

ANNUAL REPORT 2017 - 18

FOR THE PERIOD

APRIL 2017 to MARCH 2018

ICAR – KRISHI VIGYAN KENDRA

Hosted by SCAD

Thoothukudi District, Tamilnadu

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

(Note: While preparing summary, please don't add or delete any row or columns)

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	40	423	548	971
Rural youths	12	101	138	239
Extension functionaries	5	81	84	165
Sponsored Training	6	134	71	205
Vocational Training	3	25	6	31
Total	66	764	847	1611

2. Frontline demonstrations

Enterprise	No. of Farmers	Area (ha)	Units/Animals
Oilseeds	150	60	
Pulses			
Cereals	20	10	0
Vegetables	10	4	0
Fruits	15	6	0
Total	195	74	0
Livestock & Fisheries	10	0	20
Other enterprises	1	0	5
Total	11	0	25
Grand Total	206	74	25

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops	3	15	5
Vegetable	3	15	5
Livestock	2	20	10
Various enterprises	2	5	25
Total	10	55	45
Technology Refined			
Crops			
Livestock			
Various enterprises			
Total			
Grand Total	10	55	45

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	945	17190
Other extension activities	49	Mass
Total	994	17190 + Mass

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						Total
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	
	Text only	24	13	50	-	8	-	95
	Voice only							
	Voice & Text both							
	Total Messages	24	13	50	-	8	-	95
	Total farmers Benefitted	18718	18718	18718		218		56372

6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	18.47	299364
Planting material (No.)	4801	241935
Bio-Products (kg)	6858	419070
Livestock Production (No.)	1786	106452
Fishery production (No.)	-	-

7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil	482	40150
Water	115	4600
Plant		
Total	597	44750

8. HRD and Publications

Sr. No.	Category	Number
1	Workshops	8
2	Conferences	1
3	Meetings	4
4	Trainings for KVK officials	8
5	Visits of KVK officials	4
6	Book published	0
7	Training Manual	4
8	Book chapters	0
9	Research papers	0
10	Lead papers	0
11	Seminar papers	0
12	Extension folder	6
13	Proceedings	0
14	Award & recognition	1
15	On-going research projects	0

PART I - GENERAL INFORMATION ABOUT THE KVK**1.1. Name and address of KVK with phone, fax and e-mail**

KVK Address	Telephone		E mail	Web Address
	Office	Fax		
ICAR KVK Hosted by SCAD, Vagaikulam, Mudivaithanendal Post, Thoothukudi	0461- 2269306	0461- 2269306	pcscadkvk@gmail.com	www.scadkvk.org

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

Address	Telephone		E mail	Web Address
	Office	Fax		
Social Change and Development (SCAD) 105A1, North Bye pass road, Vannarpettai, Tirunelveli - 3	0462- 2501008	0462- 2501007	scb_scad@yahoo.com	www.scad.org.in

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. V. Srinivasan	-	9942978486	srintutkvk@gmail.com

1.4. Year of sanction: 1995**1.5. Staff Position (as 31st March 2018)**

Sl. No	Sanctioned post	Name of the incumbent	Designation	M /F	Discipline	Highest Qualification	Pay Scale	Basic pay	Date of joining KVK	Permanent/Temporary	Category (SC/ST/OBC/ Others)
1	Programme Coordinator	Vacant									
2	SMS	Dr.V.Srinivasan	SMS & PC i/c	M	Animal science	M.V.Sc., (Vet. medicine)	15600-39100+5400	26010	8.7.1999	P	Others
3	SMS	S. Sumathi	SMS	F	Home science	M.Sc., (H.Sc.Ext.,)	15600-39100+5400	25340	1.12.2000	P	OBC
4	SMS	P. Velmurugan	SMS	M	Horticulture	M.Sc., (Horticulture)	15600-39100+5400	23760	30.1.2001	P	SC
5	SMS	A. Murugan	SMS	M	Agronomy	M.Sc., (Ag) (Agronomy)	15600-39100+5400	18240	18.07.2011	P	SC
6	SMS	Vacant			Plant protection						
7	SMS	Vacant			Agriculture Extension						
8	Programme Assistant	I. Jeyakumar	Lab. technician	M	Lab Assistant	M.Sc (Microbiology)	9300-34800+4200	10130	12.07.2013	P	Others
9	Programme Assistant	J. Jove	Computer	M	Computer science	M.C.A	9300-34800+4200	12050	01.04.2011	P	OBC
10	Programme Assistant	K. Dhamodharan	Farm Manager	M	Agriculture	B.Sc.,(Agri)	9300-34800+4200	13050	31.8.2009	P	OBC
11	Assistant	S.S. Ganesan	Accountant	M	-	M.Com	9300-34800+4200	19870	1.6.1996	P	Others
12	Stenographer	Vacant									
13	Driver 1	A. Dominic James	Driver	M	-	SSLC	5200-20200+2000	10380	1.6.1996	P	OBC
14	Driver 2	Gulam Rasul	Driver	M	-	SSLC	5200-20200+2000	10060	1.7.96	P	OBC
15	Supporting staff 1	K. Rajeshwaran	Farm assistant	M	-	BA	5200-20200+1800	8560	1.12.96	P	SC
16	Supporting staff 2	V. Xavier	Watchman	M		M.Com	5200-20200+1800	8080	12.11.01	P	OBC

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

S. No.	Item	Area (ha)
1	Under Buildings	2.0
2.	Under Demonstration Units	0.8
3.	Under Crops	3.0
4.	Orchard/Agro-forestry	6.0
5.	Others	8.20

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	2001	1100	42 Lakhs			
2.	Farmers Hostel	ICAR	02.03.2011	305	35 Lakhs			
3.	Staff Quarters	ICAR	2007	650	24 Lakhs			
4.	Demonstration Units							
	. Poultry shed	ICAR	2006	160	1.49 Lakhs			
	. Vermicompost unit	ICAR	2006	40	0.4 Lakhs			
5	Storage Godown	ICAR	2.3.2012	45	3 Lakhs			
6	Vehicle cum Implement shed	ICAR	2.3.2012	60	3 Lakhs			

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total Kms. Run	Present status
Tempo cruiser	3/30/2004	4.96	1,82,867	Needs major repair and maintenance
Bajaj boxer CT 100 deluxe	4/18/2005	0.39	80,576	Running
Hero Honda Splendor	4/13/2009	0.45		Running

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
OHP	1996	18315	Good Condition
Fax machine	2009	15000	Good Condition
Power tiller	2010	150000	Good working condition
3 KVA UPS	2009	---	Good Condition
VSAT Modem	2009		Good Condition
LCD Projector (In focus)	2011	35490	Good Condition
AV aid	2011	15000	Good condition
Slide projector	1996	14265	Not in use
Mf tractor and trailer	1999	362400	Not in use
Electronic type writer	1996	19200	Not in use and condemned
Photo copier	2005	82840	Not in use To be condemned
Computer with printer and accessories	2005	68800	Not in use and condemned
Digital photo camera	2005	19990	Not in use To be condemned
EPABX	2011	15000	Not in use to be condemned
LCD projector screen and laptop computer	2007	98600	Under repair and spares not available To be condemned
Generator	2011	150000	Under repair, spares not available
Server computer – 1 Personal Computer – 5	2009	-	Supplied under e-linkage program 3 PCs are not in working condition

1.8. Details SAC meeting conducted in 2017 – 18 (Date: 29.11.2017 – 13th SAC Meeting)

S. No	Date	SAC Member	Major recommendations	Status of action taken in brief																														
1	29.11.17	Dr. H. Philip, DEE, TNAU	Minimum of 50 programmes may be given in AIR. Each Scientist should give at least one program a month in AIR Information on successful farmers, entrepreneurs, training details may also be broadcasted in AIR	Information about the conduct of training programmes for every month for October to Feb 2018 was given to AIR and future also this will be continued The following KVK scientists and farmers delivered talk/interview to AIR on the following topics <table border="1"> <thead> <tr> <th>Date of broadcast</th> <th>Topic</th> <th>Staff</th> </tr> </thead> <tbody> <tr> <td>01.01.2018</td> <td>Integrated farming system: a talk</td> <td>Dr.V.Srinivasan Senior scientist and Head i/c</td> </tr> <tr> <td>08.01.2018</td> <td>Snake guard cultivation technologies: a Talk</td> <td>P.Velmurugan Scientist Horticulture</td> </tr> <tr> <td>15.01.2018</td> <td>Paneer preparation from milk :an interview</td> <td>S.Sumathi Scientist Home science</td> </tr> <tr> <td>22.01.2018</td> <td>Direct seeding of paddy with drum seeder: an interview</td> <td>Mr.A.Murugan Scientist Agronomy</td> </tr> <tr> <td>29.01.2018</td> <td>Azolla cultivation technique : an interview</td> <td>K.Dhamodharan Farm manager</td> </tr> <tr> <td>07-01-2018</td> <td>Role of FPC in the service of farmers :an interview</td> <td>V.Subbaraman Ottanatham</td> </tr> <tr> <td>14-01-2018</td> <td>Experience in integrated farming an interview</td> <td>D.Kingsly mangalagiri</td> </tr> <tr> <td>21-01-2018</td> <td>Role of biofertilizer in dry farming : an interview</td> <td>K.Shanmugalakshmi, Sokkalingapuram, Vilathikulam</td> </tr> <tr> <td>28-01-2018</td> <td>Farming experience : an interview</td> <td>Mr.A.P.K. Ramamoorthi Keelapoovani Mr.A.kumarkurubaran Ottanatham</td> </tr> </tbody> </table>	Date of broadcast	Topic	Staff	01.01.2018	Integrated farming system: a talk	Dr.V.Srinivasan Senior scientist and Head i/c	08.01.2018	Snake guard cultivation technologies: a Talk	P.Velmurugan Scientist Horticulture	15.01.2018	Paneer preparation from milk :an interview	S.Sumathi Scientist Home science	22.01.2018	Direct seeding of paddy with drum seeder: an interview	Mr.A.Murugan Scientist Agronomy	29.01.2018	Azolla cultivation technique : an interview	K.Dhamodharan Farm manager	07-01-2018	Role of FPC in the service of farmers :an interview	V.Subbaraman Ottanatham	14-01-2018	Experience in integrated farming an interview	D.Kingsly mangalagiri	21-01-2018	Role of biofertilizer in dry farming : an interview	K.Shanmugalakshmi, Sokkalingapuram, Vilathikulam	28-01-2018	Farming experience : an interview	Mr.A.P.K. Ramamoorthi Keelapoovani Mr.A.kumarkurubaran Ottanatham
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			Impact studies in proper format should be done after 3 years in the adopted villages	This will be done in Keelapoovani and Akkanayakanpatti villages in this year 2018-19																														
			Fisheries Dept and CMFRI can also be included in the converge meetings in the future events	Will be included as suggested in the future events																														
			Small, medium and large Vermicompost units are functioning very well at TNAU and the farmers may be encouraged to visit those units to start more number of such units	During Feb 2018,50 farmers were taken to exposure visit to TNAU and visited the various demo units there.																														
			Advised KVK to guide farmers to get a shop allotment in Uzhavar Santhai through Agri marketing department personals	This will be undertaken on need basis by motivating the farmers and farmers producer companies during the year 2018-19. A specific FLD programme is planned for the year 2018-19 on this line for TN kulam vegetable farmers.																														
		Dr.Y.G.Prasad Director, ATARI	More focus to be given on organic farming , integrated farming practices and value chain promotion	Six training programmes on organic farming and 5 programmes on integrated farming and 7 programmes on value chain promotion were																														

				conducted until march 2018 after the SAC meeting
			KVK to increase the distribution of soil health card among farmers	KVK has supplied soil health cards to all the FLD, OFT farmers and also to all the farmers in the adopted villages.
			KVK to organize more number of skill trainings with longer duration(3-5 days) in future	7 numbers of 3days duration and one programme of 6 days duration were conducted during 2017-18 This will be adhered as advised in the year 2018-19 also
			KVK can take up the fish fingerling production	This will be adhered as advised in the year 2018-19
			KVK should increase the fodder and seedling production	During the year 2017-18 KVK has supplied 355kg of Fodder sorghum seeds, 52kg of Hedgelucerne seeds, 2585 numbers of fodder seedlings like subabul, Sesbania and drumstick have been supplied . Attempts have already been made to increase the fodder production at KVK as advised during SAC
			Proper license should be obtained for the production of bio fertilizer and technical backstopping should be done for the bio fertilizers	Approached the department of agriculture and came to know that as on date no licensing is required for the production of biofertilizer and licensing is required only for bio pesticide production like pseudomonas fluorescence. Efforts will be taken to obtain the necessary license for the production of the same in the year 2018-19
			Short video films (3minutes) on innovative farmers to be produced by KVK.	Already 2 videos were produced on tractor drawn weeder and Mesquite pod value addition practices. Other innovations by the farmers will be explored and documented during the year 2018-19 as suggested
			A model village may be selected and base line survey to be conducted with 20 families to study the impact created through KVK interventions with an aim to doubling the farmers income	This will be done in the year 2018-19 at TN kulam village in Kayathar block
		Mr.Kingsly, Progressive Farmer, Mangalagiri	Wanted to visit a successful cow dung liquid manure production unit	50 Farmers were taken to KVK Erode and shown the successful model of cow dung liquid manure production and usage unit in the month of Feb 2018.
		Mr.Raju, chairman, Thendral FPC, Surandai	Since the Karnataka paddy variety is fetching very good price in the local market, a similar variety may be of great help.	TKM 13 paddy is a fine grain variety equal to Karnataka Ponni and the same was demonstrated in Melapooovani and the seed will be supplied to Surandai region in the coming season
		Mr.Ravi, AGM, Lead Bank	Back ended subsidy schemes are available to start dairy farm, KVK can send interested farmers to banks to avail this facility	66 farmers were enrolled in Joint liability groups and helped to avail loan facility to start the dairy farm in Mudiman, Pasuvanathanai , Eppodumvendran, Maravanmadam and South silukkanpatti villages during the year 2017-18
		Station In charge, CMFRI	The cage fabrication charge can be met by CMFRI and state fisheries department, so the cost for the cage may bring down to a reasonable level.	Interested fishermen will be identified and sent to Fisheries department to start cage fish culture in the coming year
		Assistant Director of Horticulture	KVK should motivate the farmers to use drip irrigation facilities offered by dept. of Horticulture	12 awareness programmes were organized by KVK in Poovani, Akkanayakanpatti, lakshmipuram, Ottanatham, Kootampuli villages in thoothukudi district, Out of these programmes 13 farmers have already laid out drip irrigation and 12 are in the pipe line , one

			KVK support is needed in promotion of bio fertilizer usage in banana	FPC at Kootampuli started their own drip irrigation supply unit as business promotion KVK is recommending 4kg of Azophos per ha as basal for banana cultivation round the year and this is promoted through the farmers producer company at Kootampuli, Athimarapatti villages in Thoothukudi and Kalakkadu and surandai region. During the year 2017-18 KVK has supplied 3.78qtl of Azophos, 4.6 qtl of Pseudomonas to the banana farmers
		Mr. Palani Velayudam, AD of Agri. Representing JDA, Thoothukudi	KVK's expertise in FPO registration is required for department KVK can share the farmers producer company database to the agriculture department to avoid duplication	KVK has shared its experience on FPC registration, director selection, CEO selection and business plan preparation and maintenance of records and registers etc. to the department of agriculture Thoothukudi and facilitated them with booklets on FPC formation and its maintenance. Farmer's data base of FPCs promoted by KVK will be shared as and when required by the department on need basis.
		Mr. Muruganandam, Programme officer, AIR, Tirunelveli	If many farmers are interested to record their experience in farming, AIR ready to come and record their successful farming practices in KVK premise itself	One recording programme was held at KVK and 5 farmers experience was recorded and broadcasted already. In future attempts will be made to record more number of farmers experience with AIR
		Dr. Chellapandian, P&H, ANN, VCRI, Tirunelveli	KVK can promote the mineral mixture in a larger way. Mineral mixture for goat and sheep also developed at VCRI and KVK can promote these products also Since Feed quality testing facility is available at VCRI, KVK can use this service in the coming days To produce CO FS 29 in a larger quantity, KVK can promote farmers group for the same purpose	KVK has procured 300 kg of SMART mineral mixture in the year 2017-18 and planned to procure 1000kg during the year 2018-19 to reach more number of farmers KVK has submitted the feed samples for analysis to VCRI and made adjustment in the feed compounding based on the results for its own cattle and poultry feed requirements. KVK has promoted 126 farmers during the year 2017-18 for CoFS 29 /31 cultivation and majority of them are producing seeds and supplying to their neighbors, and 3 farmers came forward to supply the seeds to KVK from Allikulam and Pudiya-muthur region.
		Dr. Veerabadran, Professor, FCRI	Suggested to send beneficiaries to avail training facilities offered in 16 new technologies developed at FCRI	9 farmers were sent to FCRI to avail training programme on fish rearing during the year 2017-18

PART 2 – DETAILS OF DISTRICT**2.1 Major farming systems/enterprises (based on the analysis made by the KVK)**

S. No	Farming system/enterprise
1	Dry farming – single crop in a year using NE monsoon, Major crops - chillies, pearl millet, maize, onion, fodder sorghum, sorghum, black gram , green gram, gingelly, sunflower, groundnut, castor, red gram, cotton, tomato, ,brinjal, cluster bean. Major livestock – goat, sheep, backyard poultry, Cross breed cattle, Non-descript cattle
2	Garden land farming – two or three crops in a year using open or tube well irrigation. Major crops - vegetables, banana, groundnut, flowers, chillies, drum stick, and cotton Major livestock - cross bred cattle,goat, backyard poultry
3	Tank fed/ river command area farming – one or two crops in a year. Major crops – Banana and paddy Major livestock – cross bred cattle, goat, sheep, backyard poultry
4.	Coastal region – Marine fishing, goat rearing, salt pan work

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

S. No	Agro-climatic Zone	Characteristics
01	Southern zone	The topography of the zone is undulating. This zone lies on the rain shadow area of the Western Ghats. The mean annual rainfall is 650mm with a contribution about 470mm from North East monsoon. The soil of this region falls under major groups viz., black, red, alluvial and lateritic. Saline coastal alluvial soils are also present in the coastal belt. In black soil only one crop, either cotton or sorghum is raised. Direct seeded rice is cultivated under rain fed condition. On red soil, groundnut crop is raised. Under garden land conditions, Bajra and chillies form the major crops.

S. No	Agro ecological situation	Characteristics
01.	Hot semiarid eco region (H ₁ D ₂)	Hot and dry summers and mild winters with a mean annual rainfall of 600 to 1000mm and a length of growing period of 90-150 days in a year. Soil type- red loamy soil, Rain fed cultivation is the traditional practice with crops like millets, pulses, and oilseeds under irrigated conditions cotton, sugarcane and rice are the major crops . Severity of the soil erosion and drought due to poor moisture holding capacity of soil are the major constraints.
	Hot sub humid to semiarid eco region with coastal alluvium derived soil (S ₇ CD _{2.5})	Crop growth period 90-210 + days, coastal alluvium soil type

2.3 Soil types

S.No	Soil type	Characteristics	Area (in ha)
1	Sandy soil	These are derived from granities ,graniloid,quartzites and sand stones .The colours are due to red hematite and yellow limonite .Base Exchange capacity is from 5 to 25 meq per 100 g of the soil and pH generally on the acidic side , ranging from pH 4.5-6.5	70,324
2	Clay soil	They have a characteristic dark colour ,varying from dark brown to deep black .They are formed by the weathering of trap rocks .These soils have a clay percentage ranging from 40-60%.the composition of clay is chiefly of the monomorillonite group and thus shows swelling and shrinking .The pH varies from 7.5-8.5	1,88,876
3	Sandy loam	Moderate medium sub angular blocky ,dry hard ,moist friable ,wet slightly sticky and very slightly plastic ;many fine roots ;many fine and common medium pores ;rapid permeability ;clear smooth boundary; pH 6.8	31,722
4	Sandy clay loam	Weak fine sun angular blocky ;dry slightly hard ,moist friable ,wet slightly sticky and slightly plastic ,slight effervescence ; many fine roots ;many fine to medium irregular pores ;moderately rapid permeability ;clear smooth boundary ; p ^H 8.0	82,226
5	Sandy clay	Moderate medium sub angular blocky ,dry hard ,moist firm ,wet sticky and plastic ;many fine roots ;few fine pores and mild effervescence ;slow permeability ;clear wavy boundary; pH 7.3	8,688

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

S. No	Crop	Area (ha)	Production (Metric tons)	Productivity (kg /ha)	% to the total area sown
1.	A. FOOD GRAINS:				
	a) CEREALS & MILLETS				
	Paddy	18700	29814	4520	14.10
	Sorghum	15800	18871	2106	5.79
	Cumbu	10000	16473	1754	8.26
	b) PULSES				
	Black gram	52104	6540	172	22.37
	Green gram	33906	6269	177	20.42
2	B. FIBRE				
	Cotton	7172	6440	1.32	3.39
3.	C. OIL SEEDS				
	Ground nut	1050	1151	2227	0.82
	Sesame	1910	307	274	1.32
	Sun flower	1940	614	490	1.02
4.	D. OTHER CROPS				
	Chilli	12384	2058	176	10.27
	Banana	7379	287340	30000	6.66
	Drumstick	950	19000	20000	0.66
	Coriander (Grains)	2363	1023	315	2.26
	Onion	2783	18096	12000	1.05
	Other vegetables	1144	36896	16000	1.60

* Source: Joint Director of Agriculture, Thoothukudi District (Year 2016 – 17)

2.5. Weather data

Month	Rainfall (mm)	Temperature °C		Humidity (%)	
		Maximum	Minimum	Maximum	Minimum
April – 2017	1.21	31	28	85	68
May	14.17	34	26	80	64
June	1.46	34.8	27.2	82	67
July	2.32	34.7	28.9	80	69
August	31.67	34.2	29.9	84	71
September	69.16	34	26	85	73
October	36.38	32	26	86	74
November	161.83	31	24	90	79
December	144.36	30	23	90	79
January – 2018	18.32	29	22	90	61
February	0.65	35	22	96	63
March	12.63	35	24	97	76

Source: 1. scientific officer, Meteorological Observatory, ARS (Kovilpatti) (Temperature and Humidity)
District JDA office, Thoothukudi for RF

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

Category	Population
Cattle	124310
Dogs	36427
Sheep	188946
Goat	305842
Poultry	315157

Source: 18th livestock census

Category	Area	Production	Productivity
Fish			
Marine	163.5 km	41050 tonnes	-
Inland			
Prawn	NA	NA	NA
Scampi	NA	NA	NA
Shrimp	NA	NA	NA

Source: Assistant Director of Fisheries, Thoothukudi

2.7 Details of Adopted Villages (2017 – 18)

Year of Adoption:

Sl. No.	Taluk	Block	groups of villages	How long the village is covered under operational area of the KVK (specify the years)	Major crops & enterprises being practiced	Major problems identified	Identified thrust areas
1	Srivaikundam	Karungulam	Manakkara Alwarkarkulam Kongaraya kurichi Anandana mbi kurichi	2014 – 15	Paddy 270ha	Low level of awareness on high yielding new varieties (92%). Lack of awareness on IPM practices (78%) low yield from the existing ruling Variety (ASD-16) (4500kg/ha) Continuous usage of local seeds, Poor cultivation practices (78%)	1,2,3,4
2				2014 – 15	Banana - 110ha	Underutilization of space, water and soil (30-40%) lower number of suckers/ha (2.1x2.1m =2260plants/ha) Lower net profit/unit area due to single crop 1.37lakhs/ha low productivity (35 ton/ha)	1,2,3,4,5,6
3				2014 – 15	Goat - 270	Mortality upto 10 % in adults and 30% in kids due to infectious diseases like neonatal viral enteritis, Enterotoxemia, Anthrax, Blue tongue Pneumonia, footrot and endo and ectoparasitism vaccination and deworming : no vaccination and medication No dipping is practiced to control ecto parasites Improper housing conditions during rainy and winter seasons leading to heavy mortality in kids	14
4				2014 – 15	Backyard poultry – 750	Mortality upto 80% due to RD	14
5	Ottapidaram	Ottapidaram	Akkanayak anpatti Otudanpatti Puliyampatti	2014 – 15	Black gram and green gram 350 ha	40% yield loss due to YMV, Poor pod filling due to MN deficiency (62%), Labour shortage for weeding in time (76%) Non availability of latest high yielding varieties in time (91%) Heavy usage of Weedicide & High cost of weedicide	1,2,3,4,6
6				2014 – 15	Onion 42 ha	Low water level during summer Low Production and net return to garden land farmers, High cost of bulbs	1,2,3,4,6
7				2014 – 15	Groundnut 25 ha	High labour requirement and cost Drudgery for farm women involved in groundnut stripping and decorticating (60%), Lack of access to groundnut stripper and decorticator (100%)	1,2,3,4,6
8				2014 – 15	Cattle 125	less returns from dairy cattle rearing leading to reduction in number of milch cow keeping (40% of farmers (35 persons) gave up rearing milch cows because of less profitability , Infertility or delayed fertility due to mineral deficiencies (65% of cows were affected with this problem)	14,15

9				2014 – 15	Sheep 2500 Goat 200	Mortality due to diseases like ET, BT, Sheep pox , endo and ectoparasitism (upto 50%)	14,15
10	Srivaikundam	Srivaikundam	Siruthandanallur, Sakkaammal puram, Eral, Perungulam Athimarapatty	2014 – 15	Coconut – 80 ha	Lower net income (Rs.20000/ac/yr Red palm weevil, Rhinoceros beetle	5
11				2014 – 15	Banana 330 ha	Lower net profit (Rs.112500/ha) Transport and safeguarding the poles Damage due to wind (40-60%) Recurring expense for traditional scaffolding system (70% of production cost) High cost of casuarinas poles (Rs.50-60/pole)	1,3,4
12				2014 – 15	Snake gourd 40 ha	Underutilization of resources (Land, water, space)(50%), low or no income during off season period in Drumstick - 100% low level of awareness on high yielding cucurbitaceous vegetables (30%), High seed cost of hybrid & usage of poor quality seeds	1,3,4
13				2014 – 15	Nutrition garden	Lack of place to grow vegetables Malnutrition (45%) and anemic among women and children (60%) Poor usage of available space (40%)	8
14	Villathikulam	Pudur	Chinnanayakanpatti Pudupatti	2015 – 16	Green gram – 110 ha	Labour shortage for sowing and weeding in time, Lack of practice on line sowing, Lack of access to combined harvester	1,2,3,4,6
15				2015 – 16	Dairy Cow 125	less returns from dairy cattle rearing leading to reduction in number of milch cows (40% of farmers (35 persons)	14,15
16				2015 – 16	Sheep	Mortality upto 30 % in adults and 50% in lambs due to infectious diseases like sheep pox, Entero toxemia, Anthrax, Blue tongue Pneumonia and ctoparasitism	14,15
17				2015 – 16	Sorghum- 150 ha	Low productivity in K-8 variety (990Kg/ha) Crop losses in existing commercial hybrids due to drought condition in later stage of crop growth (50%) High cost and non-availability of Commercial hybrid seeds Late maturing long duration commercial varieties invites midges attack (55%)	1,2,3,4,6
18				2015 – 16	Cluster been	Water scarcity for Summer crop (65%) Poor awareness on high yielding, drought hardy, alternate crops (60%) Low net profitability of other crops	1,2,3,4,6
19	Srivaikundam	Karungulam	Lakshmiapuram, Keelapoovani, Melapoovani	2015 – 16	Paddy 155 ha	Low Yield 4500 kg/ha, Lack of awareness fine grain varieties (60%), Ruling fine varieties ADT-(R) 45 is of lodging type (50%), Poor cultivation practice (76%) Continuous usage of local seeds (55%) Lack of awareness on IPDM practices (78%) Water scarcity (100% in Maturity Stage) Water availability 95 – 100 days only	1,2,3,4,6
20				2015 – 16	Green gram	40% yield loss due to YMV,	1,2,3,4,6

					240 ha	Poor pod filling due to MN deficiency (65%), Labour shortage for weeding in time (72%), Non availability of seed in time (91%)	
21				2015 – 16	Goat	Mortality upto 10 % in adults and 30% in kids due to infectious diseases like neonatal viral enteritis, Entero toxemia, Anthrax, Blue tongue Pneumonia, footrot and endo and ectoparasitism No vaccination and deworming practice No dipping is practiced to control ecto parasites, Improper housing conditions during rainy and winter seasons leading to heavy mortality in kids	14,15
22				2015 – 16	Ground nut	Low level of awareness on high yielding new varieties (90%) , Continuous usage of local seed (98%) Labour shortage for sowing and weeding in time (75%) Non availability of seed in time (91%)	1,2,3,4,6
				2015 – 16	Poultry	Mortality upto 90% due to ranikhet diseases	12,14,15
23	srivaigundam	srivaigundam	Manjalneer kayal, Palayakayal, Kovangadu	2017-18	Paddy	Low land area (80%) Lack of awareness on saline resistant short duration varieties	1,2,3,4
					Banana	Low return (Rs.55000/acre/year) in banana due to high cost of cultivation Yield loss due to pest and diseases (20%)	1,2,3,4,6
					Backyard poultry	Mortality upto 40% due to RD	12,14,15
					Cattle	High cost of concentrate feed for high yielding cows reduces the profitability (85%) Excessive feeding of grain or gruel leading to development of SARA and locomotor abnormalities (25%) Green fodder shortage (90%) Poor nutritive value in straw and crop residue fed to cattle (80%) Reduced milk production due to mastitis (22%) and infertility (15%)	14,15
24	Vilathikulam	Vilathikulam	Vembar	2017-18	Palmyra trees	Lack of market out let for Palm tuber in villages Lack of awareness about its value addition Underutilization of palm tuber even though it has high nutritive value Poor shelf life for fresh tuber	9,17

2.8 Priority thrust areas

S. No	Thrust area
1	Promotion of soil test based nutrient management
2	Improvement of soil fertility through sustainable practices
3	Introduction of high yielding , improved crop varieties in agriculture and horticulture
4	Promotion of ICM practices for major crops like Paddy, Banana, Chilli, Maize, Black gram, Green gram, Tomato, Onion and Cotton
5	Promotion of ecological pest control measures and organic farming techniques
6	Promotion of Bio fertilizers and Vermicompost usage
7	Promoting Tree planting in wastelands and in the backyards
8	Ensuring nutritional security of farm women and children through Kitchen gardening, storage and healthy cooking habits
9	Promotion of value added product preparation from Prosopis juliflora , milk ,fish ,banana , minor millets and vegetables
10	Promotion of IFS model farming system
11	Promotion of drought mitigation measure
12	Promotion of alternative poultry farming, improved backyard poultry breeds, and artificial incubation of eggs.
13	Awareness creation on drought mitigation and promotion of appropriate agronomic techniques
14	Comprehensive disease control measures in livestock
15	Feeding and breeding management in cattle and goats
16	Promotion of inland freshwater fish cultivation in village ponds
17	Promotion of EDP and Capacity building

PART 3 – TECHNICAL ACHIEVEMENTS**3A. Details of target and achievements of mandatory activities**

OFT				FLD			
1				2			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
6	5	60	50	8	8	80	80
Training				Extension Programmes			
3				4			
Number of Courses		Number of Participants		Number of Programmes		Number of participants	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
75	65	1800	1611	1042	945	14300	17956
Seed Production (Qtl)				Planting materials (Nos)			
5				6			
Target	Achievement			Target	Achievement		
29.50	Seed Kit – 0.455 Co (FS) 29, 31 – 2.80 Azolla – 0.15g Subabul – 0.05 Hedge lucerne- 0.39 Green gram (Co 8) – 3.12 Black gram (VBN 4) – 5.00 Black gram VBN-5- 6.50 Total = 18.47			5500	4801		
Livestock, poultry strains and fingerlings (No)				Bio-products (Kg)			
7				8			
Target	Achievement			Target	Achievement		
Poultry – 2000	1786			5000 Kg	Bio Fertilizer – 693 Kg Bio Fungicide – 106 Kg EM – 1874 Liter Panchakavya-316 lit Salt Lick – 49 Kg Vermicompost – 3820 Kg Total = 6858kg		

3. B Technology Assessment**A1. Abstract on the number of technologies assessed in respect of crops**

Thematic areas	Cereals	Oil seeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management	1									1
Varietal Evaluation					1					1
Integrated Crop Management	2									2
Total	3	0	0	0	1	0	0	0	0	4

Summary of technologies assessed under various CROPS by KVKs

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trail covering all the Technological Options)
Integrated Nutrient Management	Farm family	Assessment of glycemic index of traditional paddy varieties	5	5	0
Varietal Evaluation	Snake gourd	Assessing the yield performance of snake gourd varieties	5	5	2
Integrated Crop Management	Paddy	Contingent Plan of Rice cropping for Thamirabarani river Command Area	5	5	3
	Paddy	Assessment for drudgery reduction of different weeders in paddy	10	10	0
TOTAL			25	25	

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	Dairy cow	Assessment of different preventive measures for subclinical mastitis in dairy cow	10	10
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 Details

OFT no.	1			
1	Title of Technology Assessed	Contingent Plan of Rice cropping for Thamirabarani river Command Area		
2	Thematic area	ICMP		
3	Scientist Involved	Mr. A.Murugan (Agronomy)		
4	Farming Situation	Season : Rabi Farm situation : Irrigated Soil type : Clay loam Fertility status :117.6 :12.3 :490 NPK Seasonal rainfall : Rabi season - 454mm No of rainy days : 11 days		
5	Problem Definition	Delayed release of water consequent to delayed onset of monsoon, Low organic matter of rice soils. Low Yield 4500 kg/ha. Lack of awareness fine grain varieties (60%), Ruling fine varieties BPT - 5204 is susceptible to bacterial leaf blight (35%), Continuous usage of local seeds (55%)		
6	Critical input	Name of Critical input	Qty / trial	Cost / trial
		Seed (TKM-13)	24 kg	840
		Green manure seed Daincha	20 Kg	1200
7	Details of technologies selected for assessment	T1 – Green manure SRI Method	T2 – Green manure Drum seeder	T3-Rice cum green manure seeder
8	Source of technology	TNAU	TNAU	TNAU

9	Performance of the Technology with performance indicators	Parameters	T1	T2	T3
		Paddy Seed rate per acre in kg	4	20	20
Daincha seed rate pre acre in kg	20	20	10		
Paddy Plant Population/m ²	16	12.6	13.4		
Daincha population /m ²	62	62	20.5		
Labour required for sowing (man hours)/ac	96	4	4		
Labour required for weeding (man hours)/ac	12	18	18		
No of Productive tillers / hill	23.6	21.8	21.6		
No of seeds / panicle	205.8	189.6	181.2		
1000 grain wt.	14.7	14.5	14.6		
Soil pH - before Daincha sowing	7..68	7.68	7.68		
Soil pH -After harvesting	7.32	7.34	7.64		
OM - Before Daincha sowing	0.21	0.21	0.21		
OM -After harvesting	0.46	0.45	0.25		
N (kg/ac) - Before Daincha sowing	117.6	117.6	117.6		
N (kg/ac) -After harvesting	124.2	128.4	120.0		
P(kg/ac) - Before Daincha sowing	12.3	12.3	12.3		
P (kg/ac) After harvesting	11.8	10.5	9.82		
K (kg/ac) -Before Daincha sowing	490.6	490.6	490.6		
K(kg/ac) - After harvesting	445.4	425.4	420.3		
Leaf folder incidence (%)	9.8%	9.2%	8.9		

		Stem borer incidence (%)	10.1%	10.2%	9.8%
		Weed Population weight (g)/ m ² <i>Echinochloa crusgalli, Cynodon dactylon</i> <i>Marselia quadrifolla, Echinocola colanam</i> <i>cyprus crassqaly, Eclipta prostrate</i>	36.5	68.5	52.4
		Days taken to harvest	132 days	125 days	126 days
		Yield/ha (Kg)	7468.2	6890	6820
		Gross Cost in Rs	48622	44202	42410
		Gross Return in Rs	89594.4	84072	81840
		Net Return in Rs	40972.4	39870	39430
		B.C Ratio	1.8	1.9	1.9
10	Description of the results	<p>Direct seeding method avoids nursery establishment, pulling up seedlings and transplanting them, the labour requirement for crop establishment is negligible. The demand for agricultural labour is at its peak during planting time, which forcing the farmers to pay high wages for regular field operations.</p> <p>In place of delayed water release where prior daincha sowing can not be taken up, simultaneous sowing of daincha and paddy seed using the drum seeder was found to be a good alternative practice as sown in this trial where the total factor productivity obtained from SRI method and drum seeder method is almost equal because of the increased production cost in SRI when compared to drum seeder method.</p> <p>Sowing with Paddy Drum Seeder drastically reduced the man power in raising the nursery, transplanting, etc., the labour required for transplanting paddy seedlings is only 2 against 30 manpower required in traditional method of cultivation. But drum seeder and rice cum Daincha seeder technology required good drainage facilities to increase the germination % of paddy and Daincha seeds. SRI method It requires 96 man hours for transplanting where as drum seeder requires 4man hours only for sowing and it reduces time required for nursery preparation, transplanting and weeding works. The crop duration reduced by 6-7 days when compared to the Daincha -rice cultivation methods. The cost of cultivation was also reduced by 20%.</p> <p>In this assessment the yield obtained in SRI system is more.</p> <p>Though the yield /ha is higher in SRI method, the BCR is higher than the SRI due to less production cost</p> <p>Duration of the crop is found to be reduced by 7-10 days when compared to SRI System</p>			
11	Feedback from farmers	<p>Among the opinions from farmers stated that the Farmers are of the opinion that they will be satisfied even if they just achieve normal yield with the drum-seeding technology because they can save about Rs.1500-2500per acre in costs incurred for raising nursery and transplanted.</p> <p>They can now take up daincha and paddy cultivation at any time immediately after the release of water, as there is no requirement or delay of raising a nursery/green manure crop.</p>			
12	Constraints identified and feedback for research	Heavy rain stagnation of water, damage to the sown seeds (Paddy and Daincha) which affect the germination.			

		<p>Uneven seed dropping from the drum seeders due to clogging with clay in heavy clay soils with soil puffiness : The height of the drum seeder need to be increased for heavy clay soils</p> <p>Heavy downpour immediately after sowing the seed with drum seeder affected the germination percentage</p> <p>Seed eaten away by birds after sowing with drum seeder necessitates extra labour to scare away the birds for 7 days</p>
13	Feed back to the scientist who developed the technology:	The height of the drum seeder need to be increased for heavy clay soils to avoid clogging of holes in the drum seeder
14	Final recommendation	In place of delayed water release where prior daincha sowing can not be taken up, simultaneous sowing of daincha and paddy seed using the drum seeder was found to be a good alternative practice to improve the productivity of paddy cultivation

OFT no.		2			
1	Title of Technology Assessed	Assessing the yield performance of snake gourd varieties			
2	Thematic area	Vegetable production technology			
3	Scientist involved	Mr. P. Velmurugan (Horticulture)			
4	Farming situation	Season : Rabi/summer 2017-18 Farm situation : Irrigated Soil type : Sandy clay loam			
5	Problem Definition	Non availability of high yielding variety seeds in time Little awareness on Improved varieties Usage of Authur local variety seeds and reuse of own hybrid seeds leading to Low Production, Productivity and net return, Pest(fruit fly), Disease(Mosaic) problems, Crop area in Siruthandanallur: 480 acres Local variety yielding an average of 20.6 ton/ha District yield: 22.4ton/ha , Potential yield of the improved variety : 35 ton/ha Yield cap : 41%			
6	Critical inputs	Name of Critical input	Qty / trial	Cost / trial	
		Snake gourd(Co -2) variety seeds	1kg	1500	
		Snake gourd (Baby)variety seeds	1kg	2000	
		EM	2lit	250	
		Field board	1	350	
7	Details of technologies selected for assessment	T1 – Authur – FP	T2 – Co 2	T3 – Baby	
8	Source of technology	Local	TNAU 2010	KAU 2006	
9	Performance of the Technology with performance indicators	Parameters	T1	T2	T3
		Fruit length (cm)	40.5	41.0	48.5
		Fruit weight (gm)	310	375	410
		Fruit girth (cm)	12.5	15.5	11.5
		No. of fruit/plant	8.5	10	15.5
		Fruit yield /ha (Qtl)	187.10	202.50	367.0
10	Description of results	B.C Ratio 1.60 1.80 3.71			
		The baby variety resulted in high fruit yield than the Co – 2 and local variety. Though the fruit girth is lower than other two varieties. The fruit length and no. of fruits were higher than other two varieties which contributed to this total yield of 367qtl/ha			

11	Feedback from farmers	Though the yield is more than the other two varieties. The pale white color is the problem with baby variety. Attractive green colour will be better to market this fruit. But is highly preferred for Kerala market .
12	Constraints identified and feedback for research	Getting seeds from KAU is time is the constraints. The color of the fruit should be of green or green lined with white marking will be suited to Thoothukudi market
13	Feedback to the scientist who developed the technology	The color of the fruit should be green to fetch more price in the local market. But is highly preferred for Kerala market .
14	Final recommendation	Baby variety can be popularized in Thoothukudi district for its high production capacity

OFT no.		3					
1	Title of Technology Assessed	Assessment of glycemic index of traditional paddy varieties					
2	Thematic area	Nutrition					
3	Scientist involved	Mrs. S. Sumathi (Home Science)					
4	Farming situation	Irrigated					
5	Problem Definition	In Manjaneerkayal village the Women SHG members reported that most of them suffer from diabetes due to consumption of polished rice. The therapeutic properties of traditional rice varieties are not known among the farm women. Hence the incidence of diabetes among the farm family members occurs due to excessive carbohydrate intake and low fiber intake in the diet.					
6	Critical Inputs	Name of Critical input		Qty / trial	Cost / trial		
		Glucose		50g	9.5		
		Milled rice flakes		150g	9		
		Mapilla samba rice flakes		150g	15		
		Kuruvikar rice flakes		150g	18		
		Lab Estimate for available carbohydrate		3 sample	67.5		
		Blood glucose level estimation charges		20 testing	196		
		Total for each trial			315		
TOTAL for 20 trials					6300		
7	Details of technologies selected for assessment	T1 – Milled rice flakes (Ambai 16)	T2 – Mapillai samba rice flakes	T3 – Red Kuruvikar rice flakes			
8	Source of technology	SUGRS	SUGRS	SUGRS			
9	Performance of the Technology with performance indicators	Parameters			T1	T2	T3
		Glycemic index value			96.2	67.9	54.3
10	Description of the results	Flaked rice and parboiled rice have been reported to be having lower glycemic index than raw rice. Roasted flaked rice and puffed rice may further increase the dietary fiber and pass the digestive tract to be considered as pre-biotic foods. The ability of a food item to raise the blood sugar is measured in terms of glycemic index. Foods which are absorbed slowly raise the blood sugar levels slowly and have a low glycemic index. Whereas, foods which are absorbed fast, raise the blood sugar levels fast and have a high glycemic index. The GI (glycemic index) represents the rise in person's blood sugar level two hours after consumption of the food. The glycemic effects of foods depends on a number of factors, such as the type of carbohydrate, physical entrapment of the carbohydrate molecules					

within the food, fat and protein content of the food and organic acids or their salts in the meal.

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

Ten farm women were selected for evaluating the glycemic index and they were between 30-35years of age. The farm women who had fasting blood glucose level of 77-90mg/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 with 50g of glucose for breakfast.

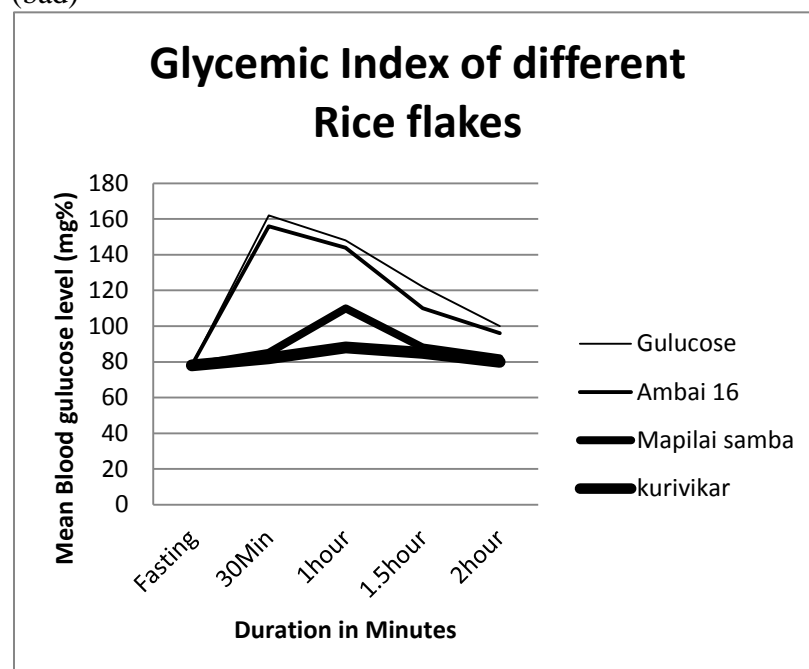
Blood samples were collected every half an hour for two hours. The fasting blood was drawn to estimate fasting blood glucose and then they were served the milled ambai-16, kuruvikar and mapillai samba flakes containing 50g digestible (available) carbohydrate. It was ascertained that the subjects did 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 the entire 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

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)



		The GI value of Kuruvikar flakes (54.3%) falls under low GI value food category followed by Mappillai samba rice flakes (67.9%) which falls under medium GI value food category and the ambai-16 milled rice flakes (96.2%) falls under high GI value food category according to our trials with rural women folk living near coastal region in Thoothukudi district.
11	Feedback from farmers	Initially the farm women were reluctant about the assessment of glycemic index of traditional paddy varieties. After their involvement they were eager to know about their blood glucose level in each test of different traditional rice flakes. The farm women on seeing the result they wanted to cultivate the traditional variety of paddy and consume in their daily diet and they also realized about the importance of traditional rice flakes.
12	Constraints identified and feedback for research	It is very difficult to control the farm women to be in fasting condition for 2 hours in the early morning only by taking 50gms of carbohydrate. They felt bad without even having tea or coffee in the early morning. The women who are affected with diabetes are willing to have a blood glucose level check in empty stomach than non-affected women. Still we convinced them to have a study so that they can realize about the importance of consuming traditional paddy varieties. In between the 2 hours interval some farm women consume the extra food and the value becomes wrong so again to get the correct assessment once again we need to conduct the trial after giving repeated instructions.
13	Feedback to the scientist who develop the technology	Traditional brown rice varieties are having low glycemic index when compared to white rice and hence on health grounds it is better to restore and conserve the traditional brown rice varieties or develop a similar variety with low GI with high yielding properties.
14	Final recommendation	Kuruvikar has low glycemic index compare to Mapila samba which has medium Glycemic index value. Ambai 16 polished rice has high glycemic index compared to Mapilla samba and kuruvikar rice flakes. So it is better to consume low GI index value rice varieties for health conscious people and particularly the diabetic patients.

OFT no.		4		
1	Title of Technology Assessed	Assessment for drudgery reduction of different weeders in paddy		
2	Thematic area	Drudgery reduction		
3	Scientist involved	Mrs. S. Sumathi (Home Science)		
4	Farming situation	Season : Rabi Farm situation : Irrigated Soil type : Sandy clay loam Fertility status : 117.6 : 12.3 : 490 NPK Seasonal rainfall : Rabi season - 454mm No of rainy days : 11 days		
5	Problem Definition	Almost all the farmers in Manjaneerkayal do their weeding in paddy field through hand weeding only. But now a day they are not getting enough labour as it is very drudgery prone for the farm women who do the weeding operations in wet land. Increase in labour wages resulted in high cost for hand weeding. High cost for manual weeding (Rs.6000/ha). Man power requirement 10 female / weeding / ac		
6	Critical input	Name of Critical input	Qty / trial	Cost / trial

		Cono weeder	1	1500			
		Modified cono weeder	1	1670			
		Grip strength dynamometer	1	4159			
		TOTAL		7329			
6	Details of technologies selected for assessment	T1 – Manual weeding	T2 – Cono weeder	T3 – Modified cono weeder			
7	Source of technology		TNAU	Mr.Balram KVK Karur			
8	Performance of the Technology with performance indicators	Parameters			T1	T2	T3
		Weight of the weeder in kg				6	5
		Blade width (cm)				13	19
		No of blades				12	8
		No of weeds (in sq. Meter) Marselia quadrifolla,echinocola colonum,Cyprus crassqaly, Eclipta prostrate, Cynodon dactylon Before (15 th day)			45.6	43.4	45.2
		After (30 th day)			6.8	8.6	7.4
		(No of labour/ ha/ weeding)			24	6	5
		Weeding time (hr)/ha			152	37	34.5
		BP (mm HB) – Before			144/94	133/96	135/95
		After			155/89	151/90	148/88
		Gross cost (Rs/ ha)			42860	42920	42800
		Gross return			69030	78096	80362
		Net income			26170	35176	37562
		Yield (kg/ha)			5310	6010	5994
BC ratio			1.61	1.81	1.87		
9	Description of the results	The modified cono weeder is more suitable than cono weeder in puddled wet land paddy field as it is easy to operate and the weight of the weeder is less. It takes less time for weeding and the weeding efficiency is also high when compared to TNAU model cono weeder. In modified cono weeder the air tight cone itself facilitate in floating of the weeder. Hence no need for separate float as in TNAU Cono weeder.					
10	Feedback from farmers	The farmers felt that the modified cono weeder is less drudgery prone compare to cono weeder and manual weeding. The modified cono weeder is suitable than cono weeder in puddled wet land paddy field as it is easy to operate by farm women and the weight of the weeder is also less. Moreover it takes less time for weeding and the weeding efficiency is also high.					
11	Constraints identified and feedback for research	The main constraint faced by the farmer is taking line sowing. They feel difficult to take the weeder and place in the row.					
12	Feedback to the scientist who develop the technology						
13	Final recommendation	The Modified cono weeder is well suited for puddled clayee wet land paddy fields when compared to TNAU cono weeder					

OFT No.	5
1	Thematic area
2	Title
3	Scientists involved
4	Details of farming situation

Disease prevention in livestock
Assessment of preventive measures for subclinical mastitis in dairy cows
 Dr.V.Srinivasan and S.Sumathi
 Cross bred dairy cows maintained under semi intensive system of

	Describe the farming situation including Season, Farming situation (RF/Irrigated), Soil type, fertility Status, Seasonal rainfall (mm) No. of rainy days etc (about 500 words)	rearing in semi arid southern zone near coastal region with the annual mean rain fall of 652mm in 14 rainy days. The cows were allowed for grazing on the fields for 6-8 hours per day and hand milked twice daily in the homestead and each cows were provided with little bit of concentrate like wheat bran- 2kg, mixture cake- 2kg, gruel and other house hold food waste daily. The average milk yield per day per cow is 6.5lit.		
5	Problem definition / description: (one paragraph)	High somatic cell count, incidence of subclinical mastitis, poor shelf life of milk, reduced milk yield due to subclinical mastitis		
6	Technology Assessed:			
	T1 Farmers practice	Preventing the cattle from lying down by offering greens/dry fodder immediately after milking to reduce the incidence of mastitis keeping the shed clean, before milking washing the udder with water		
	T2	Mastiguard – post milking Teat Protect spray and detection of subclinical mastitis using TANUCHEK SCC kit		
7	Critical inputs given	Quantity per trial	Value Rs.	
	Mastiguard spray	2	120	
	TANUCHEK SCC kit	1	300	
8	Results			
	Performance of the technology in 60 days of observation period , cows with middle lactation were selected for the trial purpose			
	Technology Assessed with Source			
Parameters of Assessment	T1 –		T2 –	
Source and Year			TANUVAS 2016	
% incidence of subclinical mastitis	20%		0	
% incidence of clinical mastitis	0		0	
Somatic cell count in milk	1.4 X10 ⁵		1.0 X10 ⁵	
Milk yield (lit) /lactation	1092		2091	
Gross Cost/lactation	34500		38100	
Gross Return/lactation	49800		52275	
Net Return in Rs	15300		14175	
B.C Ratio	1.44		1.37	
Farmers Feedback		Feed back to the scientist who developed the technology		
Spraying mastiguard solution after milking with the spray bottle is an easy method but the cost of the spray bottle is very high and prohibitive for small farmers		The cost of one mastiguard spray bottle is around Rs.300 which is sufficient for one month only for one cow and hence the cost per day for teat dipping is Rs.10 which is on the very higher side and it needs to be reduced to less than Rs.2 per day so that it will be affordable to the small holder livestock farmers Transporting the liquid material (mastiguard spray) through parcel service was very risky and hence proper protective packing is essential for long distance transport of the spray solution. Second thing the enhancer solution is too little or dried up in the plastic bottle container and in some of the test kits there is no enhancer solution available in the bottle and this also need to be addressed by the scientist who developed this technology.		

<p>Descripti on of the Result:</p>	<p>The reduction in milk yield after the incidence of subclinical mastitis is 20.66% in farmers practice where as in mastiguard teat spray group there is no reduction in milk yield in any of the cattle and no incidence of subclinical mastitis was noticed in that group. <i>So it is concluded that mastiguard teat spray is an effective and easy to use technology to prevent the incidence of subclinical and clinical mastitis in dairy cows.</i> The gross return in T1 is less because of less gross cost incurred by the farmer which resulted in better BCR and NR in T1 than in T2 group. Since the SCM affected cows are not being treated in that group the cost of production remained less. But if it gets flared up into clinical mastitis then the average treatment cost per mastitic cow worked out to be 3000 rupees and the corresponding milk withholding for a minimum of 7 days will result in additional loss of Rs.1129 and together the loss will be around Rs.4129 per each farmer for one mastitis incidence. This can be easily prevented using protective teat spray with an additional cost of just Rs.3000 per lactation. In case of very high yielding cows the loss due to mastitis will be very high and in that case this teat protective spray is a very good option in preventing the incidence of mastitis and thereby prevents the imminent loss to the farmers and the possible culling of the cow too. It is very visible from the milk yield performance graph below that in subclinical mastitis affected cows the milk yield suddenly dropped and never came up. In rest of the non affected cows in both the treatment groups the milk yield curve remained smooth and without much significant change in milk yield pattern.</p> <div data-bbox="245 792 906 1245" style="text-align: center;"> </div>
<p>Constrai nts faced</p>	<p>Transporting the liquid material (mastiguard spray) through parcel service was very risky and hence proper protective packing is essential for long distance transport of the spray solution. Second thing the enhancer solution is too little or dried up in the plastic bottle container and in some of the test kits there is no enhancer solution available in the bottle and this also need to be addressed by the scientist who developed this technology.</p>

OFT no.		6		
1	Title of Technology Assessed	Assessment of scaffolding system in Banana (Continue OFT 2016 – 17)		
2	Thematic area	Production technology		
3	Scientist involved	Mr. P. Velmurugan (Horticulture)		
4	Farming situation	Season : Rabi Farm situation : Irrigated Soil type : Sandy clay loam Fertility status :117.6 :12.3 :490 NPK		
5	Problem Definition	Lower net profit (Rs.112500/ha) – Area 330 ha Transport and safeguarding the poles. Damage due to wind (40-60%). Recurring expense for traditional scaffolding system (70% of production cost) High cost of casurina poles (Rs.50-60/pole)		
6	Critical inputs	Name of Critical input	Qty / trial	Cost / trial
		Sesbania seeds	300gm	100

		Galvanised iron collar rings	100	3500	
		Field board	1	350	
7	Details of technologies selected for assessment	T1 – F. P	T2 – T Shape Single Pole	T3 – Iron String method	
8	Source of technology		TNAU	CARD KVK 2014	
9	Performance of the Technology with performance indicators	Parameters			
			T1	T2	T3
		Yield / ha (Qtl)	240	248.5	255
		Income / ha (lakh)	2.04	2.04	2.04
		Net Profit (Lakh)	1.66	1.36	1.74
	B.C Ratio	2.12	1.92	2.18	
	Economics of scaffolding / ha	37,500	67,500	30,000	
10	Description of the results	The conventional way of scaffolding in v shape or T shape with poles are very expensive and temporary . the color rings are the suitable scaffolding material and have long life and cost effective.			
11	Feedback from farmers	Though the collar rings are economic and simple, availability of rings at local level is the problems to access in time			
12	Constraints identified and feedback for research	Fabrication of collar rings as scaffolding materials to banana			
13	Feedback to the scientist who develop the technology	Rust free materials may be introduced to increase the life of the rings			
14	Final recommendation for micro level situation	Collar rings to support banana can be popularized widely to minimize the cost of production			

3. d FRONTLINE DEMONSTRATIONS

a. Follow-up of FLDs implemented during previous years

S. No	Crop/ Enterprise	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area in ha
1	Ground Nut	Drudgery reduction	Demonstration on groundnut stripper and decorticator	Through training programmes and exhibition	5	20	40
2	Snake guard	Vegetables	Co – 2 snake guard as inter cropping in drumstick	Demonstration and Training	12	380	165
3	Guava	Fruits	L-49 guava under HDP system	Demonstration and Training	5	22	14
4	Green fodder	Livestock feeding	Azolla cultivation in homestead	Method demonstration, technology pamphlets, distribution of azolla seeds and kit	128	1380	1
5	Green fodder	Livestock feeding	Mixed Green fodder cultivation (fodder sorghum+Hedgelucerne/Sesbania + Subabul + Hybrid cumbu Napier co-4)	Training, demonstration and pamphlets distribution and seed supply	368	4416	353
6	Livestock and poultry	Livestock feeding	Mineral mixture feeding to cows and goat (SMART mineral mixture / mineral lick)	Training, method demonstration, pamphlets distribution	450	8550	0
7	Livestock and poultry	Livestock feeding	Feeding unconventional feed (mesquite pod flour) to livestock	Training, method demonstration, pamphlets distribution	625	10450	0
8	Livestock and poultry	Disease management	Vaccinating the poultry chicks against Ranikhet disease	Training, method demonstration, pamphlets distribution	240	7560	0
9	Livestock and poultry	Disease management	Deworming the sheep and goat	Training, method demonstration, pamphlets distribution	1408	18150	0
10	Livestock and poultry	Disease management	Vaccinating the sheep and goat against PPR and ET diseases	Training, method demonstration, pamphlets distribution	1408	18150	0
11	Livestock and poultry	Disease management	Vaccinating the cows against FMD	Campaign mode	1821	28350	0

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.	Season and Year	Crop	Variety/breed	Hybrid	Source of funding	Thematic area	Technology Demonstrated	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
								Proposed	Actual	SC/S/T	Others	Total	
1	Rabi 2017 – 18	Paddy	Co – 51		ICAR	Promotion of ICMP practices	ICMP in Paddy Co (R) 51 (TNAU 2013) duration 105 – 110 days - Medium slender Y – 6.7 t/ha) Apply green manure (Daincha)@ 50 kg seeds/ha, Bio fertilizer application + NPK 150 : 50 : 50 + zinc Sulphate 25 kg /ha IWM - Pre-emergence herbicides - Butachlor 1.25kg/ha IPM Practices. Stem borer and leaf folder – By releasing T.chilonis and T.japonicum parasitoids respectively @ 2cc/acre - 3times at 15 days interval	4	4	10	0	10	Nil
2	Rabi 2017 – 18	Paddy	TRY – 3		ICAR		ICMP in Paddy TRY (R) 3 (TNAU 2010) duration 135 days - Medium bold Y – 5.8 t/ha) INM Methods: green manure (Daincha)@ 50 kg seeds/ha Bio fertilizer application and gypsum application 200 kg /ac + NPK 150 : 50 : 50 + zinc Sulphate 25 kg /ha + Split application of N and K fertilizers and urea can be mixed with gypsum and neem cake at 5:4:1 IWM - Pre-emergence herbicides - Butachlor 1.25kg/ha. IPDM Practices. Stem borer and leaf folder – By releasing T.chilonis and T.japonicum parasitoids respectively @ 2cc/acre - 3times at 15 days interval	4	4	0	10	10	Nil
3	Rabi 2017 – 18	Sorghum	K – 12		ICAR		ICMP in Sorghum K – 12 (duration 95 days) – Yield 3123 Kg/ha, Seed treatment – Azophos INM – N:P:K (90:45 :45 kg/ha), Micronutrient mixture 12.5 kg /ha. IWM - PE Atrazine @ 0.25 kg/ha on 3-5 DAS, Foliar application of PPFM 1% (Or) EM 2% at 20 days interval	8	8	0	20	20	Drought
4	Rabi 2017 – 18	Chilli	Co(CH) – 1		ICAR		Varietal evaluation	Introduction of Chilli Co(CH)-1 to enhance production, productivity and net profit, Foliar application of 2% EM on 45 th , 60 th and 75 th day. Foliar application of 0.5% Pseudomonas liquid formulation to control fruit rot or COC 0.25% 3 spraying first spray just before flowering and 2 nd at the time of fruit formation and 3 rd 15 days	4	4	10	0	10

						after 2 nd spray. Thrips management, Intercrop with sesbanai to provide shade Sprinkle starch solution on seedlings to increase humidity. Seed treatment with imidacloprid 12g/kg of seed Spray spinosad 45% SC 4ml/10lit of water Yellow Mite management, Encourage the activity of predatory mite Amblyseius ovalis / Sulphur dust @4gm/lit. Spray with Quinalphos 255EC 1.5ml/lit						
5	Rabi 2017 – 18	Guava	L – 49		ICAR	HDP system, Planting saplings in 2x3m spacing Canopy management with judicious pruning Foliar application of micro nutrient spray	1	1	0	5	5	Nil
6	Rabi 2017 – 18	Banana	Local		ICAR	HDP Techniques HDP system – planting of 2 suckers per pit (spacing 1.8x 3.6m:1600 plants per acre), Application of NPK 110:35:330 on 3 rd , 5 th , 7 th after planting, Application of Azospirillum, Phosphobacteria 2kg each at the time of planting Spraying of 2% EM, Spraying of 0.5% Banana special on 5 th , 6 th and after bunch emergence Pseudomonas application on 2 nd , 4 th , 6 th month after planting	4	4	0	10	10	Nil
7		Sheep			ICAR	IAM Practices TANUVAS 2014 Vaccination, sheep pox, Entero toxemia, Anthrax, Blue tongue Pneumonia and ectoparasitism, deworming and Didicking	-	-	10	0	10	Nil
8		Moringa			ICAR	Promotion of value added product preparation Dehydration and value addition of Moringa leaves and pods – dehydrated Moringa and leaves, Moringa based convenience food mixes, quality control, packaging and labeling	-	-	0	5	5	Nil

Details of farming situation

Sl. No	Farming Situation	Season and Year	Crop	Soil type	Status of soil			Previous crop grown	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
					N	P	K					
1	Irrigated	Rabi 2017 – 18	Paddy	Clay loam	195	11.2	483	Paddy	16,17,18 and 19.11.17	9,10 th March 2018	454	11
2	Irrigated	Rabi 2017 – 18	Paddy	Clay loam	172	10.2	472	Paddy	22,23, 24.11.17	9,10,11 and 12.4.18	454	11
3	Irrigated	Rabi 2017 – 18	Sorghum	Black soil	204	10.6	531	Green gram	Crop failed due to severe drought			
4	Irrigated	Rabi 2017 – 18	Chilli	Red sandy	212	11.2	512	Cotton	Nursery -5.1.18 Transplanting 11.2.18	Final harvest yet to be done	454	11
5	Irrigated	Rabi 2017 – 18	Guava	Red sandy	163	9.8	482	Chilli	21 st March 2018	--	454	11
6	Irrigated	Rabi 2017 – 18	Banana	Clay loam	174	10.2	512	Paddy	15 th February 2018	--	454	11
7			Sheep								454	
8			Moringa								454	11

Feedback

Sl. No	Title of program	Technical Feedback on the demonstrated technologies	Farmers' reactions on specific technologies
1	Demonstration of Paddy Co (R) – 51 with ICM Practices for short duration variety	Co (R) 51 provided higher yield with lesser incidence of pest and disease and non-lodging short duration fine grain varieties	Co – 51 is the best variety because short duration, early mature, non-lodging, lesser stem borer and leaf folder incidence
2	Demonstration of Paddy TRY (R) 3 with ICM Practices for saline affected area	TRY (R) 3 is highly saline resistance, provide higher yield with less incidence of pest and diseases	TRY – 3 variety showed good performance for saline affected soil, high yield and less pest and diseases incidence
3	Demonstration of ICMP in dual purpose Sorghum K – 12	Crops failed due to terminal Drought	
4	Demonstration of Chilli (Co(CH)-1)	Though the shrinkage of dry pod was minimum,	The colour of the CO (CH) 1 Green pod was pale

		the pod weight was very low(3.8gm), More pod weight will increase the income/ unit area.	green colour and the colour should be dark green to fetch more income. Fruit rot incidence was very minimum (5%) where as it was maximum(25%) in Local US 302
5	Demonstration of HDP system in Guava	Continuing, Yet to bear fruits	
6	Demonstration of High density planting system in Banana	Continuing, Yet to bear bunch	
7	Demonstration of IAM practices in sheep	Development of combined vaccines against viral diseases / bacterial diseases will reduce the frequent handling of animals	Blue tongue diseases vaccine is very effective in preventing the diseases Frequent handling of sheep for medication is laborious as well as frighten the sheep
8	Demonstration of production of dehydrated drumstick leaves and their product as entrepreneurial activity	The alum solution treated leaves need to be shade dried prior to cabinet drying to avoid colour change	The farm women were convinced about the importance of moringa leaves and practicing to fortify in their daily diet as moringa tea, soup, adai, idli podi and sambar powder. Planning to take the marketing through FPCL.

Extension and Training activities under FLD

Sl. No.	Activity	No. of activities organized	Number of participants	Remarks
1	Field days	3	165	
2	Farmers Training	21	618	
3	Media coverage	0	0	
4	Training for extension functionaries	6	242	
5	Others (Please specify)			

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									
Cereals																		

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										
Paddy	Promotion of ICMP practices	<p>ICMP in Paddy Co o (R) 51 (TNAU 2013) duration 105 – 110 days - Medium slender Y – 6.7 t/ha)</p> <p>Apply green manure (Daincha)@ 50 kg seeds/ha, Bio fertilizer application + NPK 150 : 50 : 50 + zinc Sulphate 25 kg /ha</p> <p>IWM - Pre-emergence herbicides - Butachlor 1.25kg/ha</p> <p>IPM Practices. Stem borer and leaf folder – By releasing T.chilonis and T.japonicum parasitoids respectively @ 2cc/acre - 3times at 15 days interval</p>	Co – 51	ADT 45	10	4	73.50	68.50	71.81	60.61	18.47	43610	86175.5	42565.5	1.97	43030	79938	36908	1.85

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										
Paddy	Promotion of ICMP practices	<p>ICMP in Paddy TRY (R) 3 (TNAU 2010) duration 135 days - Medium bold Y – 5.8 t/ha)</p> <p>INM Methods: green manure (Daincha)@ 50 kg seeds/ha Bio fertilizer application and gypsum application 200 kg /ac + NPK 150 : 50 : 50 + zinc Sulphate 25 kg /ha + Split application of N and K fertilizers and urea can be mixed with gypsum and neem cake at 5:4:1</p> <p>IWM - Pre-emergence herbicides - Butachlor 1.25kg/ha.</p> <p>IPDM Practices. Stem borer and leaf folder – By releasing T.chilonis and T.japonicum parasitoids respectively @ 2cc/acre - 3times at 15 days interval</p>	TRY – 3	ASD 16	10	4	76.80	65.00	71.34	59.23	20.44	42462	85617	43155	2.01	42645	71083	28438	1.66

Chili	High yielding varietal introduction	Introduction of Chilli Co(CH)-1 to enhance production, productivity and net profit, Foliar application of 2% EM on 45 th , 60 th and 75 th day. Foliar application of 0.5% Psuedomonas liquid formulation to control fruit rot Thrips management, Intercrop with sesbania to provide shade . Seed treatment with imidacloprid 12g/kg of seed Yellow Mite management, Encourage the activity of predatory mite Amblyseius ovalis / Sulphur dust @4gm/lit.	Co(CH) – 1	US302	10	4	32.40	29.5	30.95	23.40	24.39	58750	201175	142425	2.42	56000	152100	96100	1.71
Cluster bean		Demonstration of Cluster bean (MDU-1) variety	MDU – 1	Pusa navbahar	10	4	127.60	108.10	117.85	102.40	19.74	51250	153120	101870	2.98	47500	122880	75380	2.56
Fruits																			
Guava	HDP system	HDP system, Planting saplings in 2x3m spacing Canopy management with judicious pruning Foliar application of micro nutrient spray	L – 49	L-49	5	1	Guava saplings are yet to bear fruits.												

Banana	HDP system	HDP system – planting of 2 suckers per pit (spacing 1.8x 3.6m:1600 plants per acre), Application of NPK 110:35:330 on 3 rd , 5 th , 7 th after planting, Application of Azospirillum, Phosphobacteria 2kg each at the time of planting Spraying of 2% EM, Spraying of 0.5% Banana special on 5 th , 6 th and after bunch emergence Pseudomonas application on 2 nd , 4 th , 6 th month after planting	Sakkai	Sakkai	10	4	Banana suckers yet to produce the bunches												
Banana	HDP system	Demonstration of Paired row system of planting in Banana with GAP	Nadu	Nadu	10	4	480	420	450	255	46.87	104500	384000	279500	3.67	83750	204000	120250	2.43

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

** BCR= GROSS RETURN/GROSS COST

Data on additional parameters other than yield (viz., reduction of percentage diseases, increase in conceiving rate, inter-calving period etc.)

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Check if any	Demo
Demonstration of Paddy Co (R) – 51 with ICM Practices for short duration variety		
No of hill / m ²	18.5	16
No of tillers / hill	20.9	24
No of seed / panicle	150.6	164.2
Yield/ha (Qtl)	66.61	71.81
Stem borer (%)	10.2	8.3
Leaf folder (%)	11.1	9.2
Rice blast incidence	Nil	Nil
BC ratio	1.85	1.97
Demonstration of Paddy TRY (R) 3 with ICM Practices for saline affected area		
Soil OC – before	-	0.24
Soil OC – After	-	0.28
Soil P ^H – before	-	8.3
Soil P ^H – After	-	7.9
Soil EC – before	-	1.2
Soil EC – After	-	1.0
No of hill / m ²	18.5	16
No of tillers / hill	17.6	18.6
No of seed / panicle	117.6	135
Stem borer (%)	8.7	6.5
Leaf folder (%)	11.2	7.4
Rice blast incidence	Nil	Nil
Yield/ha (Qtl)	59.23	71.34
BC ratio	1.66	2.01
Demonstration of ICMP in dual purpose Sorghum K – 12		
No of hills / m ²	7	16
No of tiller /hill	1	2
Demonstration of Chilli (Co(CH)-1)		
No of plants/m ²	16	9
% of fruit rot attack	25%	Nil
No of fruits/plant	4.5	5.5
Yield/ha	23.40	30.95
Net profit/ha	96100	142425
BCR	1.71	2.42
Demonstration of HDP system in Guava		
Survival (%)	95%	92%
Plant height at 3 rd month (cm)	125	112
Demonstration of High density planting system in Banana		
No. of plants / ha	1730	3100
Survival % at 5 th month	95	90

Continue FLD (2016 – 17)		
Demonstration of Paired row system of planting in Banana with GAP		
No of suckers / ha	1735	3470
Bunch weight (Kg)	17	15.5
Bunch quality	Good	Good
Yield / ha (Qtl)	255	450
Income / ha (Lakh)	2.04	3.84
Net profit / ha (lakh)	1.20	2.79
B.C Ratio	2.43	3.67
Demonstration of Cluster bean (MDU-1) variety		
No of pods / cluster	8	12
No of pods / plant	189	234
100 fresh pod weight (gm)	206	245
Yield / ha (Qtl)	98.80	127.6
B.C Ratio	2.13	2.98

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.)/ 100 unit sheep flock				Economics of check/ 100 unit sheep flock (Rs.)			
					Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Sheep																	
sheep	Livestock management	Vaccinating against the seasonal diseases and deworming Feeding mineral lick Protecting the lambs against inclement weather	10	1000	Weaning percentage- 92.5 Weaning weight- 9.25kg	Weaning percentage- 56.5 Weaning weight- 7.25kg	Weaning percentage- 36 Weaning weight- 27.6% Morbidity and Mortality due to infectious diseases- lambs- 8% adult- 3.5%	Morbidity and Mortality due to infectious diseases- lambs- 8% adult- 22.5%		10250	18500	17475	18.05	8050	10170	93650	12.63

* 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	
				Demo	Check		Demo	Check
Value Addition	Dehydration and value addition of Moringa leaves and pods – dehydrated Moringa and leaves, Moringa based convenience food mixes, quality control, packaging and labeling	5	1	Time for dehydration of leaves in cabinet drier – 12 hrs	Nil		Organoleptic properties of Moringa tea – 76%	
				Recovery of leaves (25kg per 100kg of fresh leaves) – 25%			Organoleptic properties of Moringa soup – 66%	
				Recovery of pod – 17%			Organoleptic properties of Moringa adai mix – 81%	
				Shelf life – 110days			Organoleptic properties of Moringa idle podi mix – 89.5%	

FLD on Farm Implements and Machinery

Name of the implement	Crop	Technology demonstrated	No. of Farmer	Area (ha)	Major parameters	Field observation (output/man hour)		% change in major parameter	Labor reduction (man hours)				Cost reduction (Rs./ac or Rs./Unit etc.)			
						Demo	Check		Pod decortication for sowing	Stripping	Weeding	Total	Pod decortication for sowing	Stripping	Weeding	Total
Groundnut stripper and decorticator	Groundnut	Demonstration on groundnut stripper and decorticator	10	4	Groundnut decorticator				23	24	-	47	450	600	-	1050
					Decorticating capacity(kg/hr)	60.5	15.5									
					Labour usage for decorticating 60Kg	1	24									
					Shelling (%)	71.5	71.5									
					Grain damage (%)	13.5	8.5									
					Germination (%)	85.6	87.5									
					Groundnut stripper											
					No of labour / ac	14	38									
					Saving in labour	37%										
					Saving in cost	23%										
					Stripping efficiency	99%										
					Damage to pods	2%										

Extension and Training activities under FLD

Sl. No.	Activity	No. of activities organized	Number of participants	Remarks
1	Field days	3	165	
2	Farmers Training	21	618	
3	Media coverage	0	0	
4	Training for extension functionaries	6	242	
5	Others (Please specify)			

PART 4. TRAINING**Training of Farmers and Farm Women including sponsored training programmes (On campus)**

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		M	F	Tot	M	F	Tot	M	F	Tot
Crop Production										
Integrated crop management	2	8	5	13	5	12	17	13	17	30
Cropping system	1	7	9	16	4	28	32	11	37	48
Horticulture										
Vegetable Crops	2	14	6	20	5	12	17	19	18	37
Garden establishment	2	13	1	14	5	3	8	18	4	22
Livestock Production and Management										
Feed and fodder technology	1	2	6	8	0	13	13	2	19	21
Poultry management	3	38	4	42	9	8	17	47	12	59
Goat rearing	3	34	2	36	11	6	17	45	8	53
Home Science/Women empowerment										
Mushroom cultivation & value addition	1	2	1	3	1	1	2	3	2	5
Soil Health and Fertility Management										
Soil fertility management	1	11	0	11	8	1	9	19	1	20
Agro forestry										
Integrated farming system	2	13	2	15	6	2	8	19	4	23
Capacity Building and Group Dynamics										
Eco friendly techniques	1	0	5	5	0	29	29	0	34	34
TOTAL	19	142	41	183	54	115	169	196	156	352

Training of Farmers and Farm Women including sponsored training programmes (Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		M	F	Tot	M	F	Tot	M	F	Tot
Crop Production										
Integrated crop management	3	22	9	31	9	3	12	31	12	43
Cropping system	2	29	84	113	5	18	23	34	102	136
Livestock Production and Management										
Goat rearing	2	3	21	24	1	9	10	4	30	34
Agro forestry										
Integrated farming system	1	11	0	11	4	0	4	15	0	15
Home Science/Women empowerment										
Value addition	3	0	37	37	0	7	7	0	44	44
Capacity Building and Group Dynamics										
Pesticide spray techniques	1	23	5	28	7	1	8	30	6	36
Awareness programme	1	5	23	28	3	9	12	8	32	40
Drought Management	8	93	137	230	12	29	41	105	166	271
TOTAL	21	186	316	502	41	76	117	227	392	619

Training of Farmers and Farm Women including sponsored training programmes CONSOLIDATED (On + Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		M	F	Tot	M	F	Tot	M	F	Tot
Crop Production										
Cropping system	3	36	93	129	9	46	55	45	139	184
Integrated crop management	5	30	14	44	14	15	29	44	29	73
Horticulture										
Production of high value Vegetable/ flowers Crops under poly house	2	14	6	20	5	12	17	19	18	37
Terrace/kitchen Garden establishment	2	18	27	45	5	7	12	25	34	59
High density planting system in Fruit crops	1	18	0	18	2	0	2	20	0	20

Livestock Production and Management										
Feed and fodder technology	1	2	6	8	0	13	13	2	19	21
Poultry management	3	38	4	42	9	8	17	47	12	59
Goat rearing	5	37	23	60	12	15	27	49	38	87
Home Science/Women empowerment										
Mushroom cultivation & value addition	1	2	1	3	1	1	2	3	2	5
Value addition	3	0	37	37	0	7	7	0	44	44
Soil Health and Fertility Management										
Soil fertility management	1	11	0	11	8	1	9	19	1	20
Agro forestry										
Integrated farming system	3	24	2	26	10	2	12	34	4	38
Capacity Building and Group Dynamics										
Eco friendly techniques	1	0	5	5	0	29	29	0	34	34
Pesticide spray techniques	1	23	5	28	7	1	8	30	6	36
Awareness programme	1	5	23	28	3	9	12	8	32	40
Drought Management	8	93	137	230	12	29	41	105	166	271
TOTAL	40	328	357	685	95	191	286	423	548	971

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		M	F	Tot	M	F	Tot	M	F	Tot
Integrated farming	2	8	10	18	9	27	36	17	37	54
Value addition	2	7	13	20	6	13	19	13	26	39
Scientific goat rearing	2	9	7	16	7	11	18	16	18	34
Poultry Management	2	14	12	26	11	5	16	25	17	42
Dairy farming	2	9	11	20	3	7	10	12	18	30
Organic agriculture practices and drought management	2	12	19	31	6	3	9	18	22	40
TOTAL	12	59	72	131	42	66	108	101	138	239

Training for Rural Youths including sponsored training programmes (off campus) – Nil**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		
		M	F	Tot	M	F	Tot	M	F	Tot
Bio fertilizer and EM usage	1	12	18	30	6	4	10	18	22	40
Vermicomposting	1	9	13	21	5	6	11	14	18	32
Contingency crop planning	1	10	12	22	4	6	10	14	18	32
High density planting in fruit crops	1	5	11	16	2	3	5	7	14	21
Usage of agriculture mobile apps	1	21	7	28	7	5	12	28	12	40
Total	5	57	61	117	24	24	48	81	84	165

Training programmes for Extension Personnel including sponsored training programmes (off campus) – Nil**Sponsored training programmes conducted**

S. No	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			M	F	Tot	M	F	Tot	M	F	Tot
1	Usage of agriculture mobile apps	1	21	7	28	7	5	12	28	12	40
2	Capacity building training on Scientific dairy farming	1	9	8	17	6	7	13	15	15	30
3	Capacity building training on backyard poultry rearing	1	12	9	21	6	3	9	18	12	30
4	Scientific banana cultivation	1	12	9	21	5	4	9	17	13	30
5	Hydroponic fodder cultivation techniques	1	35	12	47	6	7	13	41	19	60
6	Organic farming	1	9	0	9	6	0	6	15	0	15
	Total	6	98	45	143	36	26	62	134	71	205

Details of sponsoring agencies involved

1. ATMA Tuticorin
2. Department of Horticulture, Animal husbandry, Marketing, SCAD
3. NABARD, Tuticorin

Details of Vocational Training Programmes carried out by KVKs for rural youth

S.No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			M	F	Tot	M	F	Tot	M	F	Tot
1	Integrated Farming system	1	7	4	11	0	0	0	7	4	11
2	Organic farming	1	9	0	9	6	0	6	15	0	15
3	Mushroom Cultivation techniques	1	3	2	5	0	0	0	3	2	5
	Grand Total	3	19	6	25	6	0	6	25	6	31

PART 5 – EXTENSION ACTIVITIES**Extension Programmes (including extension activities undertaken in FLD programmes)**

Sl. No	Activity	No. of Prog	No. of Beneficiaries			No. of Extension Officials		
			M	F	Tot	M	F	Tot
1	Advisory Services over phone	502	510	424	939	96	20	116
2	Diagnostic visits	73	315	273	588	32	9	41
3	Field Day	2	51	98	150	5	2	7
4	Group discussions	2	15	7	22	0	0	0
5	Kisan Ghosthi							
6	Film Show	12	230	302	532	54	38	92
7	Self -help groups	38	430	340	770	35	13	48
8	Kisan Mela	01	56	556	602	04	04	08
9	Exhibition	9	3015	1193	4208	92	64	156
10	Scientists' visit to farmers field	139	1520	560	2080	47	52	99
11	Plant/animal health camps	20	170	126	296			
12	Farm Science Club	15	154	189	343	7	3	10
13	Ex-trainees Sammelan							
14	Farmers' seminar/workshop	75	985	337	1322	47	31	78
15	Method Demonstrations	26	210	181	391	9	12	21
16	Celebration of important days	6	356	2918	3274	17	15	32
17	Special day celebration (women's day)	1	10	310	320	0	8	8
18	Exposure visits	11	310	189	499	12	11	23
19	PRA	13	420	434	854	15	12	27

Details of other extension programmes

S. N	Particulars	Nos
1	Electronic Media (CD./DVD)	
2	Extension Literature	4
3	Newspaper coverage	11
4	Popular articles	2
5	Radio Talks	22
6	TV Talks	10
7	Animal health amps (Number of animals treated)	4 camps 1245 animals
8	Others (pl. specify)	

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	12	18500	04	18500	02	18500							18	18500
Total Messages	12	18500	04	18500	02	18500							18	18500
Total farmers Benefitted	12	18500	04	18500	02	18500							18	18500

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: 218

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	12	218	09	218	48	218			08	218			77	218
Total Messages	12	218	09	218	48	218			08	218			77	218
Total farmers Benefitted	12	218	09	218	48	218			08	218			77	218

6. DETAILS OF TECHNOLOGY WEEK CELEBRATIONS – Nil

PART 7 – PRODUCTION OF SEED, PLANT, AND LIVESTOCK MATERIALS**Production of seeds by the KVKs**

Crop category	Name of the crop	Variety	Hybrid	Quantity of seed (Kg)	Value (Rs)	Unit Cost Rs.	Number of farmers to whom provided
Vegetables	Seed Packet (No)	Bhendi – Arka Anamika Radish – Pusa Rashmi Cluster Bean – Pusa Navbahar Amaranthes (3 types) – Co 1 Drumstick – PKM-1 Bitter Gourd – Co 1 Snake Gourd – Co 1 Tomato – PKM 1 Brinjal – KKM 1 Chilli – K 1		45.5	11914	30	429
Fodder seeds	Fodder sorghum	Co (FS)-31 & 29	---	273	122850	450	89
	Azolla	Local	---	15	300	20	15
	Subabul	Local	---	5	1500	300	10
	Velimasal	Local	---	39	21450	550	29
Pulses	Green gram	Co (Gg) – 8	---	312	26530	85	10
	Black gram	VBN – 8	---	1150	65000	250	55
Total				1839.5	299364		637

Production of planting materials by the KVKs

Crop category	Name of the crop	Variety	Hybrid	Number	Value (Rs.)	Number of farmers to whom provided
Fruits	Amla	NA – 7		190	8745	56
	Guava	L – 49		552	26290	56
	Jack	Bondruti		9	465	5
	Jamun	Ram Jamun		1419	91900	24
	Lime	Balaji		1205	68095	9
	Pomegranate	Ganesh		1	25	1
	Sapota	Cricket Ball		36	2195	24
	Mango	Alphonsa		73	4745	21
	Mango	Bangalora		35	2242	12
	Mango	Neelam		60	2695	19
	Mango	Himanpasandh		25	1625	12
	Mango	Senthuram		15	975	7
Ornamental plants	Alamenda	Local		2	30	1
	Almond	Local		23	670	7
	Clerodentran	Local		5	35	1
	Crotone	Local		1	15	1
	Drazina	Local		5	90	4
	Duranta	Local		14	121	3
	Eranthima	Local		5	51	2
	Fishtail farm	Local		8	440	3
	Ixora	Local		5	70	2
	Minimozonda	Local		1	30	1
	Mud pot rent	Local		20	400	1
	Nanthiyavittae	Local		5	110	3
	Polyalthia	Local		8	200	2
	Protray	Local		25	625	4
	Revel rani	Local		2	60	1
Plantation crops	Banain tree	Local		2	120	1
	Coconut	T x D		91	6615	13
	Coconut	D x T		48	4790	10
	Coconut	MD		42	4620	11
Medicinal plants	Neem	Local		12	224	4
	Occimum	Local		3	45	2
	Ranakalli	Local		1	65	1
	Sesbania	Local		125	497.75	3

	Ciriyangai	Local	1	20	1
	Vallarai	Local	4	80	3
Forest Species	Kumil	Local	1	20	1
	Mahagani	Local	7	145	2
	Pelto farm	Local	9	305	4
	Red sandal	Local	33	825	3
	Silk cotton	Local	1	20	1
	Silver oak	Local	1	35	1
	Thespsia	Local	1	40	1
	Vengai	Local	6	150	2
Flower crops	Neeriam	Local	13	247	7
	Rose	Edward	43	1075	23
	Rose	Paneer	44	1381	32
	Tecoma – Orange	Local	5	95	3
	Tecoma – Yellow	Local	4	95	3
Spices	Curry leaf	Local	288	3305	12
	Tamarind	Local	61	3030	5
Vegetable Crops	Moringa	Kulathur	206	1147	9
Total			4801	241935.75	440

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity in Kg	Value (Rs.)	Number of farmers to whom provided
Bio Fertilizers	Azophos	290	23200	55
	Rhizopos	203	16240	49
	Vermicompost	3636	36360	193
Bio-fungicide	Pseudomonas	200	24000	68
	T.viridi	106	12720	32
Others (specify)	EMA (in lit)	1874	243620	576
	Panchakavya (in lit)	316	23700	64
	Herbal insect repellent (in lit)	17	1105	7
	Salt Lick	35	2625	24
	Banana Special	100	17500	18
	Mineral mixture	200	13000	21
	Earth warm	10	5000	13
Total		6987	419070	1120

Production of livestock materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	Number of farmers to whom provided
Poultry				
Chicks (Young one)	Vanaraja	204	12648	8
	Aseel Cross	265	16231.25	11
	Grama Priya	860	52675	19
	NDC – 1	120	7350	19
	Kaveari	238	14577.50	2
Japanese Quails	Nandanam	99	2970	17
Total		1786	106451.75	76

8. DETAILS OF SAMPLES ANALYZED SO FAR SINCE ESTABLISHMENT OF SWTL:

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples	365	201	104	40150
Water Samples	115	81	81	4600
Plant samples	0	0	0	0
Manure samples	2	1	1	600
Soil health card issued	0	421	4	0
Total	482	704	190	45350

9. SCIENTIFIC ADVISORY COMMITTEE

Date of SAC meeting	Number of members attended
29.11.2017	28

10. PUBLICATION**1. Publication of journals**

S. No	Authors	Year	Title	Journal
1	Dr. V.srinivasan, S.Sumathi	2017	Success story on Mushroom cultivation entrepreneur group	Ulavarin Valarum Velanmai
2	P.Velmurugan and V.Srinivasan	2017	Success story on HDP in Guava	Ulavarin Valarum Velanmai
3	V.Srinivasan and A.Murugan	2017	Success story of green fodder cultivation for sales	Ulavarin Valarum Velanmai
4	A.Murugan and V.Srinivasan	2017	Farmers innovation in total mechanization of pulses cultivation	Ulavarin Valarum Velanmai

2. Other publication

S.No	Item	Year	Authors	Title	Publisher
1	Training manuals	2017	Dr.V.Srinivasan P. Velmurugan A.Murugan S.Sumathi	1.Latest Agriculture technologies to increase the farm productivity 2.Scientific Banana cultivation Practices 3.Organic farming Practices 4.Drought management practices	ATMA, Thoothukudi KVK KVK KVK
2	others	2017		KVK Newsletter “Velan Thunaivan”	KVK

3. Literature Developed/Published (with full title, author & reference)

Item	Title	Authors name	Number
News letters	Vealan Thunaivan	All Staff	5000
Booklet	On Protection of Plant Varieties (PPV) and Farmers Right Act(FRA)	All Staff	1000
Folders			
	Folder on “Sankalp Se Sidhi”	All staff	1000
Leaflet	Leaflet on World Soil Health Day	All staff	1000
TOTAL			3000

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

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

ame of the staff	Title	ation	Organized by
P. Velmurugan	Workshop on Participatory Impact Monitoring Assessment	5days	ICAR KVK , MYRADA Erode
P. Velmurugan	ICM practices to enhance the production, productivity of agriculture crops	8 days	Dept. of Agronomy, ICAR, Pusa Institute, New Delhi
P. Velmurugan	Climate change- Adaptation and Mitigation strategies	3days	BIRD, NABARD, Mangalore
Dr.V.Srinivasan	Motivational training to extension workers	2 days	SCAD, Tirunelveli
Dr.V.Srinivasan	Farm management and awareness on cyber crime	1 day	DEE, TNAU, Coimbatore
Dr.V.Srinivasan and S.Sumathi	Capacity building training to promoting institutions on Farmers producer organisations	3 days	NABARD, Chennai
Mr. A. Murugan and Mr. I. Jeyakumar	International conference on Bio	3 days	AC & RI, Killikulam

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

Activities conducted				
No. of Training programmes	No. of Demonstration s	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)
1-Drought management practices- Drip and sprinkler irrigation	Demo on Drip and rain gun	--	162	6
2-Fodder production through hydroponics system	2- Live demonstration on fodder production through Hydroponic	--	186	6

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
Pulses and Millet	75820	15250	1240
Total			

Major area coverage under alternate crops/varieties

Crops	Area (ha)	Number of beneficiaries
Vegetable crops – snakeguard CO-2 as an ideal intercrop in drumstick gardens	165ha	380
Total		

Farmers-scientists interaction on livestock management

Livestock components	Number of interactions	No.of participants
Managing livestock during drought situations	12	354
Disease prevention in livestock and poultry	06	125
Green fodder cultivation and feeding livestock	08	165
Total	26	644

Animal health camps organized

Number of camps	No.of animals	No.of farmers
05	1250	235
Total	1250	235

Seed distribution in drought hit states

Crops	Quantity (qtl)	Coverage of area (ha)	Number of farmers
Fodder sorghum	2.45	19.6	125
Hedge lucerne	0.56	2.0	25
Subabul	0.15	2.5	16
Drumstick	0.05	2.5	17
Sesbania	0.05	2.5	16
Total	3.26	29.1	199

Large scale adoption of resource conservation technologies

Crops/cultivars and gist of resource conservation technologies introduced	Area (ha)	Number of farmers
Vermicomposting		24
Sprinkler irrigation	12	45
Drip irrigation	255	560
Total	267	629

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
25	450	02	950	02	125			04	1250	04	1250

* Water campaign in 400 villages

13. AWARDS/REWARDS BY KVK AND STAFF

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
Best Trainee Award to P.Velmurugan, Scientist(Horticulture) ICAR KVK, Thoothukudi	2017	IARI, Pusa Institute, New Delhi	individual

14. DETAILS OF SPONSORED PROJECTS/PROGRAMMES IMPLEMENTED BY KVK

S.No	Title of the programme / project	Sponsoring agency	Objectives	Duration	Amount (Rs in lakhs)
1.	Drought management practices to farmers and extension personals	NABARD	To create awareness on Drought management and adaptation practices among the farmers	2 days	1.2
2.	Organic Farming Practices	Dept. Of Agriculture, Thoothukudi	To train the rural youth personals on various organic farming practices	3 days	0.60
3.	Preparation Of DPR on Watershed area	Dept. Of Agriculture, Thoothukudi	To workout the possible strategies to restore the water harvesting structures in the watershed area villages	7days	2.0
4	CAT programme on scientific dairy farming	NABARD	To improve the capacity of rural farmers to increase the productivity of dairy farming	3 days	0.54
5	CAT programme on backyard poultry rearing	NABARD	To improve the capacity of rural farmers to increase the productivity of poultry rearing	3 days	0.54
6	CAT programme on scientific methods of banana cultivation	NABARD	To improve the capacity of rural farmers to increase the productivity of banana farming	3 days	0.54
7	Awareness campaign on water conservation	NABARD	To create awareness among the village people in conserving the water	30 days	8.16

Please attach detailed report of each project/programme separately

15. SUCCESS STORIES

15. A Template for preparing success stories/case studies

1. Snake Gourd- An ideal remunerative intercrop in Drumstick gardens

Drumstick scientifically called *Moringa oleifera* of Moringaceae family, widely grown as a perennial vegetable crop in more than 1200 hectares of land in Thoothukudi district. Since the pods of drumstick are fetching very good price, the farmers of Sawyapuram and its surrounding Siruthandanallur, Mottathathanvilai, valasakaranvilai villages are growing drumstick round the year in about 620 hectares.

When the pod production comes to end after the north east monsoon i.e during November, the farmers of this region used to raise snake gourd or bitter gourd as intercrops in drumstick garden. After collecting the detailed data through PRA exercise, farmers group meeting and one to one interaction, ICAR Krishi Vigyan Kendra, Thoothukudi introduced CO-2 Snake gourd as an intercrop for the drumstick garden through Front Line demonstration in 10 farmers field.

After the monsoon period is over the farmers used to give a slant cut in the branches at 150cm height and allow them to fall on the nearby tree. Similar practice will be carried out in the nearby tree so as to form a natural pandal system without incurring any extra cost for pandal erection. The snake gourd vines will be trained on drumstick branches. After the final harvest of snake gourd, the drumstick will be cut down 30cm from ground level and manuring will be given to boost the crop in the coming months. Every year the practice will be repeated and the drum stick will be grown as a perennial crop for 4-5 years.

Mr.B. Ayyadurai (45), Siruthondanallur village is one among the beneficiary selected under the FLD programme, took up the CO-2 snake gourd cultivation in drumstick garden. He received 1 kg of CO-2 Snake gourd seed and 1kg of vegetable special as critical inputs from ICAR Krishi Vigyan Kendra, Thoothukudi. Before sowing, he applied 10kg of FYM, 15gm urea, 75gm super and 20gm potash as basal dose. He dipped 3-4 seeds per pit and irrigated the crop once in 4 days through drip irrigation. On 30th day he again applied 15gm of urea to boost the growth of snake gourd. As suggested by KVK staff, he also applied vegetable special @5gm/lit on 35th, 50th and 60th DAS. He harvested the fruits first on 60th day and continued till 108 days. He obtained a yield of 7.4 ton/acre and sold the fruits at an average price of Rs.9/kg in Thoothukudi market. He spent Rs. 28,500 as production cost and obtained Rs.66600/- and earned a net profit of Rs.38100 in 108 days with a BC ratio of 2.33.

His success clearly indicated that the Co 2 snake gourd is an ideal intercrop to Drumstick to earn additional income during the off season of drumstick. Now the Co-2 is cultivated predominantly in this region and the farmers are also happy to cultivate the high yielding Co -2 snake gourd variety as intercrop in Drumstick gardens.

2. Vermicomposting technology – as profitable enterprise to the IFS practitioners

Vermicompost is a rich source of essential nutrients to the plants and protects the crop from possible pest and disease attack by inducing the resistance mechanism to the plants. Besides converting the waste into usable manure, it becomes a remunerative enterprise to many progressive farmers especially those who have 2 to 3 dairy animals. Mr. Kingsly (58) of Mangalakurichi Village is one among the farmers, producing vermicompost in large quantity and marketing the compost in a successful manner.

Mr. Kingsly is an ardent follower of Integrated Farming System in his 3 acres of land. He is educated up to SSLC which helped him to read all the agriculture journals like Valarum velanmani, Pasumai Vikatan, Vivasayi Ulagam etc and regularly subscribing all those journals to keep him up to date on latest agriculture technologies. After reading articles on vermicomposting, he approached ICAR Krishi Vigyan Kendra, Thoothukudi to establish a vermicompost production unit in his farm. As per the advice of KVK, he underwent a training programme on vermicompost production technology and saw the various live vermicompost production units at KVK. Immediately after the training he started a vermicompost unit in 500 Sq.ft area with 10 units (of 4x10' size each) in his farm, with the support and motivation from KVK. ICAR KVK, Thoothukudi Hosted by SCAD

KVK offered 2kg of earthworms besides the technological inputs to establish the vermicompost production unit.

Since he had 10 milch animals and 14 calves, he was able to collect the cow dung required for the unit. Earlier he used to sell the cow dung directly to the needy farmers and fetched only ₹ 1000 per tonnes of cow dung. After the establishment of Vermicompost production unit, he is converting all the cow dung into Vermicompost and selling at Rs.8-10/kg. Now from his 10 units, he is getting 2 tonnes of vermicompost from a single cycle. As an average he is producing 23 tonnes of Vermicompost from his production units. Apart from his own garden usage of 4 tons of Vermicompost in his farm, he is marketing the surplus 19 tonnes of Vermicompost and earning ₹ 152000 per year. The nursery units, terrace garden owners, organic farming practitioners, agriculture departments are his regular customers. KVK Thoothukudi is also providing all the possible helps to market his Vermicompost by establishing a linkage with the needy people.

The training on Vermicompost production offered from the KVK not only helped him to be a successful entrepreneur but also helped him to enhance the soil fertility level of his farm. His farm production and income from Vermicompost production are now keeping him to lead to peaceful life and improved his socio economic condition as well.

Economics of vermicomposting

Income from selling cow dung as such	82 tonnes x ₹1000 = 82000
Income from selling vermicompost	23 tonnes x ₹8000 = 184000
Expenses for vermicompost making	₹3000 / tonnes x 23 = ₹69000
Additional profit by making vermicompost	₹ 33,000

3. Production and Marketing of Surabi Nutrimix – Successful Business model of a FPC

Millets are important crops for dry land farmers and they are highly nutritious and are a climate compliant crop. Millets are nutri-cereals known to have high amount of protein, essential fatty acids, dietary fiber, B-Vitamins, minerals such as calcium, iron, zinc, potassium, and magnesium. In the present scenario, demand for millets for direct consumption has been declining due to change in food habits and inconvenience attached with food preparation as compared fine cereals. Further, lack of processing technologies and also the government policies of no incentives towards millets also lead to less consumption of millets. Due to change in food habits involved in cereal based foods and drudgery in preparation, overall millet consumption in India has declined over the years.

Hence there is a need to develop the processing technology to make millet value added products available in convenient form at reasonable prices will find great demand in market, particularly in urban places where there is growing conscious for nutritive food intake. As a step towards this, ICAR-KVK, Thoothukudi established the millet primary processing unit and developed many value added millet food products with special focus on nutrimix flour making.

With this millet processing unit, ICAR KVK, Thoothukudi organized 12 training programmes covering the entire Thoothukudi district on value addition on millets for farmers, farm women, rural youth, and extension functionaries from the period 2012 to 2017. The objective was to provide and create a congenial situation for potential entrepreneurs and graduating startups through various training programmes. In order to make millet value chain as a sustainable one, the production and promotion of various products in the market is very much essential. With this motto, ICAR-KVK created a brand and labeled the nutrimix product as **Surabi nutrimix** with the EDP support from ICAR-ATARI. Necessary FSSAI (Food Safety and Standards Authority of India) License, Certificate have also been obtained.

Meanwhile KVK has organized Perunthalaivar Vazhai Farmer Producer Company Ltd during the year 2016 with 300 farmers as shareholders. Through various capacity Building and Entrepreneurial training

programme KVK motivated them to take up the Nutrimix production unit under PPP mode. From June 2017 onwards they started producing the Nutrimix. Through the support of NGO's and WSHG leaders the Perunthalaivar Vazhai Farmer Producer Company Ltd has able to market their produce through local agents. Now this product is available in the nearby districts and in Chennai .

The production cost of Nutrimix is Rs 98/kg and the selling cost is Rs 120/kg. At present they get a net profit of Rs 6600/ month by selling 300 kg of Nutrimix per month. During this financial year the FPCL have a plan to upscale their production to a level of 1000 kg /month and marketing through dealers so as to earn a profit of Rs 22000/ month. KVK has ensured to extent all possible helps to be a leading producer and distributor of SURABI Nutrimix pocket in the ensuring months. The profit can be shared to all the FPCL shareholders in future as dividend. Moreover they also have a scope to diversify their millet products to increase their profit.

4. Scientific rearing of backyard poultry a boon for rural household income

Situational Analysis/Problem statement: Thoothukudi district is situated in southern Tamilnadu that falls in southern zone of agriculture and one third of its population lives in rural villages and depend on dry land farming with livestock rearing for their life sustenance. Back yard poultry rearing is a traditional practice that is both suitable and appropriate for the rural people in the district. It requires very little infrastructure set up and therefore becoming a realistic tool for the poverty alleviation of the poor. Backyard poultry rearing is a task that takes little time, but with multiple benefits for the farmers and farm women. There is evidence that growth in the livestock and poultry sector can significantly contribute to economic growth and poverty reduction. This is because the rural poor are partly dependent on livestock and poultry for their livelihood and demand for food from animal sources are in increasing trend. India's poultry sector has seen tremendous growth from 0.2kg per capita poultry meat availability in 1970 to 1.6kg in 2003. However large scale commercial farms have primarily driven the growth in the sector. In juxtapose to the growth in the commercial broiler and layer sector demand for the egg and meat from the free ranging birds also increases among the consumers resulting in double the pricing for these egg and meat in comparison to the commercial broiler and layer products. The most important aspect of backyard poultry lies in the fact that the supplementary incomes are widespread across different households and can be achieved with minimal inputs. There are three key problems encountered by the backyard poultry sector

1. The current backyard poultry breeds (desi poultry) offer less productivity . Often laying only sixty eggs per annum/hen or fifteen chicks per annum per hen. There is a lack of availability of country chicks/improved cross bred chicks for backyard rearing
2. Unprotected free range birds are at risk from predators such as wild cats, mongoose, eagle and crows. This is causing loss of income, economic and nutritional instability for families in Thoothukudi district
3. Since the service of vaccinator is not available in many of the rural villages they could not vaccinate their birds regularly. This is leading to an increase in the poultry mortality rate.

In response to the key problems identified, the following priority needs have been highlighted.

1. The need for women and youth to engage in income generating activities
2. An increase in the number of eggs produced per annum/hen
3. Protection against predators and diseases.

Interventions made by KVK Thoothukudi to address the issues in the last 5 years

1. Conducted 36 training programmes to 716 rural youths, farmers and farm women on scientific methods of backyard poultry rearing with particular emphasis on low cost feeding, disease prevention through vaccination, protection from predators through proper night shelters, egg collection, storage and marketing
2. Organized 5 exposure visits to successful backyard poultry entrepreneurs units, to empower the trainees with first-hand information and knowledge on the subject area

3. Conducted method demonstrations at village level on scientific methods of backyard poultry rearing with improved practices
4. Information dissemination done through publications such as pamphlets, leaflet, etc in local language
5. Supplied 12545 numbers of one month old improved backyard poultry breed chicks (Vanaraja, Namakkal desi chicken-1, Giriraja, Gramapriya, Cauvery, Swarnadhara) to 885 farmers
6. Ensured the availability of vaccines to farmers from KVK (245 vials of Lasota and 380 numbers of R2B vaccines vials) and nearby medical shops in small towns like Pudukottai, Sekkarakkudi, Kovilpatti, Nazereth, Sathankulam, meignanapuram, Thiruchendur, Vilathikulam, and Kayathar,
7. KVK has provided technical advisories and consultancy services to 4245 farmers over these last five years
8. KVK has recorded the success story of two rural youths growing poultry which were telecasted in Makkal TV during the year 2017-18
9. KVK has displayed the live birds of improved backyard poultry in eleven exhibitions at different locations for the benefit of around 29500 visitors.

Output: A sample survey was taken from the trainees who underwent the training from KVK and it was found out that out of the 125 trainees who were contacted randomly from the list of participants 76 persons reported that they adopted backyard poultry rearing with improved birds along with desi birds and 42 of them reported vaccinating the birds by themselves and all of them reported erection of night shelters to the birds to protect it from predators. 56 persons reported that they sell surplus eggs at the rate of Rs.9 to 12 and the birds at the rate of Rs.300 per kg live weight. 20 persons reported that they are not selling the eggs but keep it for their own consumption. The mean flock size reported by the adopters was 12.5. The average number of egg production per household per day was reported to be 3.75. The average egg yield obtained from each hen was found to be 125 per annum which is almost 200 percent increase over the desi bird yield.

Outcome: Because of KVK interventions to promote backyard poultry rearing as an income generation cum nutritional security activity now this technology has spread to almost all the villages in the district and everyone in the field aware the benefits of rearing improved backyard poultry. Now the need is to ensure the continuous supply of chicks to them in their village itself to further spread this technology for large scale adoption in Thoothukudi district.

Impact: Adoption of scientific principle in backyard poultry rearing resulted in increase in income from each hen reared in the homestead both in terms of increased egg production (200 times when compared to desi birds) and reduced mortality due to vaccination against ranikhet disease (upto 99%). Corresponding increased number of survivors in each household resulted increase in egg yield from desi hens too. This increased yield resulted in generation of surplus egg and meat production over family consumption to the tune of Rs.7000 per household (having 10 hen/homestead) per annum. KVK has supplied 12545 chicks over these five years with 90 percent survival rate and 50% of female population resulted in the production of 6.77lakh eggs valued at Rs.9 per egg as Rs.60.93lakhs per annum. This is a huge impact on rural economy in terms of financial outcome as well as on nutritional impact created in each family because of the availability of nutritious eggs for the family consumption in the frequently drought prone district where the income from crop is always at the mercy of climate. Poultry rearing in the homestead is definitely a boon for rural household and the adoption of scientific principles ensured the economic returns from birds reared under free ranging system.

15. 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) – Nil

16. IMPACT**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)
Cattle feed preparation from Prosopis Juliflora pods	60	35	16150	20350
Rearing desi/cross bred chickens with proper care and management	26	90	2000/10 hen	7000/10 hen
Use of mineral lick feeding to goat	18	72	1500/goat	2500/goat
Regular Vaccination and Deworming to the goat	50	95	1500	2500
Green Fodder cultivation	25	80	16150	24350
Mineral mixture feeding to dairy cows	36	85	150/cow/day	160/cow/day
Kitchen garden	140	65	0	600/year
Supplementary feeding with Nutrimix to enhance the body weight and growth in children (Cost saved)	220	85	1000/year	3000/year
Use of certified seed in improving the yield in black gram and Green gram	42	80	13500/ac	15750/ac
Pulses wonder - Foliar application technology	42	68	2700	3150
ICMP including mechanization in green gram (labour savings)	25	95	10500	13500
Disease management in Banana (increased % of survival)	20	75	42000/ac	68000/ac
Co 14 lab lab cultivation techniques	20	50	45000/ac	61200/ac
High density planting in guava (On 3 rd year)	05	80	From 160trees 24000/ac	From 600trees 90000/ac

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

B. Cases of large scale adoption

(Please furnish detailed information for each case) (Note: OFT – O, FLD – F, Training – T, Extension Activities – E)

Discipline	Name of the technology	Source of the technology	How the technology transferred	Spread in Area (acre)	No of farmers
Agronomy	Use of weedicide to control weed in pulse crop	TNAU	F,T,E	30000	10500
Agronomy	Manual weeder usage in pulse crop	TNAU	F,T,E	10000	750
Agronomy	Total mechanization in green gram	TNAU	F,T,E	13500	820
Agronomy	Biofertilizer and Bio pesticide usage	TNAU	F,T,E	80000	22500
Agronomy	Soil sampling, testing	TNAU	T,E	80000	18200
Horticulture	High density planting techniques in guava and banana	TNAU	F,T,E	300	251
Horticulture	Seed production techniques in MDU – 1 cluster bean	TNAU	F,T,E	50	50
Horticulture	Planting fruit crops in garden land	TNAU	T,E	100	100
Home Science	Kitchen gardening with improved vegetable varieties	TNAU	T,E	-	250
Home Science	Terrace garden	TNAU	T,E	100 units	100
Home Science	Value addition to banana and milk products	TNAU / TANUVAS	T,E	200	200
Animal Science	Promotion of backyard poultry rearing with improved breeds	TANUVAS	F,T,E	-	463
Animal Science	Prosopis pod flour as an alternative concentrate feed ingredient	CAZRI, Jodhpur	O,T,F, E	-	596
Animal Science	Comprehensive disease control in goats	TANUVAS	F,T,E	-	1640
Animal Science	Green fodder- CN hybrid CO-4	TNAU	F,T,E	-	750
Animal Science	Ranikhet disease vaccine- RDVK/R2B	TANUVAS	T,E	-	12500
Fisheries	Composite fish culture in village pond using stunted fingerlings	TANUVAS	F,T,E	67 ponds	67 Villages
Agro forestry	Tree planting in wastelands	TNAU	T,E	200	150

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

17. LINKAGES**A. Functional linkage with different organizations**

Type of Institute	Name of the Organization	Nature of linkages
TNAU	ACRI, Killikulam	Technical support to prepare pre action plan Technological input sharing to finalize the OFT, FLD Participation and critically review the KVK activities in SAC meeting Participation in Seminars, workshop and training programme
TANUVAS	VCRI- Tirunelveli	Participation in Seminars, workshop and training programme Participation and critically review the KVK activities in SAC meeting Supply of inputs like chicks, fodder seeds etc., Expert advice on disease prevention and diagnosis
TANUVAS	VCRI, Namakkal	Supply of Mineral mixture – 120Kg
TNAU	Seed center, TNAU	For sourcing the seeds of paddy, green gram, black gram, Snake gourd, Chilli etc., for effective implementation of FLD, Oft programmes in time
TNAU	DEE, TNAU	Technological back stopping in finalizing the action plan Participation and critically review the KVK activities in SAC meeting
ATMA	Dept of Agriculture, Thoothukudi	Dissemination of technological information through on campus trainings and field demonstrations etc., supportive role in organizing meetings, seminars, village level trainings etc.,
Banks	NABARD	Promotion of FPOs, JLGs and financial support for seminar (1) CAT programmes(5) in Thoothukudi,
Ministry of information and Broadcasting	All India Radio, Tirunelveli	Recording the success stories of farmers (15), latest technologies in Agriculture, Horticulture, Animal Husbandry, Home science (17) and broadcasting the same
KVK Namakkal	KVK Namakkal	Supply of fodders Hedge Lucern – 20Kg Suba bul – 5Kg
KVK Theni	ICAR KVK Theni	Supply of 100Kg of banana special
KVK Dindigul	ICAR KVK Dindigul	Supply of 22.5 Kg of Veg. spl
ICDS	ICDS	Participation in Seminar On Minor Millets and its value addition Technical information sharing on malnourishment and anemic level among children and women

NB The nature of linkage should be indicated in terms of joint diagnostic survey, joint implementation, and participation in meeting, contribution received for infrastructural development, conducting training programmes and demonstration or any other

B. List Externally Funded Projects / schemes undertaken by the KVK and operational now, which have been financed by State Govt. /Other Agencies

Name of the scheme	Role of KVK	Date/ Month of initiation	Funding agency	Amount (Rs.)
Formation of FPCs	Formation of FPC by sensitizing the farmers. Registration of FPC and developing business plan for FPC.	05.09.2015	NABARD	27,00,000
CAT	Organizing and conducting capacity building training programmes and exposure visit	05.02.2016	NABARD	90000
Formation of FPCs	Formation of FPC by sensitizing the farmers. Registration of FPC and developing business plan for FPC.	05.02.2016	NABARD	2700000

17. Farm life school:

Thematic area: Improving the health and nutritional security

Title: Farm life nutrition schools for achieving health and nutritional security

Village: Manjaneerkayal

No of adolescent girls: 25

Critical inputs: nutri mix, drum stick and curry leaf powder, nutrition garden seed kit pockets,

Session number	Activity/topics discussed/demonstration
1	Introduction and base line data collection . recording the anthropometric measurements and blood haemoglobin level
2	Demonstration on use of Nutrimix porridge preparation
3	Training on nutrition garden establishment and maintenance
4	Training on sanitation , health and hygiene
5	Visit to nutrition garden and identification its uses
6	Demonstration on Dosa and adai preparation using Moringa leaves
7	Training on nutrition for adolescent girls and demonstration of nutritious food preparation using locally available materials and Laddu and Paniyaram preparation with Nutrimix
8	Gender sensitization
9	demonstration on Puttu and kolukattai preparation using Nutrimix
10	Recording the anthropometric measurements ,blood haemoglobin level and change in Knowledge gained and sharing the outcome of farm life school

Results:

Parameters	Before	After
Average body weight	35 kg	41 kg
Blood hemoglobin percentage	8.5g%	9.8g%
Establishment of nutrition kitchen garden	5%	42%
changes in nutrition diet intake	48%	67%
nutrition knowledge	56%	68%
sanitation knowledge	46%	62%
% of adolescent girls using toilet	12%	52%
Proper hand washing habits with soap	38%	71%

FINANCIAL PERFORMANCE**A. Details of KVK Bank accounts**

Bank account	Name of the bank	Location	Branch code	Account Name	Account Number	MICR Number	IFSC Number
With Host Institute	Central Bank of India	Tirunelveli Junction	280924	Main Account	3117090470	627016002	CBIN0280924
	South Indian Bank Ltd	Tirunelveli Junction	0254	Revolving Fund	025407300000462	627059002	SIBL0000254

B. Utilization of KVK funds during the year 2017 – 18 (Rs. in lakh)

Sl. No	Particulars	Sanctioned		Expenditure Rs.
		BE	RE	
A	Recurring Contingencies			
	Pay & Allowances	96,00,000	84,65,000	84,36,960
	Traveling allowances			
	a. Field activities & programmes	1,25,000	1,45,000	81,448
	b. Training programmes			
	Contingencies			
	A. Office Contingencies			
	a. Stationery, telephone, postage and other expenditure on office running, publication of Newsletter	5,50,000	5,50,000	5,49,819
	b. POL, repair of vehicles, tractor and equipment			
	B. Technical Programme			
	a. Rs. 150/ person per day towards food and refreshment for kvk training programmes for farmers / extension personals			
	b. Teaching materials for training and demonstration			
	c. Training of extension functionaries			
	d. publication extension literature for farmers and extension functionaries			
	e. honorarium to farmers	8,94,000	8,94,000	8,93,614
	f. On farm testing (problem oriented)			
	g. Front Line demonstration on major crops			
	h. Kissan Mela / farmers fair (at KVK farm)			
	i. Library (Purchase of Journal, Periodicals, News Paper and Magazines)			
	j. Maintenance of farm			
	k. EDP / IFS / FFS / FLS			
	Total of Contingencies	14,44,000	14,44,000	14,43,433
	Total Recurring	1,11,69,000	1,00,54,000	99,61,816
B	Non-Recurring Contingencies			
	Works			0
	Furniture & Equipments			0
	Vehicle (Four wheeler/Two wheeler, please specify)			0
	Library			0
	Total Non-Recurring			0
	REVOLVING FUND			0
	GRAND TOTAL (A+B+C)	1,11,69,000	1,00,54,000	99,61,816

C. Status of revolving fund (Rs. in lakh) for the three years

Year	Opening balance as on 1 st April	Income during the year	Expenditure during the year	Net balance in hand as on 1 st April of each year
April 2015 to March 2016	3.42	6.27	6.79	2.90
April 2016 to March 2017	2.90	12.65	12.79	2.76
April 2017 to March 2018	2.76	9.49	6.36	5.89