PROFORMA FOR PREPARATION OF ANNUAL REPORT (April-2017-March-2018)

APR SUMMARY

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	73	1761	467	2228
Rural youths	11	115	844	959
Extension functionaries	12	164	308	472
Sponsored Training	7	165	27	192
Vocational Training	5	35	58	93
Total	**108**	**2240**	**1704**	**3944**

2. Frontline demonstrations

Enterprise	No. of Farmers	Area(ha)	Units/Animals
Oilseeds	175	140.0	
Pulses	235	144.0	
Cereals	30	12.0	
Vegetables	10	4.0	
Other crops	40	16.0	
Total	**490**	**316**	
Livestock & Fisheries	39		124
Other enterprises	45	6	45
Total	**84**	**6**	**169**
Grand Total	**574**	**322**	**169**

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops	12	71	71
Livestock	4	30	30
Various enterprises	3	5	65
Total	**19**	**106**	**106**
Technology Refined			
Crops			
Livestock			
Various enterprises			
Total			
Grand Total	**19**	**106**	**106**

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	133	9481
Other extension activities	15	627
Total	148	10108

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marke-ting	Aware-ness	Other Enterprise	Total
	Text only	33	2	20				
	Voice only							
	Voice & Text both							
	Total Messages	**33**	**2**	**20**				**55**
	Total farmers Benefitted	**2739**	**1565**	**416**				**4720**

6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	1284.75	76,43,030-00
Planting material (No.)	1.2lakh	24,030-00
Bio-Products (kg)	1571	1,23,150-00
Livestock Production (No.)	1960	11,76,000
Fishery production (No.)	5142	6,06,885-00

7. Soil, water & plant Analysis

	Samples	No. of Beneficiaries	Value Rs.
Soil	1346	1255	164900
Water	36	24	3600
Plant	58	3	5800
Total	**1440**	**1282**	**174300**

8. HRD and Publications

Sr. No.	Category	Number
1	Workshops	4
2	Conferences	2
3	Meetings	9
4	Trainings for KVK officials	1
5	Visits of KVK officials	
6	Book published	
7	Training Manual	1
8	Book chapters	
9	Research papers	4
10	Lead papers	
11	Seminar papers	
12	Extension folder	2
13	Proceedings	
14	Award & recognition	3
15	Ongoing research projects	1

DETAIL REPORT OF APR-2017-18

1. GENERAL INFORMATION ABOUT THE KVK:

1.1. Name and address of KVK with phone, fax and e-mail

Address	Telephone		E mail	Website
	Office	FAX		
Shri Hanumantharaya Educational & Charitable Society, Krishi Vigyan Kendra, Yagantipalle (P) Banaganapalle (M) Kurnool (Dt.) A.P.	9440607424	----	pendekantikvk@rediffmail.com pendekantikvk@gmail.com	-----

1.2 .Name and address of host organization with phone, fax and e-mail

Address	Telephone		E mail	Website
	Office	FAX		
Shri Hanumantharaya Educational & Charitable Society, Krishi Vigyan Kendra, Yagantipalle (P) Banaganapalle (M) Kurnool (Dt.) A.P.	9440607424	----	pb1961@rediffmail.com	-----

1.3. Name of the Programme Coordinator with phone & mobile No

Name	Telephone / Contact		
	Residence	Mobile	Email
Smt. G.Dhanalakshmi		9440607424	dhana66@rediffmail.com

1.4. Year of sanction: 1989

1.5. Staff Position (as on 30th March, 2018)

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale	Present basic (Rs)	Date of joining	Permanent /Temporary	Category (SC/ST/ OBC/ Others)
1	Sr. Scientist & Head	G.Dhanalakshmi	Sr. Scientist & Head	Home Science	15,600-39,100	40,870	03-04-2003	Permanent	OC
2	Subject Matter Specialist	K.Venkata Ramanaiah	SMS (Soil Science)	Soil Science	15,600-39,100	35,540	10-07-1996	Permanent	BC
3	Subject Matter Specialist	M.Sudhakar	SMS (Agronomy)	Agronomy	15,600-39,100	35,540	23-09-1996	Permanent	OC
4	Subject Matter Specialist	D.Balaraju	SMS (Plant Protection)	Plant Protection	15,600-39,100	31,170	04-04-2003	Permanent	OC
5	Subject Matter Specialist	A.Krishna Murthy	SMS (Animal Husbandry)	Animal Husbandry	15,600-39,100	25,840	29-06-2010	Permanent	OC
6	Subject Matter Specialist	P. Nagarjuna Reddy	SMS (Agril. Extension)	Agricultural Extension	15,600-39,100	21,000	27-03-2018	Permanent	OC
7	Programme Assistant	K.Lakshmi Priya	Programme Asst. (Home Science)	Home Science	9,300-34,800	25,280	18-06-1996	Permanent	BC
8	Programme Assistant	B. Koteswar rao	Programme Asst. (Agronomy)	Agronomy				Temporary	SC
9	Accountant / Superintendent	N. Nagaraju	Assistant		9,300-34,800	14,330	24.08.2015	permanant	OC

10	Jr.Asst. cum Typist (SK)	B.V.M.V.Prasad Rao	Jr. Asst. cum Typist	Jr. Asst. cum Typist	5,200-20,200	16,480	21-03-1990	Permanent	BC
11	Driver	Iqbal Basha	Driver cum Mechanic	Driver cum Mechanic	5,200-20200	12,980	20-09-1995	Permanent	OC
12	Driver	D.Obulesu	Driver cum Mechanic	Driver cum Mechanic	5,200-20200	12,590	01-08-1996	Permanent	SC
13	Attender	P.Raghava Reddy	Attender	Attender	4,440-20200	11,270	02-11-1990	Permanent	OC
14	Watchman	T.P.Gurappa	Watchman	Watchman	4,440-20200	11,010	30-12-1994	Permanent	BC
15	Cook	T.Rajeswari	Cook	Cook	4,440-20200	11,010	20-09-1995	Permanent	BC
16	Farm Attendant	A.Rama Subbaiah	Farm Attendent	Farm Attendent	4,440-20200	11,010	01-10-1996	Permanent	BC

1.6. Total land with KVK (in ha) : **20 ha**

S. No.	Item	Area (ha)
1.	Under Buildings	2
2.	Under Demonstration Units	1
3.	Under Crops	10
4.	Orchard/Agro-forestry	4
5.	Others (specify)	3

1.7. Infrastructural Development:

A) Buildings:

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	1994	550	7.59	1990-91		
2.	Farmers Hostel	ICAR	1994	450	8.0	1990-91		
3.	Staff Quarters(6)	ICAR	1998	650	32.27	1992-93		
4.	Demonstration Units (3)	ICAR	1992-93	300	6.5	1992-93		
5.	Fencing	ICAR	2005-06		6.5	2004-05		
6.	Rain Water harvesting system	-	-	-	-			
7.	Threshing floor	-	-	-	-			
8.	Farm Godown	ICAR	2005-06	112.5	5.28	2005-06		
9.	Soil Testing Laboratory	ICAR	2004-05	112.5	8.59	2004-05		
10.	Goat Shed	ICAR	2016-17	35.0	3.0	2016-17		

B) Vehicles:

Type of vehicle	Year of purchase	Cost (Rs.)	Total km. Run	Present status
TATA Sumo	2009	6,00,000-00	175948km	OK
Mahindra & Mahindra Tractor	2005	3,54,522-00	30678 (hrs)	OK
Motorcycle (Hero Honda)	2014	-	13386 KM	OK

C) Equipments & AV Aids:

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Tape Recorder	1990	2,600-00	OK
Over Head Projector	1991	6,200-00	OK
Slide Projector	1991	7,168-00	OK
Ahuja Micro phone Set	1994	9,500-00	OK
Television	1994	19,999-00	OK
Video Casette Recorder	1996	19,000-00	OK
Ahuja Portable wireless Amplifier	2003	9,927-00	OK
Cordless micro phone	2003	5,804-00	OK
Collar Mike	2005	5,800-00	OK

1.8. A) Details of SAC meeting held on 06.03.2018 for the year 2018-19 :

The SAC meeting was held on 6th of March, 2018 at KVK. The meeting was presided over by Sri. P.Balaji, Secretary, SHE&CS. At the outset, Smt. G.Dhanalakshmi, Programme Coordinator has welcomed the SAC members, Guests. The programme started with ICAR Song.

Significant Achievements of KVK, Future requirements of KVK and Action Taken Report was presented by Smt. G.Dhanalakshmi, Programme Coordinator, KVK followed by presentations of Work Done Report for 2017-18 and Action Plan for 2018-19 by individual Subject Matter Specialists Viz., Crop Production, Soil Science, Plant Protection, Animal Husbandary and Programme Assistant, Home Science.

The following observations, remarks and suggestions were made by the SAC members.

Sl. No.	Name and Designation of Participants	Salient Recommendations
1	Dr. N. Saralamma Principal Scientist (Plant Path.), RARS, Nandyal	• Recommended to take up the programmes in adopted villages and study the impact • Recommended red gram transplanting for gap filling purpose only
2.	Dr. M.R.Sreenivasulu, ADR (Rtd.), Member, SHE&CS.	• Enquired about the performance of hybrid Red gram
3.	Sri K. Vishwanath Reddy ADA(R), Koilkuntla.	• Suggested promoting growing of red gram with nursery • Recommended to promote Sub soiler usage to retain moisture in the soil with mother furrows. • Problems in late sown paddy are more and it should be addressed by the scientists • Suggested to display digital board in one village to disseminate day to day agriculture information
4.	Sri R.Kothwal NSC, Production Officer, Nandyal	• Informed that seed production of the varieties which are needed at national level can be produced at the district level. • Recommended to promote varieties which are photo insensitive, with less water requirement and good yielders.

5.	Smt P. Narasamma DPM, DRDA, Kurnool	• Briefed that 46,000 groups are existing tin the district with 4,00,000 members and also informed that income generating activities can be taken up by the group for which financial support will be given by DRDA
6.	Sri P. Purushotham Reddy Farmer, Sunkesula	• Area of Sunflower was reduced drastically due to decreased market price.
7.	Sri S. Vijay Bhaskar Reddy Farmer, Yagantipalle	• Shared his experience on double cropping and suggested to promote Safflower and Horse gram.
8.	Sri M. Veerabhadra Reddy Farmer, Betamcherla	• Shared his experience regarding the low yields of Seteria (SIA3222) due long dry spell. • The yields of red gram were also reduced. • He opined that whastap group message was really useful to the farmers.
9.	Dr. C. Venkata Ramana Varma AD (AH), Banaganapalle.	• Recommended growing ram lambs for breeding purpose.

List of participants attended the SAC Meeting :

S.No	Name	Designation
1.	Sri. P.Balaji	Secretary, KVK, Yagantipalle
2.	Dr. M.R. Sreenivasulu	ADR (Rtd.), Banaganapalle.
3.	Sri R.Kothwal	NSC, Production Officer, Nandyal.
4.	Sri G. Anil Kumar	Horticulture Officer, Nandyal
5.	Sri H.M.Raghu Ram	Assist. Director, Kurnool.
6.	Sri B.V.G. Sudha Ramudu	MIDC, APMIP, Kurnool.
7.	Sri G. Venkata Rami Reddy	S.S.C.O. APSSCA, Nandyal.
8.	Sri K. Vishwanath Reddy	ADA(R), Koilkuntla.
9.	Dr. C. Venkata Ramana Varma	AD (AH), Banaganapalle.
10.	Dr. M. Brahmananda Reddy	MAHO
11.	Dr. B. Srikanth Reddy	VAS Yagantipalle
12.	Smt G.V. Raja Rajeswari	Supervisor, ICDS
13.	Sri A. Uma Maheswara Reddy	DDA, Trg., O/o JDA, Kurnool
14.	Sri K. Rama Rao	PD, ATMA, Kurnool.
15.	Smt P. Narasamma	DPM, DRDA, Kurnool.
16.	Sri N. Srinivasulu	FPO, ADM, Velugu.
17.	Dr. R. Vijay Kumar	DRDA, Kurnool.
18.	Dr. N. Saralamma	PS (Plant Path.), RARS, Nandyal.
19.	Sri S. Konda Reddy	Special Officer, SHE&CS
20.	Smt. G. Dhanalakshmi	Programme Coordinator
21.	Sri N. Chinna Obulesu	AEO, Banaganapalle.
22.	Sri D. Narasimhudu	AEO, Banaganapalle
23.	Sri P. Purushotham Reddy	Farmer, Sunkeasula.
24.	Sri B. Sreenivasulu	Farmer.
25.	Sri S. Vijay Bhaskar Reddy	Farmer, Yagantipalle.
26.	Sri M. Veerabhadra Reddy	Farmer, Bethamcherla.
27.	Smt K. Maheswaramma	Farm Women, Yagantipalle.
28.	Smt Y. Rani	Farm Women, Banaganapalle.
29.	Smt B. Rajeswaramma	Farm Women, Yagantipalle.
30.	Sri. M.V.Krishna Reddy	Farmer, Kalugotla
31.	Sri D. Chinnapu Reddy	Farmer, Banaganapalle.
32.	Mr. P. Naga Venkatesh	Farmer, Banaganapalle.
33.	Sri P.B. Hari Krishna	Farmer, Nandavaram.
34.	Smt Y. Padmavathamma	Dairy Farmer, Loddipalle, Orvakal.

2. DETAILS OF DISTRICT (2017-18)

2.1 Major farming systems/enterprises (based on the analysis made by the KVK):

S. No	Farming system/enterprise
1	Agriculture + Horticulture
2	Agriculture + Dairy
3	Agriculture + Horticulture + Dairy
4	Agriculture + Horticulture + Pastural Culture

2.2 Description of Agro-climatic Zone & major agro ecological situations (based on soil and topography):

S. No	Agro-climatic Zone	Characteristics
1	Scarce rain fall zone	Low, scanty and erratic rainfall due to which successful crop production with good yield is unexpectable and dry land agriculture is predominant with a variety of rainfed crops in the zone.

Agro-ecological situations:

S. No	Agro ecological situation	Characteristics	Area (in Ha)
1	K.C canal irrigated red soils	Paddy-Paddy, Greengram-Paddy Paddy-Groundnut, Vegetables Paddy-Fallow	5432
2	T.B.Low level canal irrigation Red soils	Paddy-Paddy, Paddy-Groundnut Greengram-Paddy, Vegetables Groundnut/Fallow	11612
3	T.B. High level canal irrigation Red soils	Greengram-Paddy, Paddy/Groundnut/ Vegetables-Fallow	140
4	K.C.Canal irrigation Black soils	Paddy-Greengram-Paddy Paddy/Groundnut-Vegetables Sunflower/Groundnut-Fallow Groundnut/Cotton-Fallow	67685
5	T.B.Low level canal irrigation-Black soils	Greengram/Paddy-Paddy Paddy-Groundnut/Vegetables Sunflower-Groundnut, Groundnut-Sunflower, Cotton-Fallow	15374
6	T.B.High level canal irrigation Black soils	Paddy-Fallow, Sunflower/Groundnut-Fallow	5516

7	Problem soils	Greengram-Paddy, Fallow-Paddy Fallow-Paddy	100
8	Tank irrigation Red soils	Paddy-Sunflower/Fallow Paddy/Sunflower-Fallow	5284
9	Tank irrigation Black soils	Paddy-Paddy/Groundnut Sunflower-Fallow, Fallow-Paddy/Groundnut/Sunflower	18230
10	Well irrigation Red soils	Paddy-Paddy/Sunflower/Groundnut Sunflower-Groundnut/Greengram Groundnut – Groundnut/Sunflower Cotton/Onion-Fallow	51462
11	Well irrigation Black soils	Paddy-Paddy/Sunflower/Groundnut Sunflower/Vegetables Cotton/Onion/Chillies-Fallow	54313
12	Rainfed Red soils	Sunflower, Groundnut+Redgram Groundnut+Jowar, Cotton Cotton+Redgra, Jowar, Korra, Redgram-Fallow	274831
13	Rainfed-Black soils	Paddy-Fallow Sunflower/Bengalgram/Coriander fallow Jowar/Bengalgram/Tabacco Jowar/Groundnut/Cotton-Fallow	436005
14	SRBC – Redsoils	B.t. Cotton, Jowar, Redgram, Groundnut,Korra	333
15	SRBC – Black soils	Rice, Jowar, Maize	4081
16	TGP – Red soils	G.nut, Vegetables,Sunflower, Chillis, Cotton	5589
17	TGP –Black soils	Rice, B.t. Cotton, Chillis	14592

2.3 Soil types:

S. No	Soil type	Characteristics	Area in lakh ha
1	Black cotton soils	Heavy and deep to very deep belonging to vertisols.	3.69
2	Red earths	Clayey sub soil (association of alfisols and inceptisols)	1.29
3	Red earths	Loamy sub soil i.e chalkas (association of inceptisols and alfisols)	3.18
4	Red sandy loam soils	Dubbas & Chalkas (association of entisols, inceptisols and alfisols)-Light textured soils, poor water holding capacity, poor fertility	0.54
5	Problem soils (Saline/sodic)	High pH more than 9.0	1.04
6	Rock land and others	Undulated sloppy lands. Very shallow soils.	0.47

2.4. Area, Production and Productivity of major crops cultivated in the district

Kharif : 2017 (Area in Ha)

Sl.no	Crop name	Normals	Area sown during the corresponding period kharif 2016 final	Kharif 2017 actual	Percentage
1	Paddy	76474	79264	59592	77.92
2	Jowar	12613	6867	5940	47.09
3	Bajra	8492	8413	7885	92.85
4	Maize	31399	27874	39752	126.60
5	Sateria	14192	11601	6016	42.39
6	Redgram	60835	111296	64482	105.99
7	Greengram	1811	2098	878	48.48
8	Blackgram	5521	13542	14265	258.38
9	Horsegram	21	0	1	4.76
10	Groundnut	110124	113447	85784	77.90
11	Sesamum	35	29	8	22.86
12	Sunflower	4764	2988	1031	21.64
13	Castor	35731	19915	12764	35.72
14	Soyabeen	283	593	336	118.73
15	Other oil seeds	31	0	14	45.16
16	Chillies	16936	26477	13183	77.84
17	Onion	20754	24502	12945	62.37
18	Turmeric	1951	1861	1155	59.20
19	Sugarcane	860	406	453	52.67
20	Cotton	208222	176195	259225	124.49
21	Mestha	132	20	0	0.00
22	Other crops	25222	28824	11048	43.80
	TOTAL	**636403**	**656214**	**607583**	**95.47**

Rabi -2017-18: (Area in Ha)

Sl. No	Crop name	Normal	Area sown during the corresponding period 2016-17	Area sown 2017-18	Percentage of coverage
1	Paddy	22239	29451	41962	188.69
2	Wheat	207	32	16	7.73
3	Jowar	57477	46921	47452	82.56
4	Bajra	292	219	306	104.79
5	Maize	8534	7879	12461	146.01
6	Ragi	0	0	0	0
7	Korra	340	526	163	47.94
8	Bengal gram	186711	170870	195230	104.56
9	Redgram	1254	2023	1124	89.63
10	Greengram	1385	389	137	9.89
11	Blackgram	11570	20521	10097	87.27
12	Horsegram	394	47	252	63.96
13	Other pulses	0	0	0	0
14	Groundnut	16837	17511	14326	85.08
15	Sesamum	1142	203	886	77.58
16	Sunflower	10249	1701	568	5.54
17	Safflower	132	83	20	15.15
18	Castor	311	50	56	18.01
19	Rape & mustard	2681	4040	1896	70.72
20	Other oil seeds	26	0	0	0.00
21	Cotton	57	0	0	0.00
22	Chillies	458	431	379	82.75
23	Onion	2130	1636	4015	188.50
24	Tobacco	6158	6078	4808	78.08
25	Coriander	4961	0	882	17.78
26	Others	5656	8374	6393	113.02
	TOTAL	**341695**	**318985**	**343518**	**100.53**

Productivity Levels of Principal crops grown during Kharif for past 5 years (Kgs./Ha)

Sl. No	Crop name	Year				
		2013	2014	2015	2016	2017
1	Paddy	5700	5850	5460	6700	5086
2	Maize	5400	5600	4018	7500	5075
3	Castor	1300	1500	790	1800	1800
4	Groundnut	845	876	620	900	1389
5	Cotton	1470	1336	412	1500	1621
6	Jowar	2350	2250	1200	2500	2600
7	Redgram	1000	1050	450	800	900

Productivity Levels of Principal crops grown during Rabi for past 5 years (Kgs./Ha)

Sl. No	Crop name	Year				
		2013-14	2014-15	2015-16	2016-17	2017-18
1	Paddy	5925	6000	5500	6000	5500
2	Maize	5400	5600	4600	6000	4500
3	Bengalgram	950	1000	600	1200	1200
4	Groundnut	845	876	891	900	2200
5	Blackgram	1100	1200	908	1500	1350
6	Jowar	2350	2450	1850	2000	4500

2.5. Weather data

Month	Rainfall (mm)	Temperature ^{0} C	
		Maximum	Minimum
Apr -17	10.1	41.6	25.8
May-17	26.6	42.2	26.6
Jun -17	109.2	37.4	24.4
Jul -17	63.5	35.2	24.0
Aug -17	180.8	34.8	23.8
Sep -17	179.8	34.6	23.6
Oct -17	176.7	33.4	20.6
Nov-17	1.6	31.8	18.4
Dec -17	0.0	32.0	18.0
Jan -18	0.0	30.4	18.8
Feb -18	0.0	32.0	20.8
Mar -18	0.0	34.2	23.0
Total:			

2.6. Production and productivity of livestock, Poultry, Fisheries etc. in the district

Category	Population	Production	Productivity
Cattle			
Crossbred	6452	3.98 lakh metric tonnes of milk	6-8 lt
Indigenous	409575		1.5-2.5
Buffalo	410783		2-3
Sheep& Goat			
Crossbred	-	19,087 metric tonnes of meat	
Indigenous	1504038		12.5 kg
Goats	505112		
Pigs	16949		
Crossbred			
Indigenous			
Rabbits			
Poultry			
Hens	2,74,957	857 lakh No.s eggs	
Desi	6,41,218		60-70 eggs
Improved	3,35,127		245-260 eggs
Ducks	942		
Turkey and others			

2.7 Details of Adopted Villages (2017-18)

Year of adoption:

Sl.No.	Taluk / mandal	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Midthur	Midthur	Jalakanur	Cotton, Chillis, Rice, Redgram	Indiscriminate use of Fertilizers and Pesticides in Rice, Chillis and Cotton,	IPM, INM and ICM
				Milch animals	Fodder Scarcity, Mineral deficiency and non availability of concentrate feed	Hydroponic fodder production; Supplementation of RSMM and Feed from agricultural by products.
				Bt cotton	Low Yields due to low plant density	Crop geometry
				Cotton, Paddy	Nutrient disorders	Nutrient management
2	Owk	Owk	K. Sunkesula	Bengalgram, Blackgram, Redgram and Chillis	Indiscriminate use of Chemical fertilizers and Indiscriminate use of insecticides for management of pests in cotton & Chillis	IPM, IDM and ICM
3			Junuthala Ligambodu	Groundnut and sunflower	Low productivity in oilseeds Due moisture stress	Introduction of Varieties tolerant Moisture stress , Balanced nutrition and weed management.

4	Koilakuntla	Koilakuntla	Amadala	Bengalgram, Jowar	Indiscriminate use of Pesticides	IPM
5	Banaganapalle	Banaganapalle	Bhanumukkala, Yagantipalle	Rice, Maize, Vegetables	Indiscriminate use of Fertilizers and Pesticides	INM and IPM
6			Hussainapuram	Paddy	Micronutrient deficiencies	Nutrient management
7			Meerapuram, Jolapuram	Redgram, Greengram, Korra	Indiscriminate use of Pesticides, Poor choice of varieties	ICM and IPM
8			Nandavaram and Illurukothapet	sunflower	Low productivity in oilseeds	Integrated crop management in sunflower
9	Bethamcherla	Bethamcherla	H.Kottala, Kolumulapalle	Redgram, Bengalgram, Korra	Indiscriminate use of pesticides, poor knowhow on varieties suitable	ICM and IPM
10			R.S Ranagapuram	Bengalgram Foxtail millet, Redgram	Micronutrient deficiencies	Nutrient management
11			I Kothapet	Bengalgram Jowr	Micronutrient deficiencies	Nutrient management
12	Gospadu	Gospadu Servella	Sreenivasapuram Govindapalli	Rice, Sesame	Low productivity in rice –rice system Low productivity in oilseeds	Introduction of rice based cropping systems (rice-Maize and rice-sunflower) Introduction of improved varieties of Sesame

2.8 Priority/thrust areas

Crop/Enterprise	Thrust area
Seed Production	**Addressing the scarcity of quality seed :** Availability of quality seed to the farmer is one of the major constraint farmers facing every year. They are depending on the private market / government agencies for their seed requirements. The supply is not meeting the demand in time and more over farmers are being cheated by different agencies with spurious seed. Awareness should be created about the production of own seed by the farmer. For this, seed village concept is required at least in direct varieties in crops like paddy, red gram, desi cotton, Bengal gram, which have huge demand in the market has to be promoted
Cropping system:	**crop intensification in Rainfed black soils** On black soils of Kurnool district generally one crop Bengalgram/fallow-Jowar is being taken during rabi (September - October) in an area of 3.02 laksh ha. Farmers are getting low net returns/ha. Foxtail millet (korra), crop being its short duration may fit well in double cropping sequence (Korra- Bengalgram/ Jowar) under rainfed situation in black soils. Inorder to increase net returns Rs/ha and cropping intensity, Seteria- bengalgram can be successfully grown in rainfed black solis ,if onset of monsoon are intime.
Varietal replacement	The productivity of crops are lowest due to cultivation of old and traditional varieties due to non availability of improved varieties/hybrids .Seed is the vital and critical input for crop production. Crop productivity is highly influenced by selection of high yielding varieties. Among different components of recommended package of practices, improved variety contributes up to 30 percent to the overall yield improvement. Keeping this in view KVK, Yagantipalle is organized several FLDs in Cereals,oil seeds, pulses and other crops in order to popularize improved varieties in different parts of Kurnool district
Resource conservation **Zero Tillage and Direct seeding in paddy**	In Kurnool district Maize crop is being cultivated in an area of 14,604 ha and 10898 ha during kharif and rabi respectively with average productivity of 6250 kg /ha. In the district recently Rice followed by maize gaining popularity moreover their reaping good yields. There is a lot of scope to increase the acreage under this cropping system. Direct seeding in paddy has to be promoted as more than one lakh ha of area is under paddy. Direct seeding paddy saves time , water and labour. Farmers should be educated about this technology.
Redgram	IPM for Pod Borers and Pod Fly
Chillis	Sucking pest and Viral disease management
Rice	IPM for Leaf folder, Stem borer and IDM for blast and Sheath blight
Cotton	IPM for sucking pest management
Blackgram & Greengram	YMV management

3. TECHNICAL ACHIEVEMENTS

3.A. Details of target and achievements of mandatory activities by KVK during 2017-18

OFT (Technology Assessment)				FLD (crop/enterprise/CFLDs)			
1				2			
Number of technologies		Total no. of Trials		Area in ha		Number of Farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
19	19	106	106	210	210	409	409

Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)					Extension Activities			
3					4			
Number of Courses			Number of Participants		Number of activities		Number of participants	
Clientele	Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
Farmers & farm women	56	79	1591	2437	12	12	905	1019
Rural youths	11	11	975	988				
Extension functionaries	8	8	413	421				
Vocational	1	1	20	20				

Seed Production (Qtl.)			Planting material (Nos.)		
5			6		
Target	Achievement	Distributed to no. of farmers	Target	Achievement	Distributed to no. of farmers
1250	1284.75	4847	1,20,000	1,20,000	33

3.b. TECHNOLOGY ASSESSMENT

Summary of technologies assessed under various crops by KVKs

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of farmers
Integrated Nutrient Management	Rice	Yield maximization through Boron application	6	6
	Red gram	Assessment of efficacy of potassium and zinc on productivity of Red gram	6	6
	Maize	Yield maximization through Boron application	6	6
Varietal Evaluation	Red gram	Varietal Evaluation of medium duration Red gram varieties	6	6
	Red gram	Effect of Nipping in Hybrid Red gram	6	6
	Black gram	Evaluation of new varieties against YMV	6	6

Integrated Pest Management	Redgram	Management of Pod borers with special reference to pod fly	6	6
Cropping systems	Red gram	Red gram based intercropping systems	6	6
	Rice	Rice based cropping sequences under limited irrigation	6	6
Integrated Crop Management	Jowar	Management of Shoot fly and Stem borer	6	6
Resource Conservation Technology	Rice	Evaluation of Organic farming for pest management and yield	6	6
Drudgery Reduction	Chillies	Assessment of fertilizer dispenser for applying fertilizers in chillies to reduce drudgery of farm women	1	2
	Rice Jowar Red gram	Triple layer hermetic storage bags for storing of Rice, Red gram dhal & Jowar at household level	3	60
	Tomato	Easy planter for transplanting tomato seedlings to reduce Drudgery of farm women	1	2
Total			**71**	**130**

Summary of technologies assessed under livestock by KVKs

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Feed and Fodder management	Dairy	Evaluation of different feed formulations supplemented with agricultural by products	5	5
	Dairy	Assessment of improved fodder var. Super Napier	5	5
Nutrition Management	Dairy	Supplementation of concentrate feed along with wet distillery grains	5	5
	Dairy	Supplementation of Bypass fat	10	10
	Dairy	Feeding of balanced ration to milch buffaloes	10	10
Total			**35**	**35**

3.c. TECHNOLOGY ASSESSMENT IN DETAIL

OFT : 1

S.No	Item		Particulars
1	Thematic Area	:	Cropping systems
2	Title	:	Assessment of Redgram based intercropping Systems in rainfed situation
3	Scientists Involved	:	M.Sudhakar, SMS(Agronomy)
4	Details of Farming Situation	:	Rainfed, Medium black soils, fertility Status
5	Problem definition/description	:	In Kurnool district generally Redgram is being cultivated in an area of 45,000 ha and yields are limited by the amount and distribution of rainfall during monsoon period. There is a limited scope for increasing pulse productivity by increasing in area. The increasing demand can be met by increasing the productivity through adopting appropriate agronomic practices of which intercropping is one of the best way to increase production.
6	Technology assessed	:	T1: Redgram + Greengram (1:5) T2: Redgram + blackgram (1:5) T3: Redgram + setaria (1:5) Farmers practice: Redgram (Sole)
7	Critical Inputs given	:	Seed

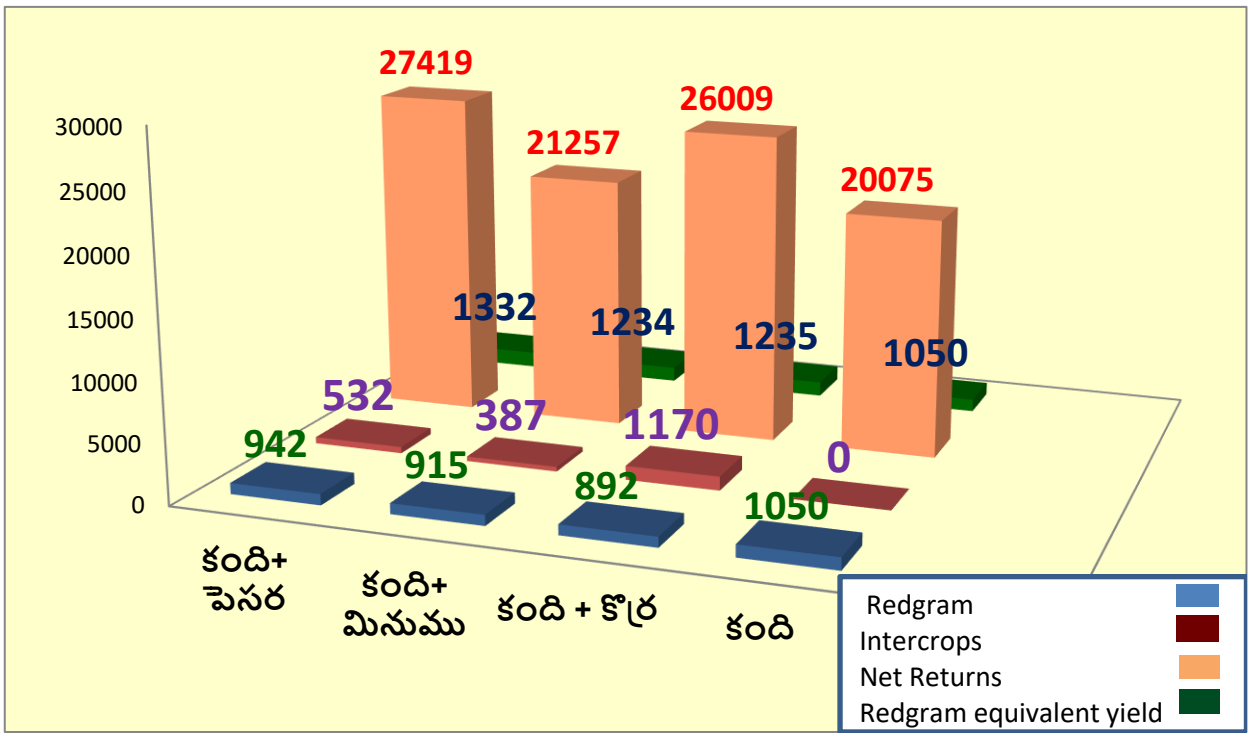
8. Results :

Table: Performance of the technology:

Technology Option	*No.of trials*	*Yield (t/ha)*	*Net returns (Rs. in lakh./ Ha.)*	*B:C ratio*	*LER*	*Redgram Equivalent Yield(Kg/ha)*
Farmers practice: Redgram (Sole)	*6*	*1050*	20075-00	*1:1.52*	*1.0*	*1010*
T1: Redgram + Greengram (1:5)		942	27419-00	*1:153*	1.56	1332
T2 Redgram + blackgram (1:5)		915	21257-00	*1:153*	1.39	1234
T3: Redgram + setaria (1:5)		892	26009-00	*1:1.4*	1.63	1235

Description of the results:

On farm testing on **Assessment of redgram based intercropping Systems in rainfed situation** was conducted during the kharif season of 2017 at Yagatipalli and Krishnagiri villages of Banaganapalli mandal. The results indicated that growing of Red gram as sole crop recorded higher



grain yield (1050 kg ha-1) over Redgram in intercropping system. Among the cropping systems, intercropping of Greengram with Pigeopea resulted in maximum pigeonpea equivalent yield (1332 kg ha^{-1}) over other systems. The LER is high with Pigeonpea + Setaia intercropping system compared to other inter cropping systems. Ahmad and Prasad (1996) also reported higher LER with little millet + Pigeonpea intercropping system.

9. Feed back of the farmers involved:

- Red gram based intercropping system found to be remunerative than sole crops of seteria/redgram/Greengram /blackgram even under drought conditions.
- Fodder needs of cattle and milch animals were met.
- While maintaining the yield levels of the sole crop, additional yields with the intercropping component have been realized.
- Since, a food legume is involved in the system, it will not only enhance the income of the farmer, but also provide with the much-needed protein to supplement the predominantly cereal diet of farmers, besides adding fertility to the Soil.

10. Feed back to the scientist who developed the technology:

❖ Research on development of medium duration Red gram varieties has to be strengthened.

OFT : 2

S.No	Item		Particulars
1	Thematic Area	:	Cropping systems
2	Title	:	Assessment of alternate crops for paddy under limited irrigated conditions in paddy-paddy cropping sequences
3	Scientists Involved	:	M. Sudhakar, SMS(Agronomy)
4	Details of Farming Situation	:	Irrigated, black soils
5	Problem definition/description	:	Rice is one of the popular food crops being grown in canal, tank fed and under bore wells of the Kurnool district. In recent years farmers are growing winter crops. But still majority of farmers grow rice as summer crop if the water is available. It is established that rice requires more water along with more quality farm inputs and low net returns/ha due to high cost of cultivation. As the cost of cultivation is high and limited water facility there is need to take up alternate crop to paddy as second crop .
6	Technology assessed	:	T1: Paddy- Mustard T2: Paddy- Setaria T3: Paddy- Blackgram Farmers Practice: Paddy-Paddy
7	Critical Inputs given	:	Seed

8.Results :

Table: Performance of the technology :

Technology Option	*No.of trials*	*Yield (t/ha)*	*Net Returns (Rs. in lakh./ha)*	*B:C*	*Paddy*
Padd-Paddy(Farmers Practice)	*6*	6366	37820-00	1:1.63	6366
T1: Paddy- Mustard		805	43096-00	1:3.01	4203
T2: Paddy- Setaria		2407	27153-00	1:2.67	2828
T3: Paddy- Blackgram		960	47450-00	1:1.84	3169

Description of the results:

In the present study, the yields of crops considered were converted into a common standard Rice equivalent yield. Based on Rice equivalent yield the results shows that among all the rice based cropping sequences, Rice-Rice sequence found to be superior followed by Paddy-Blackgram and Paddy-Mustard. But the CB ratio was highest with Paddy- Mustard sequence followed by Paddy-Setaria. But the net returns were highest in case of Paddy-Blackgram and Paddy-Mustard followed by Paddy-Paddy. The CB ratio analysis showed that the Paddy sequence with Mustard gave highest returns followed by Paddy-Setaria.

9. Feed back of the farmers involved:

Among all Paddy based sequences Paddy- Mustard followed by paddy-Setaria was found useful for the farmers to reap maximum net returns per unit area and time.

10. Feed back to the scientist who developed the technology:

Research on development of High yielding Mustard varieties suitable for relay cropping/Rice fallows has to be strengthened.

OFT : 3

S.No	Item		Particulars
1	Thematic Area	:	Cropping systems
2	Title	:	Assessment of Nipping on Yield of Rainfed Redgram
3	Scientists Involved	:	M.Sudhakar, SMS(Agronomy)
4	Details of Farming Situation	:	Irrigated, black soils, fertility Status
5	Problem definition/description	:	Red gram is an important pulse crop. The crop is largely grown under rainfed situation, its agronomic practices are required to be standardized for realizing yield potential. Among them plant population and the number of reproductive sink/plant are the key factors for determining the yield. In Kurnool district, Redgram being cultivated in an area of 45000 ha under rainfed situation. The productivity levels are low due to high plant densities, increased plant height, less no of Primary & secondary branches, terminal moisture stress.
6	Technology assessed	:	T1: Farmers practice T2: Sowing at 180cm and Nipping at 50 DAS T3: Sowing at 180cm and Nipping at 50 DAS and 70DAS
7	Critical Inputs given	:	Seed

8. Results :

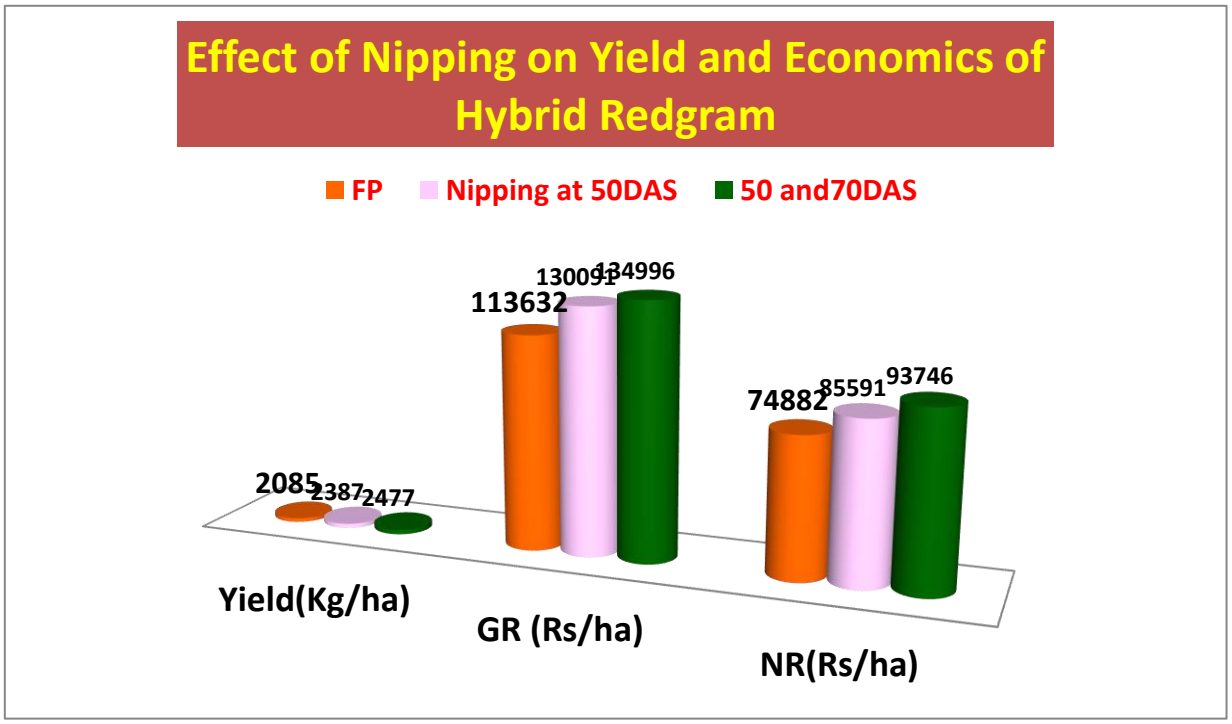
Table : Performance of the technology :

Technology Option	*No.of trials*	*Yield (t/ha)*	*Net Returns (Rs. in lakh./ha)*	*B:C ratio*
T1: Farmers practice	*6*	2085	74882	2.93
T2: Sowing at 180cm and Nipping at 50 DAS		2387	85591	3.21
T3: Sowing at 180cm and Nipping at 50 DAS and 70DAS		2477	93746	3.27

Description of the results:

The results indicated that Nipping of terminal bud at 50 DAS and 70 DAS and Nipping at 50 DAS recorded on-par yields. Nipping of terminal bud significantly reduced the plant height and increased the number of primary and secondary branches, pods per plant and test weight. The increased yield components may be attributed to activation of lateral dormant buds. The increase in yield due to nipping was 14.6 per cent over control. The low yields in farmers practice may be attributed to reduction in yield components.

The highest net returns and CB ratio was realized when nipping was done at 50 DAS and 70 DAS followed by nipping at 50 DAS.



9.Feed back of the farmers involved:

- Nipping of terminal bud at 50 DAS and 70 DAS and Nipping at 50 DAS were recorded higher yields than farmers practice, but it is labour intensive.
- Farmers opined that, if nipping machinery is available, it is advantageous.

10. Feed back to the scientist who developed the technology:

Development of power operated for machinery for nipping operation is necessary to overcome labour scarcity during peak season.

OFT : 4

S.No	Item		Particulars
1	Thematic Area	:	Varietal Evaluation
2	Title	:	Assessment of medium duration varieties of Redgram
3	Scientists Involved	:	M.Sudhakar, SMS(Agronomy)
4	Details of Farming Situation	:	Rainfed, Redsoils,
5	Problem definition/description	:	In Kurnool district Redgram being cultivated in an area of 45000 ha under rainfed situation. The productivity levels are low due to high plant densities, increased plant height, less no of Primary & secondary branches and terminal moisture stress.
6	Technology assessed	:	T1: Asha T2: LRG-52 T3: PRG-176
7	Critical Inputs given	:	Seed

8. Results :

Table : Performance of the technology :

Technology Option	*No.of trials*	*Yield (t/ha)*	*Net Returns (Rs. in lakh./ha)*	*B:C ratio*
T1: Asha	*6*	**2025**	71755	2.88
T2: LRG-52		2125	80187	3.2
T3: PRG-176		1975	72102	3.0

Description of the results:

The results indicated that Redgram varieties *i.e.* LRG-52, PRG-176 and Asha were recorded on-par yield. In Redgram variety LRG-52 and PRG-176 the number of primary and secondary branches, pods per plant more compared local variety *i.e.* Asha.

The highest net returns and CB ratio was realized with LRG-52 followed by PRG-176 due to its short duration and more number pods/plant.

9.Feed back of the farmers involved:

- Among three varieties LRG-52 performed better than PRG-176 and Asha.
- Farmers were impressed with performance of LRG-52

10. Feed back to the scientist who developed the technology:

- ❖ Incidence of wilt observed in PRG-176

OFT : 5

S.No	Item		Particulars
1	Thematic Area	:	Nutrient Management
2	Title	:	Yield maximization through Boron application in Rice
3	Scientists Involved	:	K.V. Ramanaiah
4	Details of Farming Situation	:	Kharif-2017. Irrigated black soils .Soils of OFT plots were high in Phosphorus content and medium to high potassium. Boron deficiency was observed in these soils.
5	Problem definition/description	:	Micronutrients are essential for the normal growth of plants. Deficiencies of micronutrient drastically affect the growth, metabolism and reproductive phase in plants, animal and human beings. About 50 % soils of Kurnool district were deficient in boron content. About 3 billion people in the world are affected with micronutrient malnutrition. Boron helps in pollination and seed formation, so application of Boron is helpful in better pollination, seed and yield enhancement.
6	Technology assessed	:	T_1- Farmers practice (No Boron application) T_2- Basal application of Borax-7.5 Kg/ha T_3- Foliar application of Borax @0.1% at tillering , panicle initiation and panicle emergence phases.
7	Critical Inputs given	:	along with quantity as well as value)-Borax 7.5 Kg/ha and solu Boron -1Kg/ha Value- Rs.2450/ha

8. Results :

Table : Performance of the technology :

Technology Option	*No.of trials*	*Yield (t/ha)*	*Net Returns (Rs. in lakh./ha)l /ha)*	*B:C ratio*	*Data on Other performance indicators**
Farmers Practice- No boron application	*6*	*6.434*	*0.586*	*1:1.84*	
T1- Basal application-7.5 Kg/ha		*6.681*	*0.659*	*1:1.93*	
T 2-Foliar application of Borax @0.1% at tillering ,panicle initiation and panicle emergence phases		*6.967*	*0.685*	*1:1.97*	

Description of the results:

The result indicated that the yield in both T_1 (6.68t/ha) and T2 (6.96t/ha) were on par and higher than farmer's practice (6.43 t./ha).

9. Feed back of the farmers involved:

Pre seasonal training on soil sampling and testing, fertilizer application and mid seasonal field visits finally field days were organized at initial stages, but application of boron is more effective in yield improvement.

10. Feed back to the scientist who developed the technology:

Efficacy of boron was observed in boron deficient soils when compared sufficient range soils.

OFT : 6

S.No	Item		Particulars
1	Thematic Area	:	Nutrient Management
2	Title	:	Assessment of efficacy of potassium and zinc on productivity of Redgram
3	Scientists Involved	:	K.V. Ramanaiah
4	Details of Farming Situation	:	Kharif-2017. Rainfed Red Soils of OFT plots were high in Phosphorus content and medium in potassium. Zinc deficiency was observed in these soils.
5	Problem definition/description	:	Redgram is a major pulse crop cultivated in Kurnool district during kharif season. But the yields are not encouraging. Studies conducted by ARS Utukur, Kadapa revealed that Potassium and zinc application Redgram yields increased significantly.
6	Technology assessed	:	T_1- Farmers practice (No K and Zinc application) T_2- Basal application of K-60 Kg/ha T_3 - Basal application of K-60 Kg/ha + Zinc sulphate-25 Kg./ha
7	Critical Inputs given	:	(along with quantity as well as value)- MOP- 100/ha Value- Rs.1500/ha Zinc sulphate-25 Kg./ha Value-Rs.1000/ha

8. Results :

Table : Performance of the technology :

Technology Option	*No.of trials*	*Yield (t/ha)*	*Net Returns (Rs. in /ha)*	*B:C ratio*	*Data on Other performance indicators**
Farmers Practice- (No K and Zinc application)	*6*	*0.792*	*0.144*	*1:1.76*	
T1 -Basal application of K-60 Kg/ha		*0.963*	*0.202*	*1:1.99*	
T2- Basal application of K-60 Kg/ha + Zinc sulphate-25 Kg./ha		*1.055*	*0.244*	*1:2.07*	

Description of the results:

The result indicated that the yield in both T_1 (0.963/ha) and T_2 (1.055t/ha) were on par and higher than farmers practice (0.792 t./ha)

9. Feed back of the farmers involved:

Pre seasonal training on soil sampling and testing, fertilizer application and mid seasonal field visits finally field days were organized. However, application of potassium and Zinc is more effective in yield improvement.

10. Feed back to the scientist who developed the technology:

Efficacy of zinc was observed in zinc deficient soils when compared to sufficient range soils.

OFT : 7

S.No	Item		Particulars
1	Thematic Area	:	Nutrient Management
2	Title	:	Yield maximization through Boron application in Maize
3	Scientists Involved	:	K.V. Ramanaiah
4	Details of Farming Situation	:	Rabi-2017. Irrigated black soils .Soils of OFT plots were high in Phosphorus content and medium to high potassium. Boron deficiency was observed in these soils.
5	Problem definition/description	:	Micronutrients are essential for the normal growth of plants. Deficiencies of micronutrient drastically affect the growth, metabolism and reproductive phase in plants, animal and human beings. About 50 % soils of Kurnool district were deficient in boron content. About 3 billion people in the world are affected with micronutrient malnutrition. Boron helps in pollination and seed formation, so application of Boron is helpful in better pollination, seed and yield enhancement .
6	Technology assessed	:	T_1- Farmers practice (No Boron application) T_2- Basal application of Borax-7.5 Kg/ha
7	Critical Inputs given	:	(along with quantity as well as value)- Borax 7.5 Kg/ha Value- Rs.1450/ha

8. Results :

Table : Performance of the technology :

Technology Option	*No.of trials*	*Yield (t/ha)*	*Net Returns (Rs. in lakh./ha)*	*B:C ratio*	*Data on Other performance indicators**
Farmers Practice- No boron application	*6*	*7.26*	*0.2652*	*1:1.53*	
Technology 1-Basal application-7.5 Kg/ha		*8.08*	*0.3369*	*1:1.66*	

Description of the results:

The result indicated that the yield of T_1 (8.08 t/ha) is higher than farmer's practice (7.26 t./ha)

9. Feed back of the farmers involved:

Pre seasonal training on soil sampling and testing, fertilizer application and mid seasonal field visits finally field days were organized at initial stages, but application of boron is more effective in yield improvement.

10. Feed back to the scientist who developed the technology:

Efficacy of boron was observed in boron deficient soils when compared to sufficient range soils.

On Farm Testing 8:

S.No	Item		Particulars
1	Thematic Area	:	Integrated Pest Management
2	Title	:	**Evaluation of Organic Package on Yield and Pest Management in Rice (New)**
3	Scientists Involved	:	D.Balaraju, SMS – Plant Protection
4	Details of Farming Situation	:	Rice is generally grown under Canal Aycut area and under bore wells both in black soils and red soils of the district in about 1 lakh ha. Annually. Rice – Rice farming system followed in canal areas has resulted in soils becoming salt affected and yields gradually declining from year to year.
5	Problem definition/description	:	Indiscriminate use of chemical fertilizers and pesticides for management of soil fertility and pest and disease management in rice, leading to pesticide residues in grain and deterioration of soil health and fertility over years. There is a serious concern among the consumers too with regard to pesticide residues in rice. To revive the lost health of soil and to produce the quality rice on sustainable basis there is a need of new intervention.
6	Technology assessed	:	Organic package of crop and pest management in Rice will be assessed against conventional indiscriminate use of fertilizers and pesticides followed by farmers. T1 – Farmers practice – Indiscriminate use of pesticides. • No FYM or Green Manuring. • NPKS (kg/ha) – 365 – 188 – 110 – 85 • Zinc Sulphate (kg/ha) - 50 • 1 granule application and 5 rounds of pesticide application. ○ Carbofuron @ 25 kg/ha basal or PI stage ○ Mono 36% SL or Chloro 50 EC or L-cyhalothrin spray @ 1 lt/ha + 19-19-19 2.5 kg/ha or Zinc 12% @ 250 g/ha ○ Cartap Hydrochloride 50 % SP @ 1 kg/ha + Carbendazim @ 500 g/ha or Car+Maco @ 1 kg/ha ○ Profenophos @ 1 lt/ha + Hexaconazole @ 1 lt/ha / ○ Buprofezen @ 1 lt/ha or Dinotefuron 20% SC @ 250

			g/ha + Tricyclazole @ 300 g/ha ○ Pymetrozine 50% WG @ 120 g/ac + Tricyclazole @ 300 g/ha T2 – Assessment – Organic package • FYM/Green manure, Neem cake (100 kg/ac); • Pseudomonas /PSB /Azospirillum (1 kg each) seed/seedling/soil treatment; • Neem oil, Botanical extracts, Pf, Jeevamrith, Beauveria for PP,
7	Critical Inputs given	:	Neem cake @ 100 kg/ac = Rs. 1500/ac Pseudomonas 2 kg, PSB, Azospirillum @1 kg each/ac = Rs.300/ac Neem oil @ 1 lt/ac = Rs. 400/ac and Beauveria @ 1 lt/ac = Rs.300/ac Total of Critical inputs Rs. 2500-00 per ac.

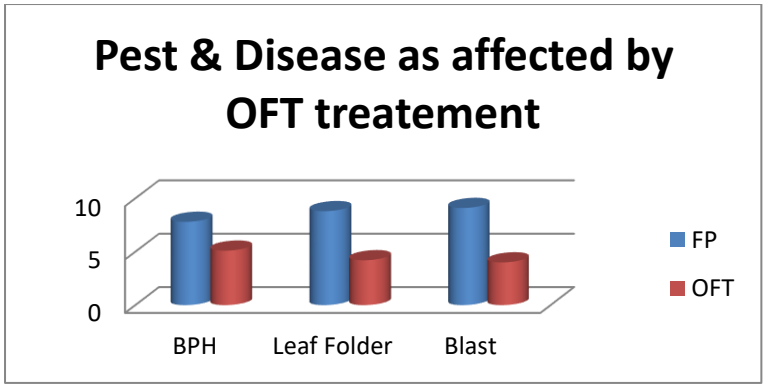
8. Results :

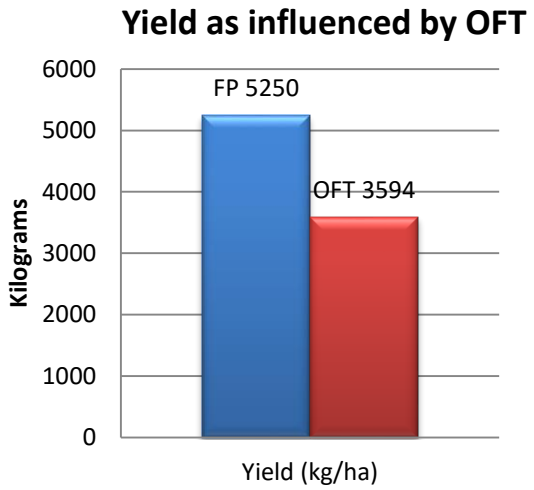
Table : Performance of the technology

Technology Option	***No.of trials***	***Yield (t/ha)***	***Net Returns(Rs. lakh./ha)***	***B:C ratio***	***Data on Other performance indicators****
Farmers Practice : Indiscriminate use of pesticides.	*6*	*5.25*	*0.44*	*1.72*	*BPH-7.8/plant* *Leaf folder–8.8 %* *Blast - 9.1 %* *Cost of PP – Rs. 8,750/ha*
Technology 1 : Organic package • FYM/Green manure, Neem cake (100 kg/ac); • Pseudomonas /PSB /Azospirillum (1 kg each) seed/seedling/soil treatment; • Neem oil, Botanical extracts, Pf, Jeevamrith, Beauveria for PP,		*3.594*	*0.29*	*1.67*	*BPH - 5.1/plant* *Leaf folder–4.2 %* *Blast - 4.0 %* *Cost of PP – Rs. 2,375/ha*

Description of the results:

The result indicated that organic practice gave 31.5% lower yield compared to farmers practice. But the cost benefit ratio in organic products is better as it fetches premium price. Incidence of pests and diseases is also low.





9.Feed back of the farmers involved:

- The farmers are not readily accepting the technology as it involves lot of labour, patience and there is no ready-made solution for all pest / disease problems and basically the fear of reducing yields due to non application of fertilizers.
- To some extent farmers were convinced that with no fertilizer regime, the incidence of pest and diseases itself will be low.

10.Feed back to the scientist who developed the technology:

On Farm Testing 9:

S.No	Item		Particulars
1	Thematic Area	:	Integrated Pest Management
2	Title	:	**Management of pigeonpea pod borers with special reference to pod fly (*Melanagromyzaobtusa*).**
3	Scientists Involved	:	D.Balaraju, SMS – Plant Protection
4	Details of Farming Situation	:	Redgram crop is being cultivated both in Kharif under Rainfed Conditions in the selected village. The soils are black with medium to high P and K and low N content. Normal rainfall of this mandal is 600-630 mm, which is mostly received in SW Monsoon period especially from July to September. In case of necessity, the fields can be given supplemental irrigation, from near by SRBC Canal, that boosts the yields.
5	Problem definition/description	:	In Kurnool district, in recent times, pod fly assumed as a major pest contributing to increasing losses in grain yield of Pigeonpea year by year. It was reported in Maharashtra that, with the advent of Bt cotton and its large scale cultivation the podfly assumed as important biotic constraint in increasing production and productivity in Pigeonpea and the damage by pod fly ranged from 25.5% to 36% (Anonymous 2008).
6	Technology assessed	:	Recommended module of Borer and Pod fly management in Redgram is assessed against indiscriminate use of pesticides followed by farmers. T1 – Farmers practice – Spraying New generation molecules starting from flowering till pod maturation at 15-20 days interval. Thus, 3 – 5 sprays are given depending on the duration of the crop. T2 – Recommended – • Spraying of Neem oil (300 ppm) @ 5ml/lt at bud formation stage of the Crop. • Spraying chlorpyriphos @ 2.5 ml/lt or Acephate @ 1.5 g/lt at 50% flowering stage. • Spraying Emamectin benzoate 5% @ 0.5g/lt + Thiomethoxam 25WG @ 0.25 g/lt 15 days after 2nd spray and • Spraying Flubendiamide 39.35% SC @ 0.25 ml/lt + Acetamaprid 20 SP @ 0.2 g/lt 15 days after 3rd spray.
7	Critical Inputs given	:	✓ Neem oil 300 ppm @ 1 lt/ac = Rs. 300/ac ✓ Acephate 75% SP @ 500 g/ac = Rs.300/ac ✓ Emamectinbenzoate @100 g/ac = Rs. 600/ac . ✓ Thiomethoxam 25 WG @ 40 g/ac = Rs. 175/ac ✓ Flubendiamide 39.35% SC @ 50 ml/ac = Rs. 450/ac ✓ Acetamaprid 20 SP @ 40 g/ac = Rs. 175/ac Critical inputs of worth Rs. 2000/- per ac or Rs. 5000/- per ha were provided to the trial farmers.

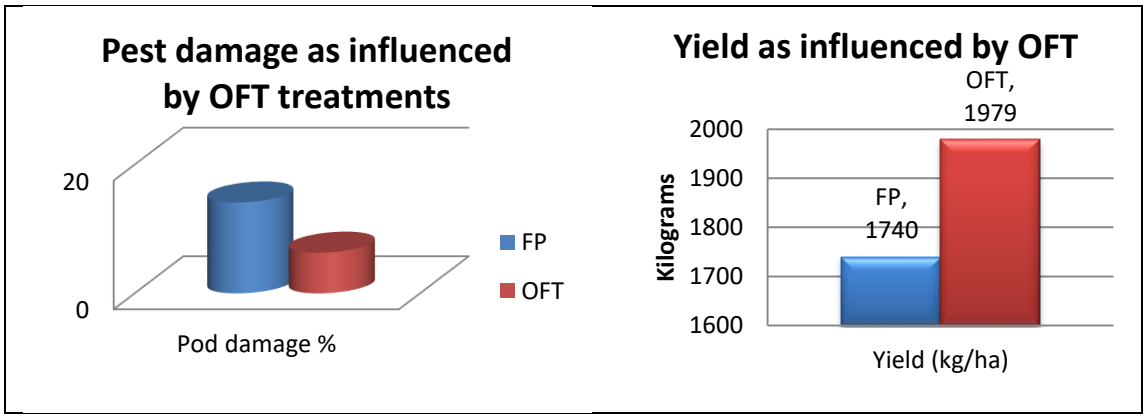
8. Results :

Table : Performance of the technology

Technology Option	*No.of trials*	*Yield (t/ha)*	*Net Returns(Rs. lakh./ha)*	*B:C ratio*	*Data on Other performance indicators**
Farmers Practice : Spraying New generation molecules starting from flowering till pod maturation at 15-20 days interval. Thus, 3 – 5 sprays are given depending on the duration of the crop.	*6*	*17.40*	*0.27*	*1.63*	*Pod damage – 14.1 %t* *Cost of PP – Rs. 8,125/ha*
Technology 1 : ✓ Spraying of Neem oil (300 ppm) @ 5ml/lt at bud formation stage of the Crop. ✓ Spraying chlorpyriphos @ 2.5 ml/lt or Acephate @ 1.5 g/lt at 50% flowering stage. ✓ Spraying Emamectin benzoate 5% @ 0.5g/lt + Thiomethoxam 25WG @ 0.25 g/lt 15 days after 2nd spray and ✓ Spraying Flubendiamide 39.35% SC @ 0.25 ml/lt + Acetamaprid 20 SP @ 0.2 g/lt 15 days after 3rd spray.		*19.79*	*0.35*	*1.80*	*Pod damage - 6.3 %* *Cost of PP – Rs. 9,375/ha*

Description of the results:

In addition to the farmers knowledge and adoption of spraying new generation chemicals viz., Emamectin benzoate, Flubendiamide starting from flowering in schedules of 15 – 20 days interval for management of pod borers, the farmers have added one conventional systemic insecticide in each spray to check the incidence of pod fly, which is normally observed from pod formation stage. With adoption of treatments in OFT, the farmers could effectively manage both the pests that resulted in less damage of pods and grains (55.6 % less damage).



9.Feed back of the farmers involved:

It is easy to adopt the package, as it needs only few combinations of chemicals to be sprayed compulsorily at flowering and pod initiation stages of the crop, which involves very less cost and gives better yield, by effective management of both pod borers and pod fly.

10.Feed back to the scientist who developed the technology:

On Farm Testing 10:

S.No	Item		Particulars
1	Thematic Area	:	Integrated Pest Management
2	Title	:	**Integrated Management of Shoot fly and Stem borer in Jowar**
3	Scientists Involved	:	D.Balaraju, SMS – Plant Protection
4	Details of Farming Situation	:	Jowar is being cultivated in late Kharif or Maghi Season, mostly under Rainfed Conditions in the selected village. The soils are light black with moderate P and K and low N content. Normal rainfall of this mandal is 550-600 mm, which is mostly received in SW Monsoon period especially from July to September.
5	Problem definition/description	:	In Kurnool district, shoot fly and stem borer are the regular pests occurring on Jowar. The farmers are not adopting recommended PP measures; hence the initial loss is more and leaving less plant population in the field which has direct bearing on yield.
6	Technology assessed	:	Recommended module of pest management for shoot fly and stem borer is assessed against indiscriminate use of pesticides followed by farmers. T1 – Farmers practice – **Indiscriminate use of pesticides.** T2 – Recommended – • Increased seed rate @ 6 kg/ac • Seed treatment with Imidacloprid @ 3 ml/kg seed. • Spraying of Thiodicarb @ 1.5g/lt and Lambda Cyhalothrin 5% SC @ 2 ml/lt alternately at 7, 14 and 21 days after sowing. • Whorl application of Carbofuron 3G @ 4 kg /ac at 30-35 DAS. T3 - Seed treatement with Imidacloprid @ 3 ml/kg + Chlorantraniliprole @ 0.3 ml/lt at 15 DAS.
7	Critical Inputs given	:	• Imidacloprid @ 50 ml /ac = Rs. 100/ac • Thiodicarb @ 500 g/ac = Rs.500/ac • Carbofuron@ 4 kg/ac = Rs. 400/ac . • Chloranthraniliprole @ 60 ml/ac = Rs. 800/ac Critical inputs of worth Rs. 1800/- per ac or Rs. 4500/- per ha were provided to the trial farmers.

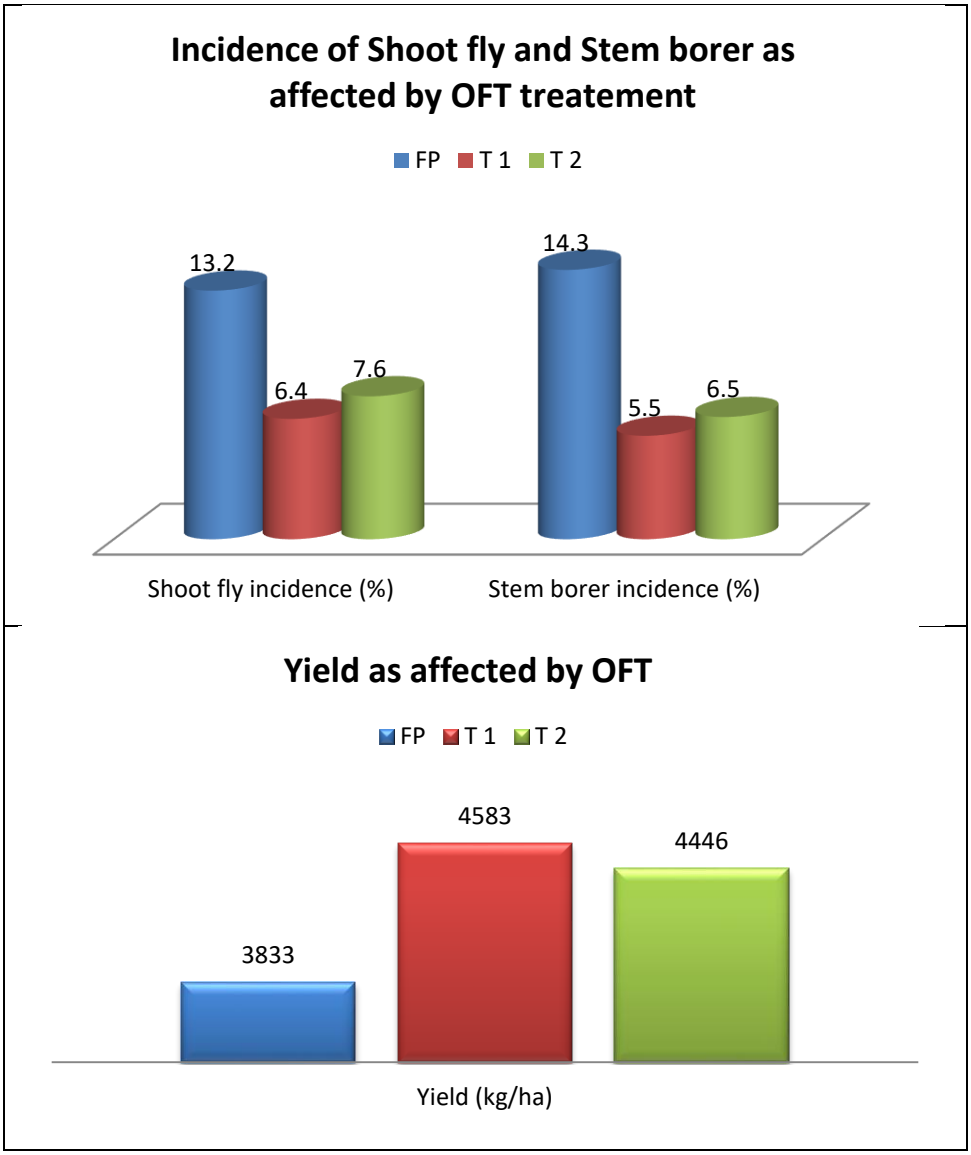
8. Results :

Table : Performance of the technology

Technology Option	*No.of trials*	*Yield (t/ha)*	*Net Returns(Rs. lakh./ha)*	*B:C ratio*	*Data on Other performance indicators**
Farmers Practice : Indiscriminate use of pesticides.	*6*	*38.33*	*0.14*	*1.34*	*Shoot fly – 13.2 %* *Stem borer - 14.3 %* *Cost of PP – Rs.4,125/ha*
Technology 1 : • Increased seed rate @ 6 kg/ac • Seed treatment with Imidacloprid @ 3 ml/kg seed. • Spraying of Thiodicarb @ 1.5g/lt and Lambda Cyhalothrin 5% SC @ 2 ml/lt alternately at 7, 14 and 21 days after sowing. • Whorl application of Carbofuron 3G @ 4 kg /ac at 30-35 DAS.		*45.83*	*0.26*	*1.66*	*Shoot fly –6.4 %* *Stem borer - 5.5 %* *Cost of PP – Rs.2,875/ha*
Technology 2 : • Seed treatementwith Imidacloprid @ 3 ml/kg + Chlorantraniliprole @ 0.3 ml/lt at 15 DAS.		*44.46*	*0.25*	*1.62*	*Shoot fly – 7.6 %* *Stem borer - 6.5 %* *Cost of PP – Rs.2,450/ha*

Description of the results:

Seed treatement with Imidacloprid followed by Spraying of Thiodicarb and Lambda Cyhalothrin at weekly intervals for shoot fly management and whorl application of Carbofuron 3 G granules at 30 DAS for stem borer management has given better plant stand and better yield compared to farmers practice and other treatement where Seed treatement followed by Spray of Rynaxypyr at 15 DAS was taken up.



9.Feed back of the farmers involved:

- Farmers were convinced about the seed treatment with Imidacloprid followed by spraying with Rynaxypyr or whorl application of Carbofuron as these could greatly reduce the incidence of both shoot fly and stem borer.

10.Feed back to the scientist who developed the technology:

On Farm Testing 11:

S.No	Item		Particulars
1	Thematic Area	:	Varietal Selection and Integrated Disease Management
2	Title	:	**Assessing the Performance of different varieties of Blackgram against YMV.**
3	Scientists Involved	:	D.Balaraju, SMS – Plant Protection
4	Details of Farming Situation	:	Blackgram crop is being cultivated both in Kharif (as intercrop with redgram) and Rabi Seasons, both under Rainfed and Irrigated Conditions in the district. It is mostly grown in Black soils with moderate P and K and low N content. Normal rainfall of the area of blackgram is 600-630 mm, which is mostly received in SW Monsoon period especially from July to September.
5	Problem definition/description	:	In Kurnool district, the major diseases of Blackgram occurring regularly are YMV, powdery mildew and leaf spots. YMV can cause damage more than 50% in severe cases.
6	Technology assessed	:	Various varieties released in recent times by different universities for YMV tolerance are being tested. T1 – Farmers practice – LBG 752 T2 – PU 31 T3 – MASH 338 Management of whitefly with yellow sticky traps and need based pesticide sprays.
7	Critical Inputs given	:	• Cost of 8 kg seed (4 kg of PU 31 and 4 kg of MASH 338 per beneficiary to cover 0.4 ha) @ 200/- per kg. = Rs.1600/- per ac. • Yellow sticky traps @ 20/ac = Rs. 300/ac Critical inputs (Seed) of worth Rs. 1900/- per ac or Rs. 4,750/- per ha were provided to the trial farmers.

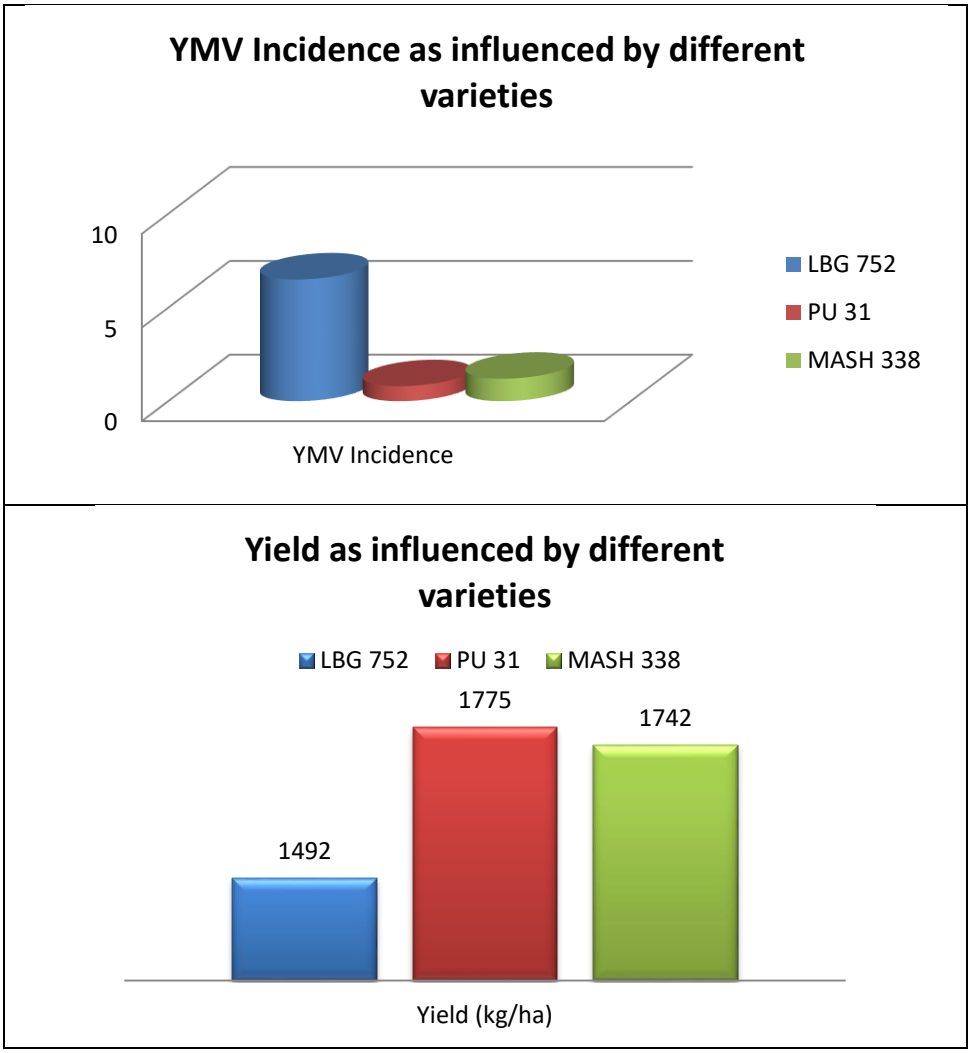
8.Results :

Table : Performance of the technology

Technology Option	*No.of trials*	*Yield (t/ha)*	*Net Returns(Rs. lakh./ha)*	*B:C ratio*	*Data on Other performance indicators**
Farmers Practice : LBG 752	*6*	*14.92*	*0.28*	*1.76*	*YMV – 6.5%* *Cost of PP –* *Rs. 10,625/ha.*
Technology 1 : PU 31 + Mgmt. of whitefly (Yellow sticky traps @ 20/ac and spray of Acetamaprid or Triazophos).		*17.75*	*0.42*	*2.15*	*YMV – 0.8%* *Cost of PP – Rs. 9,50 0/ha*
Technology 1 : MASH 338 + Mgmt. of whitefly (Yellow sticky traps @ 20/ac and spray of Acetamaprid or Triazophos).		*17.42*	*0.40*	*2.11*	*YMV – 1.2 %* *Cost of PP – Rs. 9,500/ha*

Description of the results:

Both the varieties of Blackgram viz., PU 31 and MASH 338 outperformed the variety LBG 752 being sown by farmers, with regard to incidence of YMV as well as yield. The yields obtained in PU 31 and MASH 338 were 1775 kg/ha and 1742 kg/ha respectively which are higher than the yield of variety LBG 752 (Farmers practice). Almost negligible incidence of YMV is noticed in the introduced varieties, which is better than that of LBG 752.



9.Feed back of the farmers involved:

- The farmers have accepted both the varieties PU 31 and MASH 338 and now they are widely cultivating these varieties, in preference to LBG 752 which showed YMV incidence and leaf crinkle virus incidence.

10.Feed back to the scientist who developed the technology:

On Farm Testing 12:

1	Thematic area	:	Feed and fodder technology
2	Title	:	**Evaluation of different feed formulations using agricultural by-products.**
3	Scientists involved	:	A.Krishna Murthy, SMS (AH)
4	Details of farming situation:	:	Under irrigated black soils, Ground nut, Black gram and sunflower are cultivating in the district.
5	Problem definition / description: (one paragraph)	:	Heavy wastage of valuable agricultural by-products was observed in Kurnool dist. These can be utilized in animals feeding to reduce the cost of concentrates.
6	Technology Assessed:	:	T_1 – Rice Bran T_2 –Black gram haulms (30%) + Concentrate feed (70%) T3- G.N.Haulms (30%) + Concentrate feed (70%)
7	Critical inputs given:	:	Concentrate feed @ 3kg / animal/day
8	Results	:	The results indicated that 16.9% increased milk yield in T2 over T1 and increase of 3.4% milk yield in T3 over T1.

Table: Performance of the technology

Technology Option	***No.of trials***	***Avg. milk yield in 60 days***	***Net Returns (Rs. /animal)***	***B:C***	***Data on Other performance indicators****
Rice Bran	*5*	*197.4*	*5289.00*	*1:4.3*	
Black gram haulms (30%) + Concentrate feed (70%)		*228.6*	*6831.00*	*1:6.8*	
G.N.Haulms (30%) + Concentrate feed (70%)		*202.2*	*5727.00*	*1:5.2*	

Description of the results:

The trial was conducted to assess the three different feed formulae incorporating legume haulms to reduce the cost of concentrate feed and tested at 5 farmers. The results indicated that more milk yield recorded on feeding of 30% Black Gram haulms supplemented feed followed by GNH feed and Rice bran. There is no significant difference in the milk yield on feeding of GNH and BGH feeds.

9.Feed back of the farmers involved: Palatability of the feed is less compare to regular concentrate feed.

10. Feed back to the scientist who developed the technology: Nil

On Farm Testing 13:

1	Thematic area	:	Nutrition management
2	Title	:	**Supplementation of concentrate feed along with wet distillery grains to milch buffaloes**
3	Scientists involved	:	A.Krishna Murthy, SMS (AH)
4	Details of farming situation:	:	Dairy farmers are feeding wet distillery grains as concentrate feed to milch buffaloes. As this is wet form, more prone to growth of mould and cannot preserve for more than 2 days.
5	Problem definition / description: (one paragraph)	:	Farmers are feeding sole wet distillery grain as concentrates which is low in all essential nutrients. The protein and energy are not balanced which lead to metabolic disorders.
6	Technology Assessed:	:	T_1 – Wet distillery grains (Farmers practice) T2- wet distillery grains (50%) + Concentrate feed (50%) (1:1)
7	Critical inputs given:	:	Concentrate feed @ 3kg / animal/day
8	Results	:	The results indicated that 10.16% increased milk yield was observed in the treatment over farmers practice.

Table: Performance of the technology

Technology Option	***No.of trials***	***Avg. milk yield in 60 days***	***Net Returns (Rs. /lamb)***	***B:C ratio***	***Data on Other performance indicators****
Wet distillery grains (Farmers practice)	*5*	*378.0*	*9848.50*	*1:2.8*	
Wet distillery grains (50%) + Concentrate feed (50%) (1:1)		*416.4*	*13142.75*	*1:4.2*	

Description of the results:

The results indicated that 10.16% increased milk yield was observed in supplementation of 50% concentrate feed along with wet distillery grains over farmers practice on whole wet distillery grain feeding as concentrates.

9.Feed back of the farmers involved:

Well accepted technology by the farmers. Brewers waste was completely eliminated from the ration.

10. Feed back to the scientist who developed the technology: Nil

On Farm Testing 14:

1	Thematic area	:	Feed & Fodder technology
2	Title	:	**Assessment of improved fodder variety Super Napier**
3	Scientists involved	:	A. Krishna Murthy, SMS (AH)
4	Details of farming situation:	:	Under irrigated black and red soils, farmers allocate small area for fodder cultivation especially perennial fodder. Most of the varieties existing are old varieties and low yielders.
5	Problem definition / description: (one paragraph)	:	Farmers cultivating CO-4 hybrid Napier variety which is spiny and have winter dormancy.
6	Technology Assessed:	:	T_1 – CO-4 T_2 – Super Napier (CO-5)
7	Critical inputs given:	:	Fodder stem cuttings of CO-4 and CO-5 @ 10000 cuttings per acre.
8	Results	:	The results indicated that 23.15% increased fodder yield in T2 over T1

Table: Performance of the technology

Technology Option	***No.of trials***	***Fodder yield (t/ha)***	***% increase***	***Data on Other performance indicators****
CO-4	*5*	*152.07*	-	
Super Napier		*187.27*	*23.15%*	

Description of the results:

On the assessment of improved fodder variety, super Napier recorded 23.15% increased fodder yield over CO-4. Winter dormancy was not found CO-5 and also fewer spines were observed in CO-5 compared to CO-4.

9. Feed back of the farmers involved:

Milk improvement was found on feeding of super Napier and also it was easy for harvesting.

10. Feed back to the scientist who developed the technology: -

On Farm Testing 15:

1	Thematic area	:	Nutrition management
2	Title	:	**Supplementation of bypass fat to milch buffaloes**
3	Scientists involved	:	A. Krishna Murthy, SMS (AH)
4	Details of farming situation:	:	Dairy farming provides sustainable income to the farmers and the cost of milk production completely depends on concentrate feeding. Farmers are not having knowledge on scientific management of pregnant cows.
5	Problem definition / description: (one paragraph)	:	Neglect towards pregnant buffaloes resulted in negative energy balance soon after calving and resulting in low milk production.
6	Technology Assessed:	:	T_1 – Farmers practice (concentrate feeding) T2- Concentrate feeding + Bypass fat @ 100g/day
7	Critical inputs given:	:	Bypass fat @ 100g / animal/day
8	Results	:	The results indicated that 23.13% increased milk yield was observed in the treatment over farmers practice.

Table: Performance of the technology

Technology Option	***No.of trials***	***Avg. milk yield in 60 days***	***Net Returns (Rs. /lamb)***	***B:C ratio***	***Data on Other performance indicators****
Farmers practice (Concentrate feeding)	*10*	*308.5*	*9144.50*	*1:3.9*	
Concentrate feed + 100g Bypass fat/day/animal		*379.9*	*11429.0*	*1:3.2*	

Description of the results:

The results indicated that 23.13% increased milk yield was observed on supplementation of bypass fat along with regular concentrate feed over farmers practice. The improved peak milk yield resulted in increased lactation yield.

9. Feed back of the farmers involved: Well accepted technology by the farmers.

10. Feed back to the scientist who developed the technology: Nil

On Farm Testing 16:

1	Thematic area	:	Nutrition management
2	Title	:	**Feeding of balanced ration to milch buffaloes through ration balancing techniques.**
3	Scientists involved	:	A. Krishna Murthy, SMS (AH)
4	Details of farming situation:	:	Dairy farming provides sustainable income to the farmers and the cost of milk production completely depends on concentrate feeding.
5	Problem definition / description: (one paragraph)	:	Over feeding resulted in heavy wastage of available feeding resources as well as increased cost of feeding. Imbalanced feeding leads to nutritional deficiencies.
6	Technology Assessed:	:	T_1 – Farmers practice (regular feeding feeding) T2- Balanced feeding
7	Critical inputs given:	:	Concentrate feed and mineral mixture
8	Results	:	The results indicated that 20.44% increased milk yield was observed in the treatment over farmers practice.

Table: Performance of the technology

Technology Option	***No.of trials***	***Avg. milk yield in 30 days***	***Net Returns (Rs. /lamb)***	***B:C***	***Body weight***
Farmers practice (Regular feeding)	*10*	*206.0*	*3863.00*	*1:2.4*	
Balanced feeding		*248.1*	*6322.80*	*1:3.13*	

Description of the results:

The results indicated that 20.44% increased milk yield was observed on balanced feeding over farmers practice of regular feeding. The android application “Ration Formulator” developed by Sri Venkateswara Veterinary University, Tirupati was used to formulate the ration. The application found to very useful to the dairy farmers.

9. Feed back of the farmers involved: Well accepted the technology by the farmers.

10. Feed back to the scientist who developed the technology: Nil

On Farm Testing 17:

S.No	Item		Particulars
1	Thematic Area	:	Drudgery Reduction
2	Title	:	Assessment of performance of Triple layer hermatic storage bags for storing of Rice, Redgram dhal & Jowar at household level
3	Scientists Involved	:	K.Lakshmipriya
4	Details of Farming Situation	:	-
5	Problem definition/description	:	In Cereals and pulses, post harvest loss occurs due to incidence of storage pests. In the villages farm women usually store their farm produce in conventional methods *i.e,* polyethelene bags/gunny bags. Due to this type of storing method, there is lot of storage losses and also more drudgery of farm women for repeated cleaning, drying and change of produce to other containers or bags.
6	Technology assessed	:	T1: Farmers Practice (Storing of produce in Polyethlene/Gunny Bags) T2: Storing of Rice in hermatic bags T3: Storing of Redgram dhal in hermatic bags T4: Storing Of Jowar in hermatic bags
7	Critical Inputs given	:	Triple layer hermatic storage bags@Rs60/-Bag

8.Results:

Observations	Farmers practice	Demo.
Incidence of Storage Pest	Rice-4months Redgram-6months Jowar-5months	Rice-6months Redgram-6months Jowar-Under Progress
Percentage of damaged grains	Under Progress	
Cost effectiveness	Rs.150/qt	Rs.60/-/bag
Feed back of farm women about storage in hermatic bags	With the use of hermatic storage bags, pest incidence was not observed up to six months. Drudgery was reduced on frequent cleaning and storing of grains and it was recorded as minimum. And it was also noticed that, for cleaning of grains Rs.150/-/qt has to be paid as labour charges. One time purchasing of triple layer hermatic bags have longetivity for storing of food grains and helps to save amount on labour charges on cleaning.	

Description of the results:

With the use of hermatic storage bags, pest incidence was not observed up to six months. Drudgery was reduced on frequent cleaning and storing of grains and it was recorded as minimum. And it was also noticed that, for cleaning of grains Rs.150/-/qt has to be paid as labour charges. One time purchasing of triple layer hermatic bags have longetivity for storing of food grains and helps to save amount on labour charges on cleaning.

9.Feed back of the farmers involved:

Farm women expressed that, with the use of hermatic bags reduced repetitive cleaning of grains thereby reduced drudgery and cost on labour for cleaning purpose.

10. Feed back to the scientist who developed the technology:- --

On Farm Testing 18:

S.No	Item		Particulars
1	Thematic Area	:	Drudgery Reduction
2	Title	:	Assessment of fertilizer dispenser for applying fertilizer in chillies to reduce drudgery of farm women
3	Scientists Involved	:	K.Lakshmipriya
4	Details of Farming Situation	:	Kharif/Irrigated/Black soils
5	Problem definition/description	:	1.Farm women face lot of strain and body pains in applying fertilizers in agriculture operations by wrong postures 2. Farm women are not aware of improved implements for agriculture operations.
6	Technology assessed	:	T1 – Manual Application T2 – Application with fertilizer dispenser in chilli crop
7	Critical Inputs given	:	Fertilizer dispenser @Rs2000/-each

8. Results:

Observations	T1:Manual	T2: Applyingwith Fertilizer Dispensor	Remarks
Labour required/ac/crop period	16	12	• Uniform distribution of fertilizer • Avoids improper application • Fertilizer use efficiency is good due to application of correct qty. of fertilizer at root zone.
Cost Saving on labour for application of fertilizer/ac	Rs.2400/-	Rs.1800/-	
Saving Of Fertilizer/Ac	-	Rs.2000/-	
Feed Back on work related Stress factors	With the use of fertilizer dispensor ,the drudgery was reduced from **minimum to moderate** than manual application, which was recorded from **moderate to maximum.**		

Description of the results:

Fertilizer Dispenser was introduced for applying fertilizer in chillies crop, labour saving was by 25% and cost on fertilizer by Rs.2,000/-. with the use of fertilizer dispenser, the drudgery was reduced from **minimum to moderate** than manual application, which was recorded from **moderate to maximum.** Fertilizer dispenser helps in Uniform distribution, proper application of fertilizer and improves efficiency fertilizer due to its application in root zone.

9.Feed back of the farmers involved:

Farm women expressed that, with the use of fertilizer dispenser, drudgery reduced than their regular practice but they need practice with dispenser.

10. Feed back to the scientist who developed the technology:-

- Dispenser handle contains ridges and it hinders smooth flow of the fertilizer during application
- Plain handle without any design may helps for smooth flow.

On Farm Testing 19:

S.No	Item		Particulars
1	Thematic Area	:	Drudgery Reduction
2	Title	:	Assessment of Performance of easy planter for transplanting tomato seedlings to reduce drudgery of farm women
3	Scientists Involved	:	K.Lakshmipriya
4	Details of Farming Situation	:	Kharif/Irrigated/Black soils
5	Problem definition/description	:	1.Farm women face lot of strain and body pains in transplanting operations 2. Farm women are not aware of improved implements for agriculture operations.
6	Technology assessed	:	T1-Manual Transplanting T2-Transplanting with easy planter
7	Critical Inputs given	:	Easy planter @Rs2000/-each

8. Results:

Observations	T1:Manual	T2: Transplanting with planter
Labour required/ac for Transplantation	6	3
Cost Saving on labour for Transplanting	Rs.900/-	Rs.450/-
Feed Back on work related Stress factors	With the use of easy planter, Cost saving on labour was 50%. Drudgery was reduced from **minimum to moderate** than manual which was recorded from **moderate to maximum.** Farm women expressed that, they need practice for operation of the implement.	

Description of the results:

With the use of easy planter, Cost saving on labour was 50%. Drudgery was reduced from **minimum to moderate** than manual which was recorded from **moderate to maximum.** Farm women expressed that, they needs practice for operation of the implement.

9.Feed back of the farmers involved:

Farm women expressed that, with the easy planter, drudgery reduced than their regular practice but they need practice of the implement.

10. Feed back to the scientist who developed the technology:-

- Cost of the implement
- The existing implement is more suitable for sandy, light soils only. This can be modified to suit to all types of soils for easy adoption.

3.d. FRONTLINE DEMONSTRATION

a. Follow-up of FLDs implemented during previous years

S. No	Crop/ Enterprise	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area in ha
1	Bengalgram	Varietal Evaluation	Varietal Demonstration in Bengalgram with Jaki-9218, digvijay and Nandyala sanaga-1	Demonstrations, Exposure visits, Field Days Seed village Concept	25	20000	50000
2	Cotton and Paddy	Weed management	Post-emergence herbicides	Demonstrations, Exposure visits, Field Days, Seed village Concept	15	15000	55000
3	Paddy	Resource conservation	Direct Seeding	Demonstrations, Exposure visits, and Field Days	10	120	300
4	Paddy	Resource conservation	Zero tillage	Demonstrations, Exposure visits, and Field Days	8	200	300
5	Seteria	Varietal Evaluation	Varietal Demonstration with Suryanandi	Demonstrations, Exposure visits, and Field Days	50	8000	15000
6	Redgram Seteria	Cropping system	Redgram+ seteria Inter cropping System	Demonstrations, Exposure visits, and Field Days	35	5000	25000
7	Redgram	Varietal Evaluation	Varietal Demonstration in Redgram-PRG-158 & LRG-41	Demonstrations, Exposure visits, Field Days Seed village Concept	50	6000	20000
8	Rice	Soil testing	Soil testing crop response based nutrient application in rice	Demonstration, exposure visits, Field Days .	30	855	4550
9	Bt Cotton	IPM	IPM	Method Demonstrations, Exposure visits, and Field Days	14	360	1100

10	Redgram	IPM	Realtime contingent mgmt. of pests & diseases	Village Action Plan meetings, Rythu Chaitanya Yatras. Trainings	12	250	220
11	Bengalgram	IDM	Biopriming for soil borne disease management	Method Demonstration, Rythu Chaitanya Yatras, CFLDs, trgs.	25	450	600
12	Brinjal	IPM	Mgmt of fruit & shoot borer	Exposure visit, Farmers trainings, trgs	8	80	50
13	Onion	IPM	Thrips& Leaf blight	Training, Demonstration, RCY	10	150	140
14	Blackgram	IPM	Realtime contingent mgmt. of pest s & diseases	Training, Demonstration, Village Action Plan Meetings. RCY,CFLD	15	230	200

b. Details of FLDs implemented during the current year (Information is to be furnished in the following three tables for each category i.e. cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.)

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Source of funds	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
						Proposed	Actual	SC/ST	Others	Total	
1	Groundnut	ICM	Variety, STBF, Sucking pest management	Kharif-2017		20	20	6	19	25	
2	Castor	ICM	Variety, STBF, Sucking pest management	Kharif-2017		20	20	6	19	25	
3	sunflower	ICM	Spacing and micro nutrient	Rabi-2017		40	40	6	44	50	
4	Rabi groundnut	ICM	Variety, STBF, Sucking pest management	Rabi-2017		20	20	5	25	30	
5	Sesame	ICM	Variety, STBF, weed management	Rabi-2017		40	40	10	40	50	

Other Demonstrations											
Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Source of funds	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
						Proposed	Actual	SC/ST	Others	Total	
6	paddy	Weed management	Herbicides+ Manual weeding	K-2017		4	4	4	6	10	
7	Paddy	Crop Establishment	Semi dry Rice cultivation	K-2017		4	4	3	7	10	
8	Seteria-Bengalgram	Cropping sequence	ICM	K-2017 R-2017		4	4	4	6	10	
9	Bt cotton	Crop geometry	spacing	K-2017		4	4	3	7	10	
10	Blackgram	Direct seeding	Herbicides+ Manual weeding	R-2017		4	4	4	6	10	
11	Bengalgram	Mechanical harvesting	-	R-2017		4	4	4	6	10	
12	Cotton	Nutrient management	Soil test based nutrient management	Kharif-2017	KVK	4	4	3	7	10	
13	Chilli	Nutrient management	Soil test based nutrient management	Kharif-2017	KVK	4	4	3	7	10	
14	Bengalgram	Nutrient management	Sulphur and Zinc management	Rabi-2017	KVK	4	4	3	7	10	
15	Maize	Nutrient management	Zinc management	Rabi-2017	KVK	4	4	3	7	10	
16	Bt Cotton	IPM	Sucking pest management	K 2017	ICAR	4.0	4.0	3	7	10	
17	Chilli	IDM	Viral disease management	K 2017	ICAR	4.0	4.0	2	8	10	
18	Chilli	IDM	Mgmt of root rot	K 2017	ICAR	4.0	4.0	2	8	10	
19	Rice	IDM	Mgmt.of blast and sheath blight	K 2017	ICAR	4.0	4.0	1	9	10	
20	Rice	IPM	Mgmt of stem borer	R 2017	ICAR	4.0	4.0	2	8	10	

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Groundnut	Kharif-2017	Rainfed	Red soil	L	Med	High	Jowar	2nd week of July	Last week of october		
Castor	Kharif-2017	Rainfed	Red soil	L	Med	High	Jowar	3rd week of July	Last week of December		
sunflower	Rabi-2017	Irrigated	Black soil	L	High	High	Jowar	2nd week of oct	Last week of Jan		
Rabi groundnut	Rabi-2017	Irrigated	Red soil	L	Med	High	B.gram	Last week of Dec	1st week of April		
Sesame	Rabi-2017	irrigated	clayloam	L	Med	High	paddy	Last week of Jan	Last week of April		
Other Demonstrations											
paddy	Kharif-2017	irrigated	Black soil	L	M	High	Jowar	2nd week of sep	2nd Week of Dec		
Paddy	Kharif-2017	irrigated	M.Black soils	L	M	M	Chillies	1st week of August	Last Week of January		
Seteria-Bengalgram	Kharif-2017 Rabi-2017	Rainfed	Clay loam	L	M	M	Blackgram	2nd week of july	2nd Week of Dec		
Bt cotton	Kharif-2017	Rainfed	Black soil	L	H	H	Jowar	3nd week of July	3rd week of January		
Blackgram	Rabi-2017	irrigated	Black Soil	L	Med	High	Jowar	2nd week of Nov	2nd Week of Feb		
Bengalgram	Rabi-2017	Rainfed	Black Soil	L	Med	High	Jowar	2nd week of October	1st Week of Feb		

Bt.cotton	Kharif-17	I/D	Black soil	L	Med ium	Mediu m to high	Jowar	Last week of July	Last picking 3rd week of January		
Chilli	Kharif-17	I/D	Black soil	L	High	Mediu m to high	Maize	2nd to 3rd week of August.	Last week of February		
Bengalgram	Rabi-17	Rainfed	Black	L	M to H	Mediu m to high	Bengalg ram	3rd week of Oct.	3rd week of Jan.		
Maize	Rabi-17	Irrigated	Black	L	High	Mediu m to high	Paddy	2nd to 3rd week of January.	Last week of April		
Bt Cotton	Kharif- 2017	Irrigated	Black Cotton soil	L	M	H	Chillis	4th week of July	2nd wk of Feb		
Chilli	Kharif- 2017	Irrigated	Black Cotton soil	L	M	H	Cotton	1st wk of Sep	1st wk of Mar		
Chilli	Kharif- 2017	Irrigated	Black Cotton soil	L	M	H	Cotton	1st wk of Sep	1st wk of Mar		
Chilli	Kharif 2017	Irrigated	Black Cotton soil	L	M	H	Jower	2nd wk of Sep	3rd wk of Mar		
Rice	Kharif- 2017	Irrigated	Black Cotton soil	L	M	H	Rice	2nd wk of Sep	4th wk of Jan		
Rice	Rabi -2017	Irrigated	Black Cotton soil	L	M	H	Rice	2nd wk of Feb	3rd wk of May		

Technical Feedback on the demonstrated technologies

Agronomy:

S. No	Feed Back
1	Cost on manual weeding was reduced (Rs 950/- per ha) Weed control efficiency was 82-86.0Per cent Weed density was less in demo plot up to critical periods
2	**Semi dry method of Rice cultivation:** • Reduced cost of cultivation as compared to transplanting(Labour,Puddling costs) • Reduced seedr ate (8-12 KG /acre as against 30kg /acre) • Saves 35-40 per cent water. • Reduced fertilizers and pesticides uses

Soil Science

S. No	Feed Back
1	Soil test based nutrient management and foliar application of K,Mg,Zn and B would improve the productivity of Bt.cotton
2	Cost reduction on chemical fertilisers was observed in demonstration plots
3	STCR based nutrient management helped in cost reduction on chemical fertilizers.
4	Productivity enhancement dueto application of sulphur and zinc in respective nutrient deficient soils

Plant Protection

S. No	Feed Back
1	Bt Cotton: Stem application with Mono and Imida at 20,40 and 60 DAS is effective than spraying the same for sucking pest management.
2	Chilli : Seed treatment with TSOP and Imida followed by installation of Yellow sticky traps for white fly management will be better for management of viral disease complex.
3	Chilli : Soil application of Trichoderma and Pseudomonas @ 1 kg each mixed with 100 kg FYM and 10 kg Neem cake (after incubation) will be better for management of root rot.
4	Spraying Tricyclazole on early detection of Blast symptoms could manage blast most effectively, without much damage to the crop.
5	Pinching off the tips of seedlings while transplanting, application of Cartap 4G @ 8kg/ac are better for management of YSB.

Farmers' reactions on specific technologies

Agronomy

S. No	Feed Back
1	**Groundnut:** ❖ The Groundnut variety Dharani is fairly tolerant to moisture stress than K6. ❖ Farmers were more impressed with performance of Dharani variety. ❖ Incidence of sucking pest is less in Dharani variety. ❖ Dark green foliage with less vegetative growth than K6 variety
2	**SunFlower:** ❖ No significant difference in duration of sunflower hybrids cultivated by farmers. ❖ Due to adoption of 60cm spacing between the rows and practicing thinning at 10-15DAS crop was not affected with moisture stress. ❖ Basal application of P in form of SSP & boron spray @ 0.2% had positive effect on seed filling & test weight
3	**Sesame:** ❖ The sesame variety YLM-66 is fairly tolerant to phyllody. ❖ Farmers were more impressed with performance of YLM-66 during summer after rice. ❖ Dark green foliage with more no of branches/plant

Soil Science

S. No	Feed Back
1	Farmers were satisfied with crop performances and expressed that Soil test based nutrient management is a viable technology in Bt.cotton, because of less cost of chemical fertilizers and without reduction in yield compared to their own practice. They realized that they are resorting to higher expenditure on fertilizers in absence of soil testing of their fields. They are now willing to adopt STBR technology in succeeding seasons for raising crops. Pest incidence was less in demonstration plots than farmers practice fields.
2	Farmers were satisfied with crop performances and expressed that Soil test based nutrient management is a viable technology in chilli, because of less cost of chemical fertilizers and without reduction in yield compared to their own practice. They realized that they are resorting to higher expenditure on fertilizers in absence of soil testing of their fields. They are now willing to adopt the STCR technology in succeeding seasons for raising crops. Pest incidence was less in demonstration plots than farmers practice fields.
3	Need based application of Sulphur and zinc is more essential for bengalgram yield increments.
4	Application of Zinc is required to enhance yield of maize.

Plant protection

S. No	Feed Back
1	Stem application in Bt cotton is useful for management of sucking pests and it is cheap.
2	Seed treatment with TSOP and Imida gave good control of virus disease in Chillis compared to continuous spraying of different chemical pesticides.
3	Timely spraying of Tricyclazole and Propiconazole effectively controlled the blast and sheath blight disease in rice.
4	Root rot in Chillis is better managed by Soil application of Trichoderma and Pseudomonas than drenching with COC and sprayings of systemic fungicides.

Horticulture

S. No	Feed Back
1	With use of portray raised chilli seedlings, the establishment and growth of chilli crop was vigorous with more foliage and profuse branching and more flowers and pods.
2	As the plant growth and development is good, crop showed good resistance and hence low incidence of pests and diseases was observed.

Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organised	Date	Number of participants	Remarks
1	Field days	2	17-10-2017 3-1-2018	72 98	
		2		326	
2	Farmers Training	6	1.7.2017 20.8.2017 15.9-2017 15.11.2017 18.1.2018 20.2.2018	25 25 30 30 50 50	
		4		106	
4	Training for extension functionaries	1	22-12.2017 18-1.2018	50	
		1		25	

Performance of Frontline demonstrations

Frontline demonstrations on crops

Crop	Thematic Area	technology demonstrated	Name of the Variety/ Hybrid		No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
			Domo	Check			Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
							High	Low	Average										
Pulses																			
Blackgram	Weed management	Post-emergence application of acflorofen+cladinopop propajil@750 ml/ha	TBG-104	TBG-104	10	4	1856	1560	1677	1535	9.25	30150	75465	45315	2.50	31375	69075	37700	1:2.5/2.2
Setaria-Bengalgram	Cropping system	Doubble cropping	Suryanandi/ Nandyalasanaga-1	Nandyala sanaga-1	10	4	1589/ 1250	1236/ 925	1441/ 1057	1174	-	40550	69564	29014	1.71	30450	51656	21206	
Bengalgram	Nutrient Management	Sulphur and zinc management	NS-1	NS-1	10	4	14.5	12.1	13.49	11.66	15.69	33496	53960	20464	1:1.62	31746	46640	14894	1:1.48
Cereals																			
Paddy	Crop establishment	Semidry cultivation	BPT-5204	BPT-5204	10	4	7487	7150	7314	7195	1.65	54857	141379	40478	2.57	62375	139079	76704	1:2.5/2.2
Paddy	Weed management in directed seed rice	Directed seed Rice	BPT-5204	BPT-5204	10	4	7387	7050	7254	7165	1.24	52857	140219	87362	2.65	64375	138499	74124	1:2.65/2.15
Maize	Nutrient Management	Zinc management	Private hybrid	Private hybrid	10	4	82.0	75.6	78.6	71.4	10.15	50580	82520	31940	1:1.63	48580	74918	26338	1:1.54
Rice	IDM	Mgmt of Blast and Sheath Blight	BPT 5204	BPT 5204	10	4.0	6125	5350	5494	4988	10.14	59,125	1,09,880	50,755	1.86	61,000	99,760	38,760	1.64
Rice	IPM	Mgmt of yellow stem borer	555	555	10	4.0					Crop is at grain maturation								

Commercial crops																			
Bt cotton	Crop geometry	Spacing	Swapna Bt	Swapna Bt	10	4	3362	3047	3200	2860	11.88	51375	168000	116625	44.05	49750	150150	100400	1:3.27/3
Bt.Cotton	Nutrient Management	INM	Jadhu Bt.	Jadhu Bt.	10	4	39.85	33.25	35.63	33.28	7.06	51316	195965	126834	1:3.49	51316	183035	110747	1:2.99
Bt Cotton	IPM	Management of sucking pests	Nuziveedu	Nuziveedu	10	4.0	2950	2175	2613	2348	11.3	64,650	1,07,133	42,483	1.66	64,365	96,268	31,903	1.50
Chilli	IPM	Management of Viral disease complex	Super 10	Super 10	10	4.0	5460	4875	5120	4503	13.71	325488	419840	94352	1.29	312638	369246	56608	1.18
Chilli	IDM	Management of root rot	Super 10	Super 10	10	4.0	4420	3650	4025	3670	9.67	281125	330050	48925	1.17	265600	300940	35340	1.13
Chilli	ICM	Portray healthy seedlings, yellow sticky traps	Super 10	Super 10	10	4	6520	5230	5475	4670	17.23	323543	448950	125407	1.39	314532	382940	68408	1.22
Spices and condiments																			
Chilli	Nutrient Management	STCR based Nutrient Mangmt.	Super-10	Super-10	10	4	51.50	36.50	42.22	41.46	1.80	167565	401043	233478	1:2.39	183587	393889	212038	1:2.15

FLDs conducted with the funding of other sources including CFLD/ATMA/NABARD/other ICAR institutes etc

Crop	Source of fund	Thematic Area	technology demonstrated	Name of the Variety/ Hybrid		No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
				Domo	Check			Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
								High	Low	Average										
Groundnut	**NMOOP**	ICM	Variety, STBF, Sucking pest management	Dharani	Rainfed	25	20	15.88	13.05	14.13	11.76	20.15	47375	66585	19210	01:40	45300	55920	10620	01:01.2
Kharif Castor	**NMOOP**	ICM	Variety, STBF, Micronutrient	PCH-111	Rainfed	25	20	14.62	11.12	13.08	10.85	20.55	18255	47102	28847	2.58	20680	39060	18380	1.8
Rabi Groundnut			Rabi	Dharani	Irrigated	25	20	24.55	23.38	23.76	20.84	14.01	44623	89100	44477	2.0	43118	78150	35032	1.81
Sunflower	**NMOOP**	ICM	Spacing and micro nutrient	NDSH-1012	Rainfed	25	20	13.5	9.75	11.98	9.31	28.67	22254	41937	19683	1.88	21010	32588	11577	1.55
				NDSH-1012	Irrigated	25	20	22.75	18.2	20.78	16.35	27.09	28074	72736	44662	2.59	29778	57218	27685	1.9
Sesame	**NMOOP**	ICM	Variety, STBF, weedmanagement	YLM-66	Non-specified	50	40	14.37	9.50	11.87	9.86	20.38	**23378.2**	**65285**	41906.8	2.79	27227.3	54230	27002.7	1.99
Greengram	NFSM	ICM	Variety + IPM	WGG 42	NS	7	5.6	812	650	748	679	10.16	22,300	32,164	9,864	1.38	23,250	29,197	5,940	1.26
Redgram	NFSM	ICM	Vareity + IPM	PRG 176	ICPL 87119	50 (ID)	20	1875	1250	1553	1640	-5.3	35,975	83,862	47,887	1.33	34,525	88,560	54,035	2.57
						39 (Int.crp-RF)	16.0	1250	600	755	640	17.96	32,875	40,770	7,895	1.24	29,425	34,560	5,135	1.17
						10 (RF)	4.0	1000	750	850	730	16.4	33,475	45,900	12,425	2.33	30,025	39,420	9,395	1.57
Blackgram (K-2017)	NFSM	ICM	Variety + IPM	TBG 104	PU 31	17 (ID)	13.6	1062	700	910	750	21.3	25,760	36,400	10,640	1.41	23,925	30,000	6,075	1.25
						8 (RF as in.cr. in Rg)	6.4	750	580	679	620	9.51	32910 (blg+rg)	58480 blg+rg	25570 blg+rg	1.78	31,625 blg+rg	56,120 blg+rg	24,495 blg+rg	1.77
Blackgram (R-2017)				LBG 787	PU 31	13 (ID)	10.4	1625	1125	1352	1750	-22.7	28,388	60,840	32,452	2.14	30,875	78,750	47,875	2.55
				TBG 104	PU 31	13 (ID)	9.6	2125	1625	1940	1750	10.86	28,388	87,300	58,912	3.08	30,875	78,750	47,875	2.55

Bengalgram	NFSM	ICM	Vareity + IPM	NS 1	JG 11	8 (ID)	6.4	1875	1650	1800	1688	6.60	36,375	72,000	35,625	1.98	37,125	67,520	30,395	1.82
						7 (RF)	5.6	1375	1000	1196	1125	6.31	34,375	47,840	13,465	1.39	35,125	45,000	9,875	1.28
				NBeG 49	JG 11	24 (ID)	19.2	2000	1500	1760	1688	4.30	36,375	70,400	34,025	1.93	37,125	67,520	30,395	1.82
						11 (RF)	8.8	1500	1000	1261	1125	12.1	34,375	50,440	16,065	1.47	35,125	45,000	9,875	1.28

Groundnut

- In groundnut variety, Dharani with Improved production technologies (Improved variety, seed treatment, Soil test based fertilizer application, and IPM measures against sucking pest) gave higher grain yield (1413Kg/ha), which was 20.15 per cent than that of obtained with farmers practice yields of 1176 Kg/ha in red soils under rainfed situation.

Castor

- In Castor hybrid PCH-111 with Improved production technologies (Improved variety, seed treatment, Soil test based fertilizer application, and IPM measures against botrytis) gave higher grain yield (1308Kg/ha), which was 20.5 per cent than that of obtained with farmers practice yields of 10856 Kg/ha in red soils under rainfed situation

- 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 1:2.58/1.89

Sunflower:

- The results indicated that sunflower hybrid NDSH-1012 with Improved production technologies (seed treatment, Soil test based fertilizer application, spacing and thinning at 10-15 DAS, application of Boron @0.2% and sucking pest management) gave higher yield (11.98/ha), which was 28.6 per cent than that of farmers practice (9.31 q/ha in black soils with protective irrigation). The Hybrid NDSH-1012 gave higher grain yield (20.78/ha), which was 27.0 per cent higher than that of farmers practice under Irrigated condition.

Rabi Groundnut:

- During Rabi Groundnut variety, Dharani with Improved production technologies (Improved variety, seed treatment, Soil test based fertilizer application, Foliar spray of Zn and IPM measures against Sucking pest management) gave higher Pod yield (23.76q/ha), which was 18.56 per cent than that of farmers practice (20.84 q/ha). The increased pod yield with Improved production technologies was mainly because of more no of pods/plant and higher 100 Kernal and Shelling percentage (14.0).-

Sesame:

- The results indicated that sesame variety with Improved production technologies (Improved variety, Pre-emergence application of pendimethalin @ 2.5 lit/ha, Soil test based fertilizer application, thinning at 10-15 DAS, and sucking pest management) gave higher yield (11.87q/ha), which was 28.0 per cent than that of farmers practice (9.86 q/ha) in black soils under Irrigated condition.
- The economic viability of improved technology over farmers practice was calculated depending on prevailing prices of input and output costs. The improved variety with improved technologies resulted increased income with cost benefit ratio of 1:2.79/1.99.

FLD on Livestock

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of Units (Animal/ Poultry/ Birds, etc)			% change in major parameter			Economics of demonstration (Rs.)				Economics of check (Rs.)			
					Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Sheep	Animal nutrition management	Creep feed supplementation to pre weaned lambs	10	50	6.54	4.84	35.12	-	-	180.00	1308.00	1128.00	7.27	150.00	968.00	818.00	6.45
Dairy	Feed and Fodder technology	Feeding of Hydroponic Maize fodder to milch buffaloes	5	10	162.0	147.9	11.93	-	-	930.00	8358.00	7428.40	8.98	1240.00	7081.00	5841.80	5.71
Sheep	Feed Management	Supplementation of 50%GNH feed to post weaned ram lambs	10	50	6.98	5.64	23.75	-	-	337.50	1745.00	1407.50	5.17	337.50	1407.50	1072.50	4.18
Cattle	Animal nutrition management	Supplementation of Selenium and Vit E	14	14	14	8	57.14	-	-	-	-	-	-	-	-	-	-

FLD on Women Empowerment

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check
Drudgery Reduction	Cotton Hand Gloves	30	Feed back on work related stress factors presented in a separate table	With the introduction of cotton hand gloves for Green Fodder harvesting, the farm women protects hands from scratches, itching and irritation caused while harvesting of green fodder and drudgery was recorded as minimum.	Green fodder harvesting with bare hands causes itching and irritation and drudgery was recorded as moderate to max..
Drudgery Reduction	Hand Cultivators	5	Labour required/ac/crop period	36	45
			Reduction on Cost on weeding/ac	Rs.4320/-	Rs.5400/-
			Feed Back on work related Stress factors	with the use of hand cultivator , weeding cost was reduced by Rs.1,080/ac and the drudgery was recorded from minimum to moderate than manual weeding which was recorded from moderate to maximum.	With manual weeding drudgery was recorded from moderate to maximum.
Drudgery Reduction	Three Pronged Wheelhoe	5	Labour required/ac/day	5	15
			Reduction on Cost on weeding/ac	Rs.750	Rs.2250/-
			Feed Back on work related Stress factors	With three pronged Wheel hoes for weeding in groundnut crop, cost on weeding was reduced by Rs.1500/- /ac and drudgery was recorded as **moderate** than manual weeding which was recorded from **moderate to max..** Farm women expressed that they need practice for easy operation of the implement.	With manual weeding drudgery was recorded and it is ranged from **moderate to maximum.**
Drudgery Reduction	Cycle weeders	5	Labour required/ac/day	6	15
			Reduction on Cost on weeding/ac	Rs.900/-	Rs.2250/-
			Feed Back on work related Stress factors	With Cycle weeders for weeding in Tomato crop, cost on weeding was reduced by Rs.1350/- /ac and drudgery was recorded as moderate than manual weeding which was recorded from moderate to max.. Farm women expressed that they need practice for easy operation of the implement.	With manual weeding drudgery was recorded and it is ranged from **moderate to maximum.**

4. Training Programmes

Farmers' Training including sponsored training programmes (on campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	2	80	-	80	20	-	20	100	-	100
Cropping Systems	1	19	-	19	6	-	6	25	-	25
Micro Irrigation/irrigation	1	25	-	25	5	-	5	30	-	30
Seed production	1	15	-	15	3	-	3	18	-	18
Integrated Crop Management	3	76	4	80	28	-	28	108	4	112
Total	**8**	**215**	**4**	**219**	**62**		**62**	**281**	**4**	**285**
III Soil Health and Fertility Management										
Integrated Nutrient Management										
Production and use of organic inputs	3	46	34	80	21	13	34	63	51	114
Management of Problematic soils	1	18	-	18	7	-	7	25	-	25
Micro nutrient deficiency in crops	1	11	10	21	3	1	4	14	11	25
Balance use of fertilizers	1	24	-	24	6	-	6	30		30
Soil and Water Testing	1	19	-	19	6	-	6	25	-	25
Total	**7**	**118**	**44**	**162**	**43**	**14**	**57**	**157**	**62**	**219**
IV Livestock Production and Management										
Dairy Management	1	14		14	4		4	18		18
Animal Nutrition Management	1	14	6	20	8	2	10	22	8	30
Feed & fodder technology	2	42		42	4		4	46		46
Others (pl specify) - Integrated farming systems	2	22	2	24	8	3	11	30	5	35
Total	**6**	**92**	**8**	**100**	**24**	**5**	**29**	**116**	**13**	**129**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	2		63	63		20	20		83	83
Design and development of low/minimum cost diet	1		24	24		7	7		31	31
Women and child care	1		21	21		9	9		30	30
Total	**4**	**0**	**108**	**108**	**0**	**36**	**36**	**0**	**144**	**144**
VII Plant Protection										
Integrated Pest Management	15	352	12	364	48	0	48	400	12	412
Bio-control of pests and diseases	1	19	16	35	4	3	7	23	19	42
Total	**16**	**371**	**28**	**399**	**52**	**3**	**55**	**423**	**31**	**454**
GRAND TOTAL	**41**	**796**	**192**	**988**	**181**	**58**	**239**	**977**	**254**	**1231**

Farmers' Training including sponsored training programmes (off campus)

Farmers' Training including sponsored training programmes (off campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	2	50	-	50	10	-	10	60	-	60
Resource Conservation Technologies	1	40	-	40	5	-	5	45	-	45
Crop Diversification	1	35	-	35	15	-	15	50	-	50
Integrated Crop Management	4	140	-	140	38	-	38	178	-	178
Others (pl specify) – Fodder Production	1	45	-	45	5	-	5	50	-	50
Total	**9**	**310**		**310**	**73**		**73**	**383**		**383**
III Soil Health and Fertility Management										
Integrated Nutrient Management	1	25	-	25	5	-	5	30	-	30
Soil and Water Testing	1	44	-	44	16	-	16	60	-	60
Total	**2**	**69**		**69**	**21**		**21**	**90**		**90**
IV Livestock Production and Management										
Dairy Management	5	100	10	110	24	10	34	124	20	144
Animal Nutrition Management	1	14	2	16	3	2	5	17	4	21
Disease Management	2	30	0	30	8	0	8	38	0	38
Feed & fodder technology	2	26	4	30	8	3	11	34	7	41
Others (pl specify) - Sheep Mangement	2	16	12	28	8	6	14	24	18	42
Total	**12**	**186**	**28**	**214**	**51**	**21**	**72**	**237**	**49**	**286**
V Home Science/Women empowerment										
Value addition	4		95	95		23	23		118	118
Women empowerment	2		41	41		22	22		63	63
Location specific drudgery reduction technologies	1		23	23		7	7		30	30
Total	**7**	**0**	**159**	**159**	**0**	**52**	**52**	**0**	**211**	**211**
VII Plant Protection										
Integrated Pest Management	6	143	2	145	21	0	21	164	2	166
Bio-control of pests and diseases	2	61	14	75	10	2	12	71	16	87
Total	**8**	**204**	**16**	**220**	**31**	**2**	**33**	**235**	**18**	**253**
GRAND TOTAL	**38**	**769**	**203**	**972**	**176**	**75**	**251**	**945**	**278**	**1223**

Farmers' Training including sponsored training programmes – CONSOLIDATED (On + Off campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	4	130	-	130	30	-	30	160	-	160
Resource Conservation Technologies	1	40	-	40	5	-	5	45	-	45
Cropping Systems	1	19	-	19	6	-	6	25	-	25
Crop Diversification	1	35	-	35	15	-	15	50	-	50
Micro Irrigation/irrigation	1	25	-	25	5	-	5	30	-	30
Seed production	1	15	-	15	3	-	3	18	-	18
Integrated Crop Management	7	216	4	220	66	-	66	286	4	290
Fodder production	1	45	-	45	5	-	5	50	-	50
Total	**17**	**525**	**4**	**529**	**135**	**0**	**135**	**664**	**4**	**668**
III Soil Health and Fertility Management										
Integrated Nutrient Management	1	25	-	25	5	-	5	30	-	30
Production and use of organic inputs	3	46	34	80	21	13	34	63	51	114
Management of Problematic soils	1	18	-	18	7	-	7	25	-	25
Micro nutrient deficiency in crops	1	11	10	21	3	1	4	14	11	25
Balance use of fertilizers	1	19		19	6		6	25		25
Soil and Water Testing	2	63		63	22		22	85		85
Total	**9**	**182**	**44**	**226**	**64**	**14**	**78**	**242**	**62**	**304**
IV Livestock Production and Management										
Dairy Management	6	114	10	124	28	10	38	142	20	162
Animal Nutrition Management	2	14	8	36	11	4	15	39	12	51
Disease Management	2	30	0	30	8	0	8	38	0	38
Feed & fodder technology	4	68	4	72	12	3	15	80	7	87
Sheep Mangement	2	22	2	24	8	3	11	30	5	35
Integrated Farming Systems	2	16	12	28	8	6	14	24	18	42
Total	**18**	**264**	**36**	**314**	**75**	**26**	**101**	**353**	**62**	**415**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	2		63	63		20	20		83	83
Design and development of low/minimum cost diet	1		24	24		7	7		31	31
Value addition	4		95	95		23	23		118	118
Women empowerment	2		41	41		22	22		63	63
Location specific drudgery reduction technologies	1		23	23		7	7		30	30
Women and child care	1		21	21		9	9		30	30
Total	**11**	**0**	**267**	**267**	**0**	**88**	**88**	**0**	**355**	**355**
VII Plant Protection										
Integrated Pest Management	21	495	14	509	69	0	69	564	14	578
Bio-control of pests and diseases	3	80	30	110	14	5	19	94	35	129
Total	**24**	**575**	**44**	**619**	**83**	**5**	**88**	**658**	**49**	**707**
GRAND TOTAL	**79**	**1546**	**395**	**1955**	**357**	**133**	**490**	**1917**	**532**	**2449**

Training for Rural Youths including sponsored training programmes (On campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Seed production	1	18	-	18	2	-	2	20	-	20
Production of organic inputs	1	20	5	25	5	-	5	25	5	30
Dairying	3	18		18	4		4	22		22
Any other – Soil Testing	1	18	-	18	2		2	20	0	20
Commercial Floriculture	1	13	0	13	2	0	2	15	0	15
TOTAL	**7**	**87**	**5**	**92**	**15**	**0**	**15**	**102**	**5**	**107**

Training for Rural Youth including sponsored training programmes (Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Production of organic inputs	1	24		24	4		4	28		28
Small scale processing	1		52	52		17	17		69	69
Tailoring and Stitching	2		26	26		7	7		33	33
Rural Crafts	1		19	19		6	6		25	25
Any other – Nutrition Education	3		621	621		122	122		743	743
TOTAL	**8**	**24**	**718**	**742**	**4**	**152**	**156**	**28**	**870**	**898**

Training for Rural Youths including sponsored training programmes – CONSOLIDATED (On + Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Seed production	1	18	-	18	2	-	2	20	-	20
Production of organic inputs	2	44	5	49	9	-	9	53	5	58
Small scale processing	1		52	52		17	17		69	69
Tailoring and Stitching	2		26	26		7	7		33	33
Rural Crafts	1		19	19		6	6		25	25
Dairying	3	18		18	4		4	22		22
Any other – Soil Testing	1	18	-	18	2		2	18	2	20
Nutrition Education	3		621	621		122	122		743	743
TOTAL	**15**	**111**	**723**	**834**	**19**	**152**	**171**	**130**	**875**	**1005**

Training programmes for Extension Personnel including sponsored training programmes (on campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	3	39	40	79	11	10	21	50	50	100
Integrated Nutrient management	2	40	0	40	5	0	5	45	0	45
Livestock feed and fodder production	4	16	15	31	11	9	20	27	24	51
Any other – Soil Testing	1	20	3	23	0	0	0	23	0	23
TOTAL	**10**	**115**	**58**	**173**	**27**	**19**	**46**	**145**	**74**	**219**

Training programmes for Extension Personnel including sponsored training programmes (off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Production and use of organic inputs	1	17	18	35	2	3	5	19	21	40
Women and Child care	1	0	176	176	0	37	37	0	213	213
TOTAL	**2**	**17**	**194**	**211**	**2**	**40**	**42**	**19**	**234**	**253**

Training programmes for Extension Personnel including sponsored training programmes – CONSOLIDATED (On + Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	3	39	40	79	11	10	21	50	50	100
Integrated Nutrient management	2	40	-	40	5		5	45		45
Production and use of organic inputs	2	36	18	54	8	3	11	44	21	65
Women and Child care	1		176	176		37	37		213	213
Livestock feed and fodder production	4	16	15	31	11	9	20	27	24	51
TOTAL	**12**	**131**	**249**	**380**	**35**	**59**	**94**	**166**	**308**	**474**

Table. Sponsored training programmes

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Production and value addition										
Ornamental plants – Flower Crops	**1**	**13**	**0**	**13**	**2**	**0**	**2**	**15**	**0**	**15**
Others (pl. specify) – Pest and Disease Management in Organic Farming	**3**	**64**	**18**	**82**	**10**	**3**	**13**	**74**	**21**	**95**
Integrated Pest Management	**3**	**61**	**6**	**67**	**15**	**0**	**15**	**76**	**6**	**82**
Total	**7**	**138**	**24**	**162**	**27**	**3**	**30**	**165**	**27**	**192**

Name of sponsoring agencies involved

Details of vocational training programmes carried out by KVKs for rural youth

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Commercial floriculture	1	13	0	13	2	0	2	15	-	15
ASCI	1	18	0	18	2	0	2	20	-	20
Income generation activities										
Tailoring and Stitching	2		26	26		7	7		33	33
Rural Crafts	1		19	19		6	6		25	25
Total	**5**	**31**	**45**	**76**	**4**	**13**	**17**	**35**	**58**	**93**

5. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	38	436	48	484
Diagnostic visits	6	42		42
Field Day				
Group discussions	11	284	5	289
Kisan Ghosthi				
Film Show	1	44		44
Self -help groups				
Kisan Mela				
Exhibition	4	3900	20	3920
Scientists' visit to farmers field	25	294	9	303
Plant/animal health camps	8	234		234
Farm Science Club				
Ex-trainees Sammelan				
Farmers' seminar/workshop				
Method Demonstrations	6	98		98
Celebration of important days	4	644	75	719
Special day celebration - Janmabhoomi Prog.	2	2300		2300
Exposure visits	4	198	8	206
Others (pl. specify)	24	817	25	842
Total	**133**	**9291**	**190**	**9481**

Details of other extension programmes

Particulars	Number
Electronic Media (CD./DVD)	1
Extension Literature	2
News paper coverage	67
Popular articles	12
Radio Talks	6
TV Talks	3
Animal health camps (Number of animals treated)	8(532)
Research articles	4
Total	**103**

Messages sent

MOBILE ADVISORY SERVICES THROUGH MKISAN PORTAL

No of registered farmers: 1565

Types of Messages	Type of messages													
	Crop		Livestock		Weather		Marketing		Awareness		Other enterprise		Total	
	No of messages	No of farmers	No of messages	No of farmers	No of messages	No of farmers	No of messages	No of farmers	No of messages	No of farmers	No of messages	No of farmers	No of messages	No of farmers
Text only	33	2739	2	1565										
Voice only														
Voice & Text both														
Total Messages	33		2											
Total farmers Benefitted	2739		1565											

MOBILE ADVISORY SERVICES THROUGH OTHERS

No of registered farmers:

Types of Messages	Type of messages													
	Crop		Livestock		Weather		Marketing		Awareness		Other enterprise		Total	
	No of messages	No of farmers	No of messages	No of farmers	No of messages	No of farmers	No of messages	No of farmers	No of messages	No of farmers	No of messages	No of farmers	No of messages	No of farmers
Text only					20	416								
Voice only														
Voice & Text both														
Total Messages					20	416								
Total farmers Benefitted					20	416								

7. PRODUCTION OF SEED/PLANTING MATERIAL AND BIO-PRODUCTS

Production of seeds by the KVKs (give quantity of seed in quintals only)

Crop	Name of the crop	Name of the variety /hybrid	Quantity of seed produced (q)	Value (Rs)	Seed supplied to farmers		Supplied to other agencies (q)
					Quantity (q)	No of farmers	
Cereals	paddy	BPT-5204	230.0	842600	230.0		
		NDLR-7	319.0	1169300	319.0		
	Jowar	NJ-2647	8.66	43300	8.66		
		NJ-2446	7.85	47100	7.85		
	Setaria	SIA-3222	12.0	48000	12.0		
		Suryanandi	45.0	180000	45.0		
Oilseeds	Groundnut	Dharani	50.0	200000	50.0		
Pulses	Redgram	ICPH-2740	28.14	281400	28.14		
		PRG-176	79.44	714960	79.44		
		ICPL-87119	32.23	290070	32.23		
		LRG-52	46.86	421740	46.86		
	Bengalgram	NBeG-3	194.46	1555680	194.46		
		NBeG-49	200.81	1606480	200.81		
		NBeG-47	30.30	242400	30.30		
Total			**1284.75**	**7643030**	**1284.75**		

Production of planting materials by the KVKs

Crop	Name of the crop	Name of the variety / hybrid	Number	Value (Rs.)	Planting material supplied to farmers		Supplied to other agencies (No)
					No	No of farmers	
Fodder crop saplings	Hybrid Napier	CO-4, Phule Jaynth, BHN-10	88500	24030.00	85000	13	
Total			88500	24030.00	85000	13	

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	Supplied to farmers		Supplied to other agencies kg
				kg	No of farmers	
Bio Fertilizers	Vermi compost	196000	1176000-00	196000	166	2
	PSB	302	15,100-00	302		
	Azospirillum	187	9,350-00	187		
	Potash Mobilizing Bacteria	190	9,500-00	190		
Bio-fungicide	Trichoderma viride	390	39,000-00	390		
	Pseudomonas fluorescens	502	50,200-00	502		
Total		**197571**	**1299150-00**	**197571**		

Livestock:

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	Supplied to farmers		Supplied to other agencies (No)
				No	No of farmers	
Dairy animals						
Ewes	Nellore Brown	26	163000-00	26	3	
Ram lambs	Nellore Brown	22	125000-00	22	8	
Poultry						
Backyard poultry	Rajasri	4006	300450-00	4006	46	2
Total		**4054**	**588450-00**	**4054**	**57**	**2**

8. DETAILS OF SOIL, WATER AND PLANT ANALYSIS

Samples	No. of Samples	No. of Farmers	No. of Villages	Amount realized (Rs.)
Soil	1346	1255	36	164900
Water	36	24	11	3600
Plant	58	3	2	5800
Total	1440	1282	49	1,74,300

9. SCIENTIFIC ADVISORY COMMITTEE

Date of SAC meeting	Number of members attended
06.03.2018	34

Note: please attach the proceedings of sac meeting along with the list of participants

List of participants attended the SAC Meeting :

S.No	Name	Designation
1.	Sri. P.Balaji	Secretary, KVK, Yagantipalle
2.	Dr. M.R. Sreenivasulu	ADR (Rtd.), Banaganapalle.
3.	Sri R.Kothwal	NSC, Production Officer, Nandyal.
4.	Sri G. Anil Kumar	Horticulture Officer, Nandyal
5.	Sri H.M.Raghu Ram	Assist. Director, Kurnool.
6.	Sri B.V.G. Sudha Ramudu	MIDC, APMIP, Kurnool.
7.	Sri G. Venkata Rami Reddy	S.S.C.O. APSSCA, Nandyal.
8.	Sri K. Vishwanath Reddy	ADA(R), Koilkuntla.
9.	Dr. C. Venkata Ramana Varma	AD (AH), Banaganapalle.
10.	Dr. M. Brahmananda Reddy	MAHO
11.	Dr. B. Srikanth Reddy	VAS Yagantipalle
12.	Smt G.V. Raja Rajeswari	Supervisor, ICDS
13.	Sri A. Uma Maheswara Reddy	DDA, Trg., O/o JDA, Kurnool
14.	Sri K. Rama Rao	PD, ATMA, Kurnool.
15.	Smt P. Narasamma	DPM, DRDA, Kurnool.
16.	Sri N. Srinivasulu	FPO, ADM, Velugu.
17.	Dr. R. Vijay Kumar	DRDA, Kurnool.
18.	Dr. N. Saralamma	PS (Plant Path.), RARS, Nandyal.
19.	Sri S. Konda Reddy	Special Officer, SHE&CS
20.	Smt. G. Dhanalakshmi	Programme Coordinator
21.	Sri N. Chinna Obulesu	AEO, Banaganapalle.
22.	Sri D. Narasimhudu	AEO, Banaganapalle
23.	Sri P. Purushotham Reddy	Farmer, Sunkeasula.
24.	Sri B. Sreenivasulu	Farmer.
25.	Sri S. Vijay Bhaskar Reddy	Farmer, Yagantipalle.
26.	Sri M. Veerabhadra Reddy	Farmer, Bethamcherla.
27.	Smt K. Maheswaramma	Farm Women, Yagantipalle.
28.	Smt Y. Rani	Farm Women, Banaganapalle.
29.	Smt B. Rajeswaramma	Farm Women, Yagantipalle.
30.	Sri. M.V.Krishna Reddy	Farmer, Kalugotla
31.	Sri D. Chinnapu Reddy	Farmer, Banaganapalle.
32.	Mr. P. Naga Venkatesh	Farmer, Banaganapalle.
33.	Sri P.B. Hari Krishna	Farmer, Nandavaram.
34.	Smt Y. Padmavathamma	Dairy Farmer, Loddipalle, Orvakal.

10. PUBLICATIONS

Publications in journals

S. No	Authors	Year	Title	Journal
1	A.Krishna Murthy, G.Dhanalakshmi and Kalyan chakravarthy	2017	Study on performance of different crops under low cost hydroponic fodder production system	International Journal of Environment, Agriculture and Biotechnology Vol-2,Issue-2 March-April 2017 pp.951-953
2	A.Krishna Murthy, G. Dhanalakshmi and Y.G.Prasad	2018	Production performance of graded murrah buffaloes on supplementation with hydroponic maize fodder	Research Journal of Agricultural sciences vol-9, March 2018 pp.91- 93

Other publications

S.No	Item	Year	Authors	Title	Publisher
1	Books				
2	Book chapters / manuals				
3	Training manuals				
4	Conference, proceeding papers, popular articles, Bulletins, Short communications	2017	A.Krishna Murthy and G.Dhanalkshmi	Effect of HMF on production performance of graded murrah buffaloes in scarce rain fall zone (Abstract)	Compendium of Abstracts page no.169 of National conference of ISAPM held during 17-19 May 2017 at Srinagar.
		2017	A.Krishna Murthy, G. Dhanalakshmi and Y.G.Prasad	Effect of Hydroponic Maize fodder on production performance in milch buffaloes of scarce rainfall zone	Proceedings volume -2 of 2nd International conference on Animal nutrition and environment, page no.563-566 held at Khon Kaen, Thailand during 01.11.2017 to 04.11.2017.

		2017	A.Krishna Murthy	Study on performance of different fodder crops under low cost green house hydroponic fodder production system	Souvenir of International conference and Expo on Agriculture and Veterinary Sciences: Research and Technology held at Hyderabad during 23-25, October 2017.
		2017	A.Krishna Murthy	Care and management of rabbits	Pashu nestam pp:21-13
		2017	A.Krishna Murthy	Supplementation of bypass fat to milch buffaloes	Pashunestam pp:09
		2018	A.Krishna Murthy	Preparation of balanced ration dairy animals using mobile app	Pashunestham pp:10-11
5	Technical bulletin/ Folders				
6	Reports				
7	Others				

6. Training/workshops/seminars etc details attended by KVK staff

Trainings attended in the relevant field of specialization (Mention Title, duration, Institution, Location etc.)

Name of the staff	Title	Duration	Organized by
K.Lakshmipriya	One day workshop On "Food Industry Leader Consortium For Organics & Millets (FILCOM)"Farm To Global Market Linkages"	1day	IIMR, R'Nagar at Hyd in collaboration with Govt.of Karnataka
K.Lakshmipriya	Training programme on "Basic Bakery''	2 days	Nutri tech solutions, Hyd
G. Dhanalakshmi and M. Sudhakar	Foxtail millet + Redgram – Resilient intercropping system for rainfed areas of scarce rainfall zone of Andhra Pradesh	1day	ANGRAU, Guntur

11. DETAILS ON RAIN WATER HARVESTING STRUCTURE AND MICRO-IRRIGATION SYSTEM

Activities conducted				
No. of Training programmes	No. of Demonstration s	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)

13. Awards/rewards by KVK and staff

Item of Recognition	Year	Awarding Organization National / International / Professional; Society	Individual/ collaborative
Sri Cherala Bhagya Rajaram Award for Innovative research in LPM	2017	Indian Society of Animal Production management	A. Krishna Murthy (Individual)
Meritorious Extension Scientist Award	2017	Dist.Collecor&Megistrate	K. Lakshmi Priya (Individual)
Meritorious Extension Scientist Award	2017	Dist.Collecor&Megistrate	G. Dhana lakshmi Sr. Scientist & Head

15. Success stories

Success Story on "Castor based intercropping Systems in rainfed situation"

Situation analysis/Problem statement:

In Kurnool district generally Castor is being cultivated in an area of 60533 ha and yields are limited by the amount and distribution of rainfall during monsoon period. Farmers are getting low net returns/ha due to changes in price of the marketable produce and incidence of pest and diseases also increasing year by year due to monocropping.

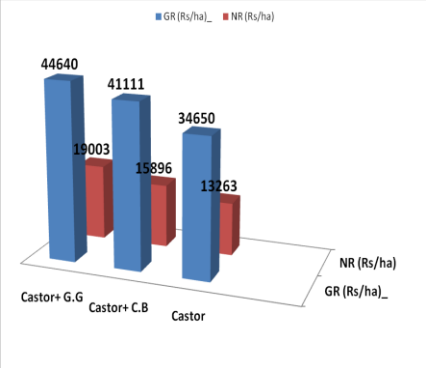
Plan, Implement and Support:

Organized OFT on different castor based intercropping systems in Rainfed Redsoils, at Yerragudi and Nandavaram Villages of Banaganapalli mandal and provided critical inputs *i.e* seed of base crop and intercrops to the selected farmers with KVK funds.

After assessment of technology for three years, the results of the technology was found successful and considered for large scale adoption in the district. In order to create awareness on intercropping, three trainings were conducted to farmers, Adarsha rythus and extension personnel. The methodology and results were published in daily news papers. Out of 150 trained farmers twenty farmers were selected for demonstration in an area of 20 acres and provided critical inputs like seed. Castor crop and intercrops were sown during the month of last week of July and inter crops were harvested during 1st week of October. During the crop period, five field visits were organized to the farmers and others farmers from different villages to show the new cropping system *i.e* growing of different intercrops in castor.

Castor Based Intercropping Systems

Treatments	Row ratio	Yield (Kg/ha)		LER	Gross returns Rs/ha
		Castor	Inter crop		
Castor+ Greengram	1:2	813	249	1.27	44640-00
Castor+ Cluster bean	1:2	649	1022	1.16	41111-00
Castor	-	990	-	-	34650-00




Castor + Greengram (1:2)


Castor + cluster bean (1:2)

Outcome :

Intercropping of cluster bean with castor in 1:2 row proportions resulted in the highest LER value of 1.24 coupled with highest yield of castor. This practice was taken well by farmers of Western part of Kurnool district. Awareness on different castor based inter cropping systems was created and nearly 15-20 % of Rainfed farmers were adopting the intercropping systems.

Scope for Up-scaling and Horizontal Spread of Technology:

The sustainable performance of castor based inter cropping systems coupled with market price is attracting the rainfed farmers of Kadapa, Anantapur and Kurnool district. The fore warning given by IMD and messages of scientist about deficient rain fall made farmers to grow intercropping systems as a climate resilient crop.

Impact:

This intercropping technology has spread very quickly not only to the interior pockets of the district but also to other castor growing districts and non-traditional areas because of its unique features like high net returns, comes up well even when drought situations prevail during crop growth period. Farmers are reaping good returns due to this technology.

Success story on "Nutrient Management in Rice based on Soil Test Crop Response equation"

Situation analysis/Problem statement:

The agricultural production technologies of-late are closely associated with fertilizer application. Farmers have been using chemical fertilizers from mid fifties as part of soil fertility management and crop production. During the year 1950-51 fertilizer consumption in India was 0.065 million tonnes and by 2008-09 it reached to 24.90 million tonnes (DAC, 2010). The future requirement by 2025 is 35.00 million tonnes. This alarming situation may create lot of problems in soil health, crop production costs, subsidies on chemical fertilizers and environmental degradation.

Rice is one of the major food crops of Kurnool district and is being grown in an area of 1,00,000 ha in both *kharif* and *rabi* seasons. Farmers are resorted to excess and indiscriminate usage of nitrogen (320 kg/ha) and phosphorus (160 kg/ha) as against recommended doses of N (240 kg/ha) and P (80 kg/ha).

Due to indiscriminate usage of phosphorus complex fertilizers, the "Phosphorus build up" in soil has been increased from low to high (as per the soil testing reports of Krishi Vigyan Kendra (KVK), Yagantipalle, bench mark survey of Regional Agricultural Research Station (RARS), Nandyal and Soil testing Laboratory, Yemmiganur in the command areas of Kurnool district). High Phosphorus in soil induces zinc deficiency in crops and increases the cost of production towards "P" nutrient. It is also observed that cost benefit ratio is low i.e. 1:1.5 to 1:1.75 due to increased costs of production towards higher doses of chemical fertilizers and pesticide usage.

Plan, Implement and Support:

- The demonstrations were conducted in eight mandals of Kurnool district namely, Dornipadu, Allgadda, Gospadu ,Nandyal,B.Atmakur, Sirivella, Uyyalawada and Yemmiganur. The villages have been selected based on PRA conducted on cost of cultivation, cost of fertilizers and soil test data of these villages etc. in major crops grown in that village.
- All the farmers of the village along with farm women, and youth were involved in awareness meetings and campaigns on abuse of chemical fertilizers in nutrient management.
- Farmer clubs (Rythu clubs) were formed for follow-up of implementation of the project.
- Then selected farmers, women and youth were trained on soil sampling procedure and nutrient management in Rice before starting of the season at village level. The successful farmers who adopted the STCR recommendation were utilized for capacity building of new farmers.

- Soil samples were collected and analyzed (for estimation of N,P,K,Zn,Fe,Cu and Mn) during summer at soil testing laboratory, KVK, Yagantipalle before implementation of demonstrations.
- Demonstrations conducted in farmer's fields to practically show how these STCR technologies will be effective in nutrient management to reduce cost of chemical fertilizers by their own perception.
- The project proposal has been prepared in consultation with target group of project villages, local Water User Associations (WUAs) and Adharsa Rythus.
- STCR technology replicated in project villages through awareness campaigns, trainings, exposure visits , mass media coverage, field visits, farmer's interaction meetings, field days etc.
- And taken the help of local agriculture extension personnel in the spread and replication of technology by involving them in each activity *i.e.* trainings, field visits, field days etc.

Output and Outcome:

The average grain yield of paddy under STCR approach was higher (7146 kg ha^{-1}) than the grain yield produced under farmer's practice (6933 kg ha^{-1}) due to balanced nutrient application. The average cost of production over the years was less in STCR trials (Rs.43881/ha) as compared to farmer's practice (Rs.52042 ha^{-1}) and net difference in cost of production was Rs. 8161 ha^{-1} due to controlled application of chemical fertilizers. Gross and net income were higher in STCR demonstrations (Rs. 109003 ha^{-1} and Rs.65123 ha^{-1}, respectively) as compared to the farmer's practice (Rs.106139 ha^{-1} and Rs.54127 ha^{-1}, respectively). It was also observed that an amount of Rs.10996 ha^{-1} was realized as additional income due to low cost of production and yield increments (3.0%) in demonstrations. Benefit-cost ratio was higher in STCR demonstrations (2.58) as compared to farmers practice (2.11) due to low cost of production and higher gross income.

Table: 1.Average yield obtained in farmer's fields from the year 2007 to 2014.

Year	Yield (Kg/ha)		Cost of production (Rs /ha)		Gross returns (Rs/ha)		Net returns (Rs/ha)		Benefit cost ratio	
	FP	STCR	FP	STCR	FP	STCR	FP	STCR	FP	STCR
2007	6782	7246	37552	33526	95006	99572	57454	66046	2.53	2.97
2008	7083	7599	41440	34255	106069	113986	64629	79731	2.56	3.33
2009	6894	7295	39800	33862	103175	108736	63375	74874	2.59	3.21
2010	6019	6236	47140	39312	72225	74828	25086	35516	1.53	1.9

2011	7741	7760	45048	37862	87710	87923	42662	50061	1.95	2.32
2012	6832	6954	61381	48944	136636	139060	75255	90116	2.23	2.84
2013	6823	6829	64704	54439	113663	113767	48959	59328	1.76	2.09
2014	7290	7252	79267	68845	134865	134153	55598	65308	1.70	1.95
Mean	**6933**	**7146**	**52042**	**43881**	**106169**	**109003**	**54127**	**65123**	**2.11**	**2.58**

Note: FP-Farmer practice STCR- Soil Test Crop Response based application

Impact:

So far STCR based nutrient management was adopted by 3818 farmers of TBLLC and KC canal command villages covering 8946 ha. It was observed that cost reduction on chemical fertilizers is around 7.23 crores and the same amount was saved towards subsidy for Govt. of India which is bearing 50% subsidy on chemical fertilizers. And also got an additional income of 8.68 crores due to adoption of soil test based nutrient management by farmers.

Success Story on "Drip Irrigation System in Jasmine and Vegetable Crops"

Situation analysis/Problem statement:

M. Subramanyam, Yagantipalle (v)

Earlier farmer used to cultivate Paddy with traditional method in an area of 3 acres through flood irrigation. The yield levels and net returns of the farmer after cultivating Paddy was not desirable.

Plan, Implement and Support:

To overcome the above constraint demonstrations and trainings were conducted on cultivation of vegetable crops through drip irrigation and preparation of Jeevamrutham for vegetable crops. Pendal system and small shaded net for nursery raising.

Output and Outcome:

Six to seven types of vegetables including leafy vegetables in 1.5 acres of land with drip irrigation. For Jasmine, weighing and packing of 1.0 kg flowers in the farm and supplying to the flower merchants.

The results revealed that Cultivation of Jasmine through drip irrigation system gave high net returns (Rs.5,96,750/-) with B:C ratio of 1:2.12 from 2012 to 2016. While, cultivation of Vegetable crops through drip irrigation system gave net returns of Rs. 1,59,425/- with BC ratio of 1:2.90.

Economic Performance

	Crop yields (kg/ha) or productivity of the systems as applicable	Expenses incurred (Rs/ha/year)	Net returns (Rs/ha/year)	BC Ratio
Farmers practice (2010-12)	7220	52400/-	47350/-	1:1.90
Innovation (Jasmine) (2012-16)	9375	528250/-	596750/-	1:2.12
Innovation (Vegetables) (2016-18)	2,41,885/-	82460/-	159425 /-	1:2.90

Impact:

With drip irrigation, water use efficiency was improved and spraying of jeevamrutam helped the crop to tolerate water stress and heat. With crop diversification the farmer was able to cultivate more crops under ID situation and realized better income than paddy cultivation.

Palak cultivation Under Drip Irrigation

Dolichos Cultivation

Bitter guard cultivation In pendal system

Cauliflower Cultivation under Drip

Bendi cultivation Under Drip Irrigation

Animal Husbandry:

Standardization of feeding regimes through ration balancing techniques in different breeds of cattle

Introduction:

Dairy farming is an important livelihood option under Rainfed agriculture to increase farm income by adopting mixed farming systems. Feeding management of dairy animals has to be improved to get full potential production. The traditional system of dairy animal feeding is mostly depending on the agricultural waste/by products like straws, haulms along with limited grazing lands. Balanced feeding of dairy animals with effective utilization of available feed resources improves the production and reproduction efficiency of dairy animals with higher net returns.

Imbalanced feeding leads to excess feeding of some nutrients while others remain deficient. This not only reduces milk production and increases costs per kg milk, but also affects various physiological functions including long term animal health, fertility and productivity. Since many smallholder farmers do not have the necessary skills and knowledge to prepare balanced rations, this can be achieved through providing ration balancing advisory services direct to the farmer.

Description of innovative technology:

Selection of animals

Farmers were selected based on their willingness for implementing the ration balancing programme. Thirty dairy animals (Crossbred Jersey (JX) – 10, Crossbred Holstein Friesian (HFX) – 9 and Ongole – 11) were selected in three villages viz. Meerapuram, Yagantipalle and Nandavaram of Banaganapalle mandal in Kurnool district of AP for the study. Initial data on age, stage of lactation, lactation number, pregnancy status, the animal's daily feed intake, daily milk yield and fat in milk were recorded.

Animal body weight:

The animal's body weight was recorded based on length and heart girth measurements using Shaeffer`s formula (Khan H et al 2003).

BW (kg) = ([(heart girth (cm)/2.54)2 x length of the body (cm)/2.54]/300) x 0.4536.

Formulation of balanced ration:

The nutrient requirements and quantity of each ingredient for balanced ration was calculated based on milk yield, milk fat percent, body weight, stage of lactation and pregnancy status before treatment was used to prepare balanced ration with android application developed by Sri Venkateswara Veterinary University, Tirupati.

Feeding of balanced ration to cattle:

The selected animals were fed with the balanced ration as per recommended quantity of Green fodder, Dry fodder and concentrate feed for 30 days in the form of Total Mixed Ration (TMR).

Output:

Body weight gain:

The data revealed that the mean L, G, body weights of JX cows in T_1 and T_2 were 64.7±1.65, 51.7±1.02 and 66.65±1.45, 54.45±0.98 respectively. The mean body weight in T_1 and T_2 were recorded as 264.75±16.24 and 301.588±15.54 respectively. From the data it was found that 13.9% more body weight in JX cows through supplementation of balanced ration.

Mean L, G, body weights of HFX cows in T_1 and T_2 were 66.89±1.36, 56.67±1.6, and 67.56±1.6, 58.89±0.91 respectively. From the data it was found that 9.32% more body weight was recorded in T_2 (356.57±16.8) over T_1 (327.46±17.3).

Similarly the mean L, G, body weights of Ongole cows in T_1 and T_2 were 59.55±1.5, 50.36±1.74 and 61.05±1.22, 53.91±1.62 respectively. The mean body weight in T_1 and T_2 were recorded as 233.51±19.8and 271.66±18.53 respectively. From the data it was found that 16.3% more body weight was recorded in T_2 over T_1.

The experiment revealed that among the three breeds more body weight gain in 30 days was recorded in Ongole breed (38.2) followed by JX (36.8) and HFX (29.11).

Production performance

The data on milk yield revealed that among the three breeds highest response of 28.85% increase in milk yield was recorded in Ongole followed by Jersey crossbred (14.9%) and HF crossbred (10.3). The increase in milk fat was highest in HF crossbred cows (27.4%) followed by Ongole (26.67%) and Jersey crossbred cows (8.25%). From this study it was observed that the Ongole breeds are having genetic potential of more milk yield and that can be achieved through balanced feeding.

Economic impact:

The net income was improved in all the three breeds due to reduction in cost of feeding as well as improvement in milk yield due to supplementation of required nutrients.

Jersey crossbred cows:

Particulars	Before	After
Total cost of feeding/cow	1693.4	1309.25
Total income/cow	4026.0	5742.0
Net income/cow	**2332.6**	**4432.75**
B:C ratio	**2.37**	**4.39**

HF crossbred cows:

Particulars	Before	After
Total cost of feeding	1984.2	1647.0
Total income	6378.0	7284.0
Net income	**4393.8**	**5637.0**
B:C ratio	**3.2**	**4.42**

Ongole cows:

Particulars	Before	After
Total cost of feeding	1032.6	975.25
Total income	2046.0	3630.0
Net income	**1013.4**	**2654.75**
B:C ratio	**1.98**	**3.72**

Outcome:

- The technology is well accepted by the farmers as it benefitted in improvement of milk yield as well as net income.
- Farmers from other villages have visited the project and replicated the technology in their cattle. Farmers from Hyderabad have also visited the project during the exposure visit conducted by KVK-CRIDA, Rangareddy dist.
- The technology has been taken as on farm trial for implementation in milch buffaloes during 2017-18.
- Five training programmes to the farmers, extension functionaries have conducted to disseminate the technology.

Imparting training on balanced ration

Data collection on body measurements

Preparation of balanced ration in the form of Total Mixed Ration (TMR)

Demonstrating to the other farmers on Balanced Ration Preparation

Home Science:

Establishment of Millet Bakery Unit For Self Sustainability of SHG Women:

Situation analysis/Problem statement:

Millets are important traditional Crops in Andhra Pradesh growing in sizeable area. Millets are high energy, nutritious foods with good amount of dietary fibre and essential minerals compared to other cereals. The added advantage of Millets is the slow digestibility and it is good diet for the diabetics. The consumption of Millets is limited to traditional recipes i.e. roti and sangati. Supplementation of millet based products has become increasingly popular due to nutritional and economic advantages. The decentralized, small scale house hold based economy of food production and food processing is advantageous for SHG Women for Economic Sustainability. Keeping this in view, KVK focused on establishment of small scale food processing units at village level by motivating and involving SHG women in rural areas with locally grown crops.

Smt Y.Rani D/o Sunkanna of Banaganapalle Village of Banaganapalle mandal visited KVK for establishing viable income generating unit for economic sustainability due to family problems she got separated from her husband and staying with parents with two children and she decided not to depend on parents for financial support.

Plan, Implement and Support:

KVK suggested her to establish Millet bakery unit due to high market demand of Millet bakery products. She has attended bakery training programme at KVK and got trained in preparation of various millet based *i.e,* Sorghum, Seteria, Ragi, Bajra sweet and salt cookies, cakes, breads, Buns, multi grain sweet and salt biscuits, Millet biscuits with jaggery, Sugarfree etc. She purchased oven by hiring loan from SHG and started preparation of millet based bakery products. KVK helped in getting the FSSAI registration number. Under KVK she has been send to training at Nutritech bakery solutions, hyd as a part of EDP for strengthening her bakery skills.

Output:

She got expertise in preparation of various millet based bakery products i.e, Cookies, cakes buns and breads etc.

Outcome:

She is preparing 200 kgs /month and earning an net income of Rs.8,500/- month excluding loan amount. She is supplying and selling millet bakery products to Local shops, Super markets, NGOs, Exhibitions, Offices etc.

Impact of Intervention:

This income generating activity helped her in getting name for the brand of millet based bakery products in the district and also this would helped her in getting relief from her marital life problems and able to meet the expenses for her livelihoods. She has also applied for GST no. for further market diversification of the products.

16. IMPACT

Crop Production:

Name of the technology: Varietal evaluation of Redgram Hybrids

Area and Farming situation: In Kurnool district, Redgram being cultivated in an area of 45000 ha under Rainfed situation. The productivity levels are low with ruling varieties and Wilt incidence.

On-farm testing on assessment of Redgram Hybrids *i.e,* ICPH-2740 and ICPH-2671 were organized at Koilakuntla and Banaganapalli mandal in 5 locations each. The results indicated that the hybrid ICPH-2671 has recorded highest Yield (1383 Kg/ha) followed by ICPH-2740 (1236Kg/ha) as compared with local variety ICPl-85063.

Benefit of technology: The results indicated that the hybrid ICPH-2671 has recorded highest Yield (1265 Kg/ha) followed by ICPH-2740- (1198Kg/ha) as compared with local variety ICPl-85063. It was evident that yields were increased from 17 to 23% with introduction of Redgram hybrids through OFTs. The impact was spread to different parts the district. Seed was given for multiplication in different pockets of the district and its performance was encouraging under Rainfed and ID situations. Feedback was given to university and department resulting inclusion of ICPH-2740 under input subsidy programme.

Soil Science:

Impact of soil test based nutrient management for cost reduction on chemical fertilisers

Four hundred and fifty seven frontline demonstrations were organized on ***"Nutrient Management in Rice based on Soil Test Crop Response equation (STCR)"*** in farmer's fields covering 1120 ha of 30 villages under irrigated domains of Kurnool district from the year 2007 to 2016. Based on soil test results the farmers of demonstration plots applied lower doses of N-P_2O_5-K_2O (230-19-59 Kg./ha, respectively) as compared to farmer's practice (317-190--65 Kg./ha, respectively) which was reflected in cost of production. The average grain yield of paddy under STCR approach was higher (7146 kg ha^{-1}) than the grain yield under farmer's practice (6933 kg ha^{-1}) due to balanced nutrient application.

Soil test based nutrient management technology was successfully proved in the fields of high phosphorus built up, even without applying phosphoric fertilizers especially complexes, farmers obtained the same yields similar to that of applied ones. In other words, saving costs on fertilizers to the tune of **Rs. 8161 per ha** which is almost 50% of costs on chemical fertilizers. So far *Soil Test Crop*

Response equation based nutrient management was adopted by 3393 farmers of TBLLC and KC canal command villages covering 8198 ha. It was observed that cost reduction on chemical fertilizers was around 6.78 crores (on the basis of reduction in application of fertilizers over 8198 Ha.) and the same amount was saved towards subsidy for Govt. of India which is bearing 50% subsidy on chemical fertilizers. Besides cost reduction, soil health was improved with increased organic carbon content **from 0.36 to 0.84%** (soil test document) due to practice of green manuring in-situ and judicious use of chemical fertilizers.

Plant Protection:

Impact of Yellow Sticky Traps in reducing the incidence of sucking pests

Incidence of sucking pests in chilli was found high in Kurnool district of Andhra Pradesh due to which farmers are going for indiscriminate use of pesticides for the control. In order to reduce this indiscriminate use of pesticides, KVK conducted group meetings, demonstrations and trainings on keeping yellow sticky traps 20 per acre in order to reduce the pest attack in K.Sunkesula and Sangapatnam villages. Keeping these traps benefitted the farmers in reducing the no. of sprays (3) and cost around Rs. 2100/- per acre. By seeing the results farmers went for large scale adoption of these yellow sticky traps in more than 200 acres.

Demonstrating yellow sticky traps in Chilli

Animal Husbandry:

Low cost hydroponic fodder production for sustainable dairy farming:

More than 300 farmers from A.P. and Telangana have visited the unit at KVK to learn the concept. More than 150 units were established with technical guidance of KVK. Department of Animal husbandry adopted this model and introduced in their subsidy schemes. ATMA Kurnool adopted the same model and spreading the technology through demonstrations. Thirty four units of 25 kg capacity were built and supplied by KVK to the farmers from Andhra Pradesh and Telangana.

16.A. Impact of KVK activities (Not to be restricted for reporting period).

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Blouse Designing 	33	84.8	2800/-month	6,500/-/month
Basic& Advanced tailoring 	30	73.3	1500/-/month	3200/-month

NB: Should be based on actual study, questionnaire/group discussion etc. with ex-participants.

16.C. Details of impact analysis of KVK activities carried out during the reporting period

Introduction Of Cotton Knitted hand gloves To reduce Drudgery Of women in harvesting Operations::

Situation analysis:

- Bendi and green fodder harvesting is a tedious job with drudgery involved mainly handled by the farm women.
- For harvesting of Bendi, the farm women wear polythene covers and sometimes cotton cloth around the hand to avoid irritation and itching.
- Though they wear this type of covering materials, they feel difficulty while harvesting
- They failed to have grip for speed harvesting
- Harvesting of Bendi is a challenging task for farm women
- After bendi harvesting, the farm women attend the household activities with great difficulty especially with food preparation, because the people of this region have the habit of taking Jowar roti as staple food in their daliy diet.
- For the preparation of Jowar rotis requires palm and hand support.

Technology, Implement and Support:

- To reduce drudgery and gain income for farm families KVK Introduced Cotton Knitted Hand Gloves under Front Line Demonstrations in five villages for 100 farm women

- For harvesting of Bendi, the farm women wear knitted hand gloves which protected their
- Drudgery parameters were recorded and it was recorded that harvesting with hand gloves recorded as minimum than farm women practice which was recorded as maximum.

Uptake, spread and Benefits:

With conventional method of harvesting farm women experienced injuries, itching and irritation. The farm women expressed positive attitude towards improved technology. They have realized that the technology has improved their work efficiency and physical health. This has resulted in increased adoption of the protective clothing *i.e,* hand gloves. With this feedback from fellow farmers, farmers and women are coming to KVK to purchase on their own. KVK purchased hand gloves from revolving fund and selling gloves to the farming community especially the demand was found high from farmers of Bengal gram and pomegranate cultivars.

17. LINKAGES

17.A. Functional linkage with different organizations

Name of organization	Nature of linkage
Acharya N.G. Ranga Agricultural University, Guntur	• Technical backstopping for KVK activities • Supply of Breeder seed–Paddy 5204, NDLR-7, NBeG-3 and NBeG-47 • Seed production programme of varieties in farmers field. • Capacity building of KVK scientists • As member in regional council
Rashtriya Krishi Vikas Yojana (RKVY) through ANGRAU	**Sanction of Rs.66.00 lakhs towards:** • Promotion of mechanization through custom hiring centre. • Strengthening of soil testing lab for more outreach. • Establishment of spawn and mushroom production unit for entrepreneurship. • Sustaining farmers income through integrated farming system • Strengthening of information and communication centre for wider dissemination of technologies-
Regional Agriculture Research Station (RARS)	• Seasonal work shops • T&V meetings • Procurement of foundation seed • Updation of technical know how
Agriculture Research Station, Anantapur	• Implementation of All India Coordinated Research Project on Agro meteorology (ACRPAM) in Kurnool district
Central Research Institute for Dry Land Agriculture, Hyderabad	• Capacity building of scientists • Implementation of NICRA Project(National Innovations on Climate Resilient Agriculture) • Implementation of Conservation Agriculture project.
International Crop Research Institute for Semiarid Tropics(ICRISAT)	• Seed Production of Hybrid Pigeon pea ICPH 2740
National Institute for Agriculture Extension Management, Hyderabad	• Capacity building of **Scientists** on innovations in extension and marketing
National Bank for Agriculture & Rural development, Hyderabad	• Capacity building of farmers. • Conducting Farmers Technology Transfer fund project (FTTF project) in soil test based nutrient application in250 ha covering five villages in K.C canal ayucut.
Agriculture Technology Management Agency	• Assessment and refinement of the technologies • Demonstration of the latest technologies • Capacity building of farmers, and farm women • Organization of exposure visits and interstate training programs to farmers for getting firsthand experience in latest technologies being available with progressive farmers and institutes. • Project on **Comprehensive Revival of millets in households of Andhra Pradesh.**

Agri Biotech Foundation, Hyderabad.	• Village level seed production programme in Paddy, Bengal gram, Red gram, Groundnut and Foxtail millet. • Facilitation in establishment of bio resource centre. • Establishment of production facility for Mushrooms, popularization of mushroom production, production of spawn.
Agriculture Skill Council of India(ASCI)	• Skilled based training to farmers and youth in i. organic farming . ii. Seed growers.
Ministry of Agriculture& Cooperation & Farmers Welfare Through ATARI Zone X	**Sanction of Rs.1.50 corers towards:** Establishment of Seed Hub for Pulses (Red gram & Bengal gram) with a target of producing 550, 700 and 1000 Quintals of quality seed during 2016-17, 2017-18 and 2018-19 respectively. The target for 2016-17 was met and the target for 2017-18 is underway and will be met.

17.B. List special programmes undertaken by the KVK and operational now, which have been financed by State Govt./Other Agencies

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
Rashtriya Krishi Vikas Yojana (RKVY)		**ANGRAU**	**66,00,000-00**

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