

ANNUAL REPORT 2016 – 17

FOR THE PERIOD

APRIL 2016 to MARCH 2017

ICAR – KRISHI VIGYAN KENDRA

Hosted by SCAD

Thoothukudi District, Tamilnadu

Content of the Page

Sl. No	Particulars	Page No
1	General Information about the KVK	3 – 4
2	SAC Meeting	5 – 7
3	Details of District	8 – 12
4	Technical Achievements	13 – 17
5	On Farm Trial	18 – 22
6	Front Line Demonstrations	23 – 29
7	IFS, EDP	30 – 31
8	Training	32 – 34
9	Extension Activities	35
10	Production of seed, plant and livestock materials	36 – 37
11	Publication, Success story, SWTL, Technology Week and Drought Mitigation	38 – 48
12	Impact	49 – 50
13	Linkages	51 – 52
14	Performance of infrastructure in KVK	53 – 55
15	Financial performance	56
16	Human Resource Development (HRD)	57
17	Summary	58 – 71

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	pscadvk@gmail.com	www.scadvk.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	sritutkvk@gmail.com

1.4. Year of sanction: 1995

1.5. Staff Position (as 31st March 2017)

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							
	1. Poultry shed	ICAR	2006	160	1.49 Lakhs			
	2. 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 To be condemned
Photo copier	2005	82840	Not in use To be condemned
Computer with printer and accessories	2005	68800	Not in use To be condemned
Digital photo camera	2005	19990	Not in use To be condemned
EPABX	2011	15000	Not in use
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 2016 – 17 (Date: 7th Sep 2016 – 12th SAC Meeting)

Sl. No	Name of SAC Member	Salient Recommendations	Action taken																												
1	Dr. H. Philip, DEE, TNAU, Coimbatore	KVK should collect basic details of all its contact farmers with the target of 50 per SMS per month as data base and the list to be sent to DEE TNAU	1255 farmers data base has been computerized an on 31 st Mar 2017																												
2		Advised to involve the department officials and bank officials to their schemes for the farmers in the training programmes besides the farmers should also be oriented on the use of internet, SMART phone apps, etc in every training programme	<table border="1"> <thead> <tr> <th>Date of the training</th> <th>Name and designation of department officials participated</th> </tr> </thead> <tbody> <tr> <td>14-15.12.2016</td> <td>1.Mr.Vijaya Pandian, AGM, NABARD,Thoothukudi 2.Mr.Rajasekar, Senior Manager, Indian Bank, Palayamkottai 3. mr.Vijayakumar, Manager, Lead Bank, SBI,Thoothukudi 4. Mr.S.Sugirtharaj, Development officer, National Insurance, Melur Branch, Thoothukudi</td> </tr> <tr> <td>17-19.11.2016</td> <td>1.Mrs.Subavasuki,ADH, Cheranmahadevi 2. A.K.Pathil, GM,NABARD, 3. DDM NABARD Mr.Ramalingam</td> </tr> <tr> <td>16-18.12.2016</td> <td>1. Mr.K.Raja, HO, Keelapavur, 2. DDM NABARD Mr.Ramalingam</td> </tr> <tr> <td>24-26.jan 2017</td> <td>1. Mr.Mariappan, ADH Vasudevanallur 2. DDM NABARD Mr.Ramalingam</td> </tr> <tr> <td>9.3.17</td> <td>Mr.Mohanraj, ADA, Pudukottai, Mr.MuthuEzhil, JDA, Thoothukudi</td> </tr> </tbody> </table> <p>In the following training programmes conducted after September the farmers were given orientation on internet and smart phone app usage for agriculture</p> <table border="1"> <thead> <tr> <th>Date of the training</th> <th>Number of farmers</th> </tr> </thead> <tbody> <tr> <td>29.11.16</td> <td>14</td> </tr> <tr> <td>26.11.16</td> <td>33</td> </tr> <tr> <td>14.12.16</td> <td>32</td> </tr> <tr> <td>16.12.16</td> <td>17</td> </tr> <tr> <td>19.12.16</td> <td>35</td> </tr> <tr> <td>22.12.16</td> <td>8</td> </tr> <tr> <td>23.3.17</td> <td>11</td> </tr> </tbody> </table>	Date of the training	Name and designation of department officials participated	14-15.12.2016	1.Mr.Vijaya Pandian, AGM, NABARD,Thoothukudi 2.Mr.Rajasekar, Senior Manager, Indian Bank, Palayamkottai 3. mr.Vijayakumar, Manager, Lead Bank, SBI,Thoothukudi 4. Mr.S.Sugirtharaj, Development officer, National Insurance, Melur Branch, Thoothukudi	17-19.11.2016	1.Mrs.Subavasuki,ADH, Cheranmahadevi 2. A.K.Pathil, GM,NABARD, 3. DDM NABARD Mr.Ramalingam	16-18.12.2016	1. Mr.K.Raja, HO, Keelapavur, 2. DDM NABARD Mr.Ramalingam	24-26.jan 2017	1. Mr.Mariappan, ADH Vasudevanallur 2. DDM NABARD Mr.Ramalingam	9.3.17	Mr.Mohanraj, ADA, Pudukottai, Mr.MuthuEzhil, JDA, Thoothukudi	Date of the training	Number of farmers	29.11.16	14	26.11.16	33	14.12.16	32	16.12.16	17	19.12.16	35	22.12.16	8	23.3.17	11
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3		Advised to see that brokers and traders will not	Till date this problem didn't arise and																												

		get upper hand inside the FPOs formed	good motivation and orientation was given to the directors of FPO regarding this aspect.
4		KVK should ensure the proper log book maintenance of all the instruments supplied under INSIMP project	Photocopies reviewed and Seen
5		Advised to send success stories of successful farmers to TNAU monthly magazine / Ulavanin valarum vealanmai and also try to get best farmer award for successful farmers under KVK guidance	4 Success Stories namely 1. A success story on profitable green fodder cultivation as an enterprise 2. Abundant income fetching Thoothukudi farmer from High Density Planting in Guava 3. Tractor drawn weeder for the rainfed cultivation – A farmer’s innovation. 4. Mushroom cultivation - An ideal entrepreneurial venture for Rural people were already sent to DEE, TNAU for publication
6		Advised to ensure the incorporation of KVK & ICAR name in all the products produced by KVK in attractive packing with manufacturing date, batch no, license no, Expiry date etc	As instructed it is adhered with respect to the produces produced in KVK like biofertilizers, seed kits and nurtimix . Labeling with respect to Panchakavya, Poochivirati, milk products , Vermicompost, are in the pipeline and this will be undertaken in the coming year.
7		KVK should develop a roof top nutrition garden with economics	We established roof top garden and the plants are growing well and economics is worked out by SMS H.Sci and Hort
8		The action taken on the advice of SAC members should be reported with clear data and evidence in the next meeting. Advised to give at least one message per SMS per month to AIR for broadcasting	During Nov, SMS have been given to farmers on packages of practices for pulses During December and January training schedule SMS have been given to farmers
9		IFS Model to be demonstrated in KVK	Due to the monsoon failure this year fish pond cannot be established at KVK farm but integration of cattle with horticulture and cereal crops is on going
10	Mr. K. Vijayapandian AGM, NABARD, Thoothukudi	Advised to outreach the activities of KVK through publications in local language	News Letter – 1 Pamphlets and folders – 12 Nos Booklets- 1 have been brought out during the year 2016-17
11		Advised KVK to submit proposal for small grants under FSPF	3 CAT Program – 1.5 Lakhs. One Seminar – 1.3 Lakhs (2.8 lakhs sanctioned for the year 2017 - 18
12	Dr. M.J. Chandre Gowda Principal Scientist, ICAR-ATARI,	SAC meeting should be convened regularly, preferably before action plan meeting. Ensure SAC meeting at least once in a year	Next SAC meeting will be convened during the month of August 2017
13	Bengaluru	Up scaling the technology adoption is an important activity of KVK. It is important to analysis the impact of KVK activities in these lines every year	Detailed impact assessment based on questionnaire and group discussion with ex trainees were conducted with respect to adoption of 1. Scientific methods of backyard poultry rearing 2. Disease control in sheep and goat 3. Green fodder cultivation 4. Mineral mixture feeding to dairy cows 5. Kitchen gardening, 6. Mechanization in green gram

			7. Biofertilizer usage 8. Supplementary feeding to reduce malnourishment in young children Were conducted during the year 2016-17
14		Integration of technologies is important role of KVK in order to ensure successful uptake of technologies	All the demonstration programmes were planned by keeping in mind to integrated all the possible technologies as suggested
15		KVK should act as a knowledge and resource centre for farmers, development departments, private firms engaged in farmers development	Tree seedlings, Vermicompost, seed kit, EM, PK Chicks, Mushroom, Roof top garden, Azolla were supplied to the farmers and needy from KVK
16		FPO / JLG needs good leaders KVK should guide in this line	Exposure visits have been arranged to the BODs of 6 FPO's promoted by KVK during Nov 2016
17		Improve the performance of KVK production units (quantity and quality) using partnership mode	<ul style="list-style-type: none"> • Salt lick production is carried out by involving ITI students during Dec 2016 • Nutrimix production unit is handed over to FPO for the production under PPP mode
18	Mr. E.V.N. Muthu Ezhil PA (Agri) to Collector	KVK can send their contact farmers who produce vegetables to the vegetable sales shop maintained under the direct supervision of District collector to sell their produce. Also requested to give details of contact farmers who benefit in the outlet and who else are in need of this kind of support to district collector	SMS – HS made a report on the situation and it has been submitted to PA Agri during the 1 st week of Dec 2016
19	Dr. I. Jagadeesh, Principal Scientist, CMFRI, Thoothukudi	CMFRI has the technology for cage culturing of lobster and prawn, KVK can take the interested entrepreneurs to CMFRI to receive this technology	No requirement on these line from any trainees were encountered during the year 2016-17
20		KVK can keep display boards on hygienic handling of captured fish at landing site	Two places have been identified i.e Punnakaiyal and Alanthalai and this board will be displayed during the coming year
21	Mr. P. Vanniyaperumal JDA, Thoothukudi	If any ATMA grant is received for printing extension literatures, it can also be extended for KVK based on demand or request	A request has been submitted to PD ATMA with a list of literatures to be re printed and the matter is awaiting for funds and approval from ATMA
22		Advised to give guidance and training for registering the organically cultivating farmers	Necessary guidance is given to the needy farmers in this regard
23	Mr. T.C Kannan DDH, Thoothukudi	Horticulture department will be giving support for establishing roof top nutritious garden. This message can be passed to needy	Update for this matter (SMS HS)
24	Mr. M. Selvakumar Farmer, Kootampuli	Requested KVK to produce Bavariabessiana also and give it at affordable prize for the farmers	This suggestion will be honored during the coming year 17 – 18
25	Mr. G.D Kingsly Farmer, Pudukottai	Requested KVK to help in marketing Vermicompost products	12 tonnes of Vermicompost produced by him have been marketed in the last 6 months through KVK
26	Dr. M. Chellapandian Professor and Head Dept of Animal Nutrition VCRI Tirunelveli	Advised to promote the usage of TANUVAS mineral mixture for livestock KVK can procure TANUVAS mineral mixture from VCRI Tirunelveli and sell it for the needy farmers under revolving fund activity.	Mineral mixture usage has been demonstrated in the meetings and training programmes conducted at KVK and bulk purchase of mineral mixture from TANUVAS will be undertaken during the coming year as suggested.

PART II – 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, redgram, 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 subhumid 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 pHgenerally 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; pH6.8	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; pH7.3	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	20278	29814	4520	14.10
	Sorghum	8327	18871	2106	5.79
	Cumbu	11888	16473	1754	8.26
	b) PULSES				
	Black gram	32177	6540	172	22.37
	Green gram	29373	6269	177	20.42
2	B. FIBRE				
	Cotton	4879	6440	1.32	3.39
3.	C. OIL SEEDS				
	Ground nut	1183	1151	2227	0.82
	Sesame	1905	307	274	1.32
	Sun flower	1470	614	490	1.02
4.	D. OTHER CROPS				
	Chilli	14774	2058	176	10.27
	Banana	9578	287340	30000	6.66
	Drumstick	950	19000	20000	0.66
	Coriander (Grains)	3248	1023	315	2.26
	Onion	1508	18096	12000	1.05
	Other vegetables	2306	36896	16000	1.60

* Source: Joint Director of Agriculture, Thoothukudi District (Year 2015 – 16)

2.5. Weather data

Month	Rainfall (mm)	Temperature °C		Humidity (%)	
		Maximum	Minimum	Maximum	Minimum
April – 2016	2.58	31	28	85	68
May	25.79	34	26	80	64
June	4.26	34.8	27.2	82	67
July	13.16	34.7	28.9	80	69
August	0.58	34.2	29.9	84	71
September	3.19	34	26	85	73
October	40.6	32	26	86	74
November	100.31	31	24	90	79
December	9.64	30	23	90	79
January – 2017	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 District profile has been Updated for 2016 – 17 Yes / No: Yes

2.8 Details of Operational area / Villages

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 roductivity (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, Entero toxemia, 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 motality 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 summerLow 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 ground nut 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 vegetablesMalnutrition (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	2014 – 15	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				2014 – 15	Green gram 240 ha	40% yield loss due to YMV, Poor pod filling due to MN deficiency (65%), Labour shortage for weeding in time (72%), Non availability of seed in time (91%)	1,2,3,4,6
21				2014 – 15	Goat	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 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				2014 – 15	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
				2014 – 15	Poultry	Mortality upto 90% due to ranikhet diseases	12,14,15

2.9 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 III – 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
3	3	17	17	8	8	100	100
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
92	96	2000	2079	1042	1287	14300	20500
Seed Production (Qtl)				Planting materials (Nos)			
5				6			
Target		Achievement		Target		Achievement	
29.50		Seed Kit – 45.5 Kg Co (FS) 29, 31 – 80 Kg Azolla – 15 Kg Subabul – 5 Kg Green gram (Co 8) – 92 Kg Black gram (VBN 8) – 206 Kg		5500		7020	
Livestock, poultry strains and fingerlings (No)				Bio-products (Kg)			
7				8			
Target		Achievement		Target		Achievement	
Poultry – 5500		Chicks (Young one) – 2502 Chicks (Adult) – 109 Chick Egg – 3486 Quails – 253 Quails Egg - 1243		5000 Kg		Bio Fertilizer – 358.5 Kg Bio Fungicide – 256 Kg EM – 1570.2 Liter Salt Lick – 49 Kg Vermicompost – 3820 Kg	

3B1. Abstract of interventions undertaken based on thrust areas identified for the district as given in Sl.No.2.7

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions									
				Title of OFT if any	Title of FLD if any	Number of Training (farmers)	Number of Training (Youths)	Number of Training (extension personnel)	Extension activities (No)	Supply of seeds (Qtl)	Supply of planting materials (No)	Supply of livestock (No)	Supply of bio product (Kg)
1	Introduction of high yielding , improved crop varieties in agriculture and horticulture	Paddy	Low Yield 4200 kg/ha. Lack of awareness fine grain varieties (60%). Ruling fine varieties ADT-@ 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	Assessing the suitability of drought tolerant, short duration, high yielding, fine grain paddy varieties for rain fed tank irrigation system	---	4	1	0	45	2.25	---	---	20
2	Promotion of ICM practices for major crops like Paddy, Banana, Chilli, Maize, Black gram, Green gram, Tomato, Onion and Cotton	Paddy	Low level of aware 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%)	---	Demonstration of Paddy TPS – 5 with ICM Practices	3	1	0	30	240	---	---	20
3		sorghum	Low productivity in K-8 variety (990Kg/ha) Crop losses in existing commercial varieties due to drought condition in later stage of crop growth (50%) Late maturing long duration commercial varieties invites midges attack (55%)	---	Demonstration of ICMP in dual purpose Sorghum K - 12	5	0	0	38	0.80	---	---	20
4		Green gram	Labour shortage for sowing and weeding in time (72%) Lack of practice on line sowing (98%) Lack of access to combined harvester (60%) High cost of weeding	---	Demonstration of Green gram CO (Gn) - 8 in dry land farming system	5	0	0	40	0.80	---	---	20
5		Banana	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 (1.37 lakhs/ha) low productivity (35 ton/ha)	Assessment of scaffolding system in Banana	Demonstration of Paired row system of planting in Banana with GAP	7	2	0	67	---	1000 suckers	---	10

6		Snack gourd	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%) Low net income/unit area(18ton/ha) High seed cost of hybrids & usage of poor quality seeds	---	Demonstration of Snake gourd CO(Sg) H-1 in Drumstick as intercrop	3	1	0	32	0.20	--	--	10
7		Cluster bean	Water scarcity for Summer crop (65%) Poor awareness on high yielding, drought hardy, alternate crops (60%) Low net profitability of other crops	---	Demonstration of Cluster bean (MDU-1)variety	3	0	0	29	0.20	---	---	10
8		Groundnut	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%)	---	Demonstration on Groundnut stripper and Decorticator	4	1	1	92	1 unit	---	---	---
9		Onion	Low level of awareness on high yielding short duration vegetables. Low Production and net return to garden land farmers. High cost of bulbs Cost for transport of bulk quantity of bulbs	Assessment of yield parameters of seeding type multiplier onion varieties	---	5	0	0	32	0.075	---	---	7.5
10	Promotion of alternative poultry farming, improved backyard poultry breeds, and artificial incubation of eggs.	Poultry	1. Non availability quality chicks for rearing in the vicinity 2. Mortality in chicks due to infectious diseases (upto 40%) and prey animals (upto 40%)	---	Demonstration of oral pellet vaccine to control ranikhet disease in chickens	3	1	1	48	---	---	60 Vial	---
TOTAL						42	7	2	453	504	1000	60	117.5

3B2. Details of technology used during reporting period

S. No	Title of Technology	Source of technology	Crop/ Enterprise	No. of programmes conducted				No. Of farmers Covered															
								OFT				FLD				Training				Others			
				OFT	FLD	Train ing	Extension activities	General		SC/ST		General		SC/ST		General		SC/ST		General		SC/ST	
				M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	Assessing the suitability of drought tolerant, short duration, high yielding, fine grain paddy varieties for rain fed tank irrigation system	TNAU	Paddy	1	0	6	45	0	0	4	1	0	0	0	0	31	25	15	19	260	210	257	212
2	Assessment of yield parameters of seeding type multiplier onion varieties	TNAU	Onion	1	0	5	32	0	0	5	0	0	0	0	0	25	20	12	20	175	850	178	850
3	Assessment of scaffolding system in Banana	TNAU	Banana	1	0	4	27	0	0	4	1	0	0	0	0	21	25	13	25	151	139	158	140
4	Demonstration of Paddy TPS – 5 with ICM Practices	TNAU	Paddy	0	1	4	30	0	0	0	0	0	0	9	1	28	12	24	12	120	120	157	102
5	Demonstration of ICMP in dual purpose Sorghum K – 12	TNAU	Sorghum	0	1	5	38	0	0	0	0	20	0	0	0	28	32	13	17	74	89	85	95
6	Demonstration of Green gram CO (Gn) – 8 in dry land farming system	TNAU	Green gram	0	1	5	40	0	0	0	0	0	0	6	4	43	30	32	7	485	169	498	170
7	Demonstration of Paired row system of planting in Banana with GAP	TNAU	Banana	0	1	6	37	0	0	0	0	5	1	4	0	40	29	30	9	518	375	509	421
8	Demonstration of Snake gourd CO(Sg) H-1 in Drumstick as intercrop	TNAU	Snake gourd	0	1	4	32	0	0	0	0	10	0	0	0	32	31	9	32	19	21	22	23
9	Demonstration of Cluster bean (MDU-1) variety	TNAU	Cluster bean	0	1	3	29	0	0	0	0	0	0	10	0	39	35	7	25	24	14	29	15

10	Demonstration of oral pellet vaccine to control ranikhet disease in chickens	TNAU	Poultry	0	1	5	48	0	0	0	0	0	0	25	5	45	42	25	8	705	175	682	335
11	Demonstration on Groundnut stripper and Decorticator	TNAU	Groundnut	0	1	6	92	0	0	0	0	0	0	9	1	32	29	12	27	278	318	479	315
12	Promotion of Seed Production	TNAU	Paddy and pulses	0	0	3	38	0	0	0	0	0	0	0	0	33	31	22	13	255	118	262	117
13	Nursery raising	TNAU	Horticulture crop	0	0	2	45	0	0	0	0	0	0	0	0	42	45	22	17	110	91	106	165
14	production of organic inputs	TNAU	All crop	0	0	3	65	0	0	0	0	0	0	0	0	38	34	19	7	57	41	48	45
15	Integrated farming system	TNAU	All crop	0	0	4	70	0	0	0	0	0	0	0	0	31	32	9	11	185	164	214	182
16	Increasing production and productivity of crops	TNAU	All crop	0	0	3	59	0	0	0	0	0	0	0	0	27	29	18	15	48	45	57	41
17	Value addition of fruits and millets	TNAU	fruits & millets	0	0	4	55	0	0	0	0	0	0	0	0	35	38	21	16	61	67	60	166
18	House hold food security by kitchen gardening and Terrace gardening	TNAU	Vegetables	0	0	4	69	0	0	0	0	0	0	0	0	30	27	20	21	118	118	214	182
19	Women & child care	TNAU	Women & child	0	0	2	64	0	0	0	0	0	0	0	0	25	30	21	17	58	59	74	92
20	Women empowerment		Women	0	0	3	43	0	0	0	0	0	0	0	0	36	51	15	19	910	512	486	412
21	Goat management	TNAUVAS	Sheep and goat	0	0	4	68	0	0	0	0	0	0	0	0	45	48	22	17	164	214	45	57
22	Protective cultivation	TNAU	Horticulture crop	0	0	6	89	0	0	0	0	0	0	0	0	45	41	18	19	105	13	185	16
23	Animal nutrition management	TNAUVAS	Dairy Cow & sheep	0	0	4	90	0	0	0	0	0	0	0	0	35	38	22	12	118	211	214	182
24	Animal disease management	TNAUVAS	Dairy Cow & goat	0	0	6	91	0	0	0	0	0	0	0	0	40	35	25	13	420	531	617	547
TOTAL				3	8	101	1296	0	0	13	2	35	1	63	11	826	789	446	398	5418	4664	5636	4882

PART IV –On Farm Trial

1. A1. Abstract on the number of technologies assessed in respect of crops

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management										
Varietal Evaluation	3				2					5
Integrated Crop Management						2				2
Total	3	0	0	0	2	2	0	0	0	7

4.A2. Abstract on the number of technologies refined in respect of crops – Nil

4.A3. Abstract on the number of technologies assessed in respect of livestock enterprises – Nil

4.A4. Abstract on the number of technologies refined in respect of livestock enterprises – Nil

4.B. Achievements on technologies Assessed and Refined

4.B.1. Technologies Assessed under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trail covering all the Technological Options)
Drought Tolerant	Paddy	Assessing the suitability of drought tolerant, short duration, high yielding, fine grain paddy varieties for rain fed tank irrigation system	6	6	0.2
Varietal Evaluation	Onion	Assessment of yield parameters of seeding type multiplier onion varieties	5	5	0.2
	Banana	Assessment of scaffolding system in Banana	5	5	0.2
TOTAL			16	16	

4.B.2. Technologies Refined under various Crops – Nil

4.B.3. Technologies assessed under Livestock and other enterprises – Nil

4.B.4. Technologies Refined under Livestock and other enterprises – Nil

4C1.Results of Technologies Assessed

Results of On Farm Trial

OFT No	Crop/enterprise	Farming situation	Problem definition	Title of OFT	No. of trials
1	Paddy	Irrigated	Low Yield 4200 kg/ha. Lack of awareness fine grain varieties (60%). Ruling fine varieties ADT-® 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	Assessing the suitability of drought tolerant, short duration, high yielding, fine grain paddy varieties for rain fed tank irrigation system	6
Parameters of Assessment			Technology Assessed with Source		
			T1 – ADT (R) 45 – FP	T2 – MDU 6	T3 –Co (R) 51
Source and Year			TNAU 2002	TNAU 2015	TNAU 2013
Plant population/m ²			16.1	16.2	16.2
No of Productive tillers / hill			19.3	19.6	20.2
No of seeds / panicle			124.6	126.6	131.4
1000 grain wt.			16.8	19.6	16.6
Panicle length in cm			16.6	19.2	17.6
Grain length in mm			7	10.1	7.2
Leaf folder incidence (%)			8.4	7.8	6.4
Stem borer incidence (%)			7.4	7	6.2
Days taken by harvest			110	115	110
Yield/ha (Kg)			5152.6	5250.2	5762.1
Gross Cost			43130	42880	42970
Gross Return			66976	68250	74906
Net Return in Rs			23846	25370	31936
B.C Ratio			1.55	1.59	1.74
Farmers Feedback		Any Refinement needed		Justification for refinement	
Good performance and increased yield over ADT 45 and MDU 6		Nil		Nil	
Result of Continuing OFT (2015 – 16)					
OFT No	Crop/enterprise	Farming situation	Problem definition	Title of OFT	No. of trials
2	Groundnut	Irrigated	Continuous usage of local seeds. Low level of awareness on improved, high yielding varieties	Assessing the suitability of high yielding short duration groundnut varieties (Continued OFT 2015 – 16)	7
Parameters of Assessment			Technology Assessed with Source		
			T1 – TMV 7	T2 – Co 6	T3 – TMV 13
Source and Year			TNAU	TNAU 2010	TNAU 2006
Germination (%)			90	93.4	93.5
Plant population / m ²			22.14	25.86	28.43
No of nodules / plant			33.86	34.71	35.14
No of pods/plant			16.14	18.43	21.14
Pod wt/plant (g)			20.86	30.57	33.71
Root rot incidence (%)			3.2	3.8	4.1
Leaf spot incidence (%)			15.2	8.1	8.2
Crop duration			106	120	106
Pod Yield/ha (Kg)			1377.57	1664.0	1845.57
Haulm yield (Kg)			2857.5	3284.4	3565.7
Gross Cost			43050	45188	45821
Gross Return			82654	99840	110734
Net Return in Rs			39604	54651	64912
B.C Ratio			1.92	2.21	2.42
Farmers Feedback		Any Refinement needed		Justification for refinement	
TMV 13 and Co-6 both gave high yield than TMV-7. However TMV-13 is the best variety because of bold pod size and weight when compared to TMV-7		Nil		Nil	

OFT No	Crop/enterprise	Farming situation	Problem definition	Title of OFT	No. of trials
3	Drumstick	Irrigated	Continuous usage of local seeds. Poor cultivation practices Less awareness on off season production techniques Market glut – less price (Mar – Aug)	Assessment of off season production techniques in drumstick (Continued OFT 2015 – 16)	7
Parameters of Assessment			Technology Assessed with Source		
Source and Year			T1 – No Pruning	T2 – Early sowing + pruning + KNO3 spray	T3 – Early sowing + pruning + Ethereal spray
Days to flowering			TNAU	TNAU 1999	TNAU 1999
No of pods per tree during off season			147	115	128
Off season Yield / ha (Qtl)			11	53	38
Normal season yield /ha (Qtl)			62.5	124.5	119.5
Gross Cost			176.8	178.5	177.5
Gross Return			48400	57500	56000
Net Return in Rs			133220	195900	190600
B.C Ratio			84820	138400	134600
Farmers Feedback			2.75	3.41	3.40
Farmers reported that KNO3 or Ethereal spray resulted in continuous yielding of drum stick even in off season			Any Refinement needed		Justification for refinement
			Nil		Nil

4.C. 2. Details of each On Farm Trial for assessment to be furnished in the following format separately as per the following details

OFT no.	1						
1	Title of Technology Assessed	Assessing the suitability of drought tolerant, short duration, high yielding, fine grain paddy varieties for rain fed tank irrigation system					
2	Problem Definition	Low Yield 4200 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					
3	Details of technologies selected for assessment	T1 – ADT (R) 45	T2 – MDU 6	T3 –Co (R) 51			
4	Source of technology	TNAU 2002	TNAU 2015	TNAU 2013			
5	Production system and thematic area						
6	Performance of the Technology with performance indicators	Parameters			T1	T2	T3
		Plant population/m ²	16	16	16.2		
		No of Productive tillers / hill	19	19.6	20.2		
		No of seeds / panicle	124.6	126.6	131.4		
		1000 grain wt.	16.8	19.6	16.6		
		Panicle length in cm	16.6	19.2	17.6		
		Grain length in mm	7	10.1	7.2		
		Leaf folder incidence (%)	8.4	7.8	6.4		
		Stem borer incidence (%)	7.4	7	6.2		
		Days taken to the harvest	110	115	110		
		Yield/ha (Kg)	5152.6	5250.2	5762.1		
Net Return in Rs	23846	25370	31936				
B.C Ratio	1.55	1.59	1.74				
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	Co -51 showed Good performance and increased yielding over ADT 45 and MDU 6 Short duration 110 days crop					
8	Final recommendation for micro level situation	Co -51 matures early when compared to MDU 6 and long slender nature of MDU 6 is not preferred by the traders and hence Co -51 is the best alternative short duration fine grain variety for the district					
9	Constraints identified and feedback for research	MDU 6 grain variety attract less preference in our district					
10	Process of farmers participation and their reaction						

OFT no.		2			
1	Title of Technology Assessed	Assessment of yield parameters of seeding type multiplier onion varieties			
2	Problem Definition	Low level of awareness on high yielding short duration vegetables. Low Production and net return to garden land farmers. High cost of bulbs Cost for transport of bulk quantity of bulbs			
3	Details of technologies selected for assessment	T1 – F.P	T2 – Co 5	T3 – Arka Ujjwal	
4	Source of technology	TNAU	TNAU	IIHR	
5	Production system and thematic area				
6	Performance of the Technology with performance indicators	Parameters		T1	T2
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	The crops failed after transplanting due to drought and water scarcity in the main field. So could not measure the yield parameters.			
8	Final recommendation for micro level situation				
9	Constraints identified and feedback for research				
10	Process of farmers participation and their reaction				
OFT no.		3			
1	Title of Technology Assessed	Assessment of scaffolding system in Banana			
2	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)			
3	Details of technologies selected for assessment	T1 – F. P	T2 – T Shape Single Pole	T3 – Iron String method	
4	Source of technology		TNAU	CARD KVK 2014	
5	Production system and thematic area				
6	Performance of the Technology with performance indicators	Parameters		T1	T2
		Economics of scaffolding / ha		50,000	75,000
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	On Progress			
8	Final recommendation for micro level situation				
9	Constraints identified and feedback for research				
10	Process of farmers participation and their reaction				
Result of Continuing OFT (2015 – 16)					
OFT no.		4			
1	Title of Technology Assessed	Assessing the suitability of high yielding short duration groundnut varieties (Continued OFT 2015 – 16)			
2	Problem Definition	Continuous usage of local seeds. Low level of awareness on improved/non-availability of seeds high yielding varieties			
3	Details of technologies selected for assessment	T1 – TMV 7	T2 – Co 6	T3 – TMV 13	
4	Source of technology	TNAU 1990	TNAU 2010	TNAU 2006	
5	Production system and thematic area				
6	Performance of the Technology with performance indicators	Parameters		T1	T2
		Germination (%)		90	93.4
		Plant population / m2		22.14	25.86
		No of modules / plant		33.86	34.71
		No of pods/plant		16.14	18.43
		Pod wt/plant (g)		20.86	30.57
		Root rot incidence (%)		3.2	3.8
		Leaf spot incidence (%)		15.2	8.1
		Days taken by harvest		106	120
		Pod Yield/ha (Kg)		1377.57	1664.0
		Haulm yield (Kg)		2857.5	3284.4
		Net Return in Rs		39604	54651
B.C Ratio		1.92	2.21		
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	TMV 13 higher yield and fetched high income with a period of 106 days. Red kernels of TMV 13 attract good market and high return			

8	Final recommendation for micro level situation	TMV 13 and Co-6 were adjudged as a suitable variety for Thoothukudi district in irrigated condition			
9	Constraints identified and feedback for research	Availability of seed in time, seed production maybe initiated local for TMV 13			
10	Process of farmers participation and their reaction				
OFT no.		5			
1	Title of Technology Assessed	Assessment of off season production techniques in drumstick (Continue OFT 2015 – 16)			
2	Problem Definition	Continuous usage of local seeds. Poor cultivation practices Less awareness on off season production techniques Market glut – less price (Mar – Aug)			
3	Details of technologies selected for assessment	T1 – No Pruning	T2 – Early sowing + pruning + KNO₃ spray	T3 – Early sowing + pruning + Ethereal spray	
4	Source of technology	TNAU	TNAU	TNAU	
5	Production system and thematic area				
6	Performance of the Technology with performance indicators	Parameters			
		T1	T2	T3	
		Days to flowering	147	115	128
		No of pods per tree during off season	11	53	38
		Off season Yield / ha (Qtl)	62.5	124.5	119.5
		Normal season yield /ha (Qtl)	176.8	178.5	177.5
		Gross Cost	48400	57500	56000
		Gross Return	133220	195900	190600
	Net Return in Rs	84820	138400	134600	
	B.C Ratio	2.75	3.41	3.40	
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	Farmers feedback is encouraging			
8	Final recommendation for micro level situation	Early sowing of drumstick seeds during May, pruning at 90cm height, two spraying of 0.2% KNO ₃ at 25 days interval effectively induced the flowering and fruiting.			
9	Constraints identified and feedback for research	Commercial grade of KNO ₃ should be made available in common stores. The off season production techniques should be promoted in a larger way to get sustainable income to the farmers			
10	Process of farmers participation and their reaction	Good			

4. D1. Results of Technologies Refined – Nil

4.D.2. Details of each On Farm Trial for refinement to be furnished in the following format separately as per the following details: - Nil

PART V –FRONTLINE DEMONSTRATIONS

5.A. Summary of FLDs implemented during 2015 – 16

Sl. No.	Category	Farmin g Situatio n	Season and Year	Crop	Variety / breed	Hy bri d	Thematic area	Technology Demonstrated	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
									Prop osed	Act ual	SC/ ST	Othe rs	Total	
1	Cereals	Irrigated	Rabi 2016 – 17	Paddy	TPS-5	---	Introduction of high yielding , improved crop varieties in agriculture and horticulture	ICMP in Paddy TPS – 5 (TNAU 2002) duration 105 – 110 days Short bold (Y – 6.3 t/ha)INM –12.5 t of FYM or compost or green manure @ 50 kg seeds/ha, Bio fertilizer application. NPK 150 : 50 : 50kg/ha, Application of zinc Sulphate @ 25 kg /ha, IWM – Pre-emergence herbicides – Butachlor 1.25kg/ha, IPDM Practices – Leaf folder and stem borer	4	4	10	0	10	Nil
2	Millets	Rainfed	Rabi 2016 – 17	Sorghum	K – 12	---	Promotion of ICM practices for major crops like Paddy, Banana, Chilli, Maize, sorghum, Black gram, Green gram, Tomato, Onion and Cotton	ICMP in Sorghum K- 12 (duration 95 days) – Yield 3123 Kg/ha. INM: Seed treatment with Azophos 90: 45:45 Kg/ha NPK.Micronutrient mixture 12.5 kg /ha. IWM –PE Atrazine @ 0.25 kg/ha on 3-5 DAS.	4	4	0	20	20	Nil
3	Pulses	Rainfed	Rabi 2016 – 17	Green gram	Co – 8	---		Drudgery reduction to farm women Line sowing with seed cum fertilizer drill , weeding with tractor drawn weeder and combined harvester, ICMP Practices Variety Co-8 (TNAU 2011)	4	4	10	0	10	Nil
4	Fruit	Irrigated	Rabi 2016 – 17	Banana	Local	---		Paired row system of planting(1.2x1.2x2m). Spraying of EM, Banana bunch cover. Spraying of Banana special	4	4	4	6	10	Nil
5	Vegetables	Irrigated	Rabi 2016 – 17	Snake gourd	Co – 2	---		Cultivation of snake gourd Co (SG) 2 (TNAU -2009) as intercrop in Drumstick. Foliar application of 0.5% vegetable special on 35 th , 59 th and 60 th DAPFoliar application of Ethrel 250ppm at 2 leaf stageSpraying of 0.2% Dichlorvas to control fruit fly	4	4	1	9	10	Nil
6	Vegetables	Irrigated	Rabi 2016 – 17	Cluster bean	MDU – 1	---		Cultivation of MDU 1(2015 – TNAU) with complete Package of PracticeFoliar application of 0.5% vegetable special on 35 th , 59 th and 60 th DAP. Spraying of wet table sulphur @2gm/lit to control powdery mildew	4	4	10	0	10	Nil
7	Poultry		Rabi 2016 – 17	Backyard poultry	Local	---		Demonstration on oral pellet vaccine to prevent ranikhet disease (1 st week, 9 th week and 12 th week of age and repeat after every 6 th month) (TANUVAS 2010)			25	0	25	Nil
8	Mechanizat ion	Irrigated	Rabi 2016 – 17	Groundnu t	K-9	---	Promotion of ICM practices for major crops like groundnut	Drudgery reduction to women Demonstration and adoption of TNAU groundnut stripper and groundnut decorticator	4	4	10	0	10	Nil

5A. 1. Soil fertility status of FLDs plots during 2015 – 16

Sl. No	Category	Farming Situation	Season and Year	Crop	Variety / breed	Hybrid	Thematic area	Technology Demonstrated	Status of soil			Previous crop grown
									N	P	K	
1	Cereals	Irrigation	Rabi 2016 – 17	Paddy	TPS – 5	---	Introduction of high yielding, improved crop varieties in agriculture and horticulture	ICMP in Paddy TPS – 5 (TNAU 2002) duration 105 – 110 days Short bold (Y – 6.3 t/ha). INM – Application of organic manures, Apply 12.5 t of FYM or compost or green @ 50 kg seeds/ha, Bio fertilizer application. Application of inorganic fertilizers – NPK 150 : 50 : 50kg/ha, Application of zinc 24ulphate @ 25 kg /ha, IWM – Pre-emergence herbicides – Butachlor 1.25kg/ha, IPDM Practices.	128	13.2	472	Black gram
2	Millet	Rain fed	Rabi 2016 – 17	Sorghum	K – 12	---	Promotion of ICM practices for major crops like Paddy, Banana, Chilli, Maize, Black gram, Green gram, Tomato, Onion and Cotton	ICMP in Sorghum K- 12 (duration 95 days) – Yield 3123 Kg/ha Seed treatment with AzophosINM – 90: 45:45 Kg/ha NPK. Micronutrient mixture 12.5 kg /ha IWM – Apply PE Atrazine @ 0.25 kg/ha on 3-5 DAS. IPM and IDM Practices.	118	10.4	526	Green gram
3	Pulses	Rainfed	Rabi 2016 – 17	Green gram	Co – 8	---	Promotion of ICM practices for major crops like Paddy, Banana, Chilli, Maize, Black gram, Green gram, Tomato, Onion and Cotton	Drudgery reduction of farm women. Line sowing with seed cum fertilizer drill, weeding with tractor drawn weeder and combined harvester, ICMP Practices	178	9.6	520	Black gram
4	Fruits	Irrigated	Rabi 2016 – 17	Banana	Nadu	---	Promotion of ICM practices for major crops like Paddy, Banana, Chilli, Maize, Black gram, Green gram, Tomato, Onion and Cotton	Paired row system of planting(1.2x1.2x2m) Spraying of EM, Banana bunch cover Spraying of Banana special	172	14.6	512	Banana
5	Vegetable	Irrigated	Rabi 2016 – 17	Snake gourd	Co – 2	---	Promotion of ICM practices for major crops like Paddy, Banana, Chilli, Maize, Black gram, Green gram, Tomato, Onion and Cotton	Cultivation of snake gourd Co(SG) 2 (TNAU) as intercrop in Drumstick with complete package of Practice	282	12.8	574	Moringa
6	Vegetable	Irrigated	Kharif 2016 – 17	Cluster bean	MDU-1	---	Promotion of ICM practices for major crops like Paddy, Banana, Chilli, Maize, Black gram, Green gram, Tomato, Onion and Cotton	Cultivation of MDU 1(2015 – TNAU) Complete package of Practice	156	10.8	518	Onion
8	Mechanization	Irrigated	Rabi 2016 – 17	Groundnut	Local	---	Ensuring nutritional security of farm women and children through Kitchen gardening, storage and healthy cooking habits	Drudgery reduction of women Demonstration and adoption of TNAU groundnut stripper and groundnut decorticator	175	8.7	489	Black gram

5.B. Results of Frontline Demonstrations

5.B.1. Crops

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo.	Area (ha)	Yield (Qtl/ha)				% Yield Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
							Demo			Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
							H	L	A										
Paddy	Demonstration of Paddy TPS – 5 with ICM Practices	TPS-5	---	Irrigated	10	4	62.20	58.00	60.10	54.15	10.9	42860	78130	35270	1.8	42915	70395	27480	1.6
Sorghum	Demonstration of ICMP in dual purpose Sorghum K – 12	K – 12	---	Rainfed	20	8	Due to terminal Drought not taken for Harvest												
Green gram	Demonstration of Green gram CO (Gn) – 8 in dry land farming system	Co – 8	---	Rainfed	10	4	3.11	2.10	2.60	0.99	---	19845	14344	-5501	0.7	21805	5456	-16349	0.2
Banana	Demonstration of Paired row system of planting in Banana with GAP	Nadu	---	Irrigated	10	4	On Progress												
Snake gourd + Drumstick	Demonstration of Snake gourd CO(Sg)-2 in Drumstick as intercrop	Co – 2 Snake guard	---	Irrigated	10	4	136.62	127.90	132.20	---	---	59500	163900	104400	2.75	---	---	---	---
		Drumstick PKM-1		Irrigated	10	4	276.1	232.14	254.16			48500	138000	89500	2.84	48500	138000	89500	2.84
		Drumstick equivalent yield					578	534	556.1	254.16	110.1	108000	301900	193900	2.8	48500	138000	89500	2.84
Cluster bean	Demonstration of Cluster bean (MDU-1) variety	MDU – 1	---	Irrigated	10	4	On Progress												
Groundnut	Demonstration on Groundnut stripper and Decorticator	K-9	---	Irrigated	10	4	On Progress												
Result of Continuing FLD (2015 – 16)																			
Black gram	Demonstration on rice fellow black gram cultivation in river area	ADT 3	---	Rice fellow	10	4	3.62	3.37	3.49	2.70	29	16540	29707	13167	1.8	14040	23009	8969	1.6
Drumstick	Demonstration on Ecological pest control in drumstick	PKM -1	---	Irrigated	10	4	276.10	232.14	254.16	215.20	18.06	48500	138000	89500	2.84	45250	107600	63100	2.37
Banana & Dolichos bean	Demonstration on Inter cropping in Banana with Dolichos bean (CO 14)	Co – 14	---	Irrigated	10	4	30.25#	21.30#	25.77#	---	---	15350	63525	48175	4.14				
		Banana var.nadu					403.5	418.5	410.1	410.1		130000	287000	157000	2.2	130000	287000	223475	2.2

		Banana var.nadu	Banana equivalent yield				509.38	494.38	501	410.1	22.16	145350	350525	205175	2.69	130000	287000	223475	2.2
Coconut	Demonstration On Mixed Cropping System In Coconut Plantation	Tall	---	Irrigated	10	4	62.79	39.23	50.88	50.88		18000	55220	37220	3.07	18000	55220	37220	3.07
		Banana Var. Nadu		Irrigated			376.25	330.8	336.9	0		113750	264000	193000	2.32	0	0	0	0
		Dolichos bean Co-14					22.10#	16.32#	19.21#	0	---	13500	48000	34500	3.5	0	0	0	0
		Coconut Tall	Coconut equivalent yield q/ha				350.27	326.71	338.36	50.88	565	145250	367220	264720	2.53	18000	55220	37220	3.07
Sweet Corn	Demonstration on Sweet corn cultivation	Surichi	---	Irrigated			87.21	67.06	76.42	0	---	69475	168607	99132	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 / H – Highest Yield, L – Lowest Yield A – Average Yield

Yield parameters of Dolichos bean

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 TPS – 5 with ICM Practices			
Plant population/m ²	17.3	16	
Productive tiller/hill	20.7	23.8	
No of grain/panicle	120	127	
No of filled grain/panicle	108	119	
Panicle length (cm)	20.21	24.08	
Leaf folder incidence (%)	8.7	5.9	
Stem borer incidence (%)	8.3	6.2	
1000 grain Wt. (g)	20.3	20	
Demonstration of ICMP in dual purpose Sorghum K – 12			
Germination (%)	60	63	
Plant population/m ²	9.2	11.75	
No of tiller/plant	1	1.8	
Demonstration On Green gram[CO – 8] in Dry Land Farming			
Germination (%)	75	80	
Plant population/m ²	11.4	14.5	
No of pods/plant	6.7	11.3	
No of seeds/pod	6.9	8.5	
Pod borer incidence (%)	10	4	
YMV incidence (%)	12	0	
Weed DMP (g/m ²)	Before weeding	20.1	19.8
Type of Weeds	30 th Day	9.1	8.9
Grass: Echinochloa colonum, Cynodon dactylon	45 th Day	6.2	5.0

Sedge: Cyprus rotundus, Fimbristylismilliaceae		
Broad leaves: Tridaxprocumbens, TrianthemaPortulacastrum, Amaranthusviridis, Flavariaaustralacia, Digeraarvensis		
No of Labours used for sowing and weeding	45	8
Demonstration of Paired row system of planting in Banana with GAP		
No of suckers / ha	3025	5200
Plant height (4 th Month) in cm	146.5	141.6
Demonstration of Snake gourd CO(Sg)-2 in Drumstick as intercrop		
Snake guard Fruit weight (g)	---	165
Snake guard Fruit length (cm)	---	44.5
Days to first flowering (Snake guard)	---	41
No. of fruits / plant (Snake guard)	---	9
Soil nutrient status before intercropping and after inter cropping in demo field	N:162 P:19.7 K:612	N:158 P:17.5 K:595
Demonstration on Groundnut stripper and Decorticator		
Decorticating capacity (Kg/Hour)	15.5	60.5
Labour usage for decortication	4	1
Shelling (%)	71.5	71.5
Grain damage	1	2
Germination %	87.5	85.6
Parameter for Continuing FLD (2015 – 16)		
Demonstration on rice fallow black gram cultivation in river command area		
Plant population/m ²	10.7	14
No of pods/plant	10.8	14.9
No of seeds/pod	3.2	3.5
Pod borer incidence (%)	12.2	11.5
YMV incidence (%)	17.3	10.8
Demonstration on Ecological pest control in drumstick		
Fruit fly infested Pods/plant	8	3
% of fruit fly infestation	27	9
Leaf cater pillar (%)	33	6
No of pesticide spray	0	3
Fruit weight (g)	64	65
Market preference	Poor	Good
Demonstration on Inter cropping in Banana with Dolichos bean (CO 14)		
Additional income / ha	Nil	63525
% of inter space utilization	Nil	80
Land equallent ratio of banana	1	
Land equivalent ratio of Dolichos bean	0.36	
Demonstration On Mixed Cropping System In Coconut Plantation		
Additional income / ha	Nil	209500
% of inter space utilization	Nil	100
Coconut population per ha	251	251

Coconut yield (nuts/ha)	13805	13805
Population of banana var. Nadu/ ha	nil	1750
Population of Dolichos bean var. Go-14 /ha	nil	27000
Soil nutrient status before intercropping and after inter cropping in demo field	N:165 P:17.7 K:610	N:160.7 P:17.5 K:585
Demonstration on Sweet corn cultivation		
Plant/m ²	---	6.9
No of Cob/plant	---	1.3
Cob Weight (g)	---	141.8
Fodder yield q/ha		70.1

5.B.2. Livestock and related enterprises

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Number of birds retained in 6 months period per household				% Increase	*Economics of demonstration Rs./unit)				*Economics of check (thousand Rs./unit)			
					Demo			Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Poultry	Demonstration of oral pellet vaccine to control ranikhet disease in chickens	Local	25	25	28	8	16.4	3.29	398	938	1856	918	1.98	870	964	94	1.11

* 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 oral pellet vaccine to control ranikhet disease in chickens		
Average number of birds / household at the start of the demonstration	12.43	13.4
Number of chicks hatched per household in 6 months	5	10.64
Number of chicks died per household due to RD in 6 months	6.49	0.6
Number of cock and hen died due to RD in the 6 month period per household	2.43	0.16
Number of birds consumed per household in 6 months	0.9	4.84
Number of birds reported missing due to predator attack per household in 6 months	2	1.84
Average number of eggs laid per hen housed in 6 months	30.7	49.4

5.B.3. Fisheries

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Yield / ha (Qtl)				% Increase	*Economics of demonstration Rs./unit)				*Economics of check (thousand Rs./unit)			
					Demo			Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Fish	Demonstration Of Composite Fish Culture With Stunted Fish Yearlings	Local	3	5000	33.53	22.40	29.40	---	---	60169	290472	230303	4.80	---	---	---	---

5.B.4. Other enterprises – Nil

5.B.5. Farm implements and machinery – Nil

5.B.6. 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)			

5.B.7. Results of Integrated Farming system Demonstrations

Sl.no.	Name of the farmer and village	Farming situation	Existing or newly added	Crop /enterprise	Area in ha	unit size	Economics of IFS model				Remarks	
							Gross expenditure in Rs.	Gross income in Rs.	Net return in Rs.	BCR		
1	K.Mani, Akkanayakanpatti	Garden land	Existing	Maize	1.6		50000	84000	34000	1.68		
			Existing	Cotton	0.2		11350	21660	10310	1.91		
			Existing	Chilli	0.4		30800	75000	44200	2.44		
			Existing	Groundnut	0.2		8750	22500	13750	2.57		
			Existing	Dairy cattle			2	51100	126250	71150	2.29	
			Existing	Desi chicken			5	600	2500	1900	4.1	
			Newly added	Improved desi chicken			10	0	0	0		
			Newly added	Fodder sorghum	0.4			5850	0	0	0	
			Newly added	Panchakavya			10lit	600	0	0		
			Newly added	Herbal insect repellent			10 lit	600	0	0		
			Newly added	vermicomposting			2 cu.m	2000	0	0		
Newly added	Azolla			2 sq.m	1200	0	0					
Total							162850	331910	175310	2.04		
2	Venkatagurunathan, Akkanayakanpatti	Garden land	Existing	Paddy	0.4		23140	38400	15260	1.66		
			Existing	Groundnut	0.4		17500	45000	27500	2.57		
			Existing	Black gram	0.6		8400	1800	-6600	0.21	Loss in yield in black gram crop is due to because of water shortage for irrigation due to monsoon failure	
			Existing	Chilli	0.2		15400	30000	14600	1.94		
			Existing	Cotton	0.4		22700	43320	20620	1.91		
			Existing	Dairy cattle			2	57850	125000	67150		2.16
			Existing	Desi chicken			10	1500	7200	5700		4.8
			Newly added	Forest trees	0.2			4600	0	-4600		0
			Newly added	Improved desi chicken			10	0	0	0		
			Newly added	Fodder sorghum	0.4			5850	0	0		0
			Newly added	Panchakavya			10lit	600	0	0		
			Newly added	Herbal insect repellent			10 lit	600	0	0		
			Newly added	vermicomposting			2 cu.m	2000	0	0		
Newly added	Azolla			2 sq.m	1200	0	0					
Total							161340	290720	139630	1.8		
3	Madasamy, Akkanayakanpatti	Garden land	Existing	Groundnut	0.4		17500	45000	27500	2.57		
			Existing	Black gram	1.6		21300	54000	32700	2.53		
			Existing	Dairy cattle			2	55100	126250	71150	2.29	
			Existing	Desi chicken			10	1500	7200	5700	4.8	
			Newly added	Improved desi chicken			10	0	0	0		
			Newly added	Fodder sorghum	0.4			5850	0	0	0	
			Newly added	Panchakavya			10lit	600	0	0		
			Newly added	Herbal insect repellent			10 lit	600	0	0		
			Newly added	vermicomposting			2 cu.m	2000	0	0		
			Newly added	Azolla			2 sq.m	1200	0	0		
Total							105650	232450	137050	2.20		

Summary of IFS implemented during 2016-17

Sl. No	Name of the farmer and village	Farming situation	Crop /enterprise	Area in ha	Economics of IFS model			
					Gross expenditure in Rs.	Gross income in Rs.	Net return in Rs.	BCR
1	K.Mani, Akkanayakanpatti	Garden land	Cotton –maize/chilli- groundnut+cotton +fodder sorghum+ Dairy+ Desi Poultry	2	162850	331910	175310	2.04
2	Venkatagurunathan, Akkanayakanpatti	Garden land	Cotton- Paddy + Blackgram- Groundnut+Foddersorghum plus Dairy cattle and Desi poultry birds	1	161340	290720	139630	1.8
3	Madasamy, Akkanayakanpatti	Garden land	Fallow- Blackgram-Groundnut + Fodder sorghum plus Dairy cows and Desi poultry	1.6	105650	232450	137050	2.20

5.B.8. Results of Entrepreneurship Development Program / Innovative activities

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo	Area (Cent)	Yield (Q/1 cent garden)				% Yield Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
							Demo			Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
							H	L	A										
Vegetables	Demonstration on nutrition school garden	Local	---	Irrigated	5	5	2.10	1.63	1.82	---	---	1116	2679	1563	2.4	---	---	---	---
Millets	Value addition on millets	Local	---	---	1	---	On Progress												

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	Before	After
Demonstration on nutrition school garden		
Nutritional knowledge of students (%)	66	84.6
Waste management knowledge of the students (%)	58.8	79.6
Value addition on millets		
Shelf life	---	4 Months
Steps taken for Entrepreneurship promotion		
1 – FPO Formation		
2 – Training on Business plan preparation		
3 – Branding, Packaging, labeling, license etc were completed for selling the value added millet product prepared from Pearl Millet and Ragi		
4 – Handing over the KVK processing unit to FPO through agreement under PPP model as suggested by SAC recommendation		

PART VI – DEMONSTRATIONS ON CROP HYBRIDS

Demonstration details on crop hybrids– Nil
H-High L-Low, A-Average

PART VII. TRAINING

7.A.. 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										
Improvement of soil fertility through sustainable practices	1	15	32	47	7	36	43	22	68	90
Integrated Crop Management	6	59	44	103	9	12	21	68	56	124
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop	4	46	26	72	8	7	15	54	33	87
Protective cultivation	5	55	19	74	8	3	11	63	22	85
b) Fruits										
Cultivation of Fruit	5	54	5	59	14	3	17	68	8	76
Livestock Production and Management				0			0	0	0	0
Disease management in livestock during rainy- season	2	16	2	18	4	0	4	20	2	22
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	8	0	58	58	77	23	100	77	81	158
Entrepreneurship development Programme	2	25	36	61	97	3	100	122	39	161
Plant Protection										
Integrated pest and Diseases Management	1	7	13	20	2	6	8	9	19	28
TOTAL	34	277	235	512	226	93	319	503	328	831

7.B 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										
Improvement of soil fertility through sustainable practices	4	66	7	73	15	0	15	81	7	88
Integrated Crop Management	9	52	18	70	61	53	114	113	71	184
Awareness creation of drought mitigation	1	0	0	0	8	8	16	8	8	16
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop	1	0	0	0	20	12	32	20	12	32
Organic vegetable cultivation	2	8	54	62	11	36	47	19	90	109
b) Fruits										
Integrated Crop Management	1	36	0	36	6	0	6	42	0	42
Livestock Production and Management										
Comprehensive disease control measure in live stock	4	69	5	74	12	2	14	81	7	88
Feeding and breeding management in live stock	1	0	7	7	0	3	3	0	10	10
Home Science/Women empowerment										
Designing and development for high nutrient efficiency diet for nutritional security	4	0	28	28	6	34	40	6	62	68
Entrepreneurship development Programme	4	62	5	67	5	31	36	67	36	103
Parthenium awareness	1	4	9	13	2	21	23	6	30	36
Plant Protection										
Integrated Pest Management	1	16	11	27	0	0	0	16	11	27
TOTAL	33	313	144	457	146	200	346	459	344	803

7.C. 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	4	15	34	49	2	3	5	17	37	54
Value addition	11	75	139	214	11	11	22	86	150	236
Scientific goat rearing	1	12	4	16	0	0	0	12	4	16
Poultry Management	4	52	4	56	10	1	11	62	5	67
Organic agriculture practices and drought management	5	43	42	85	32	7	39	75	49	124
TOTAL	25	197	223	420	55	22	77	252	245	497

7.D. Training for Rural Youths including sponsored training programmes (off campus) – Nil

7.E. 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
EMA usage and its importance	1	5	11	16	6	8	14	11	19	30
Seasonal preparedness	1	3	20	23	4	13	17	7	33	40
Beneficial Microbes usage and composting methods	2	0	60	60	0	20	20	0	80	80
School gardening and waste management	2	15	52	67	0	24	24	15	76	91
Maternal and child health	1	4	15	19	3	10	13	7	25	32
Refresher training to Extension functionaries	1	10	15	25	5	5	10	15	20	35
Drought management in livestock and crops	1	2	14	16	1	3	4	3	17	20
Total	9	39	187	226	19	83	102	58	270	328

7.F. Training programmes for Extension Personnel including sponsored training programmes (off campus) – Nil

7.G. 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	Crop production and management										
1.a.	Mushroom and spawn production	1	5	20	25	2	12	14	7	32	39
1.b.	Commercial production of vegetables										
	Total	1	5	20	25	2	12	14	7	32	39

Details of sponsoring agencies involved

1. ATMA Tuticorin
2. Coconut Development Board, Chennai
3. Department of Horticulture, Animal husbandry, Marketing, ICDS of Tuticorin, SCAD

7.H. Details of Vocational Training Programmes carried out by KVVKs 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	Crop production and management										
1.a	Mushroom	1	5	20	25	2	12	14	7	32	39
2	Post-harvest technology and value addition										
2.a	Fruit crop cultivation	3	65	16	81	4	5	9	69	21	90
3.	Livestock and fisheries										
3.a	Dairy Farming										
	Sheep and goat rearing	1	12	4	16	0	0	0	12	4	16
	Poultry farming										
	Others – Bankable project for livestock farming	1	27	2	29	4	0	4	31	2	33
	Grand Total	6	109	42	151	10	17	27	119	59	178

PART VIII – 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 Enquire (Over Phone)	503	515	424	939	96	20	116
2	Celebration of important days (Women's Day)	6	356	2918	3274	17	15	32
3	Diagnostic Visits	73	315	273	588	32	9	41
4	Exhibition	9	3015	1193	4208	92	64	156
5	Exposure Visits	11	310	189	499	12	11	23
6	Farm Science club	15	154	189	343	7	3	10
7	Farmers Group meeting	75	985	337	1322	47	31	78
8	Farmer visit to KVK	289	1020	1253	2273	120	166	286
9	Field Day	4	42	43	85	5	2	7
10	Film show as part of the training programme	12	159	23	182	21	12	33
11	Group Discussion	2	15	7	22	0	0	0
12	Jai Kisan Jai Vigyan Diwas (Farmers Mela)	1	417	235	652	47	31	78
13	Lectures delivered as resource persons	42	1325	963	2288	127	69	196
14	Method Demonstrations	26	210	181	391	9	12	21
15	Scientific visit to farmers field	139	1520	560	2080	47	52	99
16	Self Help Group Conveners meetings	38	430	340	770	35	13	48
17	Soil health camp	6	95	96	191	1	3	4
18	Newspaper coverage	8	0	Mass	0	0	0	0
19	PRA	3	120	134	254	1	3	4
20	TV /Radio talks	18	0	Mass	0	0	0	0
21	Rural Veterinary camp	16	210	29	239	5	3	8
TOTAL		1296	11213	9387	20600	721	519	1240

PART IX – PRODUCTION OF SEED, PLANT AND LIVESTOCK MATERIALS

9.A. 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 – PusaRashmi Cluster Bean – PusaNavbahar 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	---	80	3200	40	25
	Azolla	Local	---	15	300	20	15
	Subabul	Local	---	5	1500	300	10
Pulses	Green gram	Co (Gg) – 8	---	92	11960	130	10
	Black gram	VBN – 8	---	206	51500	250	25
Total				443.5	80374	0	514

9.B. 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	Custard Apple	Bala Nagar		31	1120	23
	Guava	L – 49		476	20135	82
	Guava	Local Red flesh		290	8240	33
	Guava	Lalith		269	10760	52
	Jack Fruit	Bondruti		53	3155	29
	Jamun	Ram Jamun		26	1130	17
	Acid Lime	Balaji		824	49440	25
	Acid Lime	Seedlings		350	15750	8
	Mango	Neelam		25	815	15
	Mango	Root Stock		2	20	2
	Mango	Himanpasandh		168	10080	32
	Mango	Alphonsa		185	11100	35
	Mango	Senthuram		91	5460	11
	Pomegranate	Ganesh		189	8505	31
	Sapota	Cricket Ball		183	9625	57
	Papaya	Co – 8		29	374	9
	Papaya	Red lady		75	1875	25
	Amla	NA-7		117	5085	37
Ornamental plants	Acalipha	Local		63	630	2
	Crotons	Local		16	350	9
	Duranta	Local		79	632	5
	Ixora	Local		23	575	10
	Musanda	Mini		2	50	1
	Polyalthia	Local		32	590	5
	Alamenda	Local		39	995	12
	Dracina	Local		67	1645	9
	Eranthima	Local		6	90	3
Plantation crops	Coconut	T x D		180	9000	30
	Coconut	D x T		203	14170	10
	Coconut	Mal. Dwarf		160	16000	28
	Palms	Fish Tail		9	470	4
	Tamarind	PKM – 1		82	2645	9
Medicinal plants	Neem	Local		172	2590	10
	Pungam	Local		1	20	1

Forest Species	Mahagani	Local		2	60	1
	Teak	Local		5	100	1
	Peltophorum	Local		38	1320	4
	Red sandal	Local		1	30	1
Flower crops	Chrysanthemum	Local		3	45	2
	Rose	Button – Ooty		38	1300	17
	Rose	Edward		59	1475	35
	Jasmine	Local		46	745	21
	Rival Rani	Local		46	1540	9
	Pitchi	Local		40	480	24
Oil Seeds	Almond	Local		34	800	16
Commercial Crops	Casuarina	Local		2160	10800	6
Vegetable Crops	Drumstick	PKM – 1		31	256	3
Total				7020	232072	811

9.C. Production of Bio-Products

Bio Products	Name of the bio-product	Quantity in Kg	Value (Rs.)	Number of farmers to whom provided
Bio Fertilizers	Azospirillum	84	4200	44
	Azophos	46	2300	24
	Phosphobacteria	87.5	4375	45
	Rhizopos	141	7050	21
Bio-fungicide	Pseudomonas	163.5	13080	55
	T.viridi	92.5	7400	25
	Vermicompost	3820	38200	169
Others (specify)	EMA (in lit)	1570.2	162270	264
	Panchakavya (in lit)	56	5040	35
	Herbal insect repellent (in lit)	5	300	2
	Salt Lick	49	3185	33
Total		6114.7	247400	717

9.D. 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)	NDC-1, Gramapriya, Vanaraja, Asil Cross	2502	159246	105
Cock & Hen	NDC-1	109	27381	24
Chick Egg	NDC-1	3486	23525	127
Japanese Quails	NKL - 1	253	7590	65
Japanese Quails Egg	NKL – 1	1243	2486	66
Fish		0	0	0
Ornamental Fish	Black mozhi	100	200	1
Total		7693	220428	388

PART X – PUBLICATION, SUCCESS STORY, SWTL, TECHNOLOGY WEEK AND DROUGHT MITIGATION

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

(A) KVK News Letter ((Date of start, Periodicity, number of copies distributed etc.)

(B) Literature developed/published

Item	Title	Authors name	Number
News letters	Vealan Thunaivan	All Staff	5000
Booklet	Booklet on “Banana Cultivation techniques”	Mr. P. Velmurugan SMS Horticulture	100
	Booklet on “Latest Agriculture technologies to improve the production and productivity”	All Staff	100
	Booklet on “Economics on Livestock farming” (Tamil)	Dr. V. Srinivasan SMS (Animal Science) & PC i/c	50
Folders	Folder on “Techniques to be followed in Goat Farming”	Dr. V. Srinivasan SMS (Animal Science) & PC i/c	1000
	Folder on “Saltlick for enhanced income in Dairy farming”	Dr. V. Srinivasan SMS (Animal Science) & PC i/c	1000
	Folder on “Value added products of Aonla”	Mrs. S. Sumathi SMS (Home Science)	1000
	Folder on “Value added products of Banana”	Mrs. S. Sumathi SMS (Home Science)	1000
	Folder on “High yielding green gram cultivation techniques”	Mr. A. Murugan SMS – Agronomy	1000
	Folder on “High yielding black gram cultivation techniques”	Mr. A. Murugan SMS – Agronomy	1000
	Folder on “Bio fertilizer and Bio fungicide”	Mr. I. Jeyakumar Prog. Asst (Lab)	1000
	Folder on “Bio fungicide for diseases management”	Mr. I. Jeyakumar Prog. Asst (Lab)	1000
Leaflet	Leaflet on FASAL BEEMA YOJANA	All staff	1000
TOTAL	12		14250

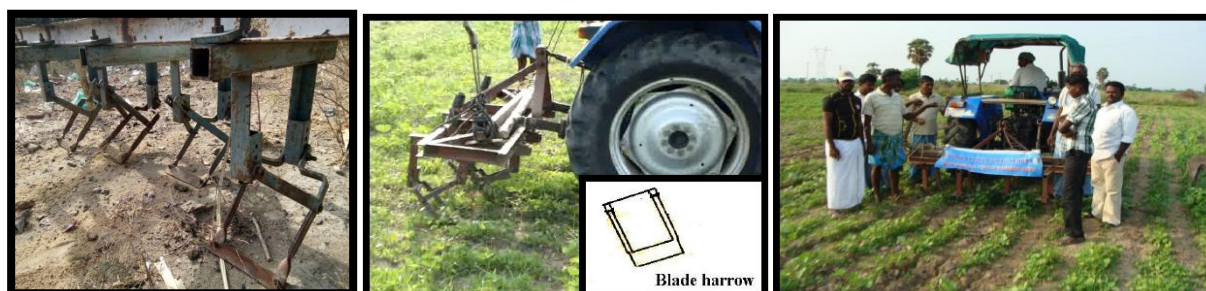
10.B. Details of Electronic Media Produced – Nil

10.C. Success Stories / Case studies, if any (two or three pages write-up on each case with suitable action photographs. The Success Stories / Case Studies need not be restricted to the reporting period)

10.C.1: Tractor drawn weeder - A farmers innovationfor rainfed cultivation

Blackgram and greengram are grown as sole and mixed crop in an area of 60000 ha in Thoothukudi district. The blackgram and greengram cultivators in rain fed system finding it very difficult to get the laborers to do the weeding operation in time which results in about 40 to 50 % yield loss to the farmers. So the farmers were in need of suitable machineries and started their efforts towards the same.

The farmers of keelapoovani village of Karungulam block joined as farmers groups and tried to find a suitable solution for planting and weeding practices. Finally they innovated and developed a new machinery called tractor drawn weeder.



The experience of Mr.Packiyaraj – Leader, farmers group keelapoovani – Karungulam block.

Over the years, Rain fed agriculture is being practiced regularly in our keelapoovani village. During 2014-2015 ICAR – krishiVigyan Kendra, Thoothukudi, visited and selected our village to implement the new programmes. They introduced new varieties of greengram, blackgram and trained our farmers an cultivation practices. We expressed our problem of labour shortage for sowing and weeding operations. With their technical advice we ourselves innovated a weeder which can easily be fitted with tractors and succeeded and our yearlong attempt.

In our village, pulses seeds are sown through funnels fitted behind the tractor and the seeds are sown in rows with 45 cm a part which provide an option to ride the tractor in the space provided in between the two rows so that plants are not get damaged by the tractor tires.

The tractor drawn tillers are usually fitted with 6 tynes to do the ploughing operation. In our innovation we removed the tynes and fitted blade hoes in tiller frame and used it for weeding operation. The results were so encouraging and we were able to succeed in our attempt.

The newly innovated tractor drawn weeder is helping the farmers to complete the weeding in 15 – 20 acres of land per day. The problem of labour shortage and the cost for weeding has also come down drastically. The timely weeding operation help the farmers to get a maximum black gram and green gram yield of nearly 465 Kg / acre which saves 80% cost of weeding besides saving 98% time spent earlier for weeding. Now we are lending our machinery to our farmers and charging Rs. 500/- per hour.

During 2016, we shared our machinery to 10 rain fed farming farmers of our region. Every day some 20 – 30 farmers came here to see our new tractor drawn weeder and enquired about its operation methods. Dr. G . Chandre Gowda, Principal Scientist, ATARI, and Dr. S. Cletus Babu Chairman, SCAD Group also visited our unit and praised us for our innovation. We thank Krishi Vigyan Kendra for the continuous encouragement and support in achieving our goal.

10.C.2: Abundant income fetching Thoothukudi farmer from High Density Planting in Guava

Guava usually known as “Poor Man’s Apple” is native to Central America, which is widely cultivated in South Africa, Hawaii, Indian continent and Mexico. Since Guava requires very little care and attention, it occupies 4th place in area after Mango, Banana and Apple. Maharashtra ranks first in production whereas Karnataka ranks first in productivity of guava. In the present cultivation methods, the production, productivity, and income level of fruit crops are very low. In order to increase the productivity per unit area, lots of researches were carried and innovated the new High Density Planting (HDP) system for fruit crops.

The area under guava cultivation is increasing every year as the interest among the farmers is gaining momentum on guava cultivation. Because of its hardy nature, the guava plants can be grown in poor and slightly alkali condition also. Considering the congenial climate prevailing in Thoothukudi district for guava cultivation, ICAR Krishi Vigyan Kendra, Thoothukudi initiated its efforts to promote High density planting techniques among farmers through trainings. In continuation of its efforts, five progressive farmers were identified for On farm Trial (OFT) to introduce HDP system in Guava in the year 2014-15 and trained them on HDP method, pruning management, Nutrient management and other important cultivation techniques.

After the selection of farmers for the OFT, Krishi Vigyan Kendra offered 330 Lucknow -49 layer to take up planting in 0.5 acre land. Mr.G.Saravanan (44) of Sakkammalpuram village who was one among the farmers selected for OFT shared his experience in HDP system in guava.

“I’m living in Sakkammalpuram village, District with my family. After schooling I decided to engage in farming activities but in a different mode from rest of the normal farming practices and wanted to succeed in my attempts. That is the reason why I implemented new techniques like introduction of tissue cultured banana cultivation, introduction of drip and fertigation for Banana, introduction of Granenaine banana variety, Red lady of Taiwan Papaya variety etc., for the first time in Thoothukudi district and tasted success also in all my attempts. Since the krishi Vigyan Kendra is situated very close to my native, I used to attend all the training programmes regularly. When the training programme on HDP techniques in guava was conducted in Kendra, I attended the training. The information learned in the training evoked lot of interest in me. So, I enrolled my name as one of the farmer beneficiary for the OFT programme.

Cultivation methods:



The traditional method of planting guava layers in 6x6m spacing can accommodate maximum of 277 plants /hectare only, whereas the new HDP system offered me a chance to plant more trees with a spacing of 3x2m which can accommodate a maximum of 1666 plants/hectare. So, I dugged pits of 2x2x2' size and applied 10kg farmyard manure, 200gm of neem cake and planted the 330 Lacknow -49 layers in 0.5acre land. To avoid wind damage, I provided support (staking) with a stick to each plant. After planting, regularly irrigated the newly planted guava plants by drip irrigation and ensured minimum of 20 liters of water once in 3 days. As per the instruction of the Subject Matter Specialist of KVK, I did the first pruning 2months after planting at 75cm height and smeared lime and Copper Sulphate paste in the cut ends. After the 1st pruning I allowed 3-4 side branches to grow. 3 months after 1st pruning again 2nd pruning was done by removing the 50% of the total growth of the newly emerged shoots and 3rd pruning was carried out after three months period from the second pruning. By this continuous pruning, I ensured the tree canopy under a desirable size. Subject Matter Specialist from KVK also visited the field very often and suggested the growing tips which were very useful for me.

After one year, I applied 250g of neem cake, 75g of urea, 350g of super phosphate and 100g of potash to boost the growth of the layers. Then I applied 2 kg of Azospirillum, 2 kg of Phosphobacteria mixed with powdered cow dung after 30 days from first manuring. To boost the growth, 2% EM solution was applied as foliar spray. The fruits started appear after 18 months and in each node 2-3 fruits sometimes upto 5 fruits were harvested. I have been advised earlier to remove the fruits and flower before 3rd year to prolong the fruiting period. But in the HDP system the expert encouraged me to collect the fruits even in 18 month old trees. At the end of 2.5 years, a total of 128 kg of fruits were harvested. The fruits weighed around 160 -180g with good color and growth. I sold the fruits at Rs 25/ kg and earned Rs 3700/, from my first new attempt.

The trees planted in 2014 are nearing 3.5 years of age by now and started giving yield at an average of 4 - 5 kg of fruits/ tree. Initially I got only 128 kg of fruits but it has reached to a level of 1300 kg now. The harvested fruits were packed in 25 kg box and sold @ Rs 25 / kg in Thoothukudi and Ottanchatram markets. Now, I earned Rs 32500/- from 330 trees planted closely in 0.5 acre and I am happy that I could succeed in my attempt.

Economics of Traditional Vs High density planting in guava (0.5 acre)

Sl. No	Particulars	Traditional Cultivation			HDP		
		I Yr	II Yr	III Yr	I Yr	II Yr	III Yr
I	Expenses						
1	Field Preparation	1200	0	0	1200	0	0
2	Digging Pits	550	0	0	3300	0	0
3	Planting of layers	600	0	0	1500	0	0
4	Manuring	600	400	400	1500	750	750
5	Weeding	750	750	750	750	750	750
6	Pruning	400	400	400	1800	1200	1200
7	Plant protection	800	500	500	1200	1200	1200
8	Miscellaneous	0	450	450	0	900	900
	TOTAL	4900	2500	2500	11250	4800	4800
II	Income						
1	Sale of fruits	0	3700	5500	0	14000	32500

Though there were no incidence of major pest and diseases in my field, the heavy rain occurred in 2016 caused fruit rot. The Subject Matter Specialist suggested spraying 0.2% copper oxy chloride which helped me to get rid of the problem. Till date there is no incident of mealy bug in my field. Unlike vegetable cultivation, Guava in high density planting does not require heavy maintenance and care and capable of giving permanent income on sustainable basis. So I encourage all the farmers who are coming to see my field and offer the technological inputs to them.

From the positive results obtained from Mr. Saravanan and other farmers, Krishi Vigyan Kendra, Thoothukudi has decided to implement the high density planting technique in Guava through Front Line Demonstration (FLD) in the year 2017 -18 especially in areas where water is available in minimum to get permanent income on sustainable basis.

10.C.3: Mushroom cultivation - An ideal entrepreneurial venture for Rural people

Background

Commercial production of edible Mushrooms converts the agricultural, industrial, forestry, and household wastes into nutritious food (Mushroom). Indoor cultivation of oyster mushrooms utilizes the vertical space and is regarded as the highest protein producer per unit area and time – almost 100 times more than the conventional agriculture and animal husbandry. This high tech horticulture venture has a promising scope to meet the food shortages without undue pressure on land. Considering this vital point, KVK has taken up the mushroom cultivation training program to farmers and rural youth in a larger way.

Intervention Process



Mr. A. Arul Doss (48) of Keelasurandai is regularly attending our on campus training program on Oyster mushroom cultivation and value addition from 2014 onwards and he has inspired upon this aspect. He approached us frequently for training on mushroom cultivation and we have imparted intensive practical training on Oyster mushroom Cultivation and its value addition. Under our guidance, he established a Mushroom unit of 20’x10’x8’ size in a small scale. He invested Rs. 50000/- as fixed capital to start the Mushroom unit and spent nearly Rs. 10000/- as working capital for purchasing hay, spawn, packing covers etc. recently he has extended his mushroom unit to 400sq.ft area. We also ensured him to get quality spawn. Initially he struggled to market oyster mushroom as most of the people are not aware about the importance of (medicinal and nutritional value) oyster mushroom. We constantly encouraged him by guiding and helping in marketing aspects.



Intervention Technology

- Conducting On and Off campus training on Oyster mushroom cultivation and its value addition
- Marketing strategies and tie up
- Motivation and encouragement to establish Mushroom unit

Challenges and Scope in Oyster Mushroom

Mr. Arul doss shared his experience that during Diwali and other festival time the people have the habit of consuming non-vegetarian food. During that period, he found difficult to market the fresh oyster mushrooms. Therefore, he was forced to think about value adding his produce. He thought of dehydrating the oyster mushrooms but again he found it difficult to market locally as it becomes still costlier after drying. Finally, with small margin he started producing mushroom pickles as a value added product in a small scale to produce 5Kg/week.

Through KVK technical guidance and support, he standardized the mushroom pickle product and started selling along with fresh mushrooms. Initially the people were reluctant to buy the mushroom pickles. However, after tasting the product they came forward to purchase the mushroom pickles. They were able to value-add these mushrooms otherwise would have wasted. The left over mushroom beds are value added as livestock feed and compost.

Impact on Horizontal Spread

Meanwhile on seeing the success, he also motivated five rural youths from his village namely Mr.Pratheep Kumar, Mr.Moorthi, Mr.Sankaralingam, Mr.Subramanian and Mr.Vellapan for oyster mushroom cultivation. Mr. Aruldoss brought these five people for mushroom cultivation training to KVK and helped them in establishing their own mushroom unit. Now they are jointly selling their produce locally through door-by-door sales for regular customers, retail vegetable shops, and at farmers sandy,etc..



They coined their group name and brand name as Royal. They have a plan to form Joint Liability Group to get financial assistance from bank to upgrade their enterprise. Through our initiative, all the five members along with Mr. Arul Doss are running their mushroom units successfully with our continuous technical support and marketing tie up. Because of their interest and involvement, they get more profit and this helps to sustain their venture even in critical situations. On seeing this success, many of the un employed rural youth and women SHG members got motivated and wanted to start a mushroom unit at their end.

Impact on Economic Gains

At present, he gets mushroom yield on an average of 800gm to 1kg per bed of 12”x24” cover size. He maintains 250 to 300 bags in his mushroom shed. Along with other farm works he could able to grow and market the mushrooms as a supplementary venture. Out of this mushroom cultivation, he earns Rs 29600 per month as profit. In addition to this he also earns Rs. 4000/month through mushroom pickle and he earns Rs. 3750/month additionally by selling Vermicompost.



Impact on Employment Generation

The Royal group members spend only 2 to 3 hrs per day in preparing the mushroom beds, watering, and harvesting the mushrooms. Employment was created for about 115 man-days per year per unit through mushroom cultivation and its value addition.

Economics of Mushroom cultivation and its value addition unit belong to Mr. Arul doss Size of the unit: 300 bags Area: 200 Sq.ft

Sl. No	Details	Amount (Rs)
Capital Investment:		
1	Cost of Shed construction 20’ x 10’ x 8’ @ Rs 200/sq. Feet	40000
2	Cost of gunny bags	1000

3	Cost of pipe lines and other equipment's	5000
Total		46000
Recurring expenses:		
1	Cost of paddy straw 6000 kg @ Rs 2 per kg	12000
2	Cost of poly bags	6000
3	Cost of mushroom spawn (Rs.40/spawn x 150 spawn x 18 cycle)	108000
4	Cost of twine	1000
5	Fire wood cost	5000
6	Labour cost @ Rs 150/day x 365	54750
7	Cost of raw materials for 260 kg pickle preparation	26000
8	Interest on capital @ 16%	7360
9	Depreciation cost @ 20%	8000
Gross Expenditure		228110
Returns		
1	Fresh mushroom sales (Rs 150/kg x 3700 kg) (0.8 kg x 275 bags x 18 cycles = 3960 kg)	555000
2	Mushroom pickle sales (Rs 300/kg x 260 kg)	78000
Gross Return		633000
Net Return per Annum		4,04,890
Net Return per month		33,740
Benefit Cost Ratio		1.78

10.C.4: A success story on profitable green fodder cultivation as an enterprise

Climate change, drought due to deficit rainfall and flood due to unseasonal excessive rain made the cropping occupation as a gambling in agriculture. In this situation last year due to 50% deficit rainfall and its associated decrease in ground water level adversely affected the cropping in agriculture and increased the fodder insufficiency for livestock feeding. Because of this, many livestock owners are forced to the pity situation to sell their cattle, goat and sheep in a greater rush. Our SCAD – ICAR KVK with an aim to avoid this situation planned to increase the availability of green fodder cultivation, by utilizing the available water, without much labour and external input requirement. For the purpose KVK has supplied 260 Kg of fodder sorghum seeds (Co (FS) 29/31) to cultivate in about 85 acres of land belong to 76 farmers. By this, the green fodder production happened upto 70 tonnes per acre. We are sharing a success story of one of the farmers though this article who cultivated green fodder as an enterprise.

Melakutudankadu is a small village near by Pudukottai in Thoothukudi Taluk with a few garden land farmers. Many farmers in this village are engaged in dairy or goat rearing in view of scarcity in labour availability for agriculture operation due to the presence of several industries in its vicinity. Because of this situation many farmers reduced the area under vegetables or food grain cultivation and instead opted for green fodder cultivation, cattle and goat rearing which needed very less external labour and inputs.

Mr. S. Subramani in one such farmer of this village who owns 1.5 acre of garden land and 2 cows. As vegetable cultivation is not feasible because of labour shortage he opted for fodder cultivation as an enterprise to supply / sell the same to the livestock farmers in nearby Thoothukudi town. On the advice and technical support of KVK he cultivated fodder sorghum Co (FS) – 31 in about an acre of land for sales and Co(FS)-29 and cumbunapier hybrid Co(CN)-4 in half an acre of land to meet out the fodder requirements of his dairy farm. He sold the fodder sorghum in one acre of land on contract basis for one year at the rate of one lakh rupees per annum per acre and for this he spent Rs 29,500 per year for land preparation, sowing, fertilizer application and irrigation purposes. He obtained Rs. 70,800/- as net return with a benefit cost ratio of 3.42

In addition he used the fodder produced from another half an acre area for rearing 2 cows and calves and produced on an average 27 liters of milk per day and sold it at the rate of Rs. 24/liter. He sold his two heifer calves for Rs. 15000 at the end of one year and the cow dung manure for Rs. 5000. In total he spent Rs. 1,07,800 for fodder and concentrate feed and able to obtain the gross income of Rs. 2,14,400 and net return of Rs. 1,06,600 with a benefit cost ratio of 1.98.

By utilizing the minimal irrigation facilities and by avoiding the use of external labour he has obtained a gross income of Rs. 3,14,000 by spending Rs. 1,36,000 per annum and earned a net profit of Rs. 1,77,400 with a benefit cost ratio of 2.31. This is better than cultivating other crops in terms of net profit per annum under the prevailing situations. He also has plans to improve upon his profit by producing fodder seeds and reducing the expenses on oil cakes by cultivating protein rich leguminous fodder in the coming years. We extend our warm greetings for success in his future endeavors.

Economics of green fodder enterprising unit and dairy farm belong to Mr.S.Subramani of Melakutudankadu village, Thoothukudi Taluk

Economics of green fodder cultivation Area 1 acre, Duration 1 year Season : 2016-17		Economics of Dairy farm Area 0.5 acre,duration 1year Season : 2016-17 No.of cows:2 calves:2	
Expenditures	Rs.	Expenditures	Rs.
Land preparation and tillage Manure	4,000	Cost of green fodder cultivation	15,000
Beds and channel making	5,000	Cost of concentrate feed	92,800
Fodder seeds	2,000		
Irrigation labour cost	2,000		
Fertilizers	15,000		
Other Expenditure	1,200		
Gross Expenditure	29,200	Gross expenditures	1,07,800
Income		Income	
Selling green fodder per acre	1,00,000	By selling milk 8100 lit x Rs.24	1,94,400
Gross income	1,00,000	By selling manure	5,000
		By selling 2 heifer calves	15,000
		Gross income	2,14,400
Net return	70,800	Net return	1,06,600
Benefit cost Ratio	3.42	Benefit cost Ratio	1.98



10.D. Give details of innovative methodology or innovative technology of Transfer of Technology developed and used during the year – Nil

10.E. 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

10.F. Indicate the specific training need analysis tools/methodology followed for

- Identification of courses for farmers/farm women

- Farmers/ Farm women group meeting
- Individual discussion
- Village survey
- SAC meetings

- Rural Youth

- Individual discussion
- Village survey (PRA)
- SAC meetings

- **In service personnel**
Discussion with line dept. officials
SAC meetings

10. G. Field activities

- i. Number of villages adopted -06
- ii. No. of farm families selected -100
- iii. No. of survey/PRA conducted -2

10. H. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab : Functioning well

- 1. Year of establishment : 2005
- 2. List of equipment's purchased with amount :

Sl. No	Name of the Equipment	Qty.	Cost
1	pH meter	1	9850
2	Ec meter	1	9950
3	Spectrophotometer	1	59500
4	Flame photo meter	1	48000
5	Precision balance	1	99500
6	Top pan balance	1	98000
7	Water distillation unit	2	98000
8	Shaker	2	49000
9	Hot air Owen	1	14000
10	Hot plate with stirrer	1	22000
11	Kendal digestion and distillation unit	2	59000
12	Nitrogen auto analyzer with Digestion block	1	202932
13	Willie mill	1	26000
Total		16	795732

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	590	255	92	25840
Water Samples	96	80	72	2420
Plant samples	0	0	0	0
Manure samples	0	0	0	0
Soil health card issued	0	469	4	0
Others (specify)	0	0	0	0
Total	686	804	168	28260







10.I. Technology Week celebration during 2016 – 17: Nil



10. J. Interventions on drought mitigation (if the KVK included in this special programme)

Not included in this special programme

10. K. Important events celebrated at ICAR KVK

10. K. 1. Jai Kisan Jai Vigyan Diwas

Name of the Dignitaries / People's Representatives participated	Days of conducting the Function	Whether Technology Week was also conducted Yes/No	Number of participants from farming community	Number of other officials from Public and Private Sectors participated	Number of programmes organized for schools and colleges students including those which are teaching agriculture	Number of school /college students participated	Major events organized
Mr. Karupaiah Farmer group leader	26.12.2016 Eratchi	No	35 + 7 = 42	Mr. Pandiyan Raj , Horticulture Officer, Kovilpatti	0	0	Training on High tech vegetable cultivation
Mr. Pandian Seed Director Thoothukudi 6 FPOs Director	23.12.2016 Kurukkusaalai	No	40 + 16 = 56	Mr. Chelladurai GM NABARD, Regional office, Chennai Mr. Vijaya Pandian AGM, NABARD Thoothukudi	0	0	Awareness Training program on Farmer Producer Company and Crop Insurance
Mr. S.I. Mohaideen ADA, Kayathar	23.12.2016 Kayathar	No	31 + 9 = 40	Mrs. Fathima NGO Director Reward NGO, Kayathar	0	0	Organic farming, composting, Miner Millets production technology
Mr. David Dennison ADH, Radhapuram	27.12.2016 Ponnakudi, Tirunelveli	No	0 + 82 = 82	4 Block Development Managers (Kayathar, Nangunari, Valliyur and Radhapuram)	0	0	Skill training on value added product preparation from agriculture produces for ATMA farm women
1		Off campus training programme organized as part of Jai Kisan Jai Vigyan Program at Kayathar block office for ATMA farm women on 23.12.2016					
2		Off campus training programme organized as part of Jai Kisan Jai Vigyan Program at Kayathar block office for ATMA farm women on 23.12.2016					
3		Training to Farmers producer organisations members as part of Jai Kisan Jai Vigyan celebrations organized at Kurukkusaalai by our KVK was addressed by General Manager Mr.Chellathurai of NABARD regional office Chennai along with AGM,Thoothukudi region.					
4		Training to Farmers producer organisations members as part of Jai Kisan Jai Vigyan celebrations organized at Kurukkusaalai by our KVK was addressed by General Manager Mr.Chellathurai of NABARD regional office Chennai along with AGM, Thoothukudi region.					
5		On campus skill training programme organized at our KVK on the topic value added product preparation from millets at our KVK as part of as part of Jai Kisan Jai Vigyan Program					
6		Off campus skill training on vegetable cultivation conducted to ATMA farm women at Kovilpatti block as part of Jai Kissan Jai Vigyan program on 26.12.2016					



7		Off campus skill training on value added product preparation form agriculture produces for ATMA farm women at Tirunelveli as part of Jai Kissan Jai Vigyan program on 27.12.2016
8		Off campus skill training on value added product preparation form agriculture produces for ATMA farm women at Tirunelveli as part of Jai Kissan Jai Vigyan program on 27.12.2016

10. K. 2. PMFBY Programme

Date of PFBY Programme	Name (s) of VIP and Chief Guest with designation	No. of Farmers	Name(s) of Bank Officials	Name(s) of Govt. Officials
16.06.2016 (Thursday)	<p>Mr. J. J. Thiyagaraja Natarji. M.P (M.P – Loksabha, Thoothukudi Constituency)</p> <p>Dr. S. Cletus Babu (Chairman – SCAD Group of Institutions)</p> <p>Mr. R. Ravi Kumar (Chairman, Thoothukudi District Panchayat)</p> <p>Mr. Gunathurai (Panchayat President, Kulaiyankaraisal)</p> <p>Mrs. Rajalakshmi (Panchayat President, Poovani)</p> <p>Mr. Arivalagan (Panchayat President, Akkanayakanpatti)</p> <p>Mrs. Utchimagaliamman (Panchayat President, Mudivaithanendal)</p>	575	<p>Mr. K. Vijayapandian (AGM, NABARD, Thoothukudi)</p> <p>Mr. A. Shunmugam Pillai (Chief Revenue Officer, Dist Cooperative Bank, Thoothukudi)</p>	<p>Dr. M. Thirunavukarasu Ph.D (Dean, VC&RI, Tirunelveli)</p> <p>Mr. P. Vanniyarajan (Joint Director-Agriculture, Thoothukudi)</p> <p>Dr. S. Sankara Subramanian (Regional Joint Director-Animal Husbandry, Thoothukudi)</p> <p>Er. K. Natarajan (Executive Engineer, Agriculture Engineering Dept, Thoothukudi)</p> <p>Mr. P. Selvaraj (Deputy Director-ATMA, Thoothukudi)</p> <p>Mr. M. Ashok Macrin (Deputy Director-Horticulture, Thoothukudi)</p> <p>From VC&RI, Tirunelveli – 11 Dr. Vasanthakumar, LPM Dr. Murugan, LPM Dr. Arulnathan, ANN Dr. Murugan, PSC Dr. Chellapandian, ANN Dr. Senthilkumar, EXT Dr. Edwin, PSC Dr. Karthikeyan, EXT Dr. Vinothini, EXT Dr. Nalini, ILFC Dr. Ganthimathi, ILFC</p> <p>From Animal Husbandry Dept – 3 Dr. Ashoken, ADAH Dr. Theresa, SMS, JD Office, TUT Dr. Rajmohan, VAS, Peroorani</p> <p>From AC&RI, Killikulam – 3 Dr.C.Nainor, P&H (Hort) Dr.S.Manoharan, P&H (Ag) Dr.S.K.Padma, AP (Ag.Ext)</p> <p>From Agriculture Dept – 12 Mr.Govindaraj, BDM – Villathikulam Mr.Jesudoss, BDM – Alwarthirunagari Ms.Rajalakshmi, BDM – Sathankulam Mr.Sudalaimani, BDM – Ottapidaram Mr.Selvin, BDM – Pudukottai Mr.Selvaprabhu, BDM – Thiruchendur Mr.Samual, BDM – Kayathar Ms.Subathra, BDM – Srivaikundam Ms.Devasanthi, BDM – Kovilpatti Mr.Jebamani, BDM – Kurukkusaalai Mr.A.Thanapaul, BDM – Pudur Ms.Rukmani, BDM – Udankudi</p> <p>Horticulture Department – 6</p>

			Mr. Balakrishnan, AHO Mr. Ashok macrin DDH Mr. A. SebathuraiDy.HO Mr. T. Pandiayn, HO Mr. Pandiyaraj, HO Mr. Palanivelayan ADA
			
			

10. K. 3. Swachhta Pakhwara

Date & Location	Important person participated in this program	Activity details
18.10.2016 Alwarkarkulam	Village panchayat president (Mr. C. Selvarathinam), Counselor (Mrs. A. Parvathi) village people and staff members	<p>In the meeting 46 men and women of Karungulam village participated. The staff of KVK facilitated the villagers to take Swachhta Pakhwada oath followed by the cleaning of the village library and the panchayat union building. All the staff members were also engaged with the villagers in the cleaning activities. The villagers assured to keep the village clean and neat from now onwards.</p> 
18.10.2016 KVK Campus	All KVK staffs	<p>All the technical and supporting staff of KVK Thoothukudi participated in this program held at KVK premises. All the staff members taken Swachhta Pakhwada oath and assure to follow the points in how and working area as well. After the oath, all the staff members cleaned the KVK premises area and dumped the waste in Vermicompost unit to convert the waste into manure. They promised to take this initiative on regular basis to keep the campus neat and clean for ever.</p> 

19.10.2016 Sevalkulam	Village panchayat president (Mr. Vealautha samy), village people and our staff members	<p>In the meeting 37 men and women of Karungulam village participated. The staff of KVK facilitated the villagers to take Swachhta Pakhwada oath followed by the cleaning of the village road and panchayat union building. All the staff members were also engaged with the villagers in the cleaning activities. The villagers assured to keep the village clean and neat from now onwards</p> 
21.10.2016 KVK Campus	Programme Coordinator i/c, Lab Technician, SMS Home science and agriculture college students	<p>The staff of KVK facilitated the Agriculture college students 10 numbers and SCAD ITI students 200 numbers to take Swachhta Pakhwada oath followed by cleaning the campus.</p> 
21.10.2016 SCAD ITI, Vagaikulam	ITI Principal (Mr. Gurusamy), Staffs and SMS Home science	<p>The staff of KVK facilitated the Agriculture college students 10 numbers and SCAD ITI students 200 numbers to take Swachhta Pakhwada oath followed by cleaning the campus.</p> 
26.10.2016 Mother Theresa Engg College, Vagaikulam	College principal (Dr. Jerold), Vice Principal (Mr. Klinton) Education officer (Mr. Selvavinayagam) and Our KVK Staffs	<p>The staff of KVK facilitated the school teachers of Thoothukudi district around 165 to take Swachhta Pakhwada oath and also gave training and demonstration about the usage beneficial microorganism in composting techniques</p> 
26.10.2016 KVK Vagaikulam	Programme Coordinator i/c and all technical staffs	<p>The staff of KVK gave training and demonstrated about compost making. We also gave awareness about Swachhta and use of waste for compost and vermi compost making in their villages.</p> 

PART XI. IMPACT

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

Name of specific technology/skill transferred	No. of participants	% of adoption	Impact Before	Impact After
Cattle feed preparation from Prosopis Juliflora pods	60	35	P.juliflora pods were eaten directly under the trees by the grazing animals and most bulk of the pods were allowed to rotten under the trees as such. Direct consumption also resulted in fast spread of the weed in manure applied fields. High cost of concentrate feed ingredients like wheat bran resulted in reduced profitability in dairy farming	22tons of pods were collected during the year 2016 - 17 and milled to coarse powder form and sold as alternative concentrate feed ingredient to replace wheat bran to 72 farmers. This unit also resulted in providing employment to about 36 pod collectors and 6 processing assistants to about 70 days during hot summer when no agriculture work was available to them.
Vaccinating the backyard poultry against Ranikhet disease	26	92	95 % mortality in desi birds due to Ranikhet disease was the predominant problem as stated by the poultry growers in this district	Nil Mortality in vaccinated. Farms due to RD as reported by the ex-trainee
Rearing desi/cross bred chickens with proper care and management	26	90	Desi birds gave 90-95 eggs/annum and took 6-7 months to reach 1Kg body weight	Adoption of proper care and management with improved desi birds able to get 160 eggs /annum/hen and the chicks attain 1Kg body weight in 4 months' time resulted in doubling the production from the birds reared under backyards
Use of mineral lick feeding to goat	18	72	No mineral lick feeding so the deficiencies related ill thrift and infertility problems were the common phenomenon.	Those who adopted reported that it resulted in better growth performance of the kids and reduced mortality among them
Regular Vaccination and Deworming to the goat	50	95	No proper protection measures against diseases and endo and ecto parasites resulted in heavy mortality in goats upto 45%	Proper and regular preventive practices resulted in better survival rate of the goats
Green Fodder cultivation	25	80	No green fodder was cultivated prior to KVK intervention and relied on grazing alone	Out of the 25 farmers trained 20 farmers have adopted green fodder cultivation and continue to grow till date to feed their cattle and goat and got profitability in their livestock farm
Mineral mixture feeding to dairy cows	36	85	Mineral mixture feeding is not known to these 36 dairy farmers	Out of the training and demonstration by KVK 30 farmers started adopting the practice of mineral mixture feeding to their dairy cows which resulted in better fertility and production from their cows
Value addition on millets and consumption of millets	36	70	Lack of awareness about the consumption and preparation of millet products	Out of training and demonstration by KVK 70% of the farm women started consuming millet products (nutri mix, laddoo, dosa mix etc) and they started preparing millet products in a small scale
Kitchen garden	140	65	Underutilization of backyard. Poor consumption of fresh vegetables.	Those who adopted reported that they were able to access for fresh vegetables and greens. Able to save money instead of buying vegetables for huge price.
Supplementary feeding with Nutrimix to enhance the body weight and growth in children	220	85	Prevalence of severe stunting (Ht for Age) before intervention in 15% of children. Prevalence of wasting (Ht for Wt.) In 11% of children. Prevalence of underweight (Wt. for Age) before intervention is 63%	After 2 years of intervention Prevalence of severe stunting and wasting among the children (0 – 3 yrs. age) in village reduced to 15% and 11% respectively. 54% of children remained under weight
Biofertilizer usage in crop production	30	88	Farmers were not aware of the Biofertilizer, their application method, their advantages and the place to purchase	Farmers are well aware of bio fertilizer and regularly applying in the fields. Since the price is very cheap farmers using the Biofertilizer for seed treatment, soil application and seedling dipping
Use of certified seed in improving the yield in black gram and Greengram	42	80	The farmers used their own seeds continuously thereby they were not able to reap the full yield potential	Now the farmers are interested in using certified seeds and they discontinued the practice of continuous using their own seeds so that they realize the good yields
Pulses wonder - Foliar application technology	42	68	Previously they were unaware of Pulse wonder and though they knew about DAP spray, they didn't practiced	Now the farmers of this area realized the utility of pulse wonder in improving yield.
ICMP including mechanization in greengram	25	95	Earlier the farmers were using the old varieties like Co4, Co5. Lack of adoption of improved cultivation practices resulted in less income. Labour shortage was also acute and they	Now the farmers are using Co6, Co7 series of varieties and they are high yielders. Besides mechanization facilitated them to harvest in time. Even though there is some grain loss in

			were not in the position to carry out the field operations in time	mechanical harvesting they are happy in doing machine harvest. The incidence of pests is also lowered by the adoption of IPM measures
Disease management in Banana	20	75	The Banana farmers are less aware of deadly disease like Panama wilt, Sigatoka leaf spot, bunchy top etc. In severe cases the farmers faced more than 60 % yield loss due to Panama wilt	Now the farmers are able to identify the diseases and prepared to take prophylactic measures like application of Pseudomonas, removal of affected trees etc.
Co 14 lab lab cultivation techniques	20	50	The farmers were unaware of short duration high yielding varieties. The long duration vegetables could not yield the expected level due to water shortage during summer.	10 farmers cultivated Co14 lab lab and registered 3.5-3.8 tonnes of green pod /acre in 85-90 days duration. They were able to fetch 75000 to 80000 as net income from the cultivation
High density planting in guava	05	80	Farmers were adopted the conventional spacing of 6x6m spacing which accommodated 111 plants per acre. They were not aware of systematic pruning to keep the tree canopy under desired height and shape.	By adopting the closure spacing of 3x2m, the farmers accommodated 666 plants per acre. They were able to maintain the tree canopy under desired height. They used the space, water and soil judiciously.

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

11.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

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

PART XII – LINKAGES

12.A. Functional linkage with different organizations

Type of institute	Name of organization	Nature of linkage
TANUVAS	VCRI – Tirunelveli	1. Technical support received for conducting 2 CAT Programs and developing the action plan. 2. Collaborated with us to train 120 farmers & 20 Extension persons on fodder production and balanced feeding methods 3. Expert opinion on disease prevention and diagnosis 4. Feed analysis and giving recommendation from feed analytical lab in VC&RI, Tirunelveli 5. Resource person for training and meetings
TNAU	ACRI – Killikulam	Technical support received for developing action plan and resource person for training program
TNAU	TNAU – Coimbatore Seed Centre	Support received for sourcing the latest seeds of paddy, green gram and black gram and lab lab for effective implementation of the FLD/OFT programmes for the year 2016 – 17
TNAU	TNAU – DEE	Good technological back stopping was received in developing action plan. FPO members attended exhibition at Coimbatore on Farmer Machineries Mela.
ATMA	ATMA	We went as Resource Person for 22 ATMA Training Program
ICDS	ICDS	Maternal and child health care elaborate in relation to nutrition project
NABARD	NABARD	8 CAT program, 6Farmer Producer Organisation, 500 Joint Liability Groups, One Seminar areapproved by NABARD. NABARD manager participated in SAC, FBY, FPO, PMC, JLGPMIC, Business plan preparation training other than KVK training program

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

12.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

12.C. Details of linkage with ATMA

a) Is ATMA implemented in your district **Yes/ No**

If yes, Role of KVK in preparation of SREP of the district?

KVK, Tuticorin is maintaining good linkage with ATMA especially in SREP preparation for the district and conduct the activities as per SREP. The Programme Coordinator and SMS are regularly attending the ATMA meetings conducted for various purposes.

Coordination activities between KVK and ATMA during 2016 – 17

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks (if any)
01	Meetings	General body and Management committee	4	0	---
02	Research projects				
03	Training programmes				
	SMS - Horticulture	Integrated crop management	4	2	T. Part - 736
		Organic farming cultivation technology	4	0	
		Terrace garden / School garden	7	1	
	SMS - Agronomy	Farmer field school	1		T. Part - 956
		Integrated Farming System	5	2	
		Integrated crop management	7	3	
	SMS – Home Science	Organic farming cultivation technology	3	1	T. Part – 629
		EDP	1		
		School Garden	2		
		Value addition	2	2	
TOTAL			40	11	2321

12.D. Give details of programmes implemented under National Horticultural Mission – Nil

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Constraints if any

12.E. Nature of linkage with National Fisheries Development Board – Nil

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks

12.F. Details of linkage with RKVY – Nil

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks

12. GKisan Mobile Advisory Services

Month	No. of SMS sent	No. of farmers to which SMS was sent	No. of feedback / query on SMS sent
April 2016	0	0	
May	0	0	
June	2	13568	
July	5	21070	
August	2	4563	
September	1	1258	
October	2	6258	
November	4	13256	
December	4	1032	
January 2017	3	865	
February 2017	1	257	
March 2017	2	456	
Total for the year 2016 – 17	26	62583	

12.H. Farmers Field School

Title : FFS on Management of Livestock

Village : Chinnavinayakanpatti

No. of farmers : 25

Critical Inputs : EM, Mineral Lick, BT Vaccine

Technologies Taught

1. Selection of animals
2. Proper housing to reduce mortality in sheep lambs and goat kids
3. Feeding mineral lick to enhance body weight in kids and calves
4. Use of probiotics in enhancing digestibility and general immunity in livestock
5. Use of beneficial microbial solution to contain the bad odour in livestock shed premises
6. Vaccination and deworming to control diseases outbreak in livestock
7. Use of low cost feeds to reduce the feeding expenditure

Results

Technologies taught	% of adoption
Selection of animals	88
Housing for kids / lambs	20
Mineral lick feeding to kids / calves	80
EM spray to control odour and to improve the hygiene of the cattle shed	60
EM feeding to improve the health in cattle and goat	80
Vaccination against HS and FMD in cattle	96
Vaccination against PPR and ET in goat	80
Vaccination against BT and ET in sheep	96
Low cost feed use (Prosopis pod flour)	20

PART XIII – PERFORMANCE OF INFRASTRUCTURE IN KVK

13.A. Performance of demonstration units (other than instructional farm)

Sl. No.	Demo Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	
1	Poultry unit	2010	160sq.m	NDC-1	Chicks	1064	101866	141642	
					Egg	1266			
				Gramapriya	Chicks	738	1250	33300	
				Vanaraja	Chicks	50			
				Asil Cross	Chicks	322	7590		
				Quails	Chicks	253		2486	
2	Vermicompost	2006	20sq.m	---	Compost	3820	26740		38200
3	Mushroom	2011	20sq.m		Mushroom	92	11040	14727	
					Spawn	28	560	1120	

13.B. Performance of instructional farm (Crops) including seed production

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty in ton	Cost of inputs	Gross income	
Cereals									
Pulses									
Green gram	30.05.16	26.07.16	0.12	Co (Gg) 8	Seed	0.09	7067	11960	
Black gram	31.05.16	12.08.16	0.24	VBN (Bg) 8	Seed	0.20	14134	51500	
Oilseeds									
Coconut				Tall	Nut	0.08	0	1760	Water scarcity
Coconut				Tall	Oil	35	856	4375	Liters
				T x D	Seedlings	180	5400	9000	Number
				D x T	Seedlings	203	8120	14170	Number
				Mal. Dwarf	Seedlings	160	9600	16000	Number
Palm Tree				Fish tail	Seedlings	9	108	470	Number
Almond				Local	Seedlings	34	408	800	Number
Fibers									Number
Spices & Plantation crops									
Tamarind				PKM-1	Graft	82	1640	2645	Number
Floriculture									Number
Chrysanthemum				Local	Seedlings	3	15	45	Number
Rose				Button	Graft	38	994	1300	Number
Rose				Edward	Cutting	59	596	1475	Number
Jasmine				Local	Cutting	46	311	745	Number
Ixora				Local	Cuttings	23	345	575	Number
Rival Rani				Local	Cuttings	46	920	1540	Number
Pitchi				Local	Cutting	40	280	480	Number
Fruits									Number
Mango				Neelam	Fruit	0.18	1300	3266	Number
Sapota				Cricket Ball	Fruit	0.07	550	1279.5	Number
Banana	22.06.16		0.2	Rastali	Fruit		57000		
Tree Seedlings									Number
Guava				L-49	Seedling	476	7815	20135	Number
				Red flesh	Seedlings	290	3480	8240	Number
				Lalith	Seedlings	269	7263	10760	Number
Crusted Apple				Bala nagar	Seedlings	31	620	1120	Number
Jack				Bondruti	Seedlings	53	2385	3115	Number
Jamun				Ram Jamun	Seedlings	26	650	1130	Number
Acid Lime				Balaji	Graft	824	32960	49440	Number
				Seedlings	Seedlings	350	8750	15750	Number
Mango				Neelam	Graft	25	218	815	Number
				Himanpasandh	Graft	168	6216	10080	Number
				Alphonsa	Graft	185	6845	11100	Number
				Senthuram	Graft	91	3367	5460	Number

Pomegranate				Ganesh	Layer	189	5103	8505	Number
Sapota				Cricket ball	Graft	183	7320	9625	Number
Papaya				Co – 8	Seedlings	29	174	324	Number
				Red lady	Seedlings	75	1275	1875	Number
Amla				NA-7	Graft	117	2925	5085	
Vegetables									
Bhendi	04.03.16	15.05.16	0.06	Co – 3	Vegetable	0.07	720	1135	
Sweet corn					Vegetable	45	230	540	Number
Drumstick	19.07.16	17.03.17	0.2	PKM – 1	Vegetable	31	9021	256	Early stage
Forrest Species									
Neem				Local	Seedlings	172	1720	2590	Number
Pungam				Local	Seedlings	1	10	20	Number
Mahagani				Local	Seedlings	2	24	60	Number
Teak				Local	Seedlings	5	50	100	Number
Peltophorum				Local	Seedlings	38	456	1320	Number
Red sandal				Local	Seedlings	1	12	30	Number
Commercial Crops									Number
Casurina				Local	Seedlings	2160	5400	10800	Number
Ornamental Crops									
Acalipha				Local	Cuttings	63	252	630	Number
Alamenda				Local	Cuttings	39	585	995	Number
Crotons				Local	Cuttings	16	64	350	Number
Drazina				Local	Cuttings	67	1005	1645	Number
Duranta				Local	Cuttings	79	316	632	Number
Eranthima				Local	Cuttings	6	24	90	Number
Minimozonda				Local	Cuttings	2	30	50	Number
Polyalthia				Local	Seedlings	32	128	590	Number

13.C. Performance of production Units (bio-agents / bio pesticides/ bio fertilizers etc.,)

Sl. No.	Name of the Product	Qty in Kg	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1	Azospirillum	84	2688	4200	To promote organic agriculture practices
2	Azophos	46	1472	2300	To promote organic agriculture practices
3	Phosphobacteria	87.5	2800	4375	To promote organic agriculture practices
4	Rhizophos	141	4512	7050	To promote organic agriculture practices
5	Pseudomonas	163.5	7848	13080	To promote organic agriculture practices
6	T. Viridi	92.5	4440	7400	To promote organic agriculture practices
7	Vermicompost	3820	26740	38200	To promote organic agriculture practices
8	EMA (Liter)	1570.2	109914	162270	To promote organic agriculture practices
9	Mushroom	92	11040	14727	To promote organic agriculture practices
10	Salt lick	49	980	3185	To promote organic agriculture practices

13.D. Performance of instructional farm (livestock and fisheries production)

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1		Cross bred heifer	heifer	06	46,000	46,000	03 heifers were sold. 03 heifers in stock.

13.E. Utilization of hostel facilities Accommodation available (No. of beds)

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
August	17	2	Hostel is yet to be furnished
TOTAL			

13.F. Database management

S. No	Database target	Database created
1	Training data base	Created for the year of 2015 – 16
2	Trainees data base	Created for the year of 2015 – 16
3	FLD&OFT Data base	Created for the year of 2015 – 16 and 16-17

13.G. Details on Rain Water Harvesting Structure and micro-irrigation system – Nil

PART XIV - FINANCIAL PERFORMANCE

14.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

14.B. Utilization of KVK funds during the year 2016 – 17 (Rs. in lakh)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	7948000		7913827
2	Traveling allowances	80000		41844
3	Contingencies	0		0
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	290000		287558
B	POL, repair of vehicles, tractor and equipment's	235000		234761
C	Meals/refreshment for trainees	80000		79950
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	25000		25226
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	175000		162934
F	Integrated Farming System (IFS)	30000		28513
G	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	49000		48774
H	Training of extension functionaries	20000		19931
I	Maintenance of buildings	30000		31908
J	Farmers field School	30000		29929
K	Library	10000		4884
L	Extension activities	20000		19897
M	EDP / Innovative	30000		30000
N	Display Board	10000		9800
O	SWT Issue health card	50000		47852
	TOTAL (A)	9112000		9017588
B. Non-Recurring Contingencies				
1	Works			
2	Equipment's including SWTL & Furniture			
3	Vehicle (Four wheeler/Two wheeler, please specify)			
4	Library (Purchase of assets like books & journals)			
	TOTAL (B)	0		0
	C. REVOLVING FUND	0		0
	D. Refund To ICAR	0		98643
	GRAND TOTAL (A+B+C) – D	9112000		9116231

14.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 2014 to March 2015	3.20	5.34	5.58	3.42
April 2015 to March 2016	3.42	6.27	6.79	2.90
April 2016 to March 2017	2.90	12.48	12.79	2.59

PART XV – HUMAN RESOURCE DEVELOPMENT

15. Details of HRD activities attended by KVK staff during 2016 – 17

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates	
				From	To
Dr.V.Srinivasan	Programme coordinator i/c	Scientific workers conference	TNAU, Coimbatore	05.07.2016	05.07.2016
		ASCI Workshop	MANAGE, Hyderabad	20.02.2017	20.02.2017
		KVK annual review workshop	KVK, Wyanad	20.04.2016	23.04.2016
		KVK Pre Action Plan Meeting	KVK Kanyakumari	10.02.2017	10.02.2017
		KVK Action Plan Meeting	KVK Namakkal	16.03.2017	18.03.2017
		EM production technique	Organic garden, SCAD Tirunelveli	13.02.2017	13.02.2017
Mrs. S. Sumathi	SMS Home Science	FPO 2 nd Training program for POPs	CIKS, Chennai	29.08.2016	02.09.2016
		FPO Review cum Training program for Business plan	NABARD Regional Office, Chennai	17.11.2016	17.11.2016
Mr. P. Velmurugan	SMS Horticulture	Permaculture principle and techniques	KUMTA, Karnataka	04.04.2016	08.04.2016
		FPO Business plan Development	BIRD, Lacknow	16.05.2016	18.05.2016
		FPO 1 st Training program	NABARD, Chennai	15.07.2016	15.07.2016
		PIMA Workshop	KVK Erode	21.02.2017	25.02.2017
		KVK Pre Action Plan Meeting	KVK Kanyakumari	10.02.2017	10.02.2017
		KVK Action Plan Meeting	KVK Namakkal	16.03.2017	18.03.2017
Mr. A. Murugan	SMS Agronomy	2 nd KVK Symposium	TNAU, Coimbatore	07.03.2017	08.03.2017
		EM production technique	Organic garden, SCAD Tirunelveli	13.02.2017	13.02.2017
		KVK Pre Action Plan Meeting	KVK Kanyakumari	10.02.2017	10.02.2017
Mr. K. Dhamodharan	Farm Manager	Demonstration on Farm implements	TNAU Coimbatore	10.02.2017	10.02.2017
Mr. I. Jeyakumar	Programming Assistant (Lab. Tech)	Imparting Training on Mushroom Cultivation techniques	ICAR – DMR, Solan	22.03.2017	24.03.2017

SUMMARY FOR 2016 – 17

I. TECHNOLOGY ASSESSMENT

Summary of technologies assessed under various crops

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management										
Varietal Evaluation	3				2					5
Integrated Pest Management										
Integrated Crop Management						2				2
Integrated Disease Management										
Small Scale Income Generation Enterprises										
Weed Management										
Farm Machineries										
Integrated Farming System										
Seed / Plant production										
Value addition										
Drudgery Reduction										
Storage Technique										
Mushroom cultivation										
Total	3	0	0	0	2	2	0	0	0	7

Summary of technologies assessed under livestock – Nil

II. TECHNOLOGY REFINEMENT

Summary of technologies refined under various crops – Nil

Summary of technologies assessed under refinement of various livestock – Nil

Summary of technologies refined under various enterprises – Nil

Summary of technologies refined under home science – Nil

5.B.1. Crops

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo.	Area (ha)	Yield (Qtl/ha)				% Yield Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
							Demo			Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
							H	L	A										
Paddy	Demonstration of Paddy TPS – 5 with ICM Practices	TPS-5	---	Irrigated	10	4	62.20	58.00	60.10	54.15	10.9	42860	78130	35270	1.8	42915	70395	27480	1.6
Sorghum	Demonstration of ICMP in dual purpose Sorghum K – 12	K – 12	---	Rainfed	20	8	Due to terminal Drought not taken for Harvest												
Green gram	Demonstration of Green gram CO (Gn) – 8 in dry land farming system	Co – 8	---	Rainfed	10	4	3.11	2.10	2.60	0.99	---	19845	14344	-5501	0.7	21805	5456	-16349	0.2
Banana	Demonstration of Paired row system of planting in Banana with GAP	Nadu	---	Irrigated	10	4	On Progress												
Snake gourd + Drumstick	Demonstration of Snake gourd CO(Sg)-2 in Drumstick as intercrop	Co – 2 Snake guard	---	Irrigated	10	4	136.62	127.90	132.20	---	---	59500	163900	104400	2.75	---	---	---	---
		Drumstick PKM-1		Irrigated	10	4	276.1	232.14	254.16			48500	138000	89500	2.84	48500	138000	89500	2.84
		Drumstick equivalent yield					578	534	556.1	254.16	110.1	108000	301900	193900	2.8	48500	138000	89500	2.84
Cluster bean	Demonstration of Cluster bean (MDU-1) variety	MDU – 1	---	Irrigated	10	4	On Progress												
Groundnut	Demonstration on Groundnut stripper and Decorticator	K-9	---	Irrigated	10	4	On Progress												
Result of Continuing FLD (2015 – 16)																			
Black gram	Demonstration on rice fellow black gram cultivation in river area	ADT 3	---	Rice fellow	10	4	3.62	3.37	3.49	2.70	29	16540	29707	13167	1.8	14040	23009	8969	1.6
Drumstick	Demonstration on Ecological pest control in drumstick	PKM -1	---	Irrigated	10	4	276.10	232.14	254.16	215.20	18.06	48500	138000	89500	2.84	45250	107600	63100	2.37
Banana & Dolichos bean	Demonstration on Inter cropping in Banana with Dolichos bean (CO 14)	Co – 14	---	Irrigated	10	4	30.25#	21.30#	25.77#	---	---	15350	63525	48175	4.14				
		Banana var.nadu					403.5	418.5	410.1	410.1		130000	287000	157000	2.2	130000	287000	223475	2.2
		Banana var.nadu	Banana equivalent yield				509.38	494.38	501	410.1	22.16	145350	350525	205175	2.69	130000	287000	223475	2.2

Coconut	Demonstration On Mixed Cropping System In Coconut Plantation	Tall	---	Irrigated	10	4	62.79	39.23	50.88	50.88		18000	55220	37220	3.07	18000	55220	37220	3.07
		Banana Var. Nadu		Irrigated			376.25	330.8	336.9	0		113750	264000	193000	2.32	0	0	0	0
		Dolichos bean Co-14					22.10#	16.32#	19.21#	0	---	13500	48000	34500	3.5	0	0	0	0
		Coconut Tall	Coconut equivalent yield q/ha				350.27	326.71	338.36	50.88	565	145250	367220	264720	2.53	18000	55220	37220	3.07
Sweet Corn	Demonstration on Sweet corn cultivation	Surichi	---	Irrigated			87.21	67.06	76.42	0	---	69475	168607	99132	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 / H – Highest Yield, L – Lowest Yield A – Average Yield

Yield parameters of Dolichos bean

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 TPS – 5 with ICM Practices			
Plant population/m ²	17.3	16	
Productive tiller/hill	20.7	23.8	
No of grain/panicle	120	127	
No of filled grain/panicle	108	119	
Panicle length (cm)	20.21	24.08	
Leaf folder incidence (%)	8.7	5.9	
Stem borer incidence (%)	8.3	6.2	
1000 grain Wt. (g)	20.3	20	
Demonstration of ICMP in dual purpose Sorghum K – 12			
Germination (%)	60	63	
Plant population/m ²	9.2	11.75	
No of tiller/plant	1	1.8	
Demonstration On Green gram[CO – 8] in Dry Land Farming			
Germination (%)	75	80	
Plant population/m ²	11.4	14.5	
No of pods/plant	6.7	11.3	
No of seeds/pod	6.9	8.5	
Pod borer incidence (%)	10	4	
YMV incidence (%)	12	0	
Weed DMP (g/m ²)	Before weeding	20.1	19.8
Type of Weeds	30 th Day	9.1	8.9
Grass: Echinochloa colonum, Cynodon dactylon	45 th Day	6.2	5.0
Sedge: Cyprus rotundus, Fimbristylismilliaceae			
Broad leaves: Tridaxprocumbens, TrianthemaPortulacastrum, Amaranthusviridis, Flavariaaustralacia, Digeraarvensis			

No of Labours used for sowing and weeding	45	8
Demonstration of Paired row system of planting in Banana with GAP		
No of suckers / ha	3025	5200
Plant height (4 th Month) in cm	146.5	141.6
Demonstration of Snake gourd CO(Sg)-2 in Drumstick as intercrop		
Snake guard Fruit weight (g)	---	165
Snake guard Fruit length (cm)	---	44.5
Days to first flowering (Snake guard)	---	41
No. of fruits / plant (Snake guard)	---	9
Soil nutrient status before intercropping and after inter cropping in demo field	N:162 P:19.7 K:612	N:158 P:17.5 K:595
Demonstration on Groundnut stripper and Decorticator		
Decorticating capacity (Kg/Hour)	15.5	60.5
Labour usage for decortication	4	1
Shelling (%)	71.5	71.5
Grain damage	1	2
Germination %	87.5	85.6
Parameter for Continuing FLD (2015 – 16)		
Demonstration on rice fallow black gram cultivation in river command area		
Plant population/m ²	10.7	14
No of pods/plant	10.8	14.9
No of seeds/pod	3.2	3.5
Pod borer incidence (%)	12.2	11.5
YMV incidence (%)	17.3	10.8
Demonstration on Ecological pest control in drumstick		
Fruit fly infested Pods/plant	8	3
% of fruit fly infestation	27	9
Leaf cater pillar (%)	33	6
No of pesticide spray	0	3
Fruit weight (g)	64	65
Market preference	Poor	Good
Demonstration on Inter cropping in Banana with Dolichos bean (CO 14)		
Additional income / ha	Nil	63525
% of inter space utilization	Nil	80
Land equivalent ratio of banana	1	
Land equivalent ratio of Dolichos bean	0.36	
Demonstration On Mixed Cropping System In Coconut Plantation		
Additional income / ha	Nil	209500
% of inter space utilization	Nil	100
Coconut population per ha	251	251
Coconut yield (nuts/ha)	13805	13805
Population of banana var. Nadu/ ha	nil	1750

Population of Dolichos bean var. Go-14 /ha	nil	27000
Soil nutrient status before intercropping and after inter cropping in demo field	N:165 P:17.7 K:610	N:160.7 P:17.5 K:585
Demonstration on Sweet corn cultivation		
Plant/m ²	---	6.9
No of Cob/plant	---	1.3
Cob Weight (g)	---	141.8
Fodder yield q/ha		70.1

5.B.2. Livestock and related enterprises

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Number of birds retained in 6 months period per household				% Increase	*Economics of demonstration Rs./unit)				*Economics of check (thousand Rs./unit)			
					Demo			Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Poultry	Demonstration of oral pellet vaccine to control ranikhet disease in chickens	Local	25	25	28	8	16.4	3.29	398	938	1856	918	1.98	870	964	94	1.11

* 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 oral pellet vaccine to control ranikhet disease in chickens		
Average number of birds / household at the start of the demonstration		12.43
Number of chicks hatched per household in 6 months		5
Number of chicks died per household due to RD in 6 months		6.49
Number of cock and hen died due to RD in the 6 month period per household		2.43
Number of birds consumed per household in 6 months		0.9
Number of birds reported missing due to predator attack per household in 6 months		2
Average number of eggs laid per hen housed in 6 months		30.7

5.B.3. Fisheries

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Yield / ha (Qtl)				% Increase	*Economics of demonstration Rs./unit)				*Economics of check (thousand Rs./unit)			
					Demo			Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Fish	Demonstration Of Composite Fish Culture With Stunted Fish Yearlings	Local	3	5000	33.53	22.40	29.40	---	---	60169	290472	230303	4.80	---	---	---	---

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

** BCR= GROSS RETURN/GROSS COST

5.B.4. Other enterprises – Nil

5.B.5. Farm implements and machinery – Nil

5.B.6. 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)			

5.B.7. Results of Integrated Farming system Demonstrations

Sl.no.	Name of the farmer and village	Farming situation	Existing or newly added	Crop /enterprise	Area in ha	unit size	Economics of IFS model				Remarks	
							Gross expenditure in Rs.	Gross income in Rs.	Net return in Rs.	BCR		
1	K. Mani, Akkanayakanpatti	Garden land	Existing	Maize	1.6		50000	84000	34000	1.68		
			Existing	Cotton	0.2		11350	21660	10310	1.91		
			Existing	Chilli	0.4		30800	75000	44200	2.44		
			Existing	Groundnut	0.2		8750	22500	13750	2.57		
			Existing	Dairy cattle			2	51100	126250	71150	2.29	
			Existing	Desi chicken			5	600	2500	1900	4.1	
			Newly added	Improved desi chicken			10	0	0	0		
			Newly added	Fodder sorghum	0.4			5850	0	0	0	
			Newly added	Panchakavya				10lit	600	0	0	
			Newly added	Herbal insect repellent				10 lit	600	0	0	
			Newly added	vermicomposting				2 cu.m	2000	0	0	
Newly added	Azolla				2 sq.m	1200	0	0				
Total							162850	331910	175310	2.04		
2	Venkatagurunathan, Akkanayakanpatti	Garden land	Existing	Paddy	0.4		23140	38400	15260	1.66		
			Existing	Groundnut	0.4		17500	45000	27500	2.57		
			Existing	Black gram	0.6		8400	1800	-6600	0.21	Loss in yield in black gram crop is due to because of water shortage for irrigation due to monsoon failure	
			Existing	Chilli	0.2		15400	30000	14600	1.94		
			Existing	Cotton	0.4		22700	43320	20620	1.91		
			Existing	Dairy cattle			2	57850	125000	67150		2.16
			Existing	Desi chicken			10	1500	7200	5700		4.8
			Newly added	Forest trees	0.2			4600	0	-4600		0
			Newly added	Improved desi chicken			10	0	0	0		
			Newly added	Fodder sorghum	0.4			5850	0	0		0
			Newly added	Panchakavya				10lit	600	0		0
			Newly added	Herbal insect repellent				10 lit	600	0		0
			Newly added	vermicomposting				2 cu.m	2000	0		0
			Newly added	Azolla				2 sq.m	1200	0		0
Total							161340	290720	139630	1.8		
3	Madasamy, Akkanayakanpatti	Garden land	Existing	Groundnut	0.4		17500	45000	27500	2.57		
			Existing	Black gram	1.6		21300	54000	32700	2.53		
			Existing	Dairy cattle			2	55100	126250	71150	2.29	
			Existing	Desi chicken			10	1500	7200	5700	4.8	
			Newly added	Improved desi chicken			10	0	0	0		
			Newly added	Fodder sorghum	0.4			5850	0	0	0	
			Newly added	Panchakavya				10lit	600	0	0	
			Newly added	Herbal insect repellent				10 lit	600	0	0	
			Newly added	vermicomposting				2 cu.m	2000	0	0	
Newly added	Azolla				2 sq.m	1200	0	0				
Total							105650	232450	137050	2.20		

Summary of IFS implemented during 2016-17

Sl. No	Name of the farmer and village	Farming situation	Crop /enterprise	Area in ha	Economics of IFS model			
					Gross expenditure in Rs.	Gross income in Rs.	Net return in Rs.	BCR
1	K. Mani, Akkanayakanpatti	Garden land	Cotton –maize/chilli- groundnut+cotton +fodder sorghum+ Dairy+ Desi Poultry	2	162850	331910	175310	2.04
2	Venkatagurunathan, Akkanayakanpatti	Garden land	Cotton- Paddy + Blackgram- Groundnut+Foddersorghum plus Dairy cattle and Desi poultry birds	1	161340	290720	139630	1.8
3	Madasamy, Akkanayakanpatti	Garden land	Fallow- Blackgram-Groundnut + Fodder sorghum plus Dairy cows and Desi poultry	1.6	105650	232450	137050	2.20

5.B.8. Results of Entrepreneurship Development Program / Innovative activities

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo	Area (Cent)	Yield (Q/1 cent garden)				% Yield Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
							Demo			Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
							H	L	A										
Vegetables	Demonstration on nutrition school garden	Local	---	Irrigated	5	5	2.10	1.63	1.82	---	---	1116	2679	1563	2.4	---	---	---	---
Millets	Value addition on millets	Local	---	---	1	---	On Progress												

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	Before	After
Demonstration on nutrition school garden		
Nutritional knowledge of students (%)	66	84.6
Waste management knowledge of the students (%)	58.8	79.6
Value addition on millets		
Shelf life	---	4 Months
Steps taken for Entrepreneurship promotion		
1 – FPO Formation		
2 – Training on Business plan preparation		
3 – Branding, Packaging, labeling, license etc were completed for selling the value added millet product prepared from Pearl Millet and Ragi		
4 – Handing over the KVK processing unit to FPO through agreement under PPP model as suggested by SAC recommendation		

PART VI – DEMONSTRATIONS ON CROP HYBRIDS

Demonstration details on crop hybrids – Nil

H-High L-Low, A-Average

IV. Training Programme

Training for 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										
Improvement of soil fertility through sustainable practices	1	15	32	47	7	36	43	22	68	90
Integrated Crop Management	6	59	44	103	9	12	21	68	56	124
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop	4	46	26	72	8	7	15	54	33	87
Protective cultivation	5	55	19	74	8	3	11	63	22	85
b) Fruits										
Cultivation of Fruit	5	54	5	59	14	3	17	68	8	76
Livestock Production and Management				0			0	0	0	0
Disease management in livestock during rainy- season	2	16	2	18	4	0	4	20	2	22
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	8	0	58	58	77	23	100	77	81	158
Entrepreneurship development Programme	2	25	36	61	97	3	100	122	39	161
Plant Protection										
Integrated pest and Diseases Management	1	7	13	20	2	6	8	9	19	28
TOTAL	34	277	235	512	226	93	319	503	328	831

Training for 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										
Improvement of soil fertility through sustainable practices	4	66	7	73	15	0	15	81	7	88
Integrated Crop Management	9	52	18	70	61	53	114	113	71	184
Awareness creation of drought mitigation	1	0	0	0	8	8	16	8	8	16
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop	1	0	0	0	20	12	32	20	12	32
Organic vegetable cultivation	2	8	54	62	11	36	47	19	90	109
b) Fruits										
Integrated Crop Management	1	36	0	36	6	0	6	42	0	42
Livestock Production and Management										
Comprehensive disease control measure in live stock	4	69	5	74	12	2	14	81	7	88
Feeding and breeding management in live stock	1	0	7	7	0	3	3	0	10	10
Home Science/Women empowerment										
Designing and development for high nutrient efficiency diet for nutritional security	4	0	28	28	6	34	40	6	62	68
Entrepreneurship development Programme	4	62	5	67	5	31	36	67	36	103
Parthenium awareness	1	4	9	13	2	21	23	6	30	36
Plant Protection										
Integrated Pest Management	1	16	11	27	0	0	0	16	11	27
TOTAL	33	313	144	457	146	200	346	459	344	803

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	4	15	34	49	2	3	5	17	37	54
Value addition	11	75	139	214	11	11	22	86	150	236
Scientific goat rearing	1	12	4	16	0	0	0	12	4	16
Poultry Management	4	52	4	56	10	1	11	62	5	67
Organic agriculture practices and drought management	5	43	42	85	32	7	39	75	49	124
TOTAL	25	197	223	420	55	22	77	252	245	497

Training for Rural Youths 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
Nursery Management of Horticulture crops										
Any other –Food Security through nutritional school garden										
TOTAL										

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
EMA usage and its importance	1	5	11	16	6	8	14	11	19	30
Seasonal preparedness	1	3	20	23	4	13	17	7	33	40
Beneficial Microbes usage and composting methods	2	0	60	60	0	20	20	0	80	80
School gardening and waste management	2	15	52	67	0	24	24	15	76	91
Maternal and child health	1	4	15	19	3	10	13	7	25	32
Refresher training to Extension functionaries	1	10	15	25	5	5	10	15	20	35
Drought management in livestock and crops	1	2	14	16	1	3	4	3	17	20
Total	9	39	187	226	19	83	102	58	270	328

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

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	Crop production and management										
1.a.	Mushroom and spawn production	1	5	20	25	2	12	14	7	32	39
1.b.	Commercial production of vegetables										
2	Production and value addition										
2.a.	Package of practices for major Fruit crops and organic pest and diseases control measures										
3	Livestock production and management										
3.a.	Animal Nutrition Management										
3.b.	Animal Disease Management										
3.c.	Poultry Rearing										
3.d.	Dairy Farming										
4	Home Science										
4.a.	Household nutritional security										
	Total	1	5	20	25	2	12	14	7	32	39

Details of Vocational Training Programmes carried out for rural youth
Details of sponsoring agencies involved

1. ATMA Tuticorin
2. Coconut Development Board, Chennai
3. Department of Horticulture, Animal husbandry, Marketing, ICDS of Tuticorin, SCAD

7.H. 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	Crop production and management										
1.a.	Mushroom	1	5	20	25	2	12	14	7	32	39
2	Post-harvest technology and value addition										
2.a.	Fruit crop cultivation	3	65	16	81	4	5	9	69	21	90
3.	Livestock and fisheries										
3.a.	Dairy Farming										
	Sheep and goat rearing	1	12	4	16	0	0	0	12	4	16
	Poultry farming										
	Others – Bankable project for livestock farming	1	27	2	29	4	0	4	31	2	33
	Grand Total	6	109	42	151	10	17	27	119	59	178

V. Extension Programmes

Sl. No	Activity	No. of Prog	No. of Beneficiaries			No. of Extension Officials		
			M	F	Tot	M	F	Tot
1	Advisory Services Enquire (Over Phone)	503	515	424	939	96	20	116
2	Celebration of important days (Women's Day)	6	356	2918	3274	17	15	32
3	Diagnostic Visits	73	315	273	588	32	9	41
4	Exhibition	9	3015	1193	4208	92	64	156
5	Exposure Visits	11	310	189	499	12	11	23
6	Farm Science club	15	154	189	343	7	3	10
7	Farmers Group meeting	75	985	337	1322	47	31	78
8	Farmer visit to KVK	289	1020	1253	2273	120	166	286
9	Field Day	4	42	43	85	5	2	7
10	Film show as part of the training programme	12	159	23	182	21	12	33
11	Group Discussion	2	15	7	22	0	0	0
12	Jai Kisan Jai Vigyan Diwas (Farmers Mela)	1	417	235	652	47	31	78
13	Lectures delivered as resource persons	42	1325	963	2288	127	69	196
14	Method Demonstrations	26	210	181	391	9	12	21
15	Scientific visit to farmers field	139	1520	560	2080	47	52	99
16	Self Help Group Conveners meetings	38	430	340	770	35	13	48
17	Soil health camp	6	95	96	191	1	3	4
18	Newspaper coverage	8	0	Mass	0	0	0	0
19	PRA	3	120	134	254	1	3	4
20	TV /Radio talks	18	0	Mass	0	0	0	0
21	Rural Veterinary camp	16	210	29	239	5	3	8
TOTAL		1296	11213	9387	20600	721	519	1240

VI. PRODUCTION OF SEED/PLANTING MATERIAL

9.A. 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 – PusaRashmi Cluster Bean – PusaNavbahar 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	---	80	3200	40	25
	Azolla	Local	---	15	300	20	15
	Subabul	Local	---	5	1500	300	10
Pulses	Green gram	Co (Gg) – 8	---	92	11960	130	10
	Black gram	VBN – 8	---	206	51500	250	25
Total				443.5	80374		514

9.B. 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	Custard Apple	Bala Nagar		31	1120	23
	Guava	L – 49		476	20135	82
	Guava	Local Red flesh		290	8240	33
	Guava	Lalith		269	10760	52
	Jack Fruit	Bondruti		53	3155	29
	Jamun	Ram Jamun		26	1130	17

	Acid Lime	Balaji		824	49440	25
	Acid Lime	Seedlings		350	15750	8
	Mango	Neelam		25	815	15
	Mango	Root Stock		2	20	2
	Mango	Himanpasandh		168	10080	32
	Mango	Alphonsa		185	11100	35
	Mango	Senthuram		91	5460	11
	Pomegranate	Ganesh		189	8505	31
	Sapota	Cricket Ball		183	9625	57
	Papaya	Co – 8		29	374	9
	Papaya	Red lady		75	1875	25
	Amla	NA-7		117	5085	37
Ornamental plants	Acalipha	Local		63	630	2
	Crotons	Local		16	350	9
	Duranta	Local		79	632	5
	Ixora	Local		23	575	10
	Musanda	Mini		2	50	1
	Polyalthia	Local		32	590	5
	Alamenda	Local		39	995	12
	Dracina	Local		67	1645	9
	Eranthima	Local		6	90	3
Plantation crops	Coconut	T x D		180	9000	30
	Coconut	D x T		203	14170	10
	Coconut	Mal. Dwarf		160	16000	28
	Palms	Fish Tail		9	470	4
	Tamarind	PKM – 1		82	2645	9
Medicinal plants	Neem	Local		172	2590	10
	Pungam	Local		1	20	1
Forest Species	Mahagani	Local		2	60	1
	Teak	Local		5	100	1
	Peltophorum	Local		38	1320	4
	Red sandal	Local		1	30	1
Flower crops	Chrysanthemum	Local		3	45	2
	Rose	Button – Ooty		38	1300	17
	Rose	Edward		59	1475	35
	Jasmine	Local		46	745	21
	Rival Rani	Local		46	1540	9
	Pitchi	Local		40	480	24
Oil Seeds	Almond	Local		34	800	16
Commercial Crops	Casuarina	Local		2160	10800	6
Vegetable Crops	Drumstick	PKM – 1		31	256	3
Total				7020	232072	811

9.C. Production of Bio-Products

Bio Products	Name of the bio-product	Quantity in Kg	Value (Rs.)	Number of farmers to whom provided
Bio Fertilizers	Azospirillum	84	4200	44
	Azophos	46	2300	24
	Phosphobacteria	87.5	4375	45
	Rhizopos	141	7050	21
Bio-fungicide	Pseudomonas	163.5	13080	55
	T.viridi	92.5	7400	25
	Vermicompost	3820	38200	169
Others (specify)	EMA (in lit)	1570.2	162270	264
	Panchakavya (in lit)	56	5040	35
	Herbal insect repellent (in lit)	5	300	2
	Salt Lick	49	3185	33
Total		6114.7	247400	717

9.D. 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)	NDC-1, Gramapriya, Vanaraja, Asil Cross	2502	159246	105
Cock & Hen	NDC-1	109	27381	24
Chick Egg	NDC-1	3486	23525	127
Japanese Quails	NKL - 1	253	7590	65
Japanese Quails Egg	NKL - 1	1243	2486	66
Fish		0	0	0
Ornamental Fish	Black mozhi	100	200	1
Total		7693	220428	388

VIII. SCIENTIFIC ADVISORY COMMITTEE**Number of SACs conducted**

one

IX. NEWSLETTER**Number of issues of newsletter published**

One

X. RESEARCH PAPER PUBLISHED**Number of research paper published****XI. 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.)

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