading to higher incomes to farmers.

During this kharif seed production in Paddy (BPT-5204) Redgram (Asha-87119& PRG-176) and Korra (SIA-3088) and Bengalgram (NBeG-3) was taken up to establish seed bank in the village.

6.5 Capacity Building

Date	Title of the training programmes	duration in days	No.of programmes organized	No. of participants		
				Male	Female	Total
26-04-2016, 10-5-2016,12-7-16,17-8-2016,20-11-2016,12-10-2016,6-7-2016,3-9-2016	NRM & RCT	8	8	124	13	137
06-07-2016,5-7-2016,8-8-16,13-9-16, 10-12-2016	Crop diversification	5	5	92	20	112
6/20/2016	Nursery raising	1	1	32	04	36
03.06.2016,24-8-16,23-11-2016,10-12-2016,6-1-2017, 18-2-2017,03-3-2017	Livestock	7	7	135	40	175
23.6.2016	Farm implements &machineries	1	1	26	0	26
06-07-2016,5-7-2016,8-8-16,13-9-16, 10-12-2016	Crop management	06	06	180	26	206
7/26/2016,18/8//2016	Drought management	02	02	74	10	84
8/17/2016,10-11-2016,5-12-2016	Pest & Disease management	03	03	62	22	84
9/1/2017	Fodder& feed management	01	01	18	04	22
20-08-2016	Pomegranate cultivation	01	01	30	04	34
	Total	**35**	**35**	**773**	**143**	**916**

6.6 Extension Activities

Date	Title of the activity	No.of programmes organized	No. of participants		
			Male	Female	Total
23-05-2016,19-09-2016 12-11-2016,10-12-2016	Awareness on kharif preparedness	04	83	20	103
06-06-2016,12-07-2016 23-08-2016,19-09-2016 12-11-2016,10-12-2016 08-01-2017	Group Discussions	07	112	25	137
Every Tuseday &Friday	Agro advisories	96	3312	984	4296
18-07-2016,19-09-2016	Method Demonstration	02	39	07	46
23-08-2016,09-09-2016 12-11-2016	Diagnostic visit	03	56	06	62
	Total	**112**	**3602**	**1042**	**4644**

Extension Activities :

KVK Kurnool extended their services in transferring technologies related to climate resilient agriculture. The other activities include group dynamics, method demonstration, seeding devices, awareness programmes were also organized on climate resilient agriculture. Agro advisory services through mobile alert systems, exposure visits and kisan melas etc.,

List of contributors for implementing the NICRA Programme:

S.No.	Name	Designation	Address	Phone and e-mail
1	Smt.G.Dhanalakshmi	Programme Coordinator	SHE & CS, Krishi vigyan Kendra, Yagantipalli, Kurnool A.P	9440607424
2	Sri M.Sudhakar	SMS(Agronomy)		9440739378
3	Sri K.V.Ramanaiah	SMS(Soil Science)		9440238071
4	Sri. D.Balaraju	SMS(Plant Protection)		9493836890
5	Sri.K.V.Rajeswara Reddy	SMS(Horticulture)		9848609233
6	Sri.A.Krishnamurthy	SMS(AH)		9493619020
7	Smt.K.Lakshmipriya	Pro.Asst(Hsc)		9441192765
8	R.Venkat Naik	S R F		9666747842
9	P.Vishnu Mohan Reddy	S R F		9963875833

List of Annexures to be enclosed in Annual report

ANNEXURE-I

Rainfall details in NICRA village -2016-17

Days	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1	000.0	000.0	000.0	000.0	000.3	000.0	000.0	002.0	000.0	000.0	000.0	000.0
2	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0
3	000.0	000.0	000.0	000.0	000.0	024.4	000.0	000.0	000.0	004.2	000.0	000.0
4	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.4	000.0	000.0	000.0	000.0
5	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0
6	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0
7	000.0	000.0	000.0	000.0	003.2	000.0	000.0	000.0	000.0	000.0	000.0	000.0
8	000.0	000.0	000.0	000.0	000.0	062.3	000.0	001.6	000.0	000.0	000.0	000.0
9	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	014.6	000.0	000.0
10	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	001.2	000.0	000.0	000.0
11	000.0	000.0	000.0	000.0	000.6	000.0	000.0	000.0	002.2	000.0	000.0	000.0
12	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	013.6	000.0	000.0	000.6
13	000.0	000.0	000.0	000.0	000.0	000.0	000.0	005.0	000.0	000.0	000.0	000.0
14	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	083.0	000.0	000.0	000.0
15	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0
16	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0
17	000.0	000.0	000.0	000.0	000.0	000.0	037.0	002.2	000.0	000.0	000.0	000.0

18	000.0	000.0	000.0	000.0	000.0	002.3	000.2	000.0	000.0	000.0	000.0	000.0
19	000.0	000.0	000.0	000.0	000.0	002.3	000.0	000.0	000.0	000.0	000.0	000.0
20	006.4	000.0	000.0	000.0	000.0	000.0	000.0	000.0	002.0	000.0	000.0	000.0
21	006.8	000.0	000.0	000.0	000.0	010.6	000.0	000.0	007.4	000.0	000.0	000.0
22	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	001.0	000.0	000.0	000.0
23	000.0	000.0	000.0	000.0	000.0	000.0	016.6	000.0	000.1	000.0	000.0	000.0
24	000.0	000.0	000.0	000.0	000.0	000.0	011.8	004.6	000.0	000.0	000.0	000.0
25	000.0	000.0	000.0	000.0	000.0	000.0	024.0	000.0	002.0	000.0	000.0	000.0
26	000.0	000.0	000.0	000.0	000.0	012.6	003.6	000.0	000.0	000.0	000.0	000.0
27	000.0	000.0	000.0	000.0	020.6	007.4	009.0	009.4	000.0	000.0	000.0	000.0
28	000.0	000.0	000.0	000.0	020.4	003.2	000.0	000.0	017.2	000.0	000.0	000.0
29	000.0	000.0	000.0	000.0	000.0	000.0	000.0	065.0	000.0	000.0	000.0	000.0
30	000.0	000.0	000.0	000.0	000.0	000.0	000.0	008.8	000.0	000.0	000.0	000.0
31	000.0	000.0	000.0		000.0		003.0	002.6		000.0		000.0
Total	13.2	000.0	0	0	45.1	125.1	105.2	101.6	129.7	018.8	000.0	000.6
Rainy days	2	0	0	0	3	6	7	6	4	2	0	0

Annexure- II

Farmer wise yield data for different interventions implemented --- 2016-17

1. Title of the intervention : Seteria as alternate crop
2. Year of the study : 2016-17
3. No. of farmers covered : 48
4. Area covered in each demonstration (ha) : 0.4
5. Total area covered in the intervention (ha) : 19.2

S.No	Farmer	Seed yield (kg/ha)	Date of sowing	Date of harvesting
1	M.Veerabhadrappa	1040	**19-07-2016**	**04-10-2016**
2	S.Kaladhar Reddy	1120	21-07-2016	09-10-2016
3	S.Ravisankar Reddy	960	28-07-2016	18-10-2016
4	S.Ramakrishna Reddy	1120	30-06-2016	30-09-2016
5	K.Venkat Reddy	1040	02-07-2016	4-10-2016
6	S.Balasubba Reddy	1120	04-07-2016	22-10-2016
7	D.Chinnadastagiri	1200	20-07-2016	26-10-2016
8	B.Narayana Reddy	960	22-07-2016	14-10-2016
9	B.Rameswra Reddy	1040	30-06-2016	26-09-2016
10	Y.Nagi Reddy	880	03-07-2016	7-10-2016
11	M.Venkatakrishnaiah	1200	15-07-2016	8-10-2016
12	D.Seetha Rami Reddy	1120	18-07-2016	13-10-2016
13	V.Pulla Reddy	960	30-06-2016	30-9-2016
14	K.Madanna	1040	02-07-2016	6-10-2016
15	S.Peddamuddappa	1280	28-07-2016	16-10-2016
16	B.Venkata Subba Reddy	1040	29-06-2016	28-09-2016
17	D.Alisaheb	960	19-07-2016	14-10-2016
18	C.Pakkera	880	29-07-2016	18-10-2016
19	K.Anjeneyulu	1120	19—07-2017	14-10-2016
20	B.Peddamallikarjuna	1040	28-07-2016	16-10-2017
21	B.Ramakrishnamma	1200	29-06-2016	02-10-2016
20	B.Pedda ankanna	1360	20-07-2016	12-10-2016
23	T.Kumari	960	20-07-2016	10-10-2016
24	B.V.Suryanarayana Reddy	1200	02-07-2016	30-09-2016
25	B.Narayana Reddy	960	28-07-2016	14-10-2016
26	B.sakunthala	1040	29-06-2016	16-10-2016
27	B.Jagadeeswara Reddy	1200	19-07-2016	04-10-2016
28	B.Suryanarayana Reddy	1120	20-07-2016	15-10-2016
29	D.Nadipi bujjenna	1280	1-07-2016	20-10-2016

30	B.Ramasubba Reddy	1040	18-07-2016	14-10-2016
31	B.Sivasatyam Reddy	1000	26-07-2016	22-10-2016
32	G.Kakkaiah	975	18-07-2016	12-10-2016
33	G.Bramaiah	1025	02-07-2016	29-09-2016
34	G.Srennu	963	04-07-2016	02-10-2016
35	SBVB. Mallika	1050	20-07-2016	13-10-2016
36	B.Obula Reddy	1120	22-07-2016	15-10-2016
37	D.DastagiriReddy	1200	25-07-2016	22-10-2016
38	D.Sarvanna	970	02-07-2016	02-10-2016
39	D.Narasimhudu	1040	28-07-2016	22-10-2016
40	V.Thirupam Reddy	1150	29-06-2016	26-10-2016
41	K.Thimma Reddy	1300	19-07-2016	14-10-2016
42	S.Maheswara Reddy	1250	25-07-2016	13-10-2016
43	B.Sankar Reddy	1000	02-07-2016	01-10-2016
44	B.Ramachandra Reddy	1020	04-07-2016	03-10-2016
45	B.Siva Reddy	1100	20-07-2016	16-10-2016
46	B.Venkateswara Reddy	1000	22-07-2016	18-10-2016
47	K.Rama maddilety	1063	30-06-2016	26-09-2016
48	S.Bhagyamma	1063	28-07-2016	21-10-2016
	AVG	**1078**		

Farmer wise yield data for different interventions implemented --- 2016-17

1 .Title of the intervention : Castor as Alternate crop

2 .Year of the study : 2016-17

3. No. of farmers covered : 25

4 .Area covered in each demonstration (ha) : 0.4

5 .Total area covered in the intervention (ha) : 10

S no	Farmer	Seed yield (kg/ha)	Date of sowing	Date of harvesting
1	B.Eswaramma	1160	19-07-2016	1 st week of january
2	B.Papamma	1200	28-07-2016	03-01-2017
3	B.Ramakrishna Reddy	1040	29-07-2016	05-01-2017
4	B.Jagadeeswara Reddy	1000	20-07-2016	02-01-2017
5	B.Lakshmidevi	1280	29-07-2016	06-01-2017
6	B.Jagadeeswara Reddy	1120	28-07-2016	04-01-2017
7	D.Chinnasubba Reddy	1175	29-07-2016	03-01-2017
8	B.Venkata suryanarayana Reddy	1160	19-07-2016	07-01-2017
9	G.Madanna	1200	20-07-2016	08-01-2017
10	G.Maddilety Reddy	1225	29-07-2016	06-01-2017
11	G.Lakshmi Reddy	1150	28-07-2016	06-01-2017
12	B.Narayana Reddy	950	22-07-2016	04-01-2017
13	Y.Chennaiah	1000	30-07-2016	1-01-2017
14	K.maddilety	1250	30-07-2016	05-01-2017
15	D.Sarvanna	1050	20-07-2016	06-01-2017
16	Y.Chinnapulla Reddy	1150	20-07-2016	05-01-2017
17	Y.viswanatha Reddy	1270	29-07-2016	03-04-2017
18	Y.Parameswara Reddy	1150	28-07-2016	02-01-2017
19	B.Satyanarayana Reddy	1050	29-07-2016	05-01-2017
20	B.V.Sudhakar Reddy	950	19-07-2016	08-01-2017
-21-	Sudhakar	980	29-07-2016	04-01-2017
22	Y.Yugandhar Reddy	1200	03-08-2016	02-01-2017
23	B.Sivasankar Reddy	1250	19-07-2016	08-01-2017
24	Y.Sudhakar	1100	02-08-2016	05-01-2017
25	M.Subramanyam	1050	18-07-2016	02-01-2017
	AVG	**1124**		

Farmer wise yield data for different interventions implemented --- 2016-17

1 .Title of the intervention : Drought tolerant varieties Redgram (Asha-87119)

2 .Year of the study : 2016-17

3. No. of farmers covered : 87

4 . Area covered in each demonstration (ha) : 0.4

5 .Total area covered in the intervention (ha) : 34.8

S no	Farmer	Seed yield (kg/ha)	Date of sowing	Date of harvesting
1	D.Pulla Reddy	960	22-07-2016	January 3Rd week
2	P.Parvathi Devi	1120	30-07-2016	17-01-2017
3	Y.Chinnapulla Reddy	1000	30-07-2016	20-01-2017
4	G.Gopalamma	1200	20-07-2016	23-01-2017
5	K.Nagamaddilety	960	20-07-2016	24-01-2107
6	M.Chinnakakkanna	1280	29-07-2016	18-01-2017
7	K.PeddaRamamaddilety	1120	28-07-2016	26-01-2017
8	B.SivasatyanarayanaReddy	1200	29-07-2016	14-01-2017
9	Y.NandeswarReddy	960	19-07-2016	19-01-2017
10	S.VenkataSivaReddy	1120	15-07-2016	23-01-2014
11	S.RameswarReddy	1080	18-07-2016	28-01-2017
12	Y.RamakrishnaReddy	1000	15-07-2016	19-01-2017
13	K.Balavenkata Reddy	1160	30-06-2016	14-01-2017
14	Y.Pedda c hennaiah	1280	19-07-2016	19-01-2017
15	Y.Venkata subba Reddy	880	18-07-2016	18-01-2017
16	B.Jagadeeswara Reddy	800	28-07-2016	21-10-2017
17	G.Nagarjuna Reddy	960	29-07-2016	23-10-2017
18	G.Ramalakshamma	1120	28-07-2016	18-01-2017
19	B.Lakshmidevi	1080	28-07-2016	19-01-2017
20	B.Siva Reddy	1040	18-07-2016	23-01-2017
21	S.Siva Reddy	800	19-07-2016	18-01-2017
22	B.Pratapa Reddy	880	28-07-2017	22-01-2017
23	M.Subbarayudu	1080	29-07-2016	21-01-2017
24	B.Ramagopal Reddy	1160	30-07-2016	16-01-2017
25	B.Ram mohan Reddy	1200	20-07-2017-	28-12-2016
26	S.Kaladhar Reddy	1160	21-07-2016	21-01-2017
27	S.Ravisankar Reddy	880	27-07-2016	24-01-2017

28	Y.Parmeswara Reddy	1040	29-07-2016	19-01-2017
29	S.Vijayabhaskar Reddy	1080	20-07-2016	18-01-2017
30	Y.Radhamma	960	19-07-2016	24-01-2017
31	B.Boreddy	1040	02-07-2016	19-01-2017
32	B.Rajeswaramma	1120	04-07-2016	19-01-2017
33	B.Sivasatyam Reddy	960	28-07-2016	23-01-2014
34	B.Narayana Reddy	1280	20-07-2016	28-01-2017
35	Y.Eswara Reddy	1200	19-07-2016	19-01-2017
36	B.Kumar Reddy	1120	28-07-2016	14-01-2017
37	B.Pusphavathamma	1200	5-08-2016	19-01-2017
38	S.Rami Reddy	1200	20-07-2016	18-01-2017
39	B.Parameswra Reddy	1080	19-07-2016	21-10-2017
40	B.Ramasubbamma	1280	28-07-2016	23-10-2017
41	S.Sivaprasad Reddy	1160	29-07-2016	18-01-2017
42	B.Sudhakar Reddy	1000	02-08-2016	19-01-2017
43	B.Nageswara Reddy	1080	20-07-2016	28-12-2016
44	B.Sivasankar Reddy	1280	21-07-2016	21-01-2017
45	B.Siva Reddy	1240	27-07-2016	24-01-2017
46	Y.Vamsedhar Reddy	1000	29-07-2016	19-01-2017
47	S.Parameswar Reddy	920	20-07-2016	18-01-2017
48	S.Venkateswara Reddy	1000	19-07-2016	24-01-2017
49	S.Ventasiva Reddy	1040	02-07-2016	19-01-2017
50	K.N.Ramamaddilety	1200	04-07-2016	19-01-2017
51	B.Eswara Reddy	1240	28-07-2016	23-01-2014
52	M.Sudhakar	1160	20-07-2016	28-01-2017
53	Y.Peddapulla Reddy	1280	19-07-2016	19-01-2017
54	Y.Varalakshmi	1200	28-07-2016	14-01-2017
55	B.lakshmidevi	1120	5-08-2016	19-01-2017
56	Y.Sudhakar	1080	20-07-2016	28-12-2016
57	Y.Ramasubbamma	1200	19-07-2016	21-01-2017
58	Y.Nandamma	880	20-07-2017-	24-01-2017
59	Y.Manohari	1280	21-07-2016	19-01-2017
60	Y.Lokanath Reddy	1360	27-07-2016	18-01-2017
61	K.Maddiletyswami	1160	29-07-2016	24-01-2017

62	S.Balasubba Reddy	920	20-07-2016	19-01-2017
63	M.Chalapathi	1080	19-07-2016	19-01-2017
64	M.Krishnudu	1200	02-07-2016	23-01-2014
65	M.Subbaiah	1160	04-07-2016	28-01-2017
66	K.Muniswamy	960	19-07-2016	19-01-2017
67	S.Venkata Reddy	1280	20-07-2016	19-01-2017
68	B.Ramakrishna Reddy	1200	1-07-2016	23-01-2014
69	B.Jagadeswara Reddy	1120	18-07-2016	28-01-2017
70	D.Hussaini	1200	26-07-2016	19-01-2017
71	B.Venkateswara Reddy	1200	18-07-2016	14-01-2017
72	B.Narayana Reddy	1080	02-07-2016	19-01-2017
73	D.Narasimhudu	1120	19-07-2016	18-01-2017
74	K.Rami Reddy	1080	20-07-2016	21-01-2017
75	B.Subbamma	1200	1-07-2016	23-01-2017
76	B.Suryanarayana Reddy	880	18-07-2016	18-01-2017
77	D.Subba Reddy	1280	26-07-2016	19-01-2017
78	B.Ramakrishna Reddy	880	18-07-2016	23-01-2014
79	B.Venkata Subba Reddy	887	19-07-2016	28-01-2017
80	G.Rajagopal	960	29-07-2016	19-01-2017
81	P.Maheswarappa	1120	30-07-2016	14-01-2017
82	B.Ramalakshmamma	1080	02-08-2016	19-01-2017
83	S.Ramakrishnareddy	1000	30-07-2016	18-01-2017
84	K.Obulesu	1040	29-07-2016	21-10-2017
85	M.Lakshmidevi	1200	19-07-2016	23-10-2017
86	B.Thimma reddy	1055	20-07-2016	14-01-2017
87	K.M.Eswar	1280	28-07-2016	16-10-2017
	AVG	**1096**		

Farmer wise yield data for different interventions implemented --- 2016-17

1 .Title of the intervention : Drought tolerant variety Bengal gram (Nandyal sanaga-1)

2 .Year of the study : 2016-17

3. No. of farmers covered : 30

4 .Area covered in each demonstration (ha) : 0.4

5 .Total area covered in the intervention (ha): 12

S no	Farmer	Seed yield (kg/ha)	Date of sowing	Date of harvesting
1	*S.Sreenivasa Reddy*	1280	15-10-2016	28-12-2016
2	*S.Balasubba Reddy*	1200	14-10-2016	04-01-2017
3	*S.Venkateswara Reddy*	1160	16-10-2016	06-01-2017
4	*K.Krishna Reddy*	1360	16-10-2016	31-01-2016
5	*B.Prathap Reddy*	1440	16-10-2016	04-01-2017
6	*G.Nagasubba Reddy*	1200	17-10-2016	06-01-2017
7	*S.Sreenivasa Reddy*	1500	14-10-2016	08-01-2017
8	*S.Balavenkata Reddy*	1420	14-10-2016	05-01-2017
9	*B.Chinna Lingaiah*	1360	18-10-2016	02-01-2017
10	*B.Narayana Reddy*	1280	12-10-2016	04-01-2017
11	*B.Baskar Reddy*	1280	15-10-2016	03-01-2017
12	*B.Narayana Reddy*	1320	14-10-2016	06-01-2017
13	*B.Muralidhar Reddy*	1360	12-10-2016	05-01-2017
14	*B.Sivasankar Reddy*	1420	14-10-2016	01-01-2017
15	*B.Malleswara Reddy*	1300	14-10-2016	03-01-2017
16	M.Subarayudu	1325	16-10-2016	04-01-2017
17	S.Kotturu	1328	16-10-2016	02-01-2017
18	M.Maddilety	1337	14-10-2016	04-01-2017
19	M.Nandieswaraiah	1349	15-10-2016	06-01-2017
20	M.Kasaiah	1348	14-10-2016	08-01-2017
21	K.Rammaddilety	1312	16-10-2016	05-01-2017
22	M.Krishnudu	1336	15-10-2016	02-01-2017
2	V.Thirupam reddy	1320	14-10-2016	04-01-2017
24	B.Narayan reddy	1300	17-10-2016	03-01-2017
25	B.Ramsubba reddy	1328	17-10-2016	06-01-2017
26	B.Siva reddy	1330	14-10-2016	05-01-2017
27	B.Sivasankar reddy	1334	14-10-2016	01-01-2017
28	S.Bhagyamma	1300	17-10-2016	05-01-2017
29	M.Thirupalaiah	1331	15-10-2016	04-01-2017
30	S.Rajeswaramma	1325	17-10-2016	02-01-2017
AVG		**1326**		

Farmer wise yield data for different interventions implemented --- 2016-17

1 .Title of the intervention : Intercropping systems (Red gram + Seteria, 1:5)

2 .Year of the study : 2016-17

3. No. of farmers covered : 34

4 .Area covered in each demonstration (ha) : 0.4

5 .Total area covered in the intervention (ha) : 13.6

S no	Farmer	Seed yield (kg/ha)		Date of sowing	Date of harvesting
		Redgram	Korra		
1	G.Siva nagaraju	412	950	19-07-2016	17-01-2017
2	S.Brabhananda reddy	360	1050	21-07-2016	20-01-2017
3	B.Venkatarami reddy	380	930	28-07-2016	23-01-2017
4	B.Venkatasiva reddy	314	875	30-06-2016	24-01-2107
5	K.ChinnaThimmaiah	390	890	02-07-2016	18-01-2017
6	K.Maddilety	420	950	04-07-2016	26-01-2017
7	M.Ramadasu	356	920	20-07-2016	14-01-2017
8	P.Thimma reddy	360	930	22-07-2016	19-01-2017
9	K.Konda reddy	390	1000	30-06-2016	23-01-2014
10	G.Nagasubba reddy	400	885	03-07-2016	28-01-2017
11	G.Krishna reddy	380	850	15-07-2016	19-01-2017
12	S.Jagadish reddy	386	960	18-07-2016	14-01-2017
13	B.Siva satya narayan reddy	420	1000	30-06-2016	19-01-2017
14	S.Ramakrishna reddy	385	1020	02-07-2016	18-01-2017
15	S.Sivaprasad reddy	365	980	28-07-2016	21-10-2017
16	B.Ramakrishna reddy	390	850	29-06-2016	23-10-2017
17	Suvarna	410	890	19-07-2016	18-01-2017
18	Madhavilatha	350	1000	19-07-2016	19-01-2017
19	B.Thimma reddy	380	900	04-07-2016	23-01-2017
20	D.husaini	365	875	28-07-2016	18-01-2017
21	D.Peddahusaini	410	960	20-07-2016	22-01-2017
22	B.Baskar reddy	350	890	19-07-2016	21-01-2017
23	B.Thulisemma	340	850	28-07-2016	16-01-2017
24	B.Chandrasekar reddy	385	945	5-08-2016	28-12-2016
25	B.Lakshmidevamma	420	875	20-07-2016	21-01-2017
26	B.Venkateswara reddy	400	800	19-07-2016	24-01-2017
27	B.Thimma reddy	380	860	28-07-2016	19-01-2017
28	P.Bashaiah	345	940	29-07-2016	18-01-2017
29	B.V.Suryanarayan reddy	350	920	02-08-2016	24-01-2017
30	Y.Madhusudhan reddy	320	980	20-07-2016	19-01-2017

31	B.Gopal reddy	360	850	21-07-2016	19-01-2017
32	B.Saikumar reddy	430	860	27-07-2016	23-01-2014
33	Y.Maddilety reddy	400	945	29-07-2016	28-01-2017
34	B.Rami reddy	420	970	20-07-2016	19-01-2017
35	Y.Varalakshmamma	410	840	19-07-2016	14-01-2017
36	S.Venkat reddy	390	890	02-07-2016	19-01-2017
37	P.Subba Nagaraju	420	870	04-07-2016	18-01-2017
38	Suryanarayana	380	920	28-07-2016	21-10-2017
39	Karim	390	890	20-07-2016	23-10-2017
40	K.Ravi Prakash reddy	400	910	19-07-2016	18-01-2017
41	S.Ravi sankar reddy	420	940	28-07-2016	19-01-2017
42	K.Gur reddy	430	875	20-07-2016	17-01-2017
43	S.vijaya baskar reddy	410	960	21-07-2016	20-01-2017
44	Y.malleswaramma	390	860	27-07-2016	23-01-2017
45	K.Ramachandra redddy	430	840	29-07-2016	24-01-2107
46	M.surya narayana	440	825	20-07-2016	18-01-2017
47	M.Nassirhusseain	400	980	19-07-2016	26-01-2017
48	S.Sivaprasadreddy	380	800	02-07-2016	14-01-2017
49	B.Baskar reddy	400	1020	04-07-2016	19-01-2017
50	Y.Madhusudhanreddy	450	890	28-07-2016	23-01-2014
51	b.Manmadareddy	420	960	20-07-2016	28-01-2017
52	Y.Varalakshmamma	380	820	19-07-2016	19-01-2017
53	S.Venkat reddy	440	910	28-07-2016	14-01-2017
54	P.Subba Nagaraju	415	880	5-08-2016	19-01-2017
55	Suryanarayana	380	1010	20-07-2016	18-01-2017
56	Karim	410	940	19-07-2016	21-10-2017
57	K.Ravi Prakash reddy	430	840	20-07-2017-	23-10-2017
58	S.Ravi sankar reddy	380	1000	21-07-2016	18-01-2017
59	K.Gur reddy	420	860	27-07-2016	19-01-2017
60	S.vijaya baskar reddy	390	950	29-07-2016	23-01-2017
61	Y.malleswaramma	440	890	20-07-2016	18-01-2017
62	K.Ramachandra redddy	400	980	19-07-2016	22-01-2017
63	M.surya narayana	430	820	02-07-2016	21-01-2017
Avg		**394**	**913**		

Farmer wise yield data for different interventions implemented --- 2016-17

1 .Title of the intervention : Sucking pest management in Bt.Cotton

2 .Year of the study : 2016-17

3. No. of farmers covered : 45

4 .Area covered in each demonstration (ha) : 0.4

5 .Total area covered in the intervention (ha): 18

S no	Farmer	Seed yield (kg/ha)	Date of sowing	Date of harvesting
1	M.Naganna	1120	29-07-2016	17-01-2017
2	B.Suryanarayan Reddy	1200	19—07-2017	20-01-2017
3	B.Jagadishswar Reddy	1240	28-07-2016	23-01-2017
4	B.Lakshmi Reddy	1280	29-06-2016	24-01-2107
5	B.P.Lakshmi Reddy	1320	20-07-2016	18-01-2017
6	B.P.Thimma Reddy	1280	20-07-2016	26-01-2017
7	B.P.Ramakrishna Reddy	1200	02-07-2016	14-01-2017
8	B.P.Sreenivasa Reddy	1360	28-07-2016	19-01-2017
9	B.Muralidhar Reddy	1400	29-06-2016	23-01-2014
10	B.Venkatasubba Reddy	1520	19-07-2016	28-01-2017
11	B.Gopal Reddy	1440	20-07-2016	19-01-2017
12	B.Saisudha Reddy	1160	1-07-2016	14-01-2017
13	B.Chandrasekhar Reddy	1360	18-07-2016	19-01-2017
14	V.Pulla Reddy	1440	26-07-2016	18-01-2017
15	D.Dasthagiri	1480	18-07-2016	21-10-2017
16	B.Sivasankar Reddy	1440	19-07-2016	23-10-2017
17	B.Gopal Reddy	1360	18-07-2016	18-01-2017
18	P.Krishna Reddy	1520	20-10-2016	19-01-2017
19	M.Thirupalaiah	1280	22-07-2016	23-01-2017
20	K.Maddileti	1280	30-07-2016	18-01-2017
21	K.Bala Maddileti	1360	30-07-2016	22-01-2017
22	D.P.Dasthagiri	1300	20-07-2016	21-01-2017
23	B.Maddileti Reddy	1260	20-07-2016	16-01-2017
24	Y.Raghurami reddy	1200	29-07-2016	28-12-2016
25	B.Manohar Reddy	1350	28-07-2016	21-01-2017
26	M.Channaiah	1640	29-07-2016	24-01-2017

27	V.Venkat Kondanna	1400	19-07-2016	19-01-2017
28	D.Babaiah	1300	15-07-2016	18-01-2017
29	K.Mdhavachari	1250	18-07-2016	24-01-2017
30	K.Janardhanachari	1100	15-07-2016	19-01-2017
31	K.Madhusudhanachari	1500	30-06-2016	19-01-2017
32	Y.Parthasarathi Reddy	1200	19-07-2016	23-01-2014
33	M.Kasaiah	1320	19-07-2016	28-01-2017
34	Y.Pulla Reddy	1250	15-07-2016	19-01-2017
35	K.Sunkanna	1400	18-07-2016	14-01-2017
36	V.Anjaneyulu	1300	15-07-2016	19-01-2017
37	M.Sanjeevulu	1500	30-06-2016	18-01-2017
38	R.Rafi	1300	19-07-2016	21-10-2017
39	D.Dastagiri	1450	20-07-2016	23-10-2017
40	B.Hussaini	1200	1-07-2016	18-01-2017
41	K.Venkata Ramudu	1350	18-07-2016	19-01-2017
42	Pullanna	1650	26-07-2016	18-01-2017
43	R.Sanjeevulu	1100	18-07-2016	24-01-2017
44	P.Pullanna	1250	02-07-2016	25-01-2017
45	N.Kondalrao	1400	19-07-2016	18-01-2017
Avg		**1334**		

Farmer wise yield data for different interventions implemented --- 2016-17

1 .Title of the intervention : Farm machinery- Seeding methods in Jowar

2 .Year of the study : 2016-17

3. No. of farmers covered : 25

4 .Area covered in each demonstration (ha) : 0.4

5 .Total area covered in the intervention (ha) : 10

S no	Farmer	Seed yield (kg/ha)	Date of sowing	Date of harvesting
1	B.Bhaskar Reddy	2250	16-09-2016	3 rd & 4 th week of January
2	S.Prasad Reddy	2125	17-09-2016	21-01-2017
3	B.Sudhakar Reddy	2450	18-09-2016	23-01-2017
4	B.Pratap Reddy	2000	19-09-2016	19-01-2017
5	B.Manmada Reddy	2500	19-09-2016	25-01-2017
6	S. vijaya bhaskar Reddy	2400	19-09-2016	26-01-2017
7	S.Venkata Reddy	2360	18-09-2016	31-01-2017
8	B.Sudhakar Reddy	2500	18-09-2016	24-01-2017
9	K.Thimmaiah	2100	18-09-2016	26-01-2017
10	S.Rvai kumar Reddy	1980	18-09-2016	18-01-2017
11	U.Lakshmaiah	2500	16-09-2016	22-01-2017
12	M.Krishnudu	2150	16-09-2016	29-01-2017
13	M.Subbaiah	1980	19-09-2016	21-01-2017
14	S.Kotturu	2050	16-09-2016	18-01-2017
15	K.Maddilety	2500	16-09-2016	23-01-2017
16	S.Ramachandra Redy	2400	18-09-2016	22-01-2017
17	B.Sivasatyam Reddy	2100	17-09-2016	24-01-2017
18	B.Narayana Reddy	1900	16-09-2016	22-01-2017
19	G.Nagarjuna Reddy	2050	17-09-2016	26-01-2017
20	B.Sivasankar Reddy	2200	18-09-2016	23-01-2017
21	G.Nagasubba Reddy	2300	17-09-2016	19-01-2017
22	S.MaheswaraReddy	2600	18-09-2016	25-01-2017
23	B.Maheswari	2400	18-09-2016	16-01-2017
24	B.Kumaraswami Reddy	2530	16-09-2016	22-01-2017
25	M.Chalapathi	2300	18-09-2016	18-01-2017
	Avg	**2265**		

Farmer wise yield data for different interventions implemented --- 2016-17

1 .Title of the intervention : Farm machinery- Seeding methods in Bengalgram

2 .Year of the study : 2016-17

3. No. of farmers covered : 25

4 .Area covered in each demonstration (ha) : 0.4

5 .Total area covered in the intervention (ha) : 10

S no	Farmer	Seed yield (kg/ha)	Date of sowing	Date of harvesting
1	S.Balasubba Redddy	1055	17-10-2016	06-01-2017
2	S.Sreenivasa Reddy	1175	14-10-2016	08-01-2017
3	S.Balavenkata Reddy	1250	14-10-2016	05-01-2017
4	S.Vijayabhaskar reddy	1350	18-10-2016	02-01-2017
5	S.Venkata Subba Reddy	1300	12-10-2016	04-01-2017
6	M.Chalapathi	1200	15-10-2016	03-01-2017
7	M.Subbaiah	1450	14-10-2016	06-01-2017
8	D.Husseni	1370	12-10-2016	05-01-2017
9	D.Dastagiri	1100	14-10-2016	01-01-2017
10	B.Bhaskar reddy	1360	14-10-2016	03-01-2017
11	B.V.Sudhakar Reddy	1425	16-10-2016	04-01-2017
12	B.Venkateswara Reddy	1200	16-10-2016	02-01-2017
13	G.Nagarjuna Reddy	1100	14-10-2016	04-01-2017
14	B.Malleswara Reddy	1200	15-10-2016	06-01-2017
15	B.Narayana Reddy	1050	14-10-2016	08-01-2017
16	B.Jagadeeswara redddy	1250	16-10-2016	05-01-2017
17	D.pullareddy	1170	15-10-2016	02-01-2017
18	S.kaladhar Reddy	1275	14-10-2016	04-01-2017
19	S.Balavenkata reddy	1400	17-10-2016	03-01-2017
20	B.Maheswari	1375	17-10-2016	06-01-2017
21	B.Rajeswari	1225	14-10-2016	05-01-2017
22	B.Sivasankar Reddy	1225	14-10-2016	01-01-2017
23	N.Krishnareddy	1400	17-10-2016	05-01-2017
24	B.Prathapa Reddy	1275	15-10-2016	04-01-2017
25	M.Krishnudu	1350	17-10-2016	02-01-2017
	Avg	**1261**		

Farmer wise yield data for different interventions implemented --- 2016-17

1 .Title of the intervention : Calf Registration

3. No. of farmers covered : 50

4 .Area covered in each demonstration (ha) :

5 .Total area covered in the intervention (ha):

S no	Farmer	Calf Registration Programme	
		Initial B.wt(Buffalo)	Final B.wt(Buffalo)
1	G.Nagarjuna Reddy	24.2	52.6
2	Y.Lokanatha Reddy	23.6	56.3
3	S.Sivaprasada Reddy	35.6	65
4	S.Venkateswara Reddy	32	64
5	Y.Parameswara Reddy	28	56.1
6	B.V.Suryanarayana Reddy	29	52
7	D.Seetha Rami Reddy	31	62.4
8	B.Gopal Reddy	34.5	70
9	G.Nagasubba Reddy	28.6	56.6
10	Y.Viswanatha Reddy	24.6	52.6
11	G.Nagarjuna Reddy	22.6	62
12	Y.Lokanatha Reddy	29.4	61
13	S.Sivaprasada Reddy	23	56
14	S.Venkateswara Reddy	24	59
15	Y.Parameswara Reddy	22.5	29.5
16	B.V.Suryanarayana Reddy	28	56.8
17	D.Seetha Rami Reddy	26	54
18	B.Gopal Reddy	21.9	28.6
19	G.Nagasubba Reddy	22	56
20	Y.Viswanatha Reddy	24.5	52
21	G.Nagarjuna Reddy	22	60
22	Y.Lokanatha Reddy	29	63
23	S.Sivaprasada Reddy	26	50.6
24	S.Venkateswara Reddy	25	62.8
25	Y.Parameswara Reddy	26	52.9
26	B.V.Suryanarayana Reddy	24	46.9

27	D.Seetha Rami Reddy	28	56
28	B.Gopal Reddy	22.5	48.2
29	G.Nagasubba Reddy	24.6	52.3
30	Y.Viswanatha Reddy	23.2	62.4
31	G.Nagarjuna Reddy	22.5	52
32	Y.Lokanatha Reddy	24.6	52
33	S.Sivaprasada Reddy	22	62
34	S.Venkateswara Reddy	24	68
35	Y.Parameswara Reddy	29	64
36	B.V.Suryanarayana Reddy	32	65.8
37	D.Seetha Rami Reddy	35	69.8
38	B.Gopal Reddy	24	70.8
39	G.Nagasubba Reddy	29.4	63.8
40	Y.Viswanatha Reddy	26	48.6
41	G.Nagarjuna Reddy	32.6	64.5
42	Y.Lokanatha Reddy	24.6	72.8
43	S.Sivaprasada Reddy	31	68.9
44	S.Venkateswara Reddy	26	56.4
45	Y.Parameswara Reddy	26	42.6
46	B.V.Suryanarayana Reddy	34	49.6
47	D.Seetha Rami Reddy	28	66.8
48	B.Gopal Reddy	32	59
49	G.Nagasubba Reddy	32	58
50	Y.Viswanatha Reddy	25	58.9
Avg		**26.9**	**57.4**

Farmer wise yield data for different interventions implemented --- 2016-17

1 .Title of the intervention : Mitigation of mineral deficiency in milch buffaloes

3. No. of farmers covered : 10

4 .Area covered in each demonstration (ha) :

5 .Total area covered in the intervention (ha):

S no	Farmer	Milk Production(Avg 90days)
1	G.Nagasubba Reddy	342
2	Y.Viswanatha Reddy	288
3	G.Nagarjuna Reddy	306
4	Y.Lokanatha Reddy	378
5	S.Sivaprasada Reddy	342
6	S.Venkateswara Reddy	414
7	Y.Parameswara Reddy	378
8	B.V.Suryanarayana Reddy	432
9	D.Seetha Rami Reddy	360
10	B.Gopal Reddy	369
	AVG	360.9

Area wise Particulars of Drip Irrigation under NICRA 2012-16

S. No	Name of the farmer	Crop	Area (ac)
1	Yama Karunamma W/o Srinivas reddy	Drum stick	2.75
2	Yama Pulla reddy S/o Rami reddy	Drum stick	2.25
		2	5
1	S.Venkat reddy S/o Pedda Pulla reddy	Jasmine	0.7
2	S.Venkata Siva reddy S/o Pedda pulla reddy	Jasmine	1.2
3	Bandi Bali reddy S/o Maddileti reddy	Jasmine	1
4	M.Maddileti	Jasmine	2
5	K.Laxmi narayana	Jasmine	1.5
6	G.Narayana reddy	Jasmine	2.5
7	M.Subramanyam S/o M.Kasaiah	Jasmine	1.5
		7	10.4
1	Y.Varalakshmamma W/o pedda Pulla reddy	Mango	1.86
2	S.Venkat reddy S/o Yella reddy	Mango	1.8
3	P.Subba Nagaraju S/o Rajendra	Mango	1.5
4	Suryanarayana	Mango	4.5
5	Karim	Mango	3.5
6	K.Ravi Prakash reddy	Mango	5.2
7	S.Ravi sankar reddy	Mango	2.5
8	K.Gur reddy	Mango	10
9	S.vijaya baskar reddy	Mango	2.8
10	Y.malleswaramma	Mango	2.6
11	K.Ramachandra redddy	Mango	3.8
12	M.surya narayana	Mango	4
13	M.Nassirhusseain	Mango	1
14	S.Sivaprasadreddy	Mango	1
15	B.Baskar reddy	Mango	3
16	Y.Madhusudhanreddy	Mango	1
17	b.Manmadareddy	Mango	3
18	B.Gopalreddy	Mango	0.5
19	P.S.Nagaraja	Mango	2.19
20	M.Magbul basha	Mango	2.2

21	B.Rammohan reddy	Mango	3
22	Y.Viswanath reddy	Mango	1.4
23	K.V.Rajeswara Reddy	Mango	5
24	K.Rami Reddy	Mango	5
		24	**72.36**
1	S.Tirupam reddy S/o Timma reddy	Turmeric	1
		1	**1**
1	S.Ramasubba reddy S/o Pedda Subba reddy	Vegetable	1.2
2	B.Jagadeeshwar reddy s/o Boreddy	Vegetable	1
3	B.Srinivas reddy S/o Boreddy	Vegetable	1.2
4	B.Sudhakar reddy	Vegetable	1.3
5	V.Pulla reddy	vegetables	0.5
6	M.Subramanyam	Vegetable	0.8
7	S.Rameswar reddy	Vegetable	0.5
8	M.Krishnudu	Vegetable	1
9	M.Maddilety	Vegetable	0.5
10	B.V.Sudhakar reddy	vegetables	0.5
11	B.Sanjeeva reddy	Vegetable	0.5
12	B.Sivasatyam reddy	Vegetable	1.4
13	S. Siva Reddy	Vegetable	5.0
14	B.Rameswara Reddy	Vegetable	2.5
15	M.Subramanyam	Vegetable	2.5
		15	**20.4**
1	K.Rami reddy	Papaya	**7**
2	K.V.Rajeswra reddy	Papaya	**9**
		2	**16**
1	M.Subramanyam	Banana	**1**
		1	**1**
1	S.Venkateswara Reddy	Chillies	**2.5**
2	Y.Pulla Reddy	Chillies	**2.5**
		2	**5**
TOTAL			**131.16**

Annexure –III

Details of interventions implemented in NICRA village (2016-17)

Module/ Thematic Area	Title of intervention	No. of farmers covered	Area covered (ha)	Details of critical inputs	Cost of critical inputs supplied for each farmer/	Cost of critical inputs Supplied for each intervention.
I. NRM	Example: In-situ moisture conservation technologies in Redgram, Sub soilar	30	12		200/-	6,000/-
	Compost bins	-	-	-	-	-
	Recharge pits	-	-	-	-	-
	Farm ponds	04	-	-	50000/-	200000/-
II. Crop Production						
Varieties:1 Asha-871197& PRG-176	Drought tolerant Varieties	87	34.8	Seed	200/-	17400/-
NBeG-1		25	10	Seed	1275/-	31875/-
Cropping systems Redgram+Seteria(5:1)	Intercropping Systems	63	25.2	seed	300/-	18,900/-
Redgram+Castor(1:1)		-	-		-	-
Crop Diversification Seteria(SIA-3085)	Alternate crops	48	19.2	seed	100/-	4800/-
Crop Diversification Castor-PCH-111	Alternate crops	25	10	Seed	200/-	2000/-
Farm Machinery (Jowar & Bengalgram)	Implement given to farmers on Free basis	50 (25+25)	20	Seed Drill for sowing-	*200/-*	10,000/-
Bt-Cotton		45	18	Imida,mono, Yellow sticky traps,Two Brusesh-	370/-	16,650/-
III. Live stock and Fisheries	Livestock activities	50	--	Rajashri birds and medicines	350/-	17,500/-
	Calf Registration	50	-		100/-	5,000/-
	Mineral Mixture	10	-	-	100/-	1,000/-
Fodder production	Hydroponic Units	04	-	Hydroponic unit& Trays,Seed	3500/-	14,000/-
IV. Institutional Interventions	Biogas and capacity building	-	-	-	-	-

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