ANNUAL REPORT (April-2017-March-2018)

APR SUMMARY

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	87	1577	698	2275
Rural youths	3	27	20	47
Extension functionaries	2	18	55	73
Sponsored Training	14	459	228	687
Vocational Training	4	63	20	83
Total	**110**	**2144**	**1021**	**3165**

2. Frontline demonstrations

Enterprise	No. of Farmers	Area (ha)	Units/Animals
Oilseeds	75	30	1
Pulses	60	22	2
Cereals	20	6	2
Vegetables	40	8	4
Other crops	50	16	5
Total	**245**	**82**	**14**
Livestock & Fisheries	0	0	0
Other enterprises	40	0	2
Total	**40**	**0**	**0**
Grand Total	**285**	**82**	**16**

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops	4	20	20
Livestock	0	0	0
Various enterprises	1	10	10
Total	**5**	**30**	**30**
Technology Refined			
Crops	0	0	0
Livestock	0	0	0
Various enterprises	0	0	0
Total	**0**	**0**	**0**
Grand Total	**4**	**25**	**25**

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	590	7850
Other extension activities	462	-
Total	**1052**	**7850**

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Market-ing	Awa re-ness	Other enterprise	Total
Perambalur	Text only	11	0	0	0	11	14	36
	Voice only	0	0	0	0			
	Voice & Text both	0	0	0	0			
	Total Messages	**11**	**0**	**0**	**0**	**11**	**14**	**36**
	Total farmers Benefitted	**5403**				**5403**	**5403**	**5403**

6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	6.836	374073
Planting material (No.)	18422	558990
Bio-Products (kg)	299	29900
Livestock Production (No.)	996	539546
Fishery production (No.)	-	-

7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil	600	17250
Water	160	9200
Plant	0	0
Total	**760**	**26450**

8. HRD and Publications

Sr. No.	Category	Number
1	Workshops	12
2	Conferences	2
3	Meetings	46
4	Trainings for KVK officials	3
5	Visits of KVK officials	8
6	Book published	6
7	Training Manual	1
8	Book chapters	-
9	Research papers	-
10	Lead papers	-
11	Seminar papers	2
12	Extension folder	1
13	Proceedings	1
14	Award & recognition	-
15	On going research projects	-

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
	Office	Fax	
ICAR-Krishi Vigyan Kendra, Hans Roever Campus, Valikandapuram – 621 115. Perambalur District Tamil Nadu, South India	7010882431	--	pblr_kvk06@yahoo.co.in, kvkpblr@rediffmail.com kvkroever@gmail.com

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

Address	Telephone		E mail
	Office	Fax	
St. John Sangam Trust , Roever Campus, Perambalur – 621212. TamilNadu	04328 - 277418	04328 - 278110	sjst@roever.edu.in

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Mr.J.Kathiravan	--	9790491566	kathirjeyabalan@gmail.com

1.4. Year of sanction : 2002

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

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale (Rs.)	Present basic (Rs.)	Date of joining	Perman-ent /Temp-orary	Category (SC/ST/ OBC/ Others)
1	Programme Coordinator	Vacant							
2	Subject Matter Specialist	Mrs. P. Vijayalakshmi	Subject Matter Specialist	Home science	15600-39100 + GP 5400	23700	18.01.06	Permanent	OBC
3	Subject Matter Specialist	Mr. J. Kathiravan	Subject Matter Specialist	Horticulture	15600-39100 + GP 5400	22850	16.08.07	Permanent	SC
4	Subject Matter Specialist	Mr. R. Vasanthakumar	Subject Matter Specialist	Agrl Extension	15600-39100 +GP 5400	18950	18.10.12	Permanent	OBC
5	Subject Matter Specialist	Dr. S.Divya	Subject Matter Specialist	Plant protection	15600-39100 +GP 5400	18950	19.10.12	Permanent	OBC
6	Subject Matter Specialist	Mrs. M. Punithavathi	Subject Matter Specialist	Agronomy	15600-39100 +GP 5400	18240	30.08.13	Permanent	OBC
7	Subject Matter Specialist	Vacant							
8	Programme Assistant	Mr. N. SatishKumar	Programme Assistant	Agriculture	9300-34800 +GP 4200	14120	02.11.09	Permanent	FC
9	Computer Programmer	Mrs R. Vidhya	Computer Programmer	Computer programmer	9300-34800 +GP 4200	15830	18.01.06	Permanent	OBC
10	Farm Manager	Mr. V. Karuppasamy	Farm Manager	Agriculture	9300-34800 +GP 4200	15240	16.03.07	Permanent	SC
11	Accountant / Superintendent	Mr. P. Jayaraman	Accountant / Superintendent	Assistant	9300-34800 +GP 4200	17850	01.10.02	Permanent	OBC
12	Stenographer	Mr. S. Chandrasekar	Stenographer	Stenographer cum computer operator	5200-20200 +GP 2400	10960	14.11.07	Permanent	OBC
13	Driver	Mr. M. Raja	Driver	Driver cum Mechanic	5200-20200 +GP 2000	7540	26.08.13	Permanent	OBC
14	Driver	Mr. R. Hariharan	Driver	Driver cum mechanic	5200-20200 +GP 2000	9540	01.12.04	Permanent	OBC
15	Supporting staff	Mr. K. Periyasamy	Supporting staff	Supporting staff	5200-20200 +GP 1800	8710	01.10.02	Permanent	SC
16	Supporting staff	Mr. R. Selvakumar	Supporting staff	Supporting staff	5200-20200 +GP 1800	8710	01.10.02	Permanent	OBC

1.6. Total land with KVK (in ha) : 21.54 ha

S. No.	Item	Area (ha)
1	Under Buildings	0.12
2.	Under Demonstration Units	0.016
3.	Under Crops	13.88
4.	Orchard Agro-forestry	4.17 0.152
5.	**Others** Roads Pond Wasteland	 1.65 0.22 1.4

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	16.03.2006	500	29,60,000	-	-	-
2.	**Farmers Hostel**	ICAR	03.05.2007	300	26,98,679	-	-	-
3.	**Staff Quarters**	ICAR	03.05.2007	400	34,96,000	-	-	-
4.	**Sales Outlet**	Management	31.03.2011					
5.	**Demonstration Units**					-	-	-
	Poly house	ICAR	31.03.2007	80	1,00,000	-	-	-
	Goat unit	ICAR	31.03.2007	80	1,00,000	-	-	-
	Mushroom shed	Management	20.10.2006	58	60,000	-	-	-
	Shade net house and Mist chamber	ICAR	31.03.2012	80	4,00,000	-	-	-
	Vermicompost Unit	Revolving Fund	31.03.2016	630 Cft	1,19,000	-	-	-
	Home care unit	Revolving Fund	31.03.2017	1320	4,90,750	-	-	-
	Goat Unit	Revolving Fund	31.03.2016	1800	76,350	-	-	-
6.	**Fencing**	ICAR	31.03.2007	1800 rm	1,79,500	-	-	-
7.	**Rain Water harvesting system**	ICAR	31.03.2007	4.8 ha	10,00,000	-	-	-
8.	**Threshing floor**	ICAR	31.03.2011	450	3,00,000	-	-	-
9.	**Storage godown**	ICAR	31.03.2011	101.99	3,00,000	-	-	-
10.	**Vehicle & Implement Shed**	ICAR	31.03.2011	92.903	3,00,000	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Motor cycle (Hero Honda CD Deluxe) (Rs. 40,000 ICAR fund)	24.03.2006	40,430.00	84123	To be condemned
Motor cycle(Yamaha Gladiator) (Rs.50,000 ICAR fund)	06.03.2009	50,000.00	100325	Working
Tractor with accessories	21.12.2004	4,99,852.00	12572 hours	To be condemned
TATA SUMO	31.03.2017	8,00,000.00	11403	Working

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
i. Equipment			
FAX system	2004	25,250.00	To be condemned
Xerox 5816 Plus copier	2004	89,000.00	To be condemned
Computer, Printer and UPS	2004	75,000.00	To be condemned
Laptop computer with accessories including LCD projector	2007	99,950.00	To be condemned
Hp Desktop 510-P053in with accessories	2017	52238.10	Working
Hp Desktop 260-P020IL with accessories	2017	333238.10	Working
UPS Numeric 600va – 2nos	2017	3619.04	Working
HP Laserjet ProMfp M227sdn Printer	2017	22380.95	Working
USB Keyboard and mouse for Dell laptop	2017	809.52	Working
Pendrive Hp 16 GB (5nos)	2017	2619.05	Working
HDMI cable 20 meter	2017	1904.76	Working
DVD Player with USB Pendrive option	2017	4285.71	Working
Iball claro TV LCD External TV tuner card	2017	1761.90	Working
Compaq Laptop adaptor for 65w	2017	952.38	Working
Power cable for old LCD	2017	285.71	Working
Electronic MS platform scale	2017	17500.00	Working
Balance machine, sealing machine	2017	7600.00	Working
Power Weeder	2017	23500.00	Working
Battery Sprayer	2017	3000.00	Working
ii. AV Aids and Teaching material			
Slide Projector Kendermann 35 MM automatic slide projector with 24V. 150W halogen lamp, 50 slides linear tray, forward and reverse operation on remote control with auto focus	2004	25,000.00	To be condemned
Over Head Projector with screen (2), Stand and trolley	2004	25,000.00	To be condemned
Sony Digital camera	2010	25,000.00	Working
EPABX system	2011	49990.00	Working
Acer Projector	2017	29300.00	Working
Nikon Camera P900	2017	30500.00	Working
Projector screen 8 x 6 size	2017	8990.00	Working
Presenter Logitech	2017	6000.00	Working
WD Harddisk 2 TB	2017	7250.00	Working
TZA 4000 DPM Amplifier	2017	22100.00	Working
90W Speakers – 2 Nos.	2017	13752.00	Working

Active speaker- portable PA with B/M(2 nos)	2017	13500.00	Working
520 VHL Microphone	2017	4370.00	Working
411-Microphone	2017	1050.00	Working
Luminous 1050 UPS	2017	5500.00	Working
Luminous 220AH Battery	2017	16700.00	Working
Furniture			
Computer table	2017	2380.95	Working
Steel Almirah (7 Nos.)	2017	63500.00	Working
Wood teapoy	2017	3200.00	Working
S.Type chair (5 Nos)	2017	7000.00	Working
Revolving chair (2 Nos.)	2017	9000.00	Working
Iron stool (4 Nos.)	2017	3400.00	Working

1.8. A). Details SAC meeting* conducted in the year

Sl.No.	Date	No of Participants	Salient Recommendations
1.	07.12.2017	23	➢ KVK needs an Auditorium to accommodate 750-1000 Nos. of farmers for conducting seminars/conference/awareness programmes. For this KVK expects financial support from ICAR, ATARI to construct the auditorium at KVK. ➢ SAC meetings should be conducted every year ➢ Focus on Vocational Trainings and Skill Development Trainings for Rural youths by identifying the area which needs to be covered. ➢ Impact analysis for vocational trainings need to be conducted ➢ What difference is the KVK made to the district need to be documented ➢ Case Study on messages which are really mattered need to be done ➢ Utilize the M Kissan Portal properly to send messages to the farmers. ➢ KVK Portal should be uploaded frequently. ➢ More Soil samples to be analysed through SWTL. If any farmer found difficult to pay the money KVK can bear it. ➢ Replicable models need to be worked out ➢ All the staff (both Technical and Non-Technical) may attend any useful training programmes relevant to the job roles. ➢ When chance comes, KVK- Bharamathi may be visited for cross learning. ➢ Awareness to be created among farmers on traditional banana varieties. ➢ Demonstration to be conducted on NRCB micronutrient technology “Banana Sakthi” ➢ Since IIFPT, Thanjavur developed technologies for small onion processing and small onion is the major crop of the district the institute may be involved in the SAC as one of the members. ➢ Training programmes to be organized on Drip irrigation, Micro irrigation systems. Technologies about the clearing of blocks in the drip irrigation system and use of water soluble fertilizers through drip irrigation need to be educated. ➢ Trainings need to be conducted on Storage and Marketing Techniques of the farm products for getting more income. ➢ Trainings on Value Addition need to be conducted. ➢ Papaya and Guava cultivation techniques may be emphasized to the farmers. ➢ Subsidies are available for Solar drier and Solar Pump systems in the Agricultural Engineering Department. Awareness may be

			created through KVK to farmers to avail the schemes. ➢ Machineries can be supplied under MSDA for establishing value addition units. Interested entrepreneurs may be informed to approach the department. ➢ More awareness to be created for cotton growers to adopt appropriate spacing and Ridges and furrow method of cultivation ➢ Many farmers are practicing sowing of 2 seeds/hill. It attracts more sucking pests. Sowing of one seed/hill in Cotton to be insisted to the farmers through demonstrations. ➢ Farmers are using power sprayers for applying herbicides. They may be insisted to use knapsack sprayer for better results. ➢ Awareness may be created on mulching with farm waste. ➢ Composting technique for cotton stalks may be popularized ➢ Since the SMS Animal Science post is vacant KVK can utilize the service of VUTRC. ➢ KVK may focus on supply of more fodder seeds since its demand is more in Perambalur Dist. ➢ There are 350 broiler units and 215 native chicken units in Perambalur district. These entrepreneurs may be trained on improving their production. ➢ To conduct Field trials drought tolerant, Short duration varieties may be preferred. Minor Millets will be the best alternate crop for Perambalur. Those may be promoted. ➢ Integrated Farming System models may be promoted to double the farmers income. ➢ A Model storage structure for small onion may be established at KVK. ➢ Video modules available with KVK may be shared to Reliance Foundation Information Service for dissemination. ➢ Awareness programme on Safe use of pesticides may be conducted to the farmers. In which compatibility of pesticides to be taught to them. ➢ More awareness to be created to farmers on use of bioagents and traps. ➢ Youth farmers may be trained on proper pest and disease management practices to reduce the cost of cultivation ➢ KVK to take steps to provide stipend to the trainees attending training at KVK to meet the travel expenses. ➢ Demonstration on alternate crops like Castor may be conducted by KVK. ➢ KVK may insist Pesticide dealers to provide safety kit while selling pesticides. ➢ Outbreak of white grub is an emerging issue in onion cultivation. Expecting the support of KVK to overcome the issue.

**** Attach a copy of SAC proceedings along with list of participants***

2. DETAILS OF DISTRICT

2.1. Major farming systems/enterprises

S. No	Farming system/enterprise
1	**Farming System** Rainfed – 75061 Ha Irrigated – 30479 Ha
2	**Cropping System** Cereal based cropping system Oilseeds based cropping system Cash crop based cropping system Vegetable based cropping system Dairy based farming system

2.2. Description of Agro-climatic zone & major agro ecological situations

S. No	**Agro-climatic Zone**	**Characteristics**
1	North – Eastern zone	A part of Perambalur district comes under this zone, whichcovers Veppanthattai, Perambalur and Kunnam taluk. It receives an annual rainfall of 900 – 975 mm during the north east monsoon period. The mean maximum temperature ranges from 28.5 to 38.4^{o} C while the mean minimum temperature is from 21 to 28°C. The major soil types are red sandy loam, clayey loam and saline soil. The major irrigation sources are tanks, wells and tube wells. Since the rainfall is uniformly distributed from July to December, two crop sequences of groundnut followed by pulses or sesamum are practiced. The other crops like sugarcane and millets are raised with the help of well irrigation.
2	North – Western zone	A part of Perambalur district comes under this zone, which covers Veppanthattai, Perambalur and Alathur blocks. The mean annual rainfall is 875 mm and about 42 per cent of rainfall is received during the South-West monsoon period. The mean monthly maximum temperature is from 31 to 39 ^{o} C. The major soils are non – calcareous red, black cotton soil and clay soil. Cultivation in dry lands commences from the month of June to August which depends on the south west monsoon and mono-cropping is followed. In this zone, a significant practice of maize, cotton and chillies under purely rain-fed cultivation is followed and paddy, sugarcane, elephant foot yam, onion, tomato and tapioca are cultivated with the help of well irrigation.
Sl. No.	**Agro ecological situation**	**Characteristics**
1	Dry region	Perambalur district comes under Cd.5.5: dry sub humid of Tamilnadu with a crop growing period of 150 – 180 days moderately large moisture availability.
2	Sub –humid-coastal plain	

2.3 Soil type/s

In Perambalur district 18 soil series have been identified

S. No	Soil type	Characteristics		Area in ha
		Potentials	Limitations	
1	Sandy clay	Very deep, fine loamy, very gentle slope, high WHC, medium CEC, neutral reaction, Non – calcareousness	Slightly acidic, moderate sheet erosion	7,351
2	Clay	Very deep, fine textured, very deep gentle slope, high WHC and CEC	Slow permeability, well drained, moderately alkaline	24,888
3	Loamy sand	Very deep, loamy textured, moderately rapid permeability, well drained neutral reaction, free from salinity	Low WHC and CEC, low organic matter, moderately alkaline	6,854
4	Loamy sand	Coarse loamy textured, rapid permeability, well drained, neutral reaction, free from salinity	Low WHC and CEC, low organic matter, mildly alkaline	8,029
5	Sandy loam	Very deep, loamy on sub surface, neutral reaction, free from salinity	Low WHC and CEC, low organic matter, acidic reaction	34,589
6	Clay loam	Very deep, clay loam to clay, high WHC and CEC, high organic matter, free from salinity	Moderately slow permeability, moderately alkaline, strongly calcareousness	62,197
7	Sandy clay loam	Deep soil, fine loamy textured, medium WHC and CEC, neutral reaction, free from salinity	Low organic matter, mildly alkaline, slightly calcareousness	3,475

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

S. No	Crop	Area (ha)	Production (Qtl)	Productivity (Qtl /ha)
1	Maize	43250	496521	115.32
2	Paddy	9056	44933	49.79
3	Cotton	33492	151049	4.51
4	Sugarcane	4630	362603	78.31
5	Pulses	759	11233	14.80
6	Groundnut	1068	3172	2.97
7	Sorghum	596	10037	16.84
8	Banana	184	80408	437
9	Citrus	106	5671	53.5
10	Onion	6751	675505	100.06
11	Tapioca	1902	130857	68.8
12	Chillies	153	454.41	2.97
13	Turmeric	566	17636.96	31.16

Source: State Department of Agriculture, Tamil Nadu

2.5. Weather data

Month	Rainfall (mm)	Temperature ^{0} C		Relative Humidity (%)
		Maximum	Minimum	
April 2017	17.40	38.9	27.8	50.7
May 2017	71.20	39.6	28.0	57.3
June 2017	57.60	38.4	28.0	55.7
July 2017	12.60	37.1	28.0	49.4
August 2017	222.40	37.0	27.0	57.2
September 2017	194.40	36.2	27.0	54.6
October 2017	122.60	33.9	26.0	66.8
November 2017	106.60	31.6	24.4	63.5
December 2017	101.50	31.0	24.0	65.4
January 2018	14.60	31.9	23.0	67.8
February 2018	19.20	34.0	23.5	66.4
March 2018	37.40	36.8	25.7	54.5

Source: Agro Climate Research Centre, TNAU, Coimbatore

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

Category	Population	Production	Productivity
Cattle			
Crossbred	147513	5843.28	3320
Indigenous	133500	1218.52	920
Buffalo	61200	450.46	2100
Sheep			
Crossbred	95260	1218.64	21.06
Indigenous	263525	6942145	41.40
Goats	-	-	-
Pigs			
Crossbred	-	-	-
Indigenous	-	-	-
Rabbits			
Poultry			
Hens	-	-	-
Desi	351510	31635900	90
Improved	-	-	-
Ducks	-	-	-
Turkey and others	-	-	-
Category	**Area**	**Production**	**Productivity**
Fish	-	-	-
Marine	-	-	-
Inland	-	-	-
Prawn	-	-	-
Scampi	-	-	-
Shrimp	-	-	-

Source: State Department of Animal Husbandry, Perambalur

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.	Alathur	Alathur	Seetharamapuram	Paddy	➢ Blast ➢ Brown spot ➢ Leaf folder ➢ Weed infestation ➢ Low yield	Varietal demonstration
2.	Perambalur	Perambalur	Nochiam	Pearlmillet	➢ Long duration (100-110) ➢ Downy mildew incidence ➢ Low yield	Varietal demonstration
3.	Alathur	Alathur	Seetharamapuram	Finger millet	➢ Blast ➢ Low yield	Varietal demonstration
4.	Veppanthattai	Veppanthattai	Ayyarpalayam	Sugarcane	➢ Poor plant population in ratoon crop. ➢ MN deficiency ➢ Early shod borer ➢ Internode borer ➢ Rust ➢ Poor yield	Integrated Crop Management
5.	Perambalur	Perambalur	Nochiam	Tomato	➢ Leaf curl incidence ➢ Flower drop ➢ Poor fruit set	Varietal evaluation
6.	Perambalur	Perambalur	Nochiam	Lablab	➢ Flower drop ➢ Anthracnose incidence ➢ Pod borer incidence ➢ Poor yield	Varietal evaluation
7.	Alathur	Alathur	Seetharamapuram	Chilli	➢ Leaf curl incidence ➢ Powdery mildew ➢ Fruit rot ➢ Flower drop	Integrated Crop Management
8.	Alathur	Alathur	Irur	Snakegourd	➢ Less no. of fruits ➢ Immature fruit drop ➢ Leaf miner ➢ Fruit fly ➢ Downey mildew	Integrated Crop Management
9.	Alathur	Alathur	Irur	Multiplier onion	➢ Indiscriminate use of Fertilizers ➢ Insecticides ➢ Fungicides ➢ High cost of production	Integrated Crop Management
10.	Veppanthattai	Veppanthattai	Ayyarpalayam	Paddy	➢ Stem borer ➢ Leaf folder ➢ BPH ➢ Thrips ➢ More usage of insecticide ➢ Increased cost of cultivation ➢ Poor yield	Integrated Crop Management
11.	Kunnam	Veppur	K.Puthur	Paddy	➢ Nutritional deficiency	Nutritional security
12.	Alathur	Alathur	Seetharamapuram	Brinjal	➢ Phomopsis blight ➢ Collar rot ➢ Wilt ➢ Leaf curl virus ➢ Whitefly	Integrated Disease Management

13.	Veppanthattai	Veppanthattai	Thondamandurai	Coconut	➢ Incidence of Eriopydemite ➢ Brown discoloration of nuts ➢ Button sheds ➢ Poor button setting ➢ Nuts deformed and undersized	Integrated Crop Management
14.	Kunnam	Veppur	K.Puthur	Cotton	➢ Rosette flowers ➢ Out break of pink boll worm ➢ Small exit holes in bolls ➢ Improper boll opening ➢ Bacterial infection in opened bolls	Integrated Pest Management
15.	Perambalur	Perambalur	Nochiam	Redgram	➢ Shedding of flowers ➢ Pod borer complex attack ➢ Ill filled grains	Integrated Pest Management
16.	Perambalur	Perambalur	Nochiam	Maize	➢ Aphids ➢ White grub ➢ Stem borer	Integrated Pest Management
17.	Perambalur	Perambalur	Nochiam	Moringa	➢ Lack of knowledge in value addition ➢ Unemployment	Value addition
18.	Alathur	Alathur	Irur	Spices	➢ Unemployment ➢ Lack of knowledge in value addition ➢ Low income	Value addition
19.	Veppanthattai	Veppanthattai	Perambalur	Mushroom	➢ Poor shelf life ➢ Lack of knowledge in value addition	Value addition
20.	Perambalur	Perambalur	Nochiam	Brinjal	➢ Low Productivity ➢ Increased cost of Production ➢ Less awareness in improved cultivation practices	Integrated Crop Management
21.	Alathur	Alathur	Nochiam	Vegetables	➢ Nutritional security	Nutritional security
22.	Kunnam	Veppur	Irur	Milk	➢ Non availability of enriched paneer	Value addition

2.8 Priority/thrust areas

Crop/Enterprise	Thrust area
Paddy	Varietal demonstration
Pearlmillet	Varietal demonstration
Finger millet	Varietal demonstration
Sugarcane	Integrated Crop Management
Tomato	Varietal evaluation
Lablab	Varietal evaluation
Chilli	Integrated Crop Management
Snakegourd	Integrated Crop Management
Multiplier onion	Integrated Crop Management
Paddy	Integrated Crop Management

Paddy	Nutritional security
Brinjal	Integrated Disease Management
Coconut	Integrated Crop Management
Cotton	Integrated Pest Management
Redgram	Integrated Pest Management
Maize	Integrated Pest Management
Moringa	Value addition
Spices	Value addition
Mushroom	Value addition
Brinjal	Integrated Crop Management
Vegetables	Nutritional security
Milk	Value addition

3. TECHNICAL ACHIEVEMENTS

3.A. Details of target and achievements of mandatory activities by KVK during 2016-17

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
5	4	30	25	16	16	285	285

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	72	87	1756	2275	480	532	6450	7142
Rural youth	3	3	45	47	12	37	500	625
Extn. Functionaries	2	2	50	73	8	21	50	83

Seed Production (Qtl.)			Planting material (Nos.)		
5			6		
Target	Achievement	Distributed to no. of farmers	Target	Achievement	Distributed to no. of farmers
1.9	6.836	2014	10000	15851	2894

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				
Varietal Evaluation	Lablab	Assessment of Bush type Lablab varieties	5	5
	Tomato	Assessment of TLCV resistant Tomato hybrids	5	5
Integrated Pest Management	Paddy	Assessment of IPM module and Ecological Engineering in Paddy	5	5
Integrated Crop Management				
Integrated Disease Management	Cotton	Assessment of technologies for management of Parawilt in Cotton(2016-2017)	5	5
Small Scale Income Generation Enterprises				
Weed Management				
Resource Conservation Technology				
Farm Machineries				
Integrated Farming System				
Seed / Plant production				
Post Harvest Technology / Value addition	Paddy	Assessment of glycemic index of traditional paddy varieties	3	3
Drudgery Reduction				
Storage Technique				
Others (Pl. specify)				
Total			**23**	**23**

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
Disease Management				
Evaluation of Breeds				
Feed and Fodder management				
Nutrition Management				
Production and Management				
Others (Pl. specify)				
Total				

Summary of technologies assessed under various enterprises by KVKs

Thematic areas	Enterprise	Name of the technology assessed	No. of trials	No. of farmers

3.c. TECHNOLOGY ASSESSMENT IN DETAIL

TECHNOLOGY ASSESSMENT 1 (2016-17)

1. **Thematic area** : Integrated Disease Management

2. **Title** : Assessment of technologies for management of parawilt in cotton

3. **Scientists involved** : SMS (Plant Protection) and SMS (Agronomy)

4. **Details of farming situation**

The trial was carried out during Kharif 2018 in five farmers fields at Ayyalur village Perambalur district, Tamil Nadu. The soil type of the trial plots were sandy clay loam with PH 7.69 and EC 0.134 dSm^{-1}. The Organic carbon content of the soil was 0.26% with NPK @ 53.4, 7.96 and 88.2 Kg ha^{-1} respectively. The farming situation was irrigated and the source of irrigation was bore well. A good amount of rain received during the season. The total rainfall received during the season was 544.5 mm with 40 rain days.

5. **Problem definition / description:**

Para wilt was one of the major diseases of cotton in Perambalur district. It was one of the physiological disorders of the cotton plant which occurs after the rain in water stagnated condition in the field. When this disease occurs, sudden wilting followed by premature dropping of leaves squares and bolls occur. If not treated earlier this disease may not be controlled and resulted in heavy yield loss. To manage this problem an OFT was conducted to assess two technologies *viz.*, spraying of 1 % KNO3 + soil drenching with 0.5 % urea+ 0.5 % phosphorus within 12 hours, and foliar spray Cobalt chloride @ 10 mg/lit of initial stage of wilting in 48 hours and avoid water logging in the fields

6. **Technology Assessed:**

FP- Farmer practice – Soil drenching with COC @ 3g/lit of water

T1- Spraying of 1 % KNO3 + Soil drenching with 0.5 % urea + 0.5 % Phosphorous within 12 hours (NCIPM, 2007)

T2- Foliar spray of Cobalt chloride @ 1 g/ 100 lit of initial stage of wilting within 48 hours and avoid water logging in fields, (CICR, 2015)

7. Critical inputs given:

SI.No	Name of critical input	Total quantity	Rate	total
1	Cobalt chloride	500 g	851	4255
2	KNO3	5 kg	135	675
3	Field board	5 nos	350	1750
	Total			**6680**

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** Per cent para wilt incidence
Technology 1 ***Farmers Practice*** Soil drenching with COC @ 3g/lit of water	*5*	1.245	0.047	1.09	28.7
Technology 2 Spraying of 1 % KNO3 + Soil drenching with 0.5 % urea + 0.5 % Phosphorous within 12 hours NCIPM, 2007		1.455	0.138	1.25	2.6
Technology 3 Foliar spray of Cobalt chloride @ 1 g/ 100 lit of initial stage of wilting within 48 hours and avoid water logging in fields. CICR, 2015		1.68	0.242	1.44	0.6

**** Other performance indicators: such as pest intensity, weed population, test weight, duration etc***

Description of the results

When cobalt chloride sprayed within 48 hours, para wilt incidence in cotton field greatly reduced to 92.24 Per cent.

Constraints faced:

The farmers should monitor the field regularly for the incidence of para wilt. If they noticed late then the management is difficult.

9. Feed back of the farmers involved:

In control field even after spraying number of chemical the disease was not rectified. where as in the treatment field the foliar spray of cobalt chloride as soon as the incidence occurs greatly reduced the para wilt incidence hence we will follow this technology in forth coming years for the management of para wilt and yield also increased comparing to the control.

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

This technology was effective in reducing the para wilt incidence

TECHNOLOGY ASSESSMENT 2

1. Thematic area : Integrated Pest Management

2. Title : Assessment of IPM modules and Ecological Engineering in Paddy

6. Scientists involved : SMS (Plant Protection) and SMS (Agronomy)

7. Details of farming situation

The trial was carried out during Kharif 2018 in five farmer fields at Ayyarpalayam village Perambalur district, Tamil Nadu. The soil type of the trial plots were sandy clay loam with PH 7.82 and EC 0.13dSm^{-1}. The Organic carbon content of the soil was 0.39% with NPK @ 75.8, 7.22 and 91.8 Kg ha^{-1} respectively. The farming situation was irrigated and the source of irrigation was bore well. A good amount of rain received during the season. The total rainfall received during the season was 355.5 mm with 29 rain days.

8. Problem definition / description:

In Ayyarpalayam village paddy was affected with several pest problems. The major pests were Stemborer, leaf folder and BPH. The farmers spraying frequently several insecticides with high doses for the management of pests. The cost of cultivation was high and resulted in low yield. Hence, an OFT was conducted on assessing the IPM modules and ecological engineering in paddy.

6. **Technology Assessed:**

FP – Farmers practice
Only pesticide spray
(Dimethoate, monocrotophos,cartaphydrochloride) without other management practices for pest

Technology Option I
Sticky trap @ 15 ha
Pheromone trap @ 12/ ha,
Trichogramma chillonis @ 2 cc/ acre 3 release at weekly interval
Trichogramma japonicum @ 2 cc/ acre 3 release at weekly interval,
Foliar Spray of NSKE – 5 %
Foliar spray of *Beauveria basiana* @ 2 Kg /acre (TNAU, 2012)

Technology Option II
Ecological Engineering – Raising combination of crops like Sun flower, Cow pea, Marigold and black gram
Pheromone trap @ 12/ha
NSKE 5% foliar spray (NIPHM,2013)

7. Critical inputs given: (along with quantity as well as value)

SI.No	Name of critical input	Total quantity	total
1	*Beauveria bassiana*	5 kg	850
2	Pheromone trap	50 nos	1300
3	Yellow Stemborer lure	25 nos	300
4	*Trichogramma chilonis*	30 cc	600

5	*Trichogramma japonicum*	30 cc	600
6	NSKE 5 %	79 lit	3950
7	Field board	5 nos	2000
	Total		**9600**

Table : Performance of the technology

Technology Option	***No.of trials***	***Yield (t/ha)***	Net Returns (Rs. in lakh./ha)	***B:C***	***Data on Other performance indicators****	
Farmers Practice Only pesticide spray (Dimethoate, monocrotophos cartaphydrochloride) without other management practices for pest		4.10	2198	1.07	Dead heart incidence Percentage	22.83
					Damaged leaves/hill (leaf folder)	9.8
					NE Population dynamics (Population /10 hill) Spider	2.65
					Coccinellid	2.75
					No. of hopper /hill	11
Technology Option I Sticky trap @ 15 ha Pheromone trap @ 12/ ha, *Trichogramma chillonis* @ 2 cc/ acre 3 release at weekly interval *Trichogramma japonicum* @ 2 cc/ acre 3 release at weekly interval, Spray NSKE – 5 % Foliar spray of *Beauveria basiana* @ 2 Kg /acre *Pseudomonas fluorescence* @ 1Kg/acre Seed treatment @ 10g/Kg. Seedling dip, soil application @ 2.5Kg/ha foliar spray 0.2% (TNAU, 2012)	*5*	4.64	14472	1.62	Dead heart incidence Percentage	2.12
					Damaged leaves/hill (leaf folder)	2.86
					NE Population dynamics (Population /10 hill) Spider	1.56
					Coccinellid	9.81
					No. of hopper /hill	11
Technology Option II Ecological Engineering – Raising combination of crops like sun flower, Cow pea, Marigold and black gram Pheromone trap @ 12/ha NSKE 5% foliar spray (NIPHM,2013)	*5*	3.28	4409.8	1.20	Dead heart incidence Percentage	11.72
					Damaged leaves/hill (leaf folder)	26.10
					No. of hopper /hill	21.4
					NE Population dynamics (Population /10 hill) Spider	18.50
					Coccinellid	15.94

Description of the results :

IPM practices control the pest incidence effectively at low cost of cultivation compared to the farmers practices. Where as in Ecological engineering treatment field more natural enemies population but the yield was low comparing to the farmers practice *i.e.*, chemical control but the B:C ratio was higher than the farmers practices and lower than IPM practices.

Constraints faced:

The black gram and cowpea was suitable while cultivating in bunds or border of the paddy field. But cultivating in the bunds of paddy field reduced the walking area for the farmers for carry outing the intercultural operation.

9. Feed back of the farmers involved:

Comparing to our regular practices natural enemies population was more and in both the demo plots. In IPM field not only cost of cultivation reduced but also yield and B:C ratio also increased compared to other methods

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

Comparing to ecological engineering concept the farmers were satisfied with IPM practices which gave them higher yield and B:C ratio.

Technology Assessment 3

1. Thematic area: Varietal evaluation

2. Title: Assessment of Lablab varieties

3. Scientists involved: SMS Horticulture, SMS Plant Protection

4. Details of farming situation:

The trial was carried out during Kharif 2018 in five farmers fields at Nochiyam village Perambalur district, Tamil Nadu. The soil type of the trial plots were sandy clay loam with PH 7.96 and EC 0.12dSm^{-1}. The Organic carbon content of the soil was 0.3% with NPK @ 52.4, 7.2 and 90.8 Kg ha^{-1} respectively. The farming situation was irrigated and the source of irrigation was bore well. A good amount of rainfall received during the season. The total rainfall received during the season was 328mm with 21 rain days.

5. Problem definition / description:

Lablab is one of the important vegetable crops cultivated in Nochiyam village of Perambalur district. The farmers use to cultivate both vine and bush type lablab varieties. Repeated use of same cultivars in the same land led to susceptible to diseases such as anthraconose and root rot and insect pests such as Aphids and pod borer. Flower shedding is a major constraint for yield in this crop. In general about 10-20% of the flowers only develop into mature pods.

6. Technology Assessed:

Two technological options were tested alongwith farmers practice which is as follows:

Farmers Practice : Cultivation of local varieties . For which the seeds available with the farmers or local vendors are used.

Technology Option I :

Cultivation of lablab variety CoGB 14. A bush type lablab variety released by TNAU, Coimbatore during 2009.

This variety has the special features of Resistance to root rot, moderately resistant to Anthracrose and tolerance to pod borer.

Technology Option II:

Cultivation of Lablab variety Arka Sambram. Bush type variety released by IIHR during 2013. This variety has flab light green pods with medium plant height.

Seed treatment with *T.viride* @ 4g/kg and *Pseudomonas fluorescens* @ 10g/kg of seed was practiced. Foliar application of IIHR vegetable special @ 3g/lit on 40, 60 & 80days after sowing was practiced. Nutrient management practices were followed as per the soil test report. Recommended plant protection measures were adopted for controlling the pest & diseases.

7. Critical inputs given:

Sl. No.	Name of the inputs	Qty per trial	Cost per trial (Rs.)	No. of trials	Total cost for the Intervention (Rs.)
1.	Lablab seed (Variety: CoGB 14)	3 kg	1500	5	19,300/-
2.	Lablab seed (Variety: Arka Sambram)	2 kg	1600		
3	*T.viridi*	1 kg	100		
4	*P.fluorescens*	1 kg	100		
5	IIHR Vegetable special	1 kg	160		
6.	Field board	1No.	400		
	Total		**3860**		

8. Results:

Table : Performance of the technology

Technology Option	*No.of trials*	*Yield (t/ha)*	*Net Returns (Rs.in lakh./ha)*	*B:C ratio*	*No.of pods/plant*
Farmers Practice Cultivation of Lablab variety Local	*5*	7.82	69416	1.97	38.25
Technology Option 1 Cultivation of Lablab variety CoGB14		9.36	93392	2.24	46.82
Technology Option 2 Cultivation of Lablab variety Arka Sambram		11.15	90312	2.03	58.35

Description of the results:

Performance of three bush type Lablab varieties have been assessed in 5 farmers fields at Nochiyam village during Kharif 2018. The varieties assessed are i) Local cultivar which was being cultivated by the farmers more than a decade ii) CoGB14, variety released by TNAU during 2010 and iii) Arka Sambram, variety released by IIHR, Bengalore during 2013. Among the three varieties, CoGB14 and Arka Sambram produced more number of pods i.e.46.82 and 58.35 respectively. The pod yield obtained from CoGB14 and Arka Sambram were 9.36 t/ha and 11.15 t/ha respectively which was 19.69% and 42.58%. Superior over local variety respectively. Gross cost incurred for cultivation were 71344, 75088 and 88088 and the Gross income obtained were 140760, 168480 and 178400 respectively. Though the gross return was high in Arka Sambram the Net return was 90312 only where as in CoGB14 it was 93392. The market price of variety Arka Sambram was some what lesser than CoGB14. Hence the variety CoGB14 has higher BCR of 2.24 where as it was 2.03 in Arka Sambram and 1.97 in local variety. Hence it could be concluded that cultivation of bush type Lablab variety CoGB 14 will be remunerative to Perambalur district farmers.

Constraints faced: Nil

9. Feed back of the farmers involved:

Lablab varieties both CoGB14 and Arka Sambram performed better over local varieties. More number of fruits could be obtained from Arka Sambram than CoGB 14 and local variety. Market preference is low for Arka Sambram due to its Colour and this pods. Though CoGB 14 yield was lesser than Arka Sambram market preference was good. Hence cultivation of CoGB 14 will be remunerative.

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

Eventhough the Lablab variety CoGB14 is recommended for cultivation in all the seasons, more flower drop was noticed during high temperature period.

Technology Assessment 4

1. **Thematic area** : Nutritional security

2. **Title** : Assessment of glycemic index of traditional paddy variety

3. **Scientists involved** : Subject Matter Specialist (Home Science)

4. **Details of farming situation**:
Off farm trial

5. **Problem definition / description:**

Now-a-days traditional rice varieties are not preferred by consumers due to taste and size of the rice grain. But flaked rice consumption also reduced due to hike in price and also they are not known about flaked rice has been reported to be having lower glycemic index with raw rice. Roasted flake may further increased the dietary fibre and pass the digestive track to be considered as pre-biotic foods.

6. **Technology Assessed:**

Technological Option 1

Consumption of rice flakes prepared from paddy variety ADT 45

Technological Option 2

Consumption of rice flakes prepared from paddy variety Aruvatham kuruvai

Technological Option 3

Consumption of rice flakes prepared from paddy variety Mappillai samba

7. **Critical inputs given:**

Sl.No.	Particulars	Quantity	Amount
1.	Glucometer	1 No.	1500
2.	Strips	8 box	6400
3.	Needle	4 box	600
4.	Flakes	3 Kg /each variety	1000
Total			**9500**

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* (Glycemic Index)
Technological Option 1 Milled rice ADT 45	10				77.7
Technological Option 2 Aruvatham kuruvai - Rice		-	-	-	54.0
Technological Option 3 Mappillai samba - rice		-	-	-	64.2

Description of the results:

The glycemic index of the rice flakes were calculated by taking the average of the glycemic response of both the reference and test food at 30, 60, 90 and 120 minutes and a glycemic curve was constructed. The incremental area under blood glucose response curve was calculated. The Glycemic index value of each individual was calculated as:

$$\textbf{GI value for test food} = \frac{\textbf{Blood glucose area of the test food(50gm)}}{\textbf{Blood glucose area of the glucose/bread (50gm)}}$$

Thirty subjects were selected for evaluating the glycemic index and they were between 35-40years of age. These 10 subjects were selected . The subjects who had fasting blood glucose level of 80-90mg/dl, and who did not have any complications were selected. . On the fourth day fasting blood glucose was estimated and then all of them were served Glucose (50g) providing 50g of Carbohydrate for breakfast.

Blood samples were collected every half an hour for two hours.The fasting blood was drawn to estimate fasting blood glucose and then they were served the milled, Arupatham Kuruvai and mapillai samba flakes upma which was standardized. The recipe standardized was cooked and served to the subjects in a fixed test portion containing 50g digestible (available) carbohydrate. It was ascertained that the subjects did not leave any plate waste and took same length of time for consuming the breakfast served. The blood samples were collected at periodic intervals of 0, 30, 60, 90 &120 minutes. Blood glucose levels of all the sample were estimated.

Determination of glycemic index

The Glycemic Index of the standardized recipes was calculated by taking the average of the glycemic response of both the reference and test food at 30,60,90 and 120 minutes and a glycemic curve was constructed. The incremental area under blood glucose response curve was calculated. The Glycemic Index value of each individual was calculated as:

$$\textbf{GI value for test food} = \frac{\textbf{Curve under test food}}{\textbf{Curve under reference food}}$$

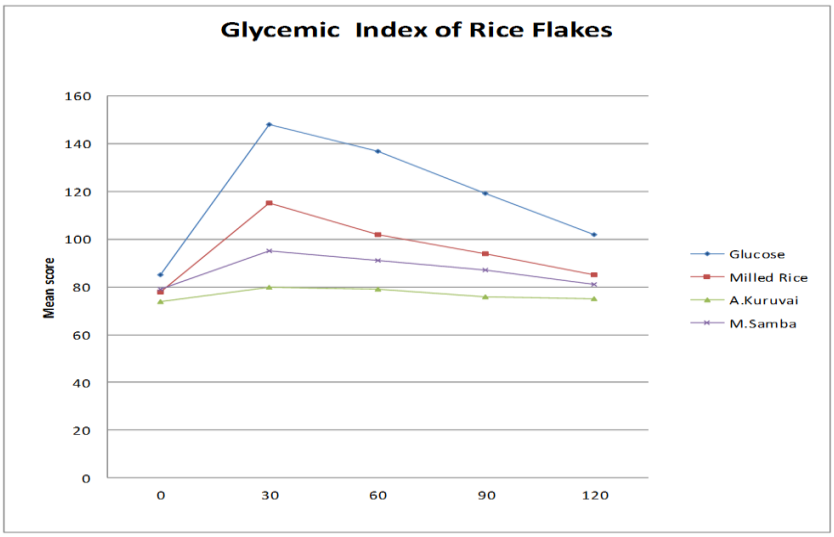
Glycemic index is a number. It gives you an idea about how fast your body converts the carbohydrates in a food into glucose. Two foods with the same amount of carbohydrates can have different glycemic index numbers.

The smaller the number, the less impact the food has on blood sugar.

- 55 or less = Low (good)
- 56- 69 = Medium
- 70 or higher = High (bad)

Varieties of Rice Flakes	GI values
Milled Rice Flakes	77.7
Aruvatham Kuruvai	54.0
Mappillai Samba	64.2

All the three cereal based rice flakes viz. Milled Rice, Aruvatham Kuruvai and Mappillai samba Aruvatham Kuruvai showed lowest glycemic index.



Average score

Time	Glucose	Milled Rice	A.Kuruvai	M.Samba
0	89	78	79	74
30	148	115	95	80
60	137	102	91	79
90	119	94	87	76
120	103	85	81	75

Constraints faced: Nil

9. Feed back of the farmers involved:

Since GI values were less in traditional varieties, than the conventional varieties, the farmers want to include the traditional rice varieties in their daily diet.

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

Nil

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		
1.					No. of villages	No. of farmers	Area in ha
2.	Paddy	Varietal demonstration	Demonstration on paddy variety Co 51	Field day, Popular article, Monthly Zonal work shop, Radio talk	4	15	7
3.	Blackgram	Varietal demonstration	Demonstration on Blackgram variety VBN 6	Field day, Popular article, Monthly Zonal work shop, Radio talk	35	93	155
4.	Sorghum	Varietal demonstration	Demonstration on Sorghum variety K12	Field day, TV talk, Popular article, Monthly Zonal work shop	3	14	6
5.	Bhendi	Varietal demonstration	Popularization of Bhendi hybrid Co4	Field day, Popular article, Monthly zonal work shop	5	18	12
6.	Brinjal	Integrated Pest Management	AESA based Integrated Pest Management in Brinjal	Field day, Popular article, Monthly zonal work shop	2	27	22
7.	Turmeric	Integrated Crop Management	Demonstration on yield enhancement techniques in Turmeric	Field day, TV talk, Popular article	11	36	30
8.	Acidlime	Integrated Pest and Disease Management	Demonstration on IPDM in Acidlime	Field day, TV talks, popular article, Monthly zonal work shop	1	15	15
9.	Fodder	Nutrition Management	Demonstration on fodder bank for livestock	Field day, Monthly zonal workshop	3	14	6
10.	Maize, Fodder Sorghum, Fodder cowpea, Desmanthus, Citrus, Guava, Mango, Poultry, Goat, Dairy, Azolla, Apiary and Vermicomposting	Integrated Farming System	IFS for drylands	Field day, Monthly zonal workshop	7	15	12
11.							

**** Thematic areas as given in Table 3.1 (A1 and A2)***

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	
	Cereals										
1	Paddy	Varietal demonstration	Demonstration on Paddy variety TKM13	Kharif 2017	ICAR	4	4	-	10	10	-
2	Maize	Integrated Pest Management	IPM in maize	Kharif 2017	ICAR	2	2	-	10	10	-
	Pulses										
3	Redgram	Integrated Pest Management	IPM in redgram	Kharif 2017	ICAR	2	2	-	10	10	-
	Millets										
4	Finger millet	Varietal demonstration	Demonstration on Finger millet variety Co 15	Kharif 2017	ICAR	4	4	-	10	10	-
5	Pearl millet	Varietal demonstration	Demonstration on Pearl Millet variety Co 10	Kharif 2017	ICAR	4	4	-	10	10	-
	Vegetables										
6	Chilli	Integrated Crop Management	Demonstration on Chilli hybrid CoChH1	Rabi 2017	ICAR	2	2	-	10	10	-
7	Snakegourd	Micronutrients and pest management	Demonstration on Snakegourd hybrid CoSgH 1	Rabi 2017	ICAR	2	2	-	10	10	-
8	Onion	Integrated Crop Management	ICM in onion	Kharif 2017	ICAR	2	2	-	10	10	-
9	Brinjal	Integrated Pest and Disease Management	Integrated pest and disease management in Brinjal	Rabi 2017	ICAR	2	2	-	10	10	-
	Fibre crops										
10	Cotton	Integrated Pest Management	IPM in cotton	Kharif 2017	ICAR	2	2	-	10	10	-
	Cash crop										
	Sugarcane	Ratoon crop management	Ratoon crop management with gap filling crop management practice	Rabi 2017	ICAR	4	4	-	10	10	-
	Sugarcane (16-17)	Integrated Pest Management	IPM in sugarcane	Kharif 2016	ICAR	4	4	-	10	10	-

	Plantation crops										
11	Coconut	Integrated Crop Management	Demonstration of INM with mite management technologies	Kharif 2017	ICAR	2	2	-	10	10	-
	Others										
12	Vegetables	Nutritional Security	Linkages between sanitation, health and nutrition	Kharif 2017	ICAR	-	-	-	30	30	-
13	Milk	Value addition	Flavoured Paneer production (Mint, Coriander and cumin)	Kharif 2017	ICAR	-	-	10	-	10	-
14	Maize, Fodder Sorghum, Sweet Sudan Grass, Desmanthus, Papaya, Poultry, Goat, Dairy and Vermicompo sting	Integrated Farming System	IFS for drylands	2017-2018	ICAR	3	3	-	3	3	Nil

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					
Cereals											
Paddy	Kharif	Irrigated	Sandy clay loam	63.4	7.5	86.9	Paddy	20.09.17	22.01.18	355.3	29
Maize	Kharif	RF	Sandy clay loam	64.3	7.68	94.2	Maize	20.09.17	30.01.18	525.3	37
Pulses											
Redgram	Kharif	RF	Sandy clay loam	46.6	7.09	87.3	Red gram	10.08.17	15.02.18	549.0	40
Millets											
Finger millet	Kharif	Irrigated	Sandy clay loam	67.5	7.3	92.7	Paddy	25.09.17	30.01.18	345	28
Pearl millet	RF	Irrigated	Sandy clay loam	56.1	6.2	82.1	Maize	15.07.17	13.10.17	552.3	33
Vegetables											
Onion	Rabi	Irrigated	Sandy clay loam	65.0	7.0	93.3	Onion	`03.12.17	28.02.18	135.3	11
Chilli	Rabi	Irrigated	Sandy clay loam	51.7	7.79	88.6	Chilli	22.11.17	15.03.18	172.7	16
Brinjal	Rabi	Irrigated	Sandy clay loam	50.1	7.31	87.4	Brinjal	8.12.17	27.04.18	254.0	24
Snakegourd	Rabi	Irrigated	Sandy clay loam	61.8	7.82	88.8	Snakegourd	27.12.17	30.04.18	41.2	5
Fibre crops											

Cotton	Kharif	RF	Sandy clay loam	47.3	7.23	89.2	Cotton	20.08.17	15.02.18	544.5	40
Cash crop											
Sugarcane (16-17)	Kharif	Irrigated	Sandy clay loam	51.2	7.05	90	Sugarcane	20.02.16	15.02.18	757.9	64
Plantation crops											
Coconut	Kharif	RF	Sandy clay loam	69.1	7.76	91.7	Coconut	5 to 10 years tree	?	544.5	40
IFS											
Maize	Rabi	RF	Black	32	6.2	80	Black gram	18.10.2017	11.02.2018	600	64
			Black	44	5.8	82	Maize	20.10.2017	09.02.2018		
			Black	56	6.5	90	Onion	17.10.2017	05.02.2018		
Fodder	All season	Irrigated	Black	57	6.5	96	Groundnut	02.10.2018	Multi-cut	600	64
			Black	36	4.8	72	Banana	27.10.2017	Multi-cut		
			Black	52	6.2	95	Nil	01.10.2018	Multi-cut		
Fruit trees	Perennial	Irrigated	Black	53	6.7	93	Black gram	03.02.3018	NA	682.1	80
			Black	65	8.1	92	Maize	-	NA		
			Black	44	7.2	97	Curry leaf	-	NA		

Technical Feedback on the demonstrated technologies

S. No	Feed Back
1.	**Demonstration on Paddy variety TKM13** Weed population reduced due to application of Pre-emergence application of Pretilachor and increased the yield of Paddy. Water and nutrient uptake was increased in demonstration Paddy field.
2.	**Integrated Pest Management in Maize** Soil application of EPN (*H. indica*) and *Metarhizium anisoplae* @ 1 kg each with neem cake managed the white grub and increased the maize yield. This act as an best alternative for chemical treatment
3.	**Integrated Crop Management in Redgram** Pheromone trap installation used for the monitoring the *Helicoverpa armigera* in early stage of infestation. Foliar spray of *Ha*NPV managed the *H. armigera* effectively and yield was increased due to the foliar spray of pulse wonder
4.	**Demonstration on Ragi variety Co 15** Good crop stand and increased yield was observed with TNAU Micronutrient mixture application. Blast incidence was reduced in Finger millet variety Co15
5.	**Demonstration on Pearl Millet variety Co 10** The variety matured earlier and suitable for rainfed cultivation. Reduced the incidence of downey mildew disease in Pearl millet variety Co 10. Plant population increased due to seed treatment with bio-agent.

6.	**ICM in onion** Propylatic application of bioagents prevent the infestation of pest and diseases. Bio agents like Bt require some time to control the pest. Hence these could be applied as preventive treatment
7.	**Demonstration of Chilli hybrid CoChH1With ICM practices** Chilli hybrid CoChH1 produce more number of fruits per plant Flower drop could be minimized by application of planofix Spraying of Vegetable special makes the crop healthier
8.	**Integrated pest and disease management in brinjal** Installation of yellow sticky trap attracts several whitefly population and one spray of chemical insecticides controlled the whitefly there by reduced the yellow leaf curl virus. Seed treatment with bio agent and foliar spray controlled the damping off disease and phomopsis disease and increased the yield.
9.	**Demonstration of hybrid CoSgH 1 with micronutrients and pest management** There is preference for short type Snakegourd varieties CoSgH1 will be the best choice Since the vines are grown vigorously wide spacing need to be adopted
10.	**Integrated Pest Management in Cotton** Installation of pheromone trap for pink boll worm during flowering and field release of *Trichogrammatoidae bactrae* @1, 50,000/ha at weekly interval form the initial infestation reduced the pink boll worm to a greater extent without giving any insecticidal spray and increased the yield.
11.	**Ratoon crop management with gap filling crop management practice** In rotten plant population has increased. Yellowing of leaves reduced due to application of TNAU MN mixture.
12.	**Integrated Pest Management in sugarcane (16-17)** Foliar spray of chlorantraniliprole reduced the early shoot borer and Release of *Trichogramma chionis* from 4 months to 7 months reduced the INB . foliar spray of sugarcane booster reduced the chlorosis and increased the yield.
13.	**Demonstration of INM with mite management technologies in Coconut** Inter cropping with sunhemp and application of recommended fertilizer along with neem cake and FYM and root feeding with coconut tonic reduced the eriophide mite infestation in coconut
14.	**Linkages between sanitation, health and nutrition** Nutritional and health benefits of Vegetables and Greens will help to prepare balance diet with locally available vegetables.
15.	**Flavoured Paneer production (Mint, Coriander and cumin)** Coriander leaves flavoured paneer gives better aroma and colour than the normal one.
16.	**Integrated Farming System** Feeding different fodder varieties improved the milk yield Vermicomposted field produced better crop yields than previous season

Farmers' reactions on specific technologies

S. No	Feed Back
1.	**Demonstration on Paddy variety TKM13** Paddy variety TKM 13 matures in 130 days which is 7-10 days earlier than BPT5204. TKM 13 variety has given more yielded perform well under Irrigated situation when compared to BPT 5204.
2.	**Integrated Pest Management in Maize**

	Soil application of EPN and *Metarhizium* reduced the white grub incidence to greater extent where as in control field the grub under the ground was not noticed in naked eye and only at the severe infestation we came to know the problem was due to whitegrub and after several sprays of insecticides it is not controlled upto the markand yield was reduced in control fields. This technology is very useful for us we will follow this technology in next coming years
3.	**Integrated Crop Management in Redgram** In red gram pod borer is the major problem if it is not treated then it will resulted in great loss. But this year we kept pheromone traps and foliar spray of Ha NPV in treatment field and foliar spray of Indoxicarb for management of other borer complex reduced the borer problem and foliar spray of pulse wonder increased the flower set and planofix spray reduced the flower shedding and increased the yield comparing to the control field.+
4.	**Demonstration on Finger millet variety Co 15** Finger millet variety Co15 has bold grains and non lodging. Plant population increased due to Seed treatment with *Azospirillum and Phosphobacteria*
5.	**Demonstration on Pearl Millet variety Co 10** Pearlmillet variety Co10 matured 85 to 90 days. Its grain has compact earhead and bold seed. Seed treatment with bio-agent increase the plant population compared to control field
6.	**ICM in onion** Basal rot incidence was negligible while practicing bulb treatment with bioagents Immediate control of Spodoptera was not there with application of Bt. However after certain days there were no Spodoptera incidence seen on the crop. Bt requires some time to control the Spodoptera. Bulb size and colour were superior in demo plots
7.	**Demonstration of Chilli hybrid CoChH1With ICM practices** More number of fruits per plant could be obtained Since the fruits are light green in colour, market preference was good for Chilli hybrid CoChH1 Plants shown better appearance after spraying vegetable special.
8.	**Integrated pest and disease management in brinjal** Seed treatment with bioagent and soil drenching reduced the damping off and wilt disease in both nursery and main field. In control field many seedling was infested with damping off in the nursery itself
9.	**Demonstration on Snakegourd hybrid CoSgH 1 with micronutrients and pest management** More number of fruits could be obtained Some times pruning is required due to vigorous growth of vines. Market preference was good for tender fruits rather than slightly matured one.
10.	**Integrated Pest Management in Cotton** Pheromone trap installation and field release of *Trichograamtoidae bactrae* reduced the pink boll worm were as in control field even after the spray of several chemicals white

11.	**Ratoon crop management with gap filling crop management practice** Good crop stand was noticed after application of TNAU MN mixture. Reduced incidence of early shoot bore after application Neem seed kernal extract 5%
12.	**Integrated Pest Management in sugarcane (16-17)** Application of TNAU sugarcane booster changed the chlorosis and improved plant growth. Release of parasitoids decreased the borer infestation where as in control field number of canes was infested with borers. Intercropping with black gram given additional income also next coming season we will adopt this technology
13.	**Demonstration of INM with mite management technologies in Coconut** By giving proper fertilizers, coconut tonic and inter cropping with sunhemp and incorporation in the coconut trees basin managed the eriophide mite attack intensity and Yielded quality nuts
14.	**Linkages between sanitation, health and nutrition** Moringa and curryleaf powder preparation and its uses in daily diet will improve the nutritional value of the normal diet.
15.	**Flavoured Paneer production (Coriander and cumin)** Flavoured panneer preparation help to increase taste and aroma.
16.	**Integrated Farming System** Papaya planting may help reduce labour cost when compared with seasonal crops Vermicomposted fields produced healthier crops

Extension and Training activities under FLD

Sl.No	Activity	No. of activities organized	Date	Number of participants	Remarks
1	Field days	18	13.10.17, 21.10.17, 22.10.17, 04.01.18, 05.01.18, 30.01.18, 06.02.18, 15.02.18, 26.02.18, 28.02.18, 16.03.18, 17.03.18, 18.03.18, 27.03.18, 25.04.18, 30.04.18	804	Farmers prefer fruit crops to help incur decreased labours cost and procure more income
2	Farmers Training	50	31.05.17, 17.07.17, 20.07.17, 26.07.17, 27.07.17, 18.08.17, 6.9.17,07.09.17, 18.09.17, 19.09.17, 20.09.17, 21.09.17, 23.09.17, 25.09.17, 04.10.17, 11.10.17, 13.10.17, 21.10.17, 25.10.17, ,27.10.17, 24.10.17, 31.10.17, 07.11.17, 14.11.17, 16.11.17, , 06.12.18, 07.02.18, 20.12.17, 22.11.17, 23.11.17, 28.11.17, 29.11.17, 26.12.17, 27.12.17, 12.12.17, 30.12.17, 09.01.18, 18.01.18, 30.01.18, 31.01.18, 15.02.18, 19.02.18, 15.02.18, 21.02.18, 23.02.18, 06.03.18, 13.04.17	1322	Nil
3	Media coverage	4	21.09.17, 16.11.17, 30.11.17, 20.03.18	-	-
4	Training for extension functionaries	-	-	-	-

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																			
Redgram	IPM	Integrated Pest Management in Redgram	VBN 2	VBN 2	10	2	8.13	7.12	7.6	6.15	23.58	13377.5	24590	11212.5	1.84	14000	29820	15820	2.13
Oilseeds																			
Cereals																			
Paddy	Varietal demonstratio	Demonstration on Paddy variety Co 51	Co 51	BPT 5204	10	4	57.76	52.03	54.89	40.13	36.78	41632.1	107478	65845.9	2.58	41181.3	76262.2	35080.9	1.85
Maize	IPM	IPM in Maize	NK6240	NK6240	10	2	58.75	48.9	54.34	33.00	64.67	31452.5	65208	33755.5	2.07	31196.6	39603	8406.4	1.27
Commercial crops																			
Sugarcane (16-17)	IPM	IPM in Sugarcane	CO6304	CO6304	10	4	121	98	106.9	78.2	36.70	81832.5	277608	244875	3.00	79542.5	199410	167593	2.11
Millets																			
Finger millet	Varietal demonstration	Demonstration on Finger millet variety Co 15	Co15	Local variety	10	4	26.56	23.64	25.10	18.16	38.22	26886.9	60516.9	33630	2.25	25863.2	43603	17740	1.68
Pearl millet	Varietal demonstration	Demonstration on Pearl Millet variety Co 10	Co10	Localvariety	10	4	28.75	25.87	27.31	21.23	28.64	31037	68290	37253	2.20	30116.2	48847.4	18731.2	1.62
Vegetables																			
Chilli	Varietal demonstration	Demonstration of Chilli hybrid CoChH1With ICM practices	CoCH1	K2	10	2	240	208	228.4	181.2	26.05	102319	274080	171761	2.68	104922	217440	112518	2.07

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									
							High	Low	Average			Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Snakegourd	Varietal demonstration	Demonstration of hybrid CoSgH 1 with micronutrients and Pest Management	CoSgH1	Co2	10	2	370	336	358.5	227.6	57.51	121936	286800	164864	2.35	106260	182080	75820	1.71
Onion	ICM	Integrated Crop Management in Onion	Co 2	Co2	10	2	172	138	153.8	126.6	21.48	95133	307600	212467	3.23	99108	253200	154092	2.55
Brinjal	IPDM	Integrated Pest and Disease Management in Brinjal	PLR 2	PLR 2	10	2	381	319	361.9	270	34.04	118531.3	289520	170988.7	2.45	120388.5	216000	95611.5	1.80
Fruits																			
Plantation crops																			
Coconut	INM	Demonstration of INM with mite management technologies in Coconut	Long	Long	10	2	12198	9025	11039	7272.1	51.80	11144.1	44144.96	33000.86	3.96	10854.4	29081.13	18226.73	2.68
Spices and condiments																			
Others																			
Cotton	IPM	Integrated Pest Management in Cotton	RCH20	RCH 20	10	2	8	6.2	7.21	5.4	33.52	13652	35023	21371	2.56	15652	26300	10648	1.68

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

** BCR= GROSS RETURN/GROSS COST

FLD on Livestock - Nil

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of Units (Animal/ Poultry/ Birds, etc)	Major parameters		% change in major parameter	Other 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)
Cattle																	
Buffalo																	
Dairy																	
Poultry																	
Sheep																	
Goat																	

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST

FLD on Fisheries - Nil

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.)				Economics of check (Rs.)			
					Demons ration	Check		Demons ration	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST

FLD on Other enterprises

Category	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.) or Rs./unit				Economics of check (Rs.) or Rs./unit			
				Demo	Check		Demo Consumer Acceptability	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Mushroom																
Apiculture																
Maize Sheller																
Value Addition																
Value addition	Value added product from moringa leaves powder incorporated chappathi mix and addai mix, Sambar powder, Rasam powder, Idli powder, Mushroom pickle	15	3	Moringa based chappathi mix –65kg/Month	0	0	91	0	1820	3900	2080	2.1	0	0	0	0
				Moringa based Adai mix - 25kg/Month	0	0	92	0	1375	2750	1375	2.0	0	0	0	0
				Sambar Powder – 30kg/Month	0	0	93	0	3600	7500	3900	2.08	0	0	0	0
				Rasam Powder – 12kg/Month	0	0	95	0	1920	4080	2160	2.12	0	0	0	0
				Idli Powder – 15kg/Month	0	0	96	0	1650	3450	1800	2.09	0	0	0	0
				Mushroom pickle – 2kg/Month	0	0	85	0	1200	1800	600	1.5	0	0	0	0
Vermi Compost																

FLD on Women Empowerment

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check
Milk	Flavoured paneer preparation with coriander leavesand cumin seeds	10	**Recovery of paneer** Corriander paneer Cumin paneer **Consumer acceptability** Corriander paneer Cumin paneer **Shelf life** Corriander paneer Cumin paneer	 200gram 170gram 87% 72% 9days 11days	0 0 0
Vegetables	Linkage between health and nutrition	2group (30nos)	Percentage of knowledge gain Changes in intake and dietary pattern Clinical singns and symptoms	90% 84% 61%	

FLD on Farm Implements and Machinery

Name of the implement	Crop	Technology demonstrated	No. of Farmer	Area (ha)	Major parameters	Filed observation (output/man hour)		% change in major parameter	Labor reduction (man days)				Cost reduction (Rs./ha or Rs./Unit etc.)			
						Demo	Check		Land preparation	Sowing	Weeding	Total	Land preparation	Labour	Irrigation	Total

FLD on Other Enterprise: Kitchen Gardening

Category and Crop	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of Units	Yield (Kg)		% change in yield	Other parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demonstration	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)

IFS 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										
Cereal																			
Maize	ICM	IFS for Drylands	NK6240	NK6240	3	2.8	48.6	43	45.5	33.7	35	29544	59150	29606	2.00	31245	43810	12565	1.40
Fodder	IFS	IFS for Drylands	CoFS 29	CoFS 29	3	0.16	16	12	14	10	40	Fodder used for own cattle Feeding							

IFS Livestock Component

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of Units (Animal/ Poultry/ Birds, etc)	Major parameters		% change in major parameter	Other 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)
Cattle																	
Dairy	IFS	IFS for Drylands	3	2	3697 Liters milk	2866 Liters milk	29	Nil	Nil	33543	81334	47791	2.42	28532	63053	34521	2.20
Goat	IFS	IFS for Drylands	3	6	46.4Kg per animal	35.7 Kg per animal	30	3Kids (200% Change)	1Kid	6977	17600	10623	2.52	6200	10925	4705	1.76
Poultry	IFS	IFS for Drylands	3	12	21.9 kg live weight/12 birds	17.4 kg live weight/12 birds	26	770 Eggs (172% Change)	283 Eggs	2300	11635	9355	5.05	1890	6614	4724	3.49

IFS ENTERPRISE

Category	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters Compost yield		% change in major parameter	Other parameter Worm yield Kg		Economics of demonstration (Rs.) or Rs./unit				Economics of check (Rs.) or Rs./unit			
				Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Vermicompost																
Vermicompost	IFS for Drylands	3	3	2459	NA	-	5	-	6166	26590	20424	4.31	-	-	-	-

FLD on Demonstration details on crop hybrids *(Details of Hybrid FLDs implemented during 2017-18)*

Crop	technology demonstrated	Hybrid Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)			
					Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)
					High	Low	Average						
Vegetable crop													
Chilli	Demonstration of Chilli hybrid CoChH1With ICM practices	CochH1	10	2	240	208	228.4	181.2	26.05	102319	274080	171761	2.68
Snakegourd	Demonstration of hybrid CoSgH 1 with micronutrients and Pest Management	CoSgH1	10	2	370	336	358.5	227.6	57.51	121936	286800	164864	2.35
Fruit crop													
Other (specify)													
Cotton	Integrated Pest Management in Cotton	RCH20	10	2	8	6.2	7.21	5.4	33.52	13652	35023	21371	2.58

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										
Pulses																				
Black gram	NFSM	ICM	Blackgram variety VBN 8 with ICM	VBN 8	T 9	50	20	13.88	7.96	10.66	6.19	72	32338	95974.2	63636.2	2.96	31010.64	52621.8	21611.16	1.69
Oilseeds																				
Groundnut	NMOOP	ICM	Groundnut variety Co7 with ICM	Co 7	Local	75	30	26.9	21.74	24.74	20.06	23.33	44972	118752	73780	2.64	47455	96288	48833	2.02

FLD on Livestock

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of Units (Animal/ Poultry/ Birds, etc)	Major parameters		% change in major parameter	Other 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)

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.** BCR= GROSS RETURN/GROSS COST

FLD on Fisheries

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.)				Economics of check (Rs.)			
					Demons ration	Check		Demons ration	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.** BCR= GROSS RETURN/GROSS COST

FLD on Other enterprises

Category	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.) or Rs./unit				Economics of check (Rs.) or Rs./unit			
				Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)

FLD on Women Empowerment

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check

FLD on Farm Implements and Machinery

Name of the implement	Crop	Technology demonstrated	No. of Farmer	Area (ha)	Major parameters	Filed observation (output/man hour)		% change in major parameter	Labor reduction (man days)				Cost reduction (Rs./ha or Rs./Unit etc.)			
						Demo	Check		Land preparation	Sowing	Weeding	Total	Land preparation	Labour	Irrigation	Total

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										
Resource Conservation Technologies										
Cropping Systems	1	50	15	65	3	7	10	53	22	75
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management	2	49	-	49	13	1	14	62	1	63
Soil & water conservatioin	1	14	3	17	-	1	1	14	4	18
Integrated nutrient management										
Production of organic inputs										
Others (pl specify)										
Total	**4**	**113**	**18**	**131**	**16**	**9**	**85**	**129**	**27**	**156**
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops	1	28	-	28	5	-	5	33	-	33
Off-season vegetables	2	91	49	140	14	11	25	105	60	165
Nursery raising	1	17	-	17	-	-	-	17	-	17
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)	2	75	2	77	2	-	2	77	2	79
Total (a)	**6**	**211**	**51**	**262**	**21**	**11**	**32**	**223**	**62**	**294**
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)										
Total (b)										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl specify)										
Total (c)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Total (d)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
GT (a-g)										
III Soil Health and Fertility Management										
Soil fertility management	1	18	12	30	-	-	-	18	12	30
Integrated water management										
Integrated Nutrient Management										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total	**1**	**18**	**12**	**30**	**-**	**-**	**-**	**18**	**12**	**30**
IV Livestock Production and Management										
Dairy Management										
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management	1	9	51	60	6	14	20	15	65	80
Disease Management										
Feed & fodder technology										
Production of quality animal products										
Others (pl specify)										
Total	**1**	**9**	**51**	**60**	**6**	**14**	**20**	**15**	**65**	**80**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet	2	3	32	35	-	-	-	3	32	35
Minimization of nutrient loss in processing										
Processing and cooking	1	11	6	17	2	1	3	13	7	20
Gender mainstreaming through SHGs										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Storage loss minimization techniques										
Value addition	2	10	26	36	-	2	2	10	28	38
Woma empowermet	1	0	31	31	-	19	19	0	50	50
Women and child care										
Others (pl specify)										
Total	**6**	**24**	**95**	**119**	**2**	**22**	**24**	**26**	**117**	**143**
VI Agril. Engineering										
Farm Machinary and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										
Total										
VII Plant Protection										
Integrated Pest Management	4	76	45	121	1	1	2	77	46	123
Integrated Disease Management	3	76	15	91	4	1	5	80	16	96
Bio-control of pests and diseases	1	13	5	18	2	0	2	15	5	20
Production of bio control agents and bio pesticides										
Others (pl specify)	2	90	1	91	4	0	4	94	1	95
Total	**10**	**255**	**66**	**321**	**11**	**2**	**13**	**266**	**68**	**334**
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production	1	10	5	15	-	-	-	10	5	15
Apiculture	2	48	1	49	3	-	3	51	1	52
Others (pl specify)										
Total	**3**	**58**	**6**	**64**	**3**	**0**	**3**	**61**	**6**	**67**
X Capacity Building and Group Dynamics										
Leadership development	1	11	0	11	6	0	6	17	0	17
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths	1	60	13	73	0	0	0	60	13	73
WTO and IPR issues										
Others (pl specify)										
Total	**2**	**71**	**13**	**84**	**6**	**0**	**6**	**77**	**13**	**90**
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	**33**	**759**	**312**	**1071**	**65**	**58**	**123**	**824**	**370**	**1194**

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	48	5	53	3	-	3	53	3	56
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management	2	21	18	39	1	-	1	39	1	40
Soil & water conservatioin										
Integrated nutrient management	2	29	22	51	-	-	-	51	-	51
Production of organic inputs										
Others (pl specify)										
Total	**6**	**98**	**45**	**143**	**4**	**0**	**4**	**102**	**45**	**147**
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops										
Off-season vegetables										
Nursery raising										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)	3	35	11	46	0	0	0	35	11	46
Total (a)	**3**	**35**	**11**	**46**	**0**	**0**	**0**	**35**	**11**	**46**
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)										
Total (b)										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl specify)										
Total (c)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
GT (a-g)										
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Integrated Nutrient Management										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total										
IV Livestock Production and Management										
Dairy Management										
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Disease Management										
Feed & fodder technology										
Production of quality animal products										
Others (pl specify)										
Total										
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	6	-	66	66	-	4	4	-	70	70
Design and development of low/minimum cost diet	1	-	15	15	-	-	-	-	15	15
Designing and development for high nutrient efficiency diet	1	-	15	15	-	-	-	-	15	15
Minimization of nutrient loss in processing										
Processing and cooking	2	-	30	30	-	-	-	-	30	30
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	3	-	-	-	-	43	43	-	43	43
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify)										
Total	**13**	**0**	**126**	**126**	**0**	**47**	**47**	**0**	**173**	**173**
VI Agril. Engineering										
Farm Machinary and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Total										
VII Plant Protection										
Integrated Pest Management	9	128	53	181	0	0	0	128	53	181
Integrated Disease Management	7	96	11	107	0	0	0	96	11	107
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl specify)	2	35	0	35	0	0	0	35	0	35
Total	**18**	**259**	**64**	**323**	**0**	**0**	**0**	**259**	**64**	**323**
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production										
Apiculture										
Others (pl specify)										
Total										
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs	5	120	8	128	0	0	0	120	8	128
Mobilization of social capital	1	14	0	14	0	0	0	14	0	14
Entrepreneurial development of farmers/youths	8	218	25	243	5	2	7	223	27	250

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
WTO and IPR issues										
Others (pl specify)										
Total	**14**	**352**	**33**	**385**	**5**	**2**	**7**	**357**	**35**	**392**
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	**54**	**744**	**279**	**1023**	**9**	**49**	**58**	**753**	**328**	**1081**

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	2	48	5	53	3	0	3	53	5	56
Resource Conservation Technologies										
Cropping Systems	1	50	15	65	3	7	10	53	22	75
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management	4	70	18	88	14	1	15	84	19	103
Soil & water conservatioin	1	14	3	17	0	1	1	14	4	18
Integrated nutrient management	2	29	22	51	0	0	0	29	22	51
Production of organic inputs										
Others (pl specify)										
Total	**10**	**211**	**63**	**274**	**20**	**9**	**29**	**231**	**72**	**303**
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops	1	28	0	28	5	0	5	33	0	33
Off-season vegetables	2	91	49	140	14	11	25	105	60	165
Nursery raising	1	17	0	17	0	0	0	17	0	17
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)	5	110	13	123	2	0	2	112	13	125
Total (a)	**9**	**246**	**62**	**308**	**21**	**11**	**32**	**267**	**73**	**340**
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)										
Total (b)										
c) Ornamental Plants										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl specify)										
Total (c)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
GT (a-g)										
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total										
IV Livestock Production and Management										
Dairy Management										
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management	1	9	51	60	6	14	20	15	65	80

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Disease Management										
Feed & fodder technology										
Production of quality animal products										
Others (pl specify)										
Total	**1**	**9**	**51**	**60**	**6**	**14**	**20**	**15**	**65**	**80**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	6	0	66	66	0	4	4	0	70	70
Design and development of low/minimum cost diet	3	3	47	50	0	0	0	3	47	50
Designing and development for high nutrient efficiency diet	1	0	15	15	0	0	0	0	15	15
Minimization of nutrient loss in processing										
Processing and cooking	3	11	36	47	2	1	3	13	37	50
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	5	10	26	36	0	45	45	10	71	81
Women empowerment	1	0	31	31	0	19	19	0	50	50
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify)										
Total	**19**	**24**	**221**	**245**	**2**	**69**	**71**	**26**	**290**	**316**
VI Agril. Engineering										
Farm Machinary and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										
Total										
VII Plant Protection										
Integrated Pest Management	13	204	98	302	1	1	2	205	99	304
Integrated Disease Management	10	172	26	198	4	1	5	176	27	203
Bio-control of pests and diseases	1	13	5	18	2	0	2	15	5	20
Production of bio control agents and bio pesticides										
Others (pl specify)	4	125	1	126	4	0	4	129	1	130
Total	**28**	**514**	**130**	**644**	**4**	**2**	**13**	**525**	**132**	**657**
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production	1	10	5	15	0	0	0	10	5	15
Apiculture	2	48	1	49	3	0	3	51	1	52
Others (pl specify)										
Total	**3**	**58**	**6**	**64**	**3**	**0**	**3**	**61**	**6**	**67**
X Capacity Building and Group Dynamics										
Leadership development	1	11	0	11	6	0	6	17	0	17
Group dynamics										
Formation and Management of SHGs	5	120	8	128	0	0	0	120	8	128
Mobilization of social capital	1	14	0	14	0	0	0	14	0	14
Entrepreneurial development of farmers/youths	9	278	38	316	5	2	7	283	40	323
WTO and IPR issues										
Others (pl specify)										
Total	**16**	**423**	**46**	**469**	**11**	**2**	**13**	**434**	**48**	**482**
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	**87**	**1503**	**591**	**2094**	**74**	**107**	**181**	**1577**	**698**	**2275**

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
Nursery Management of Horticulture crops	1	17	0	17	0	0	0	17	0	17
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production	1	10	5	15	0	0	0	10	5	15
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl.specify)										
TOTAL	**2**	**27**	**5**	**32**	**0**	**0**	**0**	**27**	**5**	**32**

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
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										

Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology	1	-	15	15	-	15	15	-	15	15
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Any other (pl.specify)										
TOTAL	**1**	**-**	**15**	**15**	**-**	**15**	**15**	**-**	**15**	**15**

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
Nursery Management of Horticulture crops	1	17	0	17	0	0	0	17	0	17
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production	1	10	5	15	-	-	-	10	5	15
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology	1	0	15	15	0	0	0	0	15	15
Tailoring and Stitching										
Rural Crafts										
Dairying										
Sheep and goat rearing										
Any other (pl.specify)										
TOTAL	**3**	**27**	**20**	**47**	**0**	**0**	**0**	**27**	**20**	**47**

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	1	17	5	22	1	0	1	18	5	23
Household food security	1	-	31	31	-	19	19	-	50	50
Any other (pl.specify)										
TOTAL	**2**	**17**	**34**	**51**	**1**	**21**	**22**	**18**	**55**	**73**

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

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										
TOTAL										

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	1	17	5	22	1	0	1	18	5	23
Integrated Pest Management										
Integrated Nutrient management										
Management in farm animals										
Livestock feed and fodder production										
Household food security	1	-	31	31	-	19	19	-	50	50
Any other (pl.specify)										
TOTAL	**2**	**17**	**34**	**51**	**1**	**21**	**22**	**18**	**55**	**73**

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
Crop production and management										
Increasing production and productivity of crops	2	120	16	136	7	7	14	127	23	150
Commercial production of vegetables	1	40	0	40	0	0	0	40	0	40
Production and value addition										
Fruit Plants										
Ornamental plants										
Spices crops										
Soil health and fertility management	4	86	5	91	6	3	9	92	8	100
Production of Inputs at site	1	10	5	5	15	0	0	10	5	15
Methods of protective cultivation										
Others (pl. specify)	3	101	54	155	14	11	25	115	65	80
Total	**11**	**357**	**80**	**437**	**27**	**21**	**48**	**384**	**101**	**485**
Post harvest technology and value addition										
Processing and value addition	1(3days)	-	29	29	-	21	21	-	50	50
Others (pl. specify)										
Total	**1(3days)**	**-**	**29**	**29**	**-**	**21**	**21**	**-**	**50**	**50**
Farm machinery										
Farm machinery, tools and implements										
Others (pl. specify)										
Total										
Livestock and fisheries										
Livestock production and management										
Animal Nutrition Management	1	9	51	60	6	14	20	15	65	80
Animal Disease Management										
Fisheries Nutrition										
Fisheries Management										
Others (pl. specify)										
Total	**1**	**9**	**51**	**60**	**6**	**14**	**20**	**15**	**65**	**80**
Home Science										
Household nutritional security										
Economic empowerment of women										
Drudgery reduction of women										
Others (pl. specify)										
Total										
Agricultural Extension										
Capacity Building and Group Dynamics	2	60	12	72	0	0	0	60	12	72
Others (pl. specify)										
Total	**2**	**60**	**12**	**72**	**0**	**0**	**0**	**60**	**12**	**72**
GRAND TOTAL	**15**	**426**	**172**	**598**	**33**	**56**	**89**	**459**	**228**	**687**

Name of sponsoring agencies involved

Agricultural Technology Management Agency

TamilNadu Science and Technology

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										
Commercial fruit production										
Commercial vegetable production	1	19	0	19	1	0	1	20	0	20
Integrated crop management										
Organic farming	1	19	0	19	1	0	0	20	0	20
Others (pl. specify)										

Total										
Post harvest technology and value addition	1	0	20	20	0	0	0	0	20	20
Value addition										
Others (pl. specify)										
Total										
Livestock and fisheries										
Dairy farming										
Composite fish culture										
Sheep and goat rearing										
Piggery										
Poultry farming										
Others (pl. specify)										
Total										
Income generation activities										
Vermicomposting										
Production of bio-agents, bio-pesticides,										
bio-fertilizers etc.										
Total										
Agricultural Extension										
Capacity building and group dynamics										
Entrepreneurial development of farmers through Integrated Farm Development	1	23	0	23	0	0	0	23	0	23
Others (pl. specify)										
Total										
Grand Total	**4**	**61**	**20**	**81**	**2**	**0**	**2**	**63**	**20**	**83**

5. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	449	502	12	514
Diagnostic visits	28	49	23	72
Field Day	23	894	20	914
Group discussions	-	-	-	-
Kisan Ghosthi	-	-	-	-
Film Show	20	1776	41	1817
Self -help groups	3	78	2	80
Kisan Mela	1	756	19	775
Exhibition	3	1041	32	1073
Scientists' visit to farmers field	113	316	23	339
Plant/animal health camps	-	-	-	-
Farm Science Club	-	-	-	-
Ex-trainees Sammelan	-	-	-	-
Farmers' seminar/workshop				
Method Demonstrations	46	814	10	824
Celebration of important days	10	510	13	523
Special day celebration	-	-	-	-
Exposure visits	4	83	1	84
Others (pl. specify)				
World soil day	1	378	17	395
Awareness programme on PPV&FR	1	100	7	107
Sankalp se siddhi	1	662	10	672
Total	**706**	**7959**	**230**	**8189**

Details of other extension programmes

Particulars	Number
Electronic Media (CD./DVD)	0
Extension Literature	132
News paper coverage	48
Popular articles	9
Radio Talks	10
TV Talks	9
Animal health amps (Number of animals treated)	0
Others (pl. specify)	0
Publication	14
Field visit	85
Lecture delivered	48
Help line services	5
Seminar or work shop attended	4
Meetings attended	19
School students visit to kvk	560
Book let/leaflet	9
SMS/Voice message	16
Total	**920**

Messages sent

MOBILE ADVISORY SERVICES THROUGH MKISAN PORTAL

(While filling mobile advisory data, only fill numbers under 'Type of messages'. Please don't add any text)

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	11	5403	-	-	-	-	-	-	11	5403	14	5403	36	5403
Voice only	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Voice & Text both	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Messages	**11**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**11**	**-**	**14**	**-**	**36**	**-**
Total farmers Benefitted	**-**	**5403**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5403**	**-**	**5403**	**-**	**5403**

MOBILE ADVISORY SERVICES THROUGH OTHERS

(While filling mobile advisory data, only fill numbers under 'Type of messages'. Please don't add any text)
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	128	88											128	88
Voice only														
Voice & Text both														
Total Messages													128	88
Total farmers Benefitted													128	88

6. DETAILS OF TECHNOLOGY WEEK CELEBRATIONS

Types of Activities	No. of Activities	Number of Participants	Related crop/livestock technology
Gosthies	0	0	0
Lectures organised	16	248	Productivity enhancement in crops
Exhibition	1	248	Technologies and Technological products
Film show	4	248	Coconut cultivation
Fair	0	0	
Farm Visit	4	248	Instructional Farm
Diagnostic Practicals	0	0	
Distribution of Literature (No.)	1240	248	Leaflets and Booklets
Distribution of Seed (q)			
Distribution of Planting materials (No.)			
Bio Product distribution (Kg)			
Bio Fertilizers (q)			
Distribution of fingerlings			
Distribution of Livestock specimen (No.)			
Total number of farmers visited the technology week	5	248	

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	
Pulses							
	Blackgram	VBN-8	4.00	60800	4.00	-	4.00
Vegetables							
	Bhendi	Arka Anamica	0.18	11190	0.18	153	-
	Cluster bean	Pusa naubahar	0.08	4175	0.08	45	-
	Radish	Pusa chetki	0.08	3260	0.08	05	-
	Lab lab	Co 14	0.11	6990	0.11	99	-
	Snake gourd	Co 2	0.05	5500	0.05	63	-
	Bottle gourd	Co 1	0.04	3200	0.04	57	-
	Bitter gourd	Green long	0.04	4600	0.04	59	-
	Ash gourd	Co 2	0.04	4150	0.04	25	-
	Pumpkin	Co 2	0.03	3100	0.03	30	-
	Ridge gourd	Jaipur long	0.03	2100	0.03	24	-
	Cucumber	Co 2	0.005	500	0.005	5	-
	Mesta	Green	0.15	4650	0.15	66	-
	Arakeerai	Co 3	0.13	6850	0.13	118	-
	Sirukeerai	Co 2	0.08	3420	0.08	95	-
	Thandukeerai	Co 5	0.02	1075	0.02	23	-
	Mulakeerai	Co 2	0.02	600	0.02	21	-
	Palak	Green	0.03	1500	0.03	37	-
	Tomato	PKM 1	0.02	2300	0.02	22	-
	Brinjal	Cvk	0.02	2000	0.02	30	-
	Chilli	K2	0.06	5670	0.06	37	-
Total			**1.215**	**76830**	**1.215**	**1014**	
Fodder crop seeds							
	Fodder Sorghum	CoFs 29	3.32	183013	3.32	479	-
	Fodder Sorghum	CoFs 31	0.35	22750	0.35	53	-
	Sudan grass	Sweet	1.06	79688	1.06	180	-
	Desmanthus	Co 5	0.61	36750	0.61	153	-
	Sesbania	-	0.19	11640	0.19	119	-
	Soundal	-	0.02	940	0.02	10	-
Total			**5.55**	**334781**	**5.55**	**994**	
Total			**10.765**	**411763**	**10.765**	**2008**	**4.0**

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	
Vegetable seedlings							
	Curry leaf	Sengambu	1040	15600	687	49	-
	Moringa	PKM 1	50	500	50	29	-
	Thavasi keerai	-	50	750	50	30	-
	Breadfruit	-	50	5000	49	26	
			1190	**21850**	**836**	**133**	
Fruit crops							
	Acidline	Balaji	466	11650	466	55	-
	Acidlime	Balaji	175	1750	175	2	-
	Acidlime	Balaji	678	20340	290	58	-
	Acidime	Balaji	375	22500	375	61	-
	Amla	NA 7	21	2100	21	7	-
	Amla	NA 7	10	750	10	8	-
	Amla	NA 4	100	6000	83	42	-
	Amla	NA 4	550	8250	345	82	-
	Custard apple	APK 1	30	900	27	12	-
	Guava	L 49	110	5500	110	18	-
	Guava	L 49	609	6090	609	28	-
	Guava	L 49	230	4600	230	70	-
	Guava	L 49	400	2400	312	128	-
	Jack	PLR 1	1473	29460	1473	106	-
	Jamun	Jumbo	17	1700	17	4	-
	Jamun	Jumbo	85	4250	61	28	-
	Mango	Banganapalli	312	31200	278	125	-
	Mango	Bangalora	116	8700	86	30	-
	Mango	Local	3	75	3	1	-
	Mango	Senthura	180	21600	180	52	-
	Papaya	Red lady	138	2760	138	49	-
	Pomengranate	Bhagwa	100	10000	100	61	-
	Pomengranate	Bhagwa	60	1500	60	20	-
	Pomengranate	Bhagwa	50	6000	35	12	-
	Sapota	PKM 1	198	19800	198	155	-
	Sapota	PKM 4	55	4125	48	22	-
	Sathukudi	-	20	2000	20	9	-
	Sweet tamarind	-	92	1800	85	70	-
	Singapore cherry	-	508	10160	410	68	-
			7161	**247960**	**5371**	**1383**	
Forest species							
	Almond	-	285	7125	276	89	-
	Ashoka	-	36	900	36	25	-
	Banyan tree	-	50	1250	36	18	-
	Iluppai	-	50	1250	23	10	-

	Neem	-	250	2500	235	32	-
	Poovarasu	-	170	2550	112	32	-
	Pungan	-	492	4920	490	67	-
	Red sandal	-	743	18575	532	38	-
	Sandal	-	50	7500	50	15	-
	Tamarind	-	20	800	9	7	-
	Teak	-	1692	25380	1491	76	-
	Vilvam	-	24	600	15	18	-
	Total		**3862**	**73350**	**3305**	**427**	
Ornamental plants							
	Gulmohar	-	2	40	2	1	-
	Adenium	-	106	5300	54	25	-
	Areca palm	-	2	400	2	1	-
	Areca palm	-	78	3900	78	15	-
	Aralia push	-	3	600	3	1	-
	Asparagus	-	30	1200	30	9	-
	Bendanus	-	1	250	1	1	-
	Cactus	-	7	350	4	2	-
	Ceylone gold	-	7	175	2	1	-
	Costus	-	93	2325	33	28	-
	Crotons	-	27	675	27	9	-
	Crotons	-	104	5200	100	19	-
	Crotons	-	162	12150	162	48	-
	Crotons	-	3	300	3	1	-
	Dracaena	-	2	100	2	2	-
	Dracaena	-	12	360	6	9	-
	Duranda	-	1491	8946	1411	48	-
	Euphorbia	-	56	2800	32	25	-
	Hibiscus	-	29	870	29	16	-
	Hibiscus	-	110	2200	58	27	-
	Ixora	-	85	1700	68	12	-
	Jasmine sp	-	610	9150	401	72	-
	Kakkattan	-	20	300	20	16	-
	Money plant	-	85	1700	61	33	-
	Nanthiyavattai	-	44	440	44	22	-
	Nanthiyavattai	-	100	1500	100	30	-
	Plumeria	-	34	1700	32	18	-
	Potted plant 10”	-	19	3800	19	12	-
	Potted plant 14”	-	1	300	1	1	-
	Ribbon grass	-	4	100	4	2	-
	Rose	-	269	6725	256	61	-
	Royal palm	-	98	14700	83	29	-
	Tecoma	-	43	1290	36	15	-
	Eruntheman	-	32	480	32	15	-
	Neerium tall	-	10	500	6	7	-
	Potted plants 12”	-	5	1250	5	4	-
	Thuja	-	2	500	1	1	-
	Rose	-	50	2000	50	18	-

	Rose	-	100	3000	84	29	-
	Areca palm	-	20	3000	16	8	-
	Bismarchia palm	-	2	1400	2	1	-
			3958	**102670**	**3360**	**776**	
Plantation crops							
	Coconut	MDY	2	400	2	7	-
	Coconut	MDR	9	1350	9	5	-
	Coconut	DxT	121	30250	121	48	-
	Coconut	Tall	1975	79000	1907	95	-
	Total		**2107**	**111000**	**2039**	**155**	
Medicinal plants							
	Medicinal plants	-	144	2160	53	25	-
	Total		**144**	**2160**	**53**	**25**	-
	Grand Total		**18422**	**558990**	**14964**	**2899**	

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 Fertilisers						
Bio-pesticide						
	Panchagavya	284	42600	284	158	-
	NSKE	230	14550	230	39	-
Bio-fungicide						
Bio Agents						
	T.viride	104	10400	104	38	-
	Pseudomonas	195	19500	195	52	-
Others						
Organic products	Vermiworm	113.05	56525	113.05	52	-
	Vermicompost	20755	151952	20755	293	-
	Vermiwash	9	450	9	9	-
	Vegetable special	420	67200	377	53	-
Total		**22110.05**	**363177**	**22067.05**	**694**	

Production of livestock materials

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						
Cows	Sindhu	4	80000	-	-	-
Buffaloes		-	-	-	-	-

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	Supplied to farmers		Supplied to other agencies (No)
				No	No of farmers	
Calves		-	-	-	-	-
Others (Pl. specify)						-
Goat		70	314545	22	16	-
Total		**74**	**394545**	**22**	**16**	-
Poultry						
Broilers	Aseel	880	118516	760	118	-
Layers		-	-	-	-	-
Duals (broiler and layer)		-	-	-	-	-
Japanese Quail		180	5925	180	25	-
Turkey		50	12580	12	6	-
Emu		-	-	-	-	-
Ducks		18	7080	18	5	-
Others (Pl. specify)						
Guinea		4	900	4	2	-
Total		**1132**	**145001**	**974**	**156**	
Piggery						
Piglet		-	-	-	-	-
Others (Pl.specify)						
Fisheries						
Indian carp		-	-	-	-	-
Exotic carp		-	-	-	-	-
Total		**1206**	**539546**	**996**	**172**	

8. DETAILS OF SOIL, WATER AND PLANT ANALYSIS

Samples	No. of Samples	No. of Farmers	No. of Villages	Amount realized (Rs.)
Soil	902	600	190	17250
Water	181	160	48	9050
Plant	-	-	-	-
Manure	-	-	-	-
Others (pl.specify)	-	-	-	-
Total	**1083**	**760**	**238**	**26300**

9. SCIENTIFIC ADVISORY COMMITTEE

Date of SAC meeting	Number of members attended
07.12.2017	23

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

10. PUBLICATIONS

Publications in journals

S. No	Authors	Year	Title	Journal
1.	J. Kathiravan	2017	Perambalur Farmer realized Profit in Papaya cultivation	Uzhavarin Valarum Velanmai
2.	M. Punithavathi	2017	Kuruvai season Paddy varieties	Pachai Boomi
3.	M. Punithavathi	2017	Cultivation Practices in Maize	Uzhavarin Valarum Velanmai
4.	J. Kathiravan	2017	Yield augumentation techniques in Turmeric	Pachai Boomi
5.	J. Kathiravan	2017	Nursery Technology for Coconut	Pachai Boomi

Other publications

S. No	Item	Year	Authors	Title	Publisher
1	**Books**	-	-	-	-
2	**Book chapters / manuals**	-	-	-	-
3	**Training manuals**	2017	J.Kathiravan S.Divya M.Punithavathi	Training manual for Extension functionariers	KVK, Perambalur
4	**Conference, proceeding papers, popular articles, Bulletins, Short communications**				
1	Proceeding papers	2017	J. Kathiravan S. Divya M.Saravanan	Impact assessment maize cultivation under One lakh in one hectare Scheme at Perambalur	Society of Extension Education
1	Popular Articles	2017	J. Kathiravan S.Divya	Kharif season onion cultivation	Dinamalar
2		2017	M. Punithavathi	Kuruvai Season paddy cultivation	Dinamalar
3		2017	M. Punithavathi	Kharif season Maize cultivation	Dinamani
4		2017	S.Divya	IPM in Paddy	Dinamani
5		2017	J. Kathiravan	Improved Practices in Turmeric cultivation	Dinamani
6		2017	J. Kathiravan	Coriander cultivation	Dinamani
7		2017	J. Kathiravan	Hybrid bhendi cultivation	Dinamani
8		2017	J. Kathiravan	IPM in Coconut	Dinamani
9		2017	J. Kathiravan	Terrance Gardening	Dinamani
10		2017	J. Kathiravan	Micronutrient Management in Vegetable Crops	Dinamani
5	**Technical bulletin/ Folders**				
1	Leaflet	2017	J. Kathiravan P. Vijayalakshmi S. Divya R. Vasanthakumar M. Punithavathi	Sankalp Si Siddhi	KVK, Perambalur
6	**Reports**	-	-	-	-

7	**others**				
1		2017	J.Kathiravan	Improved cultivation practices	KVK, Perambalur
2		2017	J.Kathiravan S.Divya M.Punithavathi	Advanced cultivation practices	KVK, Perambalur
3		2017	P.Vijayalakshmi	Value Added products from millets	KVK, Perambalur
4	**Booklets**	2017	R.Vasanthakumar	ICM in Groundnut	KVK, Perambalur
		2017	R. Vasanthakumar	ICM in Brinjal	KVK, Perambalur
		2017	J. Kathiravan P. Vijayalakshmi S. Divya R. Vasanthakumar M. Punithavathi	Protection Plant varieties & Farmers Right Act	KVK, Perambalur
	Posters	2017	J. Kathiravan	Seed Propagation techniques in small onion	KVK, Perambalur

Newsletter/Magazine

Name of News letter/Magazine	**Frequency**	**No. of Copies printed for distribution**
Jan 2017 – June 2017 Newsletter	Biannual	200
Jul 2017 – Dec 2017 Newsletter	Biannual	200

7. 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**
Mr.J.Kathiravan	Tamil conference	1 day	TNAU Coimbatore
	Awareness programme on Community Radio Station	3 days	CEMCA, New Delhi at Puducherry
	INTFES 2018 – Seminar	1 day	TNAU Coimbatore
	Krishi Unnati Mela (9th National Conference of KVKs)	2 days	IARI, New Delhi
	Sensitization workshop for KVKs as part of "Vigilance Awareness Week"	1 day	TNAU, Coimbatore
	Workshop on Cluster FLD	1 day	TNAU, Coimbatore
Dr.S.Divya	Capacity building programme on “Technology for utilization of EPN for sustainable management of soil insect pest”	5 days	NBAIR, Bangalore
Mr.V.Karuppasamy	Biogas technology training	4 days	TNAU, Coimbatore
Mr.N.Satishkumar	Agro forestry models – Establishment and Management	3 days	TNAU Coimbatore

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

Activities conducted				
No. of Training programmes	**No. of Demonstrations**	**No. of plant materials produced**	**Visit by farmers (No.)**	**Visit by officials (No.)**
2	2	40	360	26

12. INTERVENTIONS ON DISASTER MANAGEMENT/UNSEASONAL RAINFALL/HAILSTORM/COLD WAVES ETC

Introduction of alternate crops/ varieties

Crops/cultivars	Area (ha)	Extent of damage	Recovery of damage through KVK initiatives if any
Total			

Major area coverage under alternate crops/varieties

Crops	Area (ha)	Number of beneficiaries
Oilseeds		
Pulses		
Cereals		
Vegetable crops		
Tuber crops		
Total		

Farmers-scientists interaction on livestock management

Livestock components	Number of interactions	No.of participants
Total		

Animal health camps organised

Number of camps	No.of animals	No.of farmers
Total		

Seed distribution in drought hit states

Crops	Quantity (qtl)	Coverage of area (ha)	Number of farmers
Groundnut (Co 7)	37.50	30	75
Total			

Large scale adoption of resource conservation technologies

Crops/cultivars and gist of resource conservation technologies introduced	Area (ha)	Number of farmers
Total		

Awareness campaign

	Meetings		Gosthies		Field days		Farmers fair		Exhibition		Film show	
	No.	**No.of farmers**	**No.**	**No.of farmers**	**No.**	**No.of farmers**	**No.**	**No.of farmers**	**No.**	**No.of farmers**	**No.**	**No.of farmers**
Total												

12. Awards/rewards by KVK and staff - Nil

Recognitions &Awards/Special attainments and Achievements of Practical Importance			
Recognitions & Awards (Team Award/individual			
Item of Recognition	**Year**	**Awarding Organization National / International / Professional; Society**	**Individual/ collaborative**

Special Attainments & Achievements of Practical Importance (patents, technologies, varieties, products, concepts, methodologies etc.)				
Category	**Title**	**Year**	**Individual/ Collaborative**	**Additional Details/Information**

14. Details of sponsored projects/programmes implemented by KVK -Nil

S.No	**Title of the programme / project**	**Sponsoring agency**	**Objectives**	**Duration**	**Amount (Rs)**

Please attach detailed report of each project/programme separately

15. Success stories

Bioagents ensure profit for Onion growers

Problem statement

Perambalur district possess No.1 position in small onion cultivation with production range of 65000-75000 Metric Tons from an area of 8000 ha. Due to repeated use of same cultivars and bulb materials obtained from same field, the crop tend susceptibility to pest and diseases. There were no improved varieties released so far in small onion with resistance to biotic and abiotic stresses.

Thrips, Spodoptera and white grub are the major pests causing field loss up to 50% in small onion. Downey mildew, Anthracnose, Purple blotch, basal rot, Stemphyllium blight and Powdery mildew are the serious diseases altogether accounted for field loss up to 80%. Four to five number of sprays have been practiced by the farmers to control weeds, insect pests and diseases by using 4.25l/ha (liquid formulation) and 2.3 Kg/ha (talk/granular formulation) of pesticides. The profiles of major classes of pesticides preferred by the onion growers based on hazard symbol are Green (44%), Blue (33%) Yellow (11%) and Red (11%). Expenditure incurred towards plant protection aspects was estimated as Rs.15600/ha which is 14.26% of the production cost.

Plan implement & Support

In order to overcome the indiscriminate application of chemical pesticides to onion crop KVK has taken keen steps. FLD on integrated Crop management practices were conducted in 10 farmers field at Irur village. The technologies demonstrated are:

- Bulb treatment with *T.viride & P.fluroesence* @ 5 g/kg.
- Soil application of *Azospirillum & Phopspbacteria* @ 2.5g/ha.
- Installation of Blue sticky trap @ 12/ha
- Foliar spraying of NSKE 3%
- Foliar spraying of *Basicillus turinjiencies* @ 2g/lit
- Foliar spraying of *Beauveria basiana* @ 2 g/lit

For effective implementation of the demonstration each farmer were provided with the critical inputs viz. *T.viride, P.fluroesence, Azospirillum, Phopspbacteria, Basicillus turinjiencies, Beauveria basiana,* NSKE and blue sticky trap

Training programme on "Use of bio agents against biotic and abiotic stresses was conducted with the financial assistance of Tamil Nadu State Council for Science and Technology. 100 farmers from 4 block of Perambalur district have attended the training programme. During the training programme demonstration on seed treatment with bio agents and enrichment of FYM with bioagents were demonstrated. Various bio products were exhibited.

A district level seminar on safe and judicious use of pesticides was conducted at KVK. 115 farmers from various villages have attended the programme. Scientists from ICAR institute, TNAU and KVK handled sessions on Judicious application of pesticide for various crops.

Awareness programme on Safe and Judicious use of Pesticides was conducted at KVK. More than 250 farmers from various villages of Perambalur district have attended this programme. Technical sessions on importance of Judicious application of pesticides, Use of bio agents in crop cultivation etc were handled by Scientists from ICAR, TNAU, and KVK.

Two days training programme on safe and judicious use of pesticides was conducted for farmers and pesticide dealers in collaboration with Central Integrated Pest Management Centre, Trichy. The trainees were insisted to reduce the quantity of chemical pesticide for crops. Instead they were recommended to adopt Integrated Pest Management practices for controlling the pest and diseases.

Bio products such as *T.viride* and *P.fluerosence* organic products viz., NSKE, Panchagavya, Vermicompost and vermiwash were produced and supplied to the farmers from KVK. 160 farmers have purchased those products during 2017-18 from KVK and applied in their fields.

Output

From the demonstrations it was observed that the bulb yield in small onion was significantly increased in all the 10 farmers fields which were applied with bio-agents and organic formulations. The average yield obtained from these plots was 153.8q/ha which was 21.48% increased over the control plots which were applied with only chemical fertilizers and pesticides. Expenditure towards plant protection was Rs.15,605 in case of chemical pesticides where as it was only Rs.11,750 in Bio/organic formulations which is 25% less than inorganic chemicals.

Among the 100 trainees attended the training on Use of bio agents against biotic and abiotic stresses in small onion all the 100 farmers have acquired the knowledge and skill on seed treatment with bio agents in small onion.

The incidence of basal rot in small onion was much less in demonstration plot than the controlled plot.

Thrips and Spodoptera could be effectively managed in both bio and chemical applications. But during initial stages the incidence was comparatively less in bio agents applied fields.

This ultimately resulted in increase in the net income of the farmers i.e. Rs.212467/ha which is 38% higher than the income obtained from their conventional practices.

Outcome

The technology “use of bioagents for small onion cultivation” has been spreaded over all the 4 blocks of Perambalur district. This year around 100 farmers were adopted the technology. The farmers are practicing bulb treatment in small onion with bio agents and enrich the FYM with bio agents. Application of FYM to the field is also increased. Due to this practice the quantity of chemical fertilizers and pesticides for onion cultivation was much reduced. Besides, the shelf life of the produce also extended up to six months without much deterioration in quality of bulbs.

Impact

There is an FPO in Perambalur district called “Maize and small onion farmers producer company” consisting of 1000 farmers belonging to 50 villages of Perambalur district. Considerable number of members from this group were attended the training and awareness programme organized by KVK. Demonstrations also conducted in farmers fields belonging to this FPO. Hence, majority of the group members came to know about the benefits of usage of bio agents for small onion cultivation. The FPO is planned to purchase the bio agents produced from KVK and market through their FPO for the forthcoming season

The number of pesticide spray for small onion crop was reduced from 5 to 3 at Irur village where the demonstrations were conducted.

Since small onion is the major horticultural crop of the district, the increase in productivity definitely will increase the district agricultural economy in near future.

Repeated application of chemical pesticides and fertilizers hazard the soil quality and characters. Application of bio agents and Farm yard manure improve the soil health and nutrient use efficiency. Application of VAM for onion increased the drought tolerance ability of small onion. Problems due to Salinity also could be managed by application of bio fertilizers.
The Maize and small onion farmer produce company established a processing unit for small onion. Small onion cultivated with less chemicals were preferred by the unit for processing. By which both farmer and the company could get better profit for their produce.

Demonstration on Paddy variety TKM 13 cultivation practices

Situation analysis/Problem statement:

In Tamil Nadu paddy is grown in 2.25 m ha with a production of 7.2 m tones. In the North Eastern Zone of Tamil Nadu, Perambalur. District contributes a total of 3353 ha of paddy cultivation in the three seasons viz., Sornavari, Samba and Navarai. During samba season BPT 5204 is grown around 1040 ha. Though, BPT 5204 is a fine slender variety susceptibility to pest and Disease is very high in the recent years. To cater the needs of the farmers for an alternate variety, KVK,- Perambalur demonstrated a new variety TKM 13 released by TNAU during the year 2015 with a duration of 130 days. The variety is moderately resistant to leaf folder, stem bore, Green Leaf hopper, blast, rice tungro disease, rown spot and sheath rot. This variety has high milling yield (75.5) and rice yield (71.7%).

Mr. Krishnamoorthy aged 53 years is a progressive farmer from Seethramapuram Village, Veppur Block of Perambalur district. He is doing farming for the past 35 years and is ready to adopt advanced farming technologies. He also leads Perambalur ATMA farmers. He follows advanced paddy cultivation and also farm mechanization viz., use of paddy transplanter, cono weeder, combined harvestor etc. He also practices application of organic inputs *viz*., green manures, vermicompost, micronutrient mixture, biofertilizers like *Azospirillum, Phosphobacteria*. He judiciously used insecticides and fungicide and decided timely application based on economic threshold levels. He also supplies quality seeds to the farmers of his village and nearby villages.

Plan, Implement and Support:

The variety was demonstrated by laying Front Line demonstrations at Seetharamapuram in Perambalur District during Samba 2017 - 2018. On campus and Off campus trainings were given to farmers. The topics covered in the training programme are Green manure cultivation, Paddy production techniques, nursery management, integrated weed management, Integrated nutrient management, Integrated disease and pest management. Necessary farm advisory services were given by the Subject Matter Specialist of KVK with varied specialization. The farmers were also facilitated with technical pamphlets. Several demonstrations were conducted in the farmers field from nursery to harvest. Also FLD on demostration on TKM13 seeds, Seed treatment with bio-agents, pre-emergence application of pretilachor, Application of MN mixture, Foliar spray of nutrients.FLD were raised during 2015-16 at kizhumathur village in veppur block. FLD on Integrated crop management in paddy variety TKM13 in seetharamapuram village in veppur block during 2017-18. The following tale clearly depicts the details of the training programmes conducted at KVK and villages.

During 2015 Training

Trainings		
S.No	**Title**	**No.of participants**
1	Integrated weed management	18
2	Integrated Nutrient Management	22
3	Integrated crop management	16
4	Integrated Disease and Pest Management	22
5	Integrated Pest Management	19

During 2015 Extension activities

Extension activities		
S.No	**Title**	**No. of participants**
1	Demonstrations	37
2	Extortion literature distribution	16
3	Field visit	7
4	Avisory	13
5	Field day	42

During 2017 Training

Trainings		
S.No	**Title**	**No.of participants**
1	Integrated weed management	23
2	Integrated Nutrient Management	16
3	Integrated crop management	21
4	Integrated Disease and Pest Management	14
5	Integrated Pest Management	17

During 2017 Extension activities

Extension activities		
S.No	**Title**	**No. of participants**
1	Demonstrations	42
2	Extortion literature distribution	20
3	Field visit	6
4	Avisory	11
5	Field day	44

3.Output:

Performance of Paddy variety TKM13 at farmers field is quite good as compare to variety BPT 5204. This variety has yield potential of 59.38 q/ha. During Samba, 2017 the highest grain yield of 57.76 kg/ha was obtained by Thiru.Krishamoorthy. During samba 2017 severe incidence of stem

bore, leaf folder, green leaf hopper, blast, rice tungro disease, brown spot in BPT 5204 the variety TKM 13 was able to withstand the pest and disease incidence and the yield obtained was comparatively higher. During samba 2015 farmers obtained average yield of 25 During Samba 2017 and obtained an average yield of 51.03 q/ha.

S. No	Year	Yield (q/ha)		Gross cost		Gross return		Net return		BCR	
		TKM 13	**BPT 5204**	**TKM 13**	**BPT 5204**	**TKM 13**	**BPT 5204**	**TKM 13**	**BPT 5204**	**TKM 13**	**BPT 5204**
1	2015	51.03	43.75	36420.6	33566.6	91870.2	61261.2	55449.6	27694.6	2.51	1.82
2	2017	53.73	40.13	41632.1	41181.3	107478	76262.2	65845.9	35080.9	2.58	1.85

Agripreneur in Mushroom spawn production

Situation analysis/Problem statement

Mr. Arul jothi residing at village Esanai, Perambalur district was an engineering graduate. After his degree he was working in Chennai in a private company. There he got only minimum salary and the job was also a temporary one. He quit the job and planned for doing a business of his own. He was interested in mushroom cultivation. He got training from TNAU, Coimbatore at first on mushroom cultivation.

At that time Perambalur district collector has given subsidy for the rural youth for construction of the mushroom shed. He started a small milky mushroom unit at his village. For each and every time he has to depend on TNAU, Coimbatore for mushroom spawn. In order to meet the spawn requirement, he wanted to start spawn production also. Subsequently he learnt spawn production technologies from KVK through one-month skill development training programme conducted during 2016-17. He established a spawn production laboratory in his farm itself with the 5 lakh loan applied from Vijaya bank under the scheme of Mahathma Gandhi National Rural Employment Scheme. Now he is doing both milky mushroom production as well as spawn production. Now he reduced the cost of cultivation by using his own spawn.

In Perambalur district many of the rural youth are interested in mushroom spawn production. The only problem faced by them non availability of required spawn at correct time. Now he is the sole producer of milky mushroom spawn in Perambalur district. Weather condition of Perambalur is suitable for milky mushroom production. He harvested big sized, white coloured mushrooms. KVK has developed him as a master trainer in mushroom spawn production.

Plan, Implement and Support

Every year KVK is organising the mushroom training one day or one week or 200 hours skill development training. The interested people make use of the KVK facility to promote mushroom cultivation in their respective location. Mr. Arul jothi was one of the trainees who started the farm during the year 2015, September by constructing two milky mushroom sheds of size 11x66 feet. Then he extended another one shed of size 16x30 feet during 2016. During last

year 2017 he again extended another three shed of size 16x39 feet, 20 x 40 feet and 23x23 feet with spawn production unit.

All the family members of Arul jothi was supporting him in mushroom production. If he utilizes all his shed effectively he can able to produce 1500 kg/ month. He will approach KVK and get periodical advisory in problem facing during his cultivation. He tried for spawn production of Oyster mushroom recently but because of hot weather the growth was not so good and he approached KVK for the solution. We advised to do the spawn production for the oyster mushroom after completion of summer month.

KVK suggested the farmer to make use of the used mushroom bed for the compost production after mushroom production. He was planning to do it soon.

Output

Mr. Arul jothi is now producing 20 -25 kg of milky mushroom per day. And he sell it for the amount of Rs. 250/kg. He is producing 10 kg of mushroom spawn in his spawn production unit daily. He sell spawn for Rs.100/kg. The cost of production for one kg of spawn was Rs. 40/- he utilize one labour from outside.

At the time of starting he got spawn from outside and obtain low income whereas after he utilizes his own spawn the cost of cultivation was reduced and obtained additional income from the spawn production also.

Cost of cultivation per bed preparation of milky mushroom

SI. No	Inputs used for mushroom bed production	Amount utilized		Amount saved
		Before spawn production	After spawn production	
1	Spawn utilized – 300g	30	12	18
2	Paddy straw	18	18	-
3	Labour cost for maintenance till yield	20	20	-
4	Chemical cost and poly cover cost	10	10	-
5	Electricity and water charge	2	2	-
	Total	**80**	**68**	**18**

Daily he prepared 30 beds for his unit. He could save Rs. 540/- every day and for one month he could able to save Rs. 16,200/- He obtained the yield of 1 – 1.5 kg/bed

Daily he was able to produce 10 kg of spawn i.e., 40 pockets of mushroom. He utilizes 30 pockets for his own and 10 for sales.

Cost of cultivation of one spawn pocket

SI.No	Inputs used for mushroom spawn production	Amount of each inputs (Rs.)
1	Sorghum grain @ 30/kg	7.5
2	Calcium carbonate	2
3	Polybag	2
4	Electricity	2
5	Labour	5
	Total	**18.5**

Income realized by the farmer per month

SI.No	Products	Average yield obtained/month	Quantity prepared/month	Gross cost	Gross return	Net return	B:C
1	Milky mushroom	600 kg	900 beds	61200	150000	88800	**2.26**
2	Spawn	300 Kg	(900 utilized by himself) 300 pockets for sales	5550	9000	3450	
			Total	**70200**	**159000**	**92250**	

Millet based value added products

Background

Millet based value added products becomes very popular among people in towns and cities. People are very health conscious and they came to know nutritional properties of millets that could be obtained from our ancestors.

Mr. Mathesh from Nakkasalem village who completed B.E. had an inspiration to become an entrepreneur for which he had chosen millet based value added products that can be fetch more demand in the market. At the time of starting his business he had very little knowledge in the field and to get more details of the millet based Value Added products, he approached KVK trained entrepreneur Mr. Prakash who guided him to approach the KVK Perambalur for fulfilling his thirst to become an entrepreneur. He has been associated with KVK since 2016.

Plan implement & Support

He was advised to undertake training course organized by KVK. He was eventually participated in vocational training on Value addition in ‘ Minor millets during 2016. Through this training he learned Millet based biscuit items (Cumbu biscuit, Thenai biscuit, Ragi biscuit and Mixed Millet biscuits) Millet based laddu items (Thenai, Cumbu, Ragi, Mixed millet laddu items and millet based Murukku items (Ragi, cumbu, and varagu murukku items).

He started one small shop at Perambalur Collectorate campus with the help of Mahalir Thittam officials. Then he has supplied Millet based snacks items to officials. This products fetching good market in and around the campus. He wanted to increase the production of the above products to fulfil the increased demand. To find the suitable trained persons, he approached KVK scientist. As suggested by the Scientist, he appointed Mrs. A. Murgaveni and Mrs.A. Susheela of Siruvachur village, those who were attended one month skill training at KVK, on Value addition in Millets during the year 2015. Initially, he sold only savories and laddu items only. To expand his business he wants to make cookies with palm jaggery. For the technical support and identification of biscuit making machinery suppliers, Again he approached KVK scientist and the technologies given about palm jaggery based millet cookies preparation and idea about biscuit making machinery purchases, Mr.Mathesh purchased bakery machineries Rs.1,50,000 worth for his unit. During 2017 he shifted his new shop to Venkatesapuram near old bus stand. A new brand created in the name of *Arunthaniyam* then he got food safety license from District food safety department. *Arunthaniyam* brand stalls

established in Book fair at Perambalur, Mahalir thittam exhibition etc. This brand getting very popular for Minor Millet value added products in and around the district. During September 2017 he opened a branch at Udumalaipettai at Coimbatore district with the help of his friends. On January 2018 another branch opened at Valikandapuram, near KVK. Lastly he got the support for the bulk purchase of raw materials from KVK to minimize the production cost and good quality raw materials. Now he wants to modify the packaging materials and seeks advise from KVK. In addition that Millet based health mix, gingelly laddu and laddu were included.

Output

Aruthaniyam branded items sold through three sales outlets. The following items has been produced/month given below:

Sl.No.	Name of the Product	Quantity produced/month
1	Thenai biscuit	200 Kg
2	Cumbu biscuit	150 Kg
3	Ragi biscuit	250 Kg
4	Mixed Millet biscuit	300 Kg
5	Kuthiraivali biscuit	150 Kg
6	Thenai Laddu	300 Kg
7	Cumbu Laddu	300 Kg
8	Mixed millet laddu	300 Kg
9	Thenai murukku	50 Kg
10	Ragi Murukku	50 Kg
11	Cumbu Murukku	50 Kg
12	Ragi Savories	25 Kg
13	Cumbu Savories	25 Kg
14	Kodo millet Savories	25 Kg
15	Mixed Millet Mixture	25 Kg
16	Health Mix	20 Kg
17	Gingelly Laddu	25 Kg

The above said products are marketed through three sales outlets.

Outcome

Aruthaniyam branded millet based value added products having good market demand as well as this product gaining 30 to 40% Profit initially

Arunthaniyam branded products sold through three sales points for Rs. 2 to 2.5 lakhs/month. He is getting Rs. 60 to 65 thousand/month as profit.

Impact

He wants to expand this Unit as “incubation centre” by erecting all kind of machineries used for millet based value addition products from his earnings got from the outlets for the benefit of small entrepreneurs (for processing their products on hiring basis)

Case Study

Adoption of Integrated Pest and Disease Management Practices and reducing the cost of cultivation in brinjal

Situation analysis/Problem statement:

In Perambalur district one of the village named Seetharamapuram where many people depend on brinjal cultivation was selected for the study. The area under brinjal cultivation in Seetharamapuram village was 35 ha. The farmers mainly depend on chemical insecticides for the management of insects mainly fruit and shoot borer *Leucinodes arbonalis* and whitefly. The loss caused due to the pest infestation was 53 per cent. The productivity was obtained by the farmer was 7.70 t/ha The use of pesticides, however, carries several dangers. Non -optimal and non-judicious use of pesticides may result in a series of problems related to both loss of their effectiveness in the long run and certain externalities like pollution and health hazards. It is argued that increase in production cost, when associated health costs are counted due to use of pesticides, exceeds the improvement in crop productivity. Hence, an FLD trail was conducted on 10 farmers field during the 2016-17 for encouraging the farmers for adopting the ecological engineering based IPM for the management of Pest to increase the production with reduced cost of cultivation.

Plan, Implement and Support

Several extension activities like demonstration, field visits, newspaper coverage was conducted for the farmers for delivering the IPM technology and enhancing the natural enemies in ecology for the pest management. The farmers are invited for the safe and judicious use of pesticide awareness programme which was conducted in KVK collaborative with CIPMC, Trichy. An FFS programme on brinjal was conducted by CIPMC centre in the Seethararamapuram village in which periodical field visits and advisory was also given by our KVK also in that programme. To reduce the damping off disease and leaf curl virus diseases in brinjal an FLD trail on IDM in brinjal had been conducted during 2017-18. The farmers were taught about seed treatment with bioagents and soil drenching and foliar spraying of *Pseudomonas* and *Trichoderma* bioagents.

Out put

The farmers were adopting the IPM practices during the current year which was not followed in earlier. Most of the brinjal cultivating farmers of Seetharamapuram village were able to take their own decision for the pest management. They are sowing maize as border crop to increase the natural enemy population in brinjal field. They prepared the Panjagavya during the seedling stage in nursery for spraying in main field. They are using organic ammendments like Azospirillum and neem cake and FYM as basal application in their field. Were as they used only chemical fertilizer before in large quantity. When they noticed the whitefly incidence during cropping season they are installing the yellow sticky traps @ 5/acre. They are using light traps @ 1/ acre for fruit borer male moth attraction. They undergone surveying for natural enemies before using the chemical pesticides. Before conducting this trail only few farmers were adopted IPM technologies after conducting the IPM FLD trail and FFS three fourth of the farmers are adopting this technology.

On an average now, the farmers were obtaining an average yield of 270 q/ha with average cost of cultivation of Rs. 120388/ha and obtained the B:C of 1.8 to 2.45.

COST OF CULTIVATION – Brinjal

Average Cost of production before the technology adoption in farmers field :

Sl.No.	Particulars	Amount
1.	Nursery Raising	5910
2.	Transplanting	1073
3.	Land preparation + Farmyard manure application	19350
4.	Weeding once/month for six months	12241
5.	Insecticide application weekly once for six months (incl. of irrigation, crop watching etc.)	50273
6.	Fertilizer basal	4561
7.	Fertilizer top dressing (4times)	20311
8.	Harvesting (three times/week 5 members /ha)	26170
9.	Transportation	23648
10.	Market commission	3000
	Total	**166362**

COST OF CULTIVATION – Brinjal

Change in farmers cost of cultivation after the technology adoption:

Sl.No.	Particulars	Amount
1.	Nursery Raising	5910
2.	Transplanting	1073
3.	Intercrop + Border crops + Labour	500
4.	Land preparation + Farmyard manure application	19350
5.	Weeding once/month for six months	12250
6.	Different traps (light trap, pheromone trap, yellow sticky trap), NSKE and Panjagavya spray, Insecticide application in need based	10700
7.	Azospirillum and soil test based basal Fertilizer	2567
8.	Top dressing FYM with fertilizers (4times)	15316
9.	Harvesting (three times/week 5 members /ha)	26170
10.	Transportation	23648
11.	Market commission	3000
	Total	**120388**

Outcome

Nowadays this IPM technologies were spread among other villages of Perambalur district after attending the Safe use of pesticide farmers national seminar. Before that the farmers were unaware of using the IPM technologies but after giving training on role of biocontrol agents and biopesticides the farmers show interest in using the bioagents and traps for monitoring.

Impact

The bad effect of chemical pesticides on beneficial insects, human health, environment, pest resurgence and pesticide residue remained in crop had been believed by the farmers after attending the pesticide safety seminar, FLD trails and FFS conducted. IPM was helped farmers in the village to increase their income, improve their livelihood as well as health and environment conditions.

Integrated pest management (IPM) approach is the answer to tackle a pest attack. IPM implementation can also reduce the use of pesticide and avoid an environmental problem in the area. Nowadays, global needs the food to be free of chemical as well as good quality product. The main objectives in IPM is to train rice growers the concept of pest management using combination of all suitable techniques to be practiced in his or her field. Other objectives of IPM are to control and maintain biological diversity In brinjal field and to keep pest below threshold levels that can cause unacceptable crop losses

13. B. Give details of innovative methodology or innovative technology of Transfer of Technology developed and used during the year

Nil

15. C. Give details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development (in detail with suitable photographs)

S. No.	Crop / Enterprise	ITK Practiced	Purpose of ITK
1	Sugarcane	Spraying of egg solution over sugarcane seedlings	Prevent the seedling from rabbit damage
2	Paddy, cotton	Homemade Pest repellent spray: Equal quantity of Neem leaf , adathoda leaf, pungam leaf, yeti seeds, opuntia were crushed and soaked in cow urine, with curd and jaggery for a week and foliar spray has been done	Management of sucking pests in cotton and paddy
3	Millets grains	Grains were mixed with neem leaves	For avoiding pest damage

16. IMPACT

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)
Vermicompost production	27	48.14	Income before initiation is Nill	Income Rs.4500 to 6000/Month
Mushroom production	15	13.33	No unit before training, so income nil	Rs. 10000/month
Use of bioagents for Onion	130	66.1	Rs. 1,54,000/ha	Rs.2,12,000/ha
Application of vegetable special	118	55.0	Rs. 1,15,000/ha	Rs. 1,38,000 / ha

Integrated Pest Management in Brinjal	25	80	Rs.26512 / ha	Rs. 40250/ha
Bioagent management in Cotton	20	45	Rs. 11151/ha	Rs. 20480/ha
Demonstration on seed treatment with bioagent in Paddy	32	37.5	Rs. 29690 /ha	Rs. 41021/ha
Demonstration on Groundnut rich application	108	43	Rs. 40723/ha	Rs.69203/ha
Value addition in Masala powder	15	33	-	Rs.3500/month
Value addition in Minor millets	20	25	-	Rs. 5500 /month

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

16.B. Cases of large scale adoption

GROUNDNUT CULTIVATION

a.Background

Groundnut is the important oilseed crop of Perambalur district cultivated in more than 1000ha every year. Farmers were using low yielding varieties like TMV 7. Hence, the recently released Groundnut variety Co 7 was demonstrated in selected farmers in Aukkur, Kizhumathur, Perumathur villages by KVK, Perambalur during 2016-17 and Adaikampatti and Irrur villages during 2017-18. This programme envisages the production potential of the newly developed technologies of Groundnut at farmer's field through KVKs so as to bring in enhanced application of modern technologies to address the issues related to increased production of Oilseeds in the district so as to enhance its Productivity the KVK introduced Co7 groundnut with improved Production process.

b.Interventions

Oilseed productivity has to be enhanced by improved package of practices and by overcoming the various production constraints such as allocation of marginal lands, non adoption of High Yielding Varieties, inadequate plant population, imbalanced fertilizer application, not adopting micronutrient application and plant protection measures etc. The ICM technology which not only augments Groundnut production by training and issue of inputs, but also, in making the farmer to adopt the full package without omission for sustained production and productivity. On demonstrating the full package the farmers not only get convinced of the technologies but also, act as source of the neighbouring farmers to follow the protolcol. 65 farmers were selected in the Anukkur, Kizhumathur and Perumathur villages and frontline demonstrations were conducted in their fields during Rabi 2016-17. Groundnut variety Co 7 was used for demonstration in comparison with local check TMV 7.

i.Process

The land was ploughed twice using tractor drawn tiller to get optimum tilt for better root and shoot growth. Sowing was taken up at right time with a spacing of 30 cm x 10 cm and care was taken to ensure optimum plant population by gap filling on 7thDAS. To enhance flower retension and better pod set, Groundnut rich @ 2 kg/ha was sprayed at the time of flowering. Need based plant protection measures were taken up to keep the pest population under check. Harvesting was done at correct maturity to avoid field losses.

ii.Technology

Variety Co 7 with 105-110 days duration and yielding capacity of 2300 kg of seeds per ha in rainfed situation and 2806 kg of seeds per ha in irrigated situation were introduced. The variety tolerant had good tolerance to drought. Pods were comparatively bigger in size and seeds were well filled.

c.Impact

i.Horizontal spread

Improved Oilseed production technologies were explained in the Anukkur, Kilumathur and Perumathur, Chathiramanai, Irrur villages of Perambalur by conducting demonstrations in selected farmers' field and by couple of trainings. Awareness was created among the farmers. Other farmers very much interest to cultivate the new variety after knowing the yield ability of the variety.

ii.Economic gains

KVK officials are motivated to Cultivate Groudnut variety Co7 under demonstration and training. 5 Villages datas like cost of production, gross income, net income, cost benefit ratio were collected from the villages details were monitored by KVK scientist.

Name of Village	Yield (q/ha)	Gross cost	Gross return	Net return	B.C.R
Anukkur	24.80	119078	48340.3	70738.1	2.46
Kizhumathur	24.58	118001	69203.1	69203.1	2.42
Perumathur	25.31	121522	48736.3	72785.3	2.50
Irrur	24.64	118295	47657	70638.3	2.48
Chathiramanai	24.83	119200	48595.4	70604.3	2.45
Total	24.832	119219.2	52506.42	70793.82	2.462

iii.Employment generation

The marginal increase in labour is due to increased yield and production factors. The indirect employment generation will also increase and got good profit and providing employment to other neighbors.

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

<u>Safe Use of Pesticides awareness Programmes</u>

Background:

Perambalur a leading producer of cotton in the State, has seen a sharp increase in area of coverage under the crop by 13,500 hectares (ha) this year from an average 20000 ha to 33500 ha. Earlier, the farmers in Perambalur district were cultivating crops like millets and groundnuts. Last decade majority of the cultivated area shifted to Bt cotton, a genetically modified crop. which was previously considered to be pest resistant, accounts for almost the entire area under cotton.

Presently the crop witness Pink Bollworm, which could potentially devastate it, sending farmers scurrying to initiate protective measures as Bt cotton is becoming a failure it has been unable to keep its original purpose of staving off pests, so farmers use a combination of different organophosphate and synthetic pyrethroid insecticides, sold under different brand names. Farmers unaware of the pesticides life-threatening potential, handle them without proper safety measures. More-over cotton plants grew 1.5 feet taller, to around six feet, because of the increased humidity in atmosphere. Owing to increased shoot growth and high-density, pest attacks were high. This year the cotton plants were also taller, so farm workers spraying pesticides had to lift the nozzle above their height to cover the crop which resulted in higher absorption of higher quantities of pesticides exposure through inhaling and skin contacts.

Apart farm workers take spray continuously as there were less labors available to spray several thousand ha, many farm hands stretch themselves to spray as many tanks as possible in a day and make money instantaneously, unmindful of the exposure to highly toxic pesticides. This resulted in loss of life and other serious health conditions. In this context KVK Perambalur undertook serious strategies to help farmers overcome pesticide poisoning related issues once and for then forward.

KVK Intervention in promoting safe use of Pesticides

SL	Target Persons	Type of Intervention
	a) Farmers b) Farmer Representatives c) Farm workers (spray person & helpers) d) Pesticide dealer/retailers	a) Training on safe use of pesticides. b) Providing personal protective equipment's at mass scale. c) Creating awareness through mass media d) Demonstrating usage of personal protective equipment's while spraying plant protection chemicals in KVK's Cluster villages

Methodology:

Diagnostic visits were made to locations where pesticide poisoning occurred to assess the situation and find its cause – all damages pointed negligence and unawareness. Precise programmes were planned and implemented with help of Allied Departments and District Administration to ensure no further such incidents were to happen.

a) Initial awareness programme on safe use of pesticides for farmers, farmer-representatives, farm workers and pesticide retailers were conducted at district level to create awareness on safe use of pesticides and halt all trauma related to pesticide poisoning.
b) Protective gears (Personal protective equipment's) for safe application of pesticides were provided to 500 participants to familiarize and promote its use among their fellow users with the help of Agrochemical dealers and manufacturers.
c) Awareness on safe use of agrochemicals was promoted through local dailies, All India Radio.
d) Pesticide dealers of the district were made aware of toxic effects relating to agrochemicals exposure and minimizing it through refresher training courses on a two-day training programme and thereby promote awareness on safe use of pesticides at
e) The rampant use of chemicals including insecticides, fungicides, herbicides, under the adage, "if little is good, a lot more will be better" which play havoc among humans and other life forms was to be stopped. Thereby educating the users with examples of cause and hazards of agrochemicals impact on human health, food commodities, environment, ground water, aquatic structures, soil, air and non-target organisms. The measures aided

to restricted/appropriate/necessary usage of agrochemicals in terms of quantities and the same was concluded after a brief study.

SL	Villages covered	Protective kits distributed	Pesticide poisoning after KVK intervention
1	76	350	0

Impact of KVK intervention.

a) After the KVK's intervention zero pesticide poisoning case has occurred.
b) Farmers were precautious of Safety measures to be followed while handling plant protection chemical and tend to own protective gears for safe use of chemicals.
c) Pesticide dealers inform their consumers about precautionary measures to be followed while using chemicals.

Conclusion

Technocrats (pesticide dealers, Farmers representatives and youth) developed by the KVK create awareness of the safe use of pesticides and the horizontal spread was witnessed in villages where people found to be using protective gears while spraying agrochemicals

17. LINKAGES

17.A. Functional linkage with different organizations

Name of organization	Nature of linkage
TamilNadu Agricultural University, Coimbatore	Technical consultancy , participation in seminar, technical interaction during formulation of OFT and FLD and SAC .
State Department of Agriculture	Training programmes , joint diagnostic survey, identification of target groups for implementing the KVK activities such as training , OFT, FLD demonstrations , field days , SAC interactions and participation in monthly zonal workshop
State Department of Horticulture	Training programmes , joint diagnostic survey, identification of target groups for implementing the KVK activities such as training , OFT, FLD demonstrations, SAC interactions and field days
State Department of Animal Husbandry	Animal health camp, technical interaction and SAC interactions
Tamil Nadu Corporation for Development of Women Ltd.,	Vocational trainings to self-help group members and SAC interactions
State Department of Sericulture	Technical interaction , participation in seminar, SAC interactions and meetings
National Research Centre for Banana	Technical consultancy , participation in seminar and SAC interactions
VeterinaryUniversity Training and Research Centre ,Perambalur	Technical consultancy , participation in seminar and technical interaction during formulation of OFT&FLD
KVK, Namakkal, Cuddalore, sirugamani, Tindivanam, Karur, Erode, Krishnagiri.	KVK ring

ATMA, Perambalur	Technical guidance, Training, FarmSchool, SREP preparation
DWDA, Krishnagiri	Watershed Training & Exposure visit.
NABARD, Perambalur	Formation of Farmers clubs, Participation in seminar, SAC interactions and identification of target groups, FPO's
Community Polytechnic Scheme, Roever Polytechnic, Perambalur	Training to Community Polytechnic Scheme beneficiaries and participation in demonstrations
All India Radio, Trichy	Information broadcasting on KVK events to farmers, technical broadcasting to farmers and SAC interactions
DMI,NGO, Valikandapuram	Trainings and seminars
Thanthai Roever Institute of Agriculture and Rural Development, Perambalur	Collaborative training, NSS meetings
Integrated Child Development Scheme(ICDS)	Sponsored training, technical consultant
National Horticultural Research and Development Foundation, Coimbatore	Exposure visit, Technical guidelines and seed materials
CICR, Coimbatore NCIPM, New Delhi & CCI, Coimbatore	Sponsored training and technical consultant, Bt cotton IPM research

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.)
Women empowerment through value addition in minor millets	2012.2017 to 24.12.2017	TamilNadu State Council for Science and Technology, Chennai	50000
Use of bio control agents against biotic and abiotic stress in Small Onion	03.01.2018 to 06.01.2018	TamilNadu State Council for Science and Technology, Chennai	50000
Cluster FLD on Oilseeds	January 2018	NMOOP	225000
Cluster FLD on pulses	August 2017	NFSM	150000

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