



**TAMIL NADU AGRICULTURAL UNIVERSITY**



## **ANNUAL REPORT 2013-14**

**(For the period from April 13 to March 14)**

**Krishi Vigyan Kendra  
Needamangalam-614 404  
Thiruvarur District  
Tamil Nadu**

**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		
Krishi Vigyan Kendra Needamangalam Thiruvapur District PIN - 614 404	04367- 260666 04367- 261444	04367- 260666	kvkndm@tnau.ac.in	<a href="http://www.kvkthiruvapur.com">www.kvkthiruvapur.com</a>

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

Address	Telephone		E mail	Web Address
	Office	Fax		
Tamil Nadu Agricultural University, Coimbatore-641 003	0422- 2431222	0422-2431821	<a href="mailto:registrar@tnau.ac.in">registrar@tnau.ac.in</a>	<a href="http://www.tnau.ac.in">www.tnau.ac.in</a>

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. K.Chozhan	04362- 246020	9443847067	kctnau@yahoo.co.in

**1.4. Year of sanction: 01.08.2004**

**1.5. Staff Position (as 31<sup>st</sup> March 2014)**

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
1	Programme Coordinator	Dr. K. Chozhan	Professor and Head	M	Agri. Entomology	Ph.D	37400-67000+AGP 10000	64820	10.12.2012	Permanent	OBC
2	SMS	Dr.T.Dhamodaran	Associate Professor	M	Agricultural Extension	Ph.D	37400-6700+9000	49240	01.06.2011	Permanent	SC
3	SMS	Dr.A.Kamaraj	Asst. Professor (SS)	M	Agri. Engineering	Ph.D	15600-39100+7000	32610	06.06.2011	Permanent	OBC
4	SMS	Dr.V.Sivakumar	Asst.Professor (SS)	M	Horticulture	Ph.D	15600-39100+7000 AGP	29830	22.04.2013	Permanent	OBC
5	SMS	Dr.J.Jayakumar	Asst.Professor (SS)	M	Nematology	Ph.D	15600-39100+7000 AGP	29830	22.04.2013	Permanent	OBC
6	SMS	Dr. S. Anandha Krishnaveni	Asst.Professor	F	Agronomy	Ph.D	15600-39100+6000 AGP	27990	12.01.2010	Permanent	SC
7	SMS	Dr.V.Alex Albert	Asst.Professor	M	Seed Science and Technology	Ph.D	15600-39100+6000 AGP	27,990	10.12.2012	Permanent	OBC
8	Programme Assistant ( Lab Tech.)/T-4	Tmt. D. Reka	Programme Assistant (Technical)	F	Home Science	B.Sc	9300-34800-4400	17485	04.06.2007	Permanent	OBC
9	Programme Assistant (Computer)/T-4	Er. R. Sakunthala	Programme Assistant (Computer)	F	Computer application	MCA	9300-34800-4400	16970	03.12.2008	Permanent	OBC
10	Programme Assistant/ Farm Manager	Mr.D.Nakkiran	Farm Manager	M	Agriculture	B.Sc	9300-34800-4400	14,550	23.08.2013	Permanent	OBC
11	Assistant	Mr. K. Baskaran	Administrative Officer	M	-	-	9300-34800-4800	22580	07.03.2011	Permanent	FC

12	Jr. Stenographer	Mr. D. Senthil Kumar	Assistant	M	-	-	5200-20200-2800	13030	02.05.2013	Permanent	OBC
13	Driver	Th.M.Vincent Paul	Supervisor(SS)	M	-	-	9300-34800-4200	18170	04.11.2013	Permanent	OBC
14	Driver	Mr. P.Mahalingam	Office Assistant	M	-	-	4800-10000-1800	10720	02.05.2013	Permanent	SC
15	Supporting staff	Th.S.Arockiadoss	PUSM	M	-	-	4800-10000-1300	9040	01.07.2008	Permanent	SC
16	Supporting staff	Th.M.Kumaran	MTSP	M	-	-	2500-5000-500	3390	16.11.2009	Permanent	SC

**1.6. Total land with KVK (in ha) : 18.66 ha**

S. No.	Item	Area (ha)
1	Under Buildings and demo units	2.08
2.	Under Road	1.22
3.	Under Crops	13.90
4	Orchard/Agro-forestry	-
4.	Others -Old threshing floor, ditch & fallow/not in use	1.46

## 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 in lakhs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	23.2.08	548.24	42.47	-	-	-
2.	Farmers Hostel	ICAR	23.2.08	353.00	27.00	-	-	-
3.	Staff Quarters	ICAR	23.2.08	459.00	32.00	-	-	-
4.	Demonstration Units							
	1.Vermi compost	ICAR-RF	31.03.07	30	-	-	-	-
	2.Mushroom	ICAR-RF	31.03.07	20	-	-	-	-
	3. Community shade net	NADP	03.02.08	930	1.0	-	-	-
	4. Precision farming	NADP	31.03.08	10,000	2.0	-	-	-
	5. Azolla production	ICAR-RF	05.07.09	120	-	-	-	-
	6.Organic farm	GOI- NCOF	01.04.07	14,000	4.0	-	-	-
	7. Slatted house goat rearing	ICAR-RF	30.11.09	24	0.15	-	-	-
	8. Back yard poultry	ATMA	30.11.09	36	0.50	-	-	-
	9. Farm pond -composite fish culture	ICAR	18.11.10	3500	2.00	-	-	-
	10. Demo unit -biocontrol production unit	ICAR	20.03.11	160	4.00	-	-	-
5	Fencing	ICAR		1200 RM	5.00	-	-	-
6	Rain Water harvesting system	Govt. of TN	31.03.07	1320	0.36	-	-	-
7	Threshing and drying yard	ICAR	20.3.11	394	2.00	-	-	-
8	Farm godown	Govt. of TN	-	3 Nos	-	-	-	-
9	Vehicle and Implement shed	ICAR	20.03.11	37	3.00	-	-	-
10	Farm road	ICAR	29.3.11	2200	2.00	-	-	-
11.	Irrigation system	ICAR	18.11.10	282 RM	1.00	-	-	-

**B) Vehicles**

<b>Type of vehicle</b>	<b>Year of purchase</b>	<b>Cost (Rs.)</b>	<b>Total kms. Run</b>	<b>Present status</b>
Jeep - Bolero-LX-2HD	2004	4,40,751	175347	Good running condition
Tractor with Trailer - Mahindra & Mahindra D1-475-40 HP (MICO)	2004	4,37,607	1866 hrs	Good running condition
Two wheeler - TVS STAR CITY	2006	39,400	35971	Good running condition
Two wheeler – Honda Activa	2009	50,000	38689	Good running condition
Power tiller – VST Sakti	2011	1,35,870	-	Good running condition

**C) Equipments & AV aids**

<b>Name of the equipment</b>	<b>Year of purchase</b>	<b>Cost (Rs.)</b>	<b>Present status</b>
Computer with accessories	March, 2005	74,950	Good
Digital Copier cum Printer	March, 2005	71,400	Good
Samsung 4521 F Laser jet model Fax and printer	February, 2009	14,400	Good
Video camera – Sony with accessories	March , 2011	25,000	Good
LCD projector with accessories	March , 2011	97,000	Good
Generator	March , 2011	1,35,980	Good
PAS	March , 2011	20,820	Good
Land leveler	Jan' 2011	10,000	Good
Furniture and furnishing	March , 2011	2,00,000	Good
EPABX	March , 2011	43,310	Good

### 1.8. Details SAC meeting conducted in 2012-13

S.No	Date	Number of Participants	No. of absentees	Salient Recommendations	Action taken
1	24.06.2013	23	-	Popularization and setting up of honey bee colonies in Thiruvarur district.	Training was conducted on 27.12.2013 to popularize honey bee rearing
2				Sheep farming may be introduced and popularized.	Collaborative efforts were made with Veterinary college and Research Institute , TANUVAS , Oratthanadu to popularize sheep breeds in Thiruvarur district. Seven farmers from Vellakudi village of Mannargudi block are now successfully practicing Sheep farming.
3				KVK activities especially trainings may be advertised through local T.V Channels.	Trainings are advertised through KVK website, local dailies, AIR Karaikkal, Trichy, Pasumai vikadan and local cable TV networks
4				Efforts may be taken to introduce and popularize rice mini combined harvester	Training cum demonstrations were conducted on 18.10.2013
5				Popularizations of PPFM spray among the farmers for mitigation of water stress.	Training and demonstrations will be conducted in rice fallow crops like pulses, gingelly and cotton during summer season
6				Wet land leveler for rice cultivation may be popularized.	Popular articles were published in monthly magazine Kalatthu medu and Nilavalam in October 2013
7				Sericulture may be included as one of the component in IFS model.	One FLD on Demonstration of Silkworm rearing is proposed in which the Sericulture unit is included as one of the component in IFS model.
8				Training on repair and maintenance of farm machineries may be given to unemployed youths.	Trainings were conducted on 18.10.2013, 12.12.2013

9		Popularization of groundnut shredding machine.	FLD was conducted on ICM in groundnut
10		Introduction of banana as inter crop in coconut gardens.	Village identification is under progress to introduce banana as inter crop in coconut gardens
11		Model Nutritional garden may be established in the KVK instructional farm and in schools.	Model Nutritional garden is established in the KVK instructional farm. The teachers and students of surroundings of Mannargudi, Needamangalam and Kudavasal blocks were trained to establish Model Nutritional garden in schools
12		Planting of teak in the farm bunds and fallow lands may be motivated in IFS.	Teak plants were purchased and introduced to IFS farmers as bund crop in Aadanoor, Keluvathoor and Poonthottam
13		Popularization of low cost incubator for poultry farmers.	Training will be conducted to popularize low cost incubator
14		Popularization of Tapioca cultivation in Thiruvapur district along with complete packages including micronutrients if any.	To access the Micronutrients of tapioca one OFT - Management of micro nutrient deficiency in Tapioca is proposed during 2014-15 Action plan
15		Importance of organic farming may be popularized.	Two training programmes were conducted on 17.12.2013 and 24.12.2013
16		Popularization of farm mechanization (from seed to harvest).	Trainings were conducted on 18.10.2013 and 12.12.2013. FFS on complete mechanization is proposed in 2014-15 Action plan
17		Management of weeds through plastic mulching.	Trainings will be conducted on Management of weeds through plastic mulching
18		Awareness on kitchen gardening and roof top gardening for urban and periurban areas	Established a model unit at KVK instructional farm and 5 trainings were successfully completed to create awareness on kitchen gardening and roof top gardening



**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.	Rice based cropping system

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

S. No	Agro-climatic Zone	Characteristics
1.	Cauvery Delta Zone	Alluvial terrain with gentle slope

S. No	Agro ecological situation	Characteristics
1.	Wet land eco system	Low land delta plain

**2.3 Soil types**

S. No	Soil type	Characteristics	Area in ha
1.	Clay to clay loam- old delta	Low land	1,27,506
2.	Sandy to sandy clay loam- New delta	Light textured low level laterite soil	27,048

**2.4. Area, Production and Productivity of major crops cultivated in the district (2013-14)**

S. No	Crop	Area (ha)	Production (Metric tons)	Productivity (kg /ha)
1	Rice	175853.4	1220000	6937
2	Blackgram	59584	-	Standing Crop
3	Greengram	53495	-	Standing Crop
4	Sugarcane	486	-	Standing Crop
5	Groundnut	3546	-	Standing Crop
6	Gingelly	1469	-	Standing Crop
7	Cotton	3620	-	Standing Crop

**Source:** Joint Director of Agriculture, Thiruvarur District

## 2.5. Weather data

Source: AWS at KVK

Month	Rainfall (mm)	Temperature °C		Relative Humidity (%)
		Maximum	Minimum	
April 2013	-	35.1	26	72
May 2013	15.2	36.4	27.3	70.5
June 2013	30.4	36.4	27.2	63.5
July 2013	6.6	35.6	26.4	66
August 2013	174.5	34	26	71.3
September 2013	144.6	34.3	25.1	72
October 2013	46.0	29.5	24.6	78.5
November 2013	120.0	29.3	24.1	80.3
December 2013	104.6	28.5	22.8	78.6
January 2014	2.2	29.7	21.4	77.5
February 2014	1.0	32.4	23.5	71.3
March 2014	-	34.6	24.2	70.2
<b>Total/ Average</b>	<b>645.10</b>	<b>32.98</b>	<b>24.80</b>	<b>72.60</b>

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

Category	Population	Production	Productivity
<b>Cattle</b>			
<i>Crossbred</i>			
<i>Indigenous</i>	269555		
<b>Buffalo</b>	7665		
<b>Sheep</b>			
<i>Crossbred</i>			
<i>Indigenous</i>	5881		
<b>Goats</b>	311183		
<b>Pigs</b>	1056		
<i>Crossbred</i>			
<i>Indigenous</i>			
<b>Rabbits</b>	<b>668</b>		
<b>Poultry</b>			
Hens	311487		
<i>Desi</i>			
<i>Improved</i>			
Ducks			
Turkey and others			
Category	Area	Production	Productivity
Fish			
<i>Marine</i>	47 km	500 t	
<i>Inland</i>	350 ha	8700 t	

Source : 7. Animal husbandry – Statistical Hand Book -2007

2.7 . District profile has been prepared and submitted Yes / No: **Yes**

### 2.8 Details of Operational area / Villages

Sl.No.	Taluk	Name of the block	Name of the village	How long the village is covered under operational area of the KVK	Major crops & enterprises	Major problem identified	Identified Thrust Areas
<b>2011-12</b>							
1	Mannargudi	Mannargudi	Paravakottai, Ullikottai, Sundrakottai, Edamelaiyur	5	Cocoa + Coconut	Unaware of training and pruning techniques	Crop Diversification
<b>2012-13</b>							
2	Valangaiman	Valangaiman	Nallur, Enamkiliyur	2	Tuberose	Low income from existing flower crop	Varietal Evaluation
3	Mannargudi	Mannargudi	Ovelkudi	4	Tapioca	Low yield and income due to traditional varieties	Varietal Evaluation
4	Valangaiman Thiruvarur	Valangaiman Thiruvarur	Renganathapuram Nallur, Kattur	2	Banana	Under utilization of plant space and poor fertilizer use efficiency	Integrated Crop Management
<b>2013-14</b>							
5	Needamangalam Kudavasal	Needamangalam Kudavasal	Ayyampettai Chettichatram Edamelaiyur Eravanchery	5 5 6 1	Redgram	Low income of existing pulse crops under rice fallow situation	Varietal Evaluation
6	Thiruthuraiipoondi Valangaiman	Thiruthuraiipoondi Valangaiman	Sitthalathoor Poonthottam	4 3	Ragi	Non availability of suitable varieties	Varietal Evaluation
7	Valangaiman	Valangaiman	Govindakudi	5	Beetel vine	<ul style="list-style-type: none"> <li>• Low income under local beetel vine types</li> <li>• Major disease incidence.</li> </ul>	Varietal Evaluation

8	Mannargudi	Kottur	Melanatham	7	Elephant foot yam	Non utilization of interspaces and thus low income from coconut as sole crop	Varietal Evaluation
9	Mannargudi	Kottur	Melanatham	2	Paddy	Non availability of high yielding short duration variety	Variety introduction
10	Needamangalam Valangaiman Mannargudi	Needamangalam Valangaiman Kottur	Devankudi Poonthottam Kalappal	7 4 3	Paddy	Non availability of suitable long duration varieties for Samba season	Variety introduction
11	Valangaiman	Valangaiman	Manikkamangalam	4	Paddy	Formations of hydrogen sulphide in rice fields hindered the nutrient uptake by reducing the root activity which in turn leads to death of entire crop	Problematic Soil Management
12	Needamangalam	Needamangalam	Devangudi Vellakudi	7 3	Paddy	<ul style="list-style-type: none"> <li>• Weed problem</li> <li>• Uneven nutrient uptake</li> <li>• Irrigation problem</li> </ul>	Farm mechanization
13	Mannargudi	Mannargudi	Melathiruppalakudi Kaarikottai	7 5	Maize	<ul style="list-style-type: none"> <li>• Limited water availability for paddy</li> <li>• Lack of awareness on alternate crop</li> </ul>	Hybrid Introduction
14	Mannargudi	Mannargudi	Ovelkudi, Melanagai	3 7	Brinjal	Severe incidence of insect pest in brinjal	Integrated Crop Management
15	Mannargudi	Mannargudi	Peraiyur, Ovelkudi Karuvakurichi Atthikottai	2 3 5 3	Pepper	Non- utilization of interspaces and thus low income from coconut as sole crop	Crop Diversification
16	Mannargudi Valangaiman	Mannargudi Valangaiman	Melanagai Aalangottai Northangudi	7 3 1	Lab Lab	Low income under local vegetable types	Variety introduction

17	Kudavasal Needamangalam Needamangalam Mannargudi	Kudavasal Needamangalam Needamangalam Kottur	Saaruvan Devangudi Kotthangudi Pullavarayan kudikadu Keuvathoor	3 7 7 6 4	Fish	Non availability of fingerlings and high cost of fingerlings	Enhancing the farm revenue through alternate farming / cropping
18	Mannargudi, Valangaiman, Needamangalam	Kottur , Valangaiman, Needamangalam	Keluvathoor , Poonthottam, Aadanoor	4	Mulberry	Severe incidence of sucking pests leads to poor quality leaves which affects cocoon formation	Integrated Pest Management
19	Mannargudi, Valangaiman, Needamangalam	Kottur , Valangaiman, Needamangalam	Keluvathoor , Poonthottam, Aadanoor	4	IFS	Low income in the existing farming system	Small scale income generating enterprises
<b>Special programme</b>							
	Mannargudi Nannilam Needamangalam	Mannargudi Nannilam Needamangalam	Mannargudi Nannilam Needamangalam	Pulses and Maize	Fetching low price in open market	Farmers Producer Company - Commodity group approach for pulses and maize	

## 2.9. Priority thrust areas

S. No	Thrust area
1	Crop Diversification
2	Varietal Evaluation
3	Integrated Crop Management
4	Variety introduction
5	Problematic Soil Management
6	Farm mechanization
7	Hybrid Introduction
8	Enhancing the farm revenue through alternate farming / cropping
9	Integrated Pest Management
10	Small scale income generating enterprises

**PART III - TECHNICAL ACHIEVEMENTS**

**3.A. Details of target and achievements of mandatory activities**

<b>OFT</b>				<b>FLD</b>			
<b>1</b>				<b>2</b>			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
6	6	32	32	13	13	125	125

<b>Training</b>				<b>Extension Programmes</b>			
<b>3</b>				<b>4</b>			
Number of Courses		Number of Participants		Number of Programmes		Number of participants	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
100	106	5000	5099	2200	2412	12500	14761

<b>Seed Production (Qtl.)</b>		<b>Planting materials (Nos.)</b>	
<b>5</b>		<b>6</b>	
Target	Achievement	Target	Achievement
575	600.34	5000	5476

<b>Livestock, poultry strains and fingerlings (No.)</b>		<b>Bio-products (Kg)</b>	
<b>7</b>		<b>8</b>	
Target	Achievement	Target	Achievement
700	775 Nos + 23 Kg	1000	1145

### 3.B1. 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 products		
				No.	Kg										
<b>2011-12</b>															
1	Crop Diversification	Cocoa + Coconut -	Unaware of training and pruning techniques	-	Popularization of Cocoa as inter crop in Coconut plantation	-	-	-	-	Demo-10 FD-2	-	-	-	-	-
<b>2012-13</b>															
2	Integrated Crop Management	Banana	Under utilization of plant space and poor fertilizer use efficiency	-	Integrated Crop Management in banana	1	-	-	-	Demo-10 FD-2	-	Suckers- 5000 Nos	-	-	Banana Sakthi- 40 kg
3	Varietal Evaluation	Tuberose	Low income from existing flower crop	Tuberose varieties suitable for padugai lands of Thiruvarur District	-	1	-	-	-	Demo-6	-	Corms-2750 kg	-	-	-
4	Varietal Evaluation	Tapioca	Low yield and income due to traditional varieties	Assessing suitable varieties of tapioca	-	-	-	-	-	-Demo-5	-	Stem cuttings-6000 Nos	-	-	-
<b>2013-14</b>															
5	Varietal Evaluation	Red gram	Non availability of suitable varieties	Suitable short duration red gram varieties for Thiruvarur District	-	-	-	-	-	Demo-1	Seeds- 30 kg	-	-	-	-
6	Varietal Evaluation	Ragi	Non availability of suitable varieties	Suitable Ragi variety for salt affected soils of Thiruvarur district	-	2	-	-	-	Demo-2	seeds-168 kg	-	-	-	Azospirillum-7 kg phosphobacteria-7 kg Pseudomonas-7 kg



7	Varietal Evaluation	Betel vine	Non availability of suitable varieties	Suitable betel vine varieties for Thiruvarur District	-	-	-	-	Demo-1	-	Rooted cuttings-5,000 Nos.	-	-	-
8	Varietal Evaluation	Elephant foot yam	Non utilization of interspaces and thus low income from coconut as sole crop	Elephant foot yam varieties suitable for intercropping in coconut	-	-	-	-	Demo-1	-	Corms - 2500 Kg	-	-	-

9	Variety introduction	Paddy	Non availability of high yielding short duration variety	-	Popularization and farmers participatory seed production of TNAU rice Co 51 in Kuruvai season	1	-	1	Demo-2; FD-2	Seed -300 kg	-	-	-	-
10	Variety introduction	Paddy	Non availability of suitable long duration varieties for Samba season	-	Popularization and Farmers Participatory Seed Production of TNAU rice ADT 50 in Samba season	1	-	-	Demo-2 FD-1	Seed 200 Kg	-	-	-	-
11	Problematic Soil Management	Paddy	Formations of hydrogen sulphide in rice fields hindered the nutrient uptake by reducing the root activity which in turn leads to death of entire crop	-	Integrated management of hydrogen Sulphide injury in rice	1	-	1	Demo-2 FD-2	-	-	-	-	-
12	Farm Mechanization	Paddy	Weed problem, Uneven nutrient uptake and Irrigation problem	-	Popularization of Lazer guided leveler in Thiruvarur district	2	1	1	Demo-2 FD-2	-	-	-	-	-

13	Hybrid introduction	Maize	Limited water availability for paddy and Lack of awareness on alternate crop	-	Popularization of TNAU maize hybrid Co6 in Thiruvarur District	1	1	-	Demo-1 FD-2	Seed-120 kg	-	-	-	Maize Maxim-75 kg
14	Integrated Crop Management	Brinjal	Severe incidence of insect pest in brinjal	-	Integrated Crop Management in Brinjal	1	-	-	Demo-1 FD-1	Seed -500 g	-	-	-	T.viride-15 kg

15	Crop Diversification	Pepper	Non- utilization of interspaces and thus low income from coconut as sole crop	-	Popularization of pepper as inter crop in Coconut plantation	1	-	-	Demo-1	-	Rooted cuttings -5000 Nos	-	-	-
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16	Variety introduction	Lab Lab	Low income under local vegetable types	-	Popularization of bush type Lab Lab	1	-	-	Demo-1 FD-1	Seeds-18 Kg	-	-	-	-
17	Enhancing the farm revenue through alternate farming / cropping	Fish	Non availability of fingerlings and high cost of fingerlings	-	Rearing of Fingerlings in hapas	2	1	-	Demo-2 FD-2	Hatchlings-500000 Nos	-	-	-	-
18	Integrated Pest Management	Mulberry	Severe incidence of sucking pests leads to poor quality leaves which affects cocoon formation	-	Management of sucking pests complex in mulberry	1	-	-	Demo-1 FD-1	Cryptolaemus beetle- 300 Nos Chrysopa egg-400 Nos	FORS-4 lit	-	-	-
19	Small scale income generating enterprises	IFS	Low income in the existing farming system	-	Integrated Farming Systems model	3	1	-	Demo-3 FD-2	Mulberry cuttings- 3000 Nos	Nandanam 4 chicks- 150 Nos	Mushroom spawn - 60 Pockets	-	-
<b>Special programme</b>														
	Pulses and Maize	Fetching low price in open market	Farmers Producer Company - Commodity group approach for pulses and maize			3				Farmer groups were identified and three groups were formed as each block having one group for crop based commodity groups ie., Paddy(Mannargudi), Cotton (Nannilam) and Pulses(Needamangalam).				

### 3.B2. Details of technology used during reporting period

S.No	Title of Technology	Source of technology	Crop/ enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1	2	3	4	5	6	7	8
<b>2011-12</b>							
1	Popularization of Cocoa as inter crop in Coconut plantation	CPCRI	Cocoa + Coconut	-	10	-	Demo-10 Field Day-2
<b>2012-13</b>							
2	Tuberose varieties suitable for padugai lands of Thiruvavarur District	IIHR 1990, IIHR 2010	Tuberose	5	-	-	Demo - 6
3	Assessing suitable varieties of tapioca	CTCRI 1971, TNAU 2004	Tapioca	5	-	-	Demo-5
4	Integrated Crop Management in banana	NRCB	Banana	-	10	1	Demo-10 Field Day-2
<b>2013-14</b>							
5	Suitable short duration red gram varieties for Thiruvavarur District	TNAU (2005) UAS, Bangaluru 2007	Red gram	5	-	-	Demo -1
6	Suitable Ragi variety for salt affected soils of Thiruvavarur district	TNAU 1987& 2004 GBPUAT 2009	Ragi	7	-	2	Demo -2
7	Suitable betel vine varieties for Thiruvavarur District	TNAU (1994) Dr.YSRHU (2012)	Betel vine	5	-	-	Demo -1
8	Elephant foot yam varieties suitable for intercropping in coconut	CTCRI (1993) CTCRI (2006) ANGRAU (2006)	Elephant foot yam	5	-	-	Demo -1
9	Popularization and farmers participatory seed production of TNAU rice Co 51 in Kuruvai season	TNAU 2013	Paddy	-	10	2	Demo -2
10	Popularization and Farmers Participatory Seed Production of TNAU rice ADT 50 in Samba season	TNAU 2012	Paddy	-	10	1	Demo -2 Field day-1

11	Integrated management of hydrogen Sulphide injury in rice	TNAU 2005	Paddy	-	10	2	Demo -2 Field day-2
12	Popularization of Lazer guided leveler in Thiruvarur district	Private	Paddy	-	10	4	Demo -2, Field day-2
13	Popularization of TNAU maize hybrid Co6 in Thiruvarur District	TNAU (2012)	Maize	-	15	2	Demo -1 Field day-2
14	Integrated Crop Management in Brinjal	TNAU 2009 & 2012	Brinjal	-	10	1	Demo -1 Field day-1
15	Popularization of pepper as inter crop in Coconut plantation	KAU (2006)	Pepper	-	10	1	Demo -1
16	Popularization of bush type Lab Lab	TNAU (2007)	Lab Lab	-	12	2	Demo -1 Field day-1
17	Rearing of Fingerlings in hapas	Private	Fish	-	5	2	Demo -2 Field day-2
18	Management of sucking pests complex in mulberry	CSB, TNAU, 2005	Mulberry	-	10	1	Demo -1 Field day-1
19	Integrated Farming Systems	TNAU 2005	IFS	-	3	4	Demo -3 Field day-2

## 3.B2 contd..

Sl.No	No. of farmers covered															
	OFT				FLD				Training				Others (Specify)			
	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
	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	4	2	4	-	-	-	-	-	72	12	35	7
2	5	-	-	-	-	-	-	-	-	-	-	-	54	11	19	4
3	5	-	-	-	-	-	-	-	-	-	-	-	48	17	9	5
4	-	-	-	-	7	-	3	-	15	2	4	1	67	12	18	6
5	3	1	-	1	-	-	-	-	-	-	-	-	12	2	4	1
6	5	1	1	-	-	-	-	-	37	6	12	3	14	5	7	3
7	3	1	1	-	-	-	-	-	-	-	-	-	12	2	4	1
8	4	-	-	1	-	-	-	-	-	-	-	-	8	2	7	-
9	-	-	-	-	7	1	2	-	60	7	17	2	27	6	14	11
10	-	-	-	-	7	-	3	-	21	2	9	1	29	4	17	7
11	-	-	-	-	7	1	2	-	32	4	14	2	22	3	11	5
12	-	-	-	-	8	-	2	-	82	2	17	1	35	9	22	12
13	-	-	-	-	8	2	4	1	47	-	15	6	27	8	13	5
14	-	-	-	-	6	1	3	-	18	2	8	4	22	4	16	7
15	-	-	-	-	6	1	3	-	26	-	13	3	12	3	7	1
16	-	-	-	-	6	2	3	1	27	12	15	8	27	12	17	7
17	-	-	-	-	3	-	2	-	55	24	41	12	47	19	22	18
18	-	-	-	-	7	1	1	1	25	1	12	3	31	2	13	4
19	-	-	-	-	3	-	-	-	67	24	39	22	58	26	41	21

## PART IV - On Farm Trial

### 4.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
Varietal Evaluation	7	-	5	-	10	-	5	-	5	<b>32</b>
<b>Total</b>	<b>7</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>10</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>5</b>	<b>32</b>

### 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
Varietal Evaluation	Tuberose	Tuberose varieties suitable for padugai lands of Thiruvarur District	5	5	0.4
	Tapioca	Assessing suitable varieties of tapioca	5	5	0.4
	Ragi	Suitable ragi variety for salt affected soils of Thiruvarur district	7	7	0.4
	Red gram	Suitable short duration red gram varieties for Thiruvarur District	5	5	0.4
	Betel vine	Suitable betel vine varieties for Thiruvarur District	5	5	0.4
	Elephant foot yam	Elephant foot yam varieties suitable for intercropping in coconut	5	5	0.4
<b>Total</b>			<b>32</b>	<b>32</b>	<b>2.4</b>

### 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

#### 4.C1. Results of Technologies Assessed

##### Results of On Farm Trial

2012-13

##### 1.Tuberose varieties suitable for padugai lands of Thiruvarur District

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials
1	2	3	4	5
Tube rose	Irrigated	Low income from existing flower crop	Tuberose varieties suitable for padugai lands of Thiruvarur District	5

##### Contd..

Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
		6	7	8				
		T1	T2	T3				
TO. 1 : Tube rose local (FP)	Plant coverage (cm <sup>2</sup> )	326.6	612.4	532.3	Prajwal variety is highly suitable for Thiruvarur District	Prajwal and Phule Rajini are high yielding varieties	--	--
TO. 2 : Prajwal	Days to first flowering	241.8	185.6	201.4				
TO. 3 : Phule Rajini	No. of spikes/plant	6.4	8.6	7.2				
	No. of flowers / spike	18.6	32.2	26.4				
	Flower weight/plant (g)	118.2	171.3	153.4				
	Yield ( t/ ha)	10.6	15.2	13.6				

**Contd..**

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Technology option 1: Tube rose local (FP)	(Farmer's practice)	10.6	Yield t/ ha	111000/ha	3.31
Technology option 2: Prajwal	IIHR 1990	15.2	Yield t/ ha	173000/ha	4.15
Technology option 3: Phule rajini	MPKV 2002	13.6	Yield t/ ha	146000/ha	3.52

**4.C2. Details of On Farm Trial**

1	Title of Technology Assessed	:	Tuberose varieties suitable for padugai lands of Thiruvarur District
2	Problem Definition	:	Low income from existing flower crop
3	Details of technologies selected for assessment	:	<b>Tech.1:</b> Tube rose local (FP) <b>Tech.2:</b> Prajwal <b>Tech.3:</b> Phule rajini
4	Source of technology	:	IIHR 1990, MPKV 2002
5	Production system and thematic area	:	Irrigated rice and Varietal Evaluation
6	Performance of the Technology with performance indicators	:	Among three varieties Prajwal variety is highly suitable for Thiruvarur District
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	Prajwal and Phule Rajini varieties may be popularized
8	Final recommendation for micro level situation	:	Prajwal and Phule Rajini were higher yielder than local variety
9	Constraints identified and feedback for research	:	-
10	Process of farmers participation and their reaction	:	Good participation and actively involved in the assessment



## 2. Assessing suitable varieties of tapioca

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials
1	2	3	4	5
Tapioca	Irrigated	Low income under local tapioca varieties	Suitable Tapioca varieties for Thiruvavarur District	5

Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
		8						
6	7	T1	T2	T3	9	10	11	12
TO1. Farmers Practice	Plant height (cm)	194.5	208.4	224.3	Co (TP) 4 is suitable and high yielder under Thiruvavarur condition	Co (TP) 4 and H-226 are high yielding varieties	--	--
TO2. H - 226	No. of tubers / clump	8.6	10.8	14.2				
TO.3-Co (TP)4	Tubers weight/plant (kg)	2.14	2.39	2.72				
	Yield ( t/ ha)	35.6	42.8	48.6				

### Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Technology option 1 : Tapioca Local (FP)	Farmer's practice	35.6	Yield t/ ha	78800/ha	3.81
Technology option 2: H - 226	CTCRI, 1971	42.8	Yield t/ ha	97400/ha	4.14
Technology option 3: Co 4	TNAU - 2002	48.6	Yield t/ ha	115800/ha	4.86

#### 4.C2. Details of On Farm Trial

1	Title of Technology Assessed	:	Assessing suitable varieties of tapioca
2	Problem Definition	:	Low yield and income due to traditional varieties
3	Details of technologies selected for assessment	:	Tech.1: Tapioca Local (FP) Tech.2: H – 226 Tech.3: Co 4
4	Source of technology	:	CTCRI, 1971, TNAU 2004
5	Production system and thematic area	:	Irrigated rice and Varietal Evaluation
6	Performance of the Technology with performance indicators	:	Among three varieties CO (TP) 4 is highly suitable for Thiruvarur District
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	Co (TP) 4 and H-226 are high yielding varieties and it may be popularized
8	Final recommendation for micro level situation	:	Co (TP) 4 and H-226 were higher yielder than farmers practice, hence they are more interested on new varieties
9	Constraints identified and feedback for research	:	-
10	Process of farmers participation and their reaction	:	Good participation and actively involved in the assessment

2013-14

**1. Suitable Ragi variety for salt affected soils of Thiruvarur district**

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials
1	2	3	4	5
Ragi	Irrigated	Non availability of suitable variety	Suitable Ragi variety for salt affected soils of Thiruvarur district	7

**Contd..**

Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
6	7	T01	T02	T03	9	10	11	12
TO1:TRY-1 TO2: GPU-67 TO3:Co(Ra)-14	Plant Height (cm)	95.6	84.3	105.2	Co(Ra) 14 is highly suitable under saline condition	Co(Ra) 14 performed well and recorded higher yield	-	-
	No. of tillers/hill	6	5	8				
	No. of ear heads/ plant	5	4	8				
	Finger length (cm)	6.2	5.9	8.7				

**Contd..**

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / ha	BC Ratio
13	14	15	16	17	18
<b>Tech.1:</b> TRY-1	TNAU (1987)	2462	Kg/ha	6321	1.47
<b>Tech.2:</b> GPU-67	GBPUAT (2009)	2375	Kg/ha	5625	1.42
<b>Tech.3:</b> Co(Ra)-14	TNAU (2004)	2610	Kg/ha	7505	1.56

#### 4.C2. Details of On Farm Trial

1	Title of Technology Assessed	:	Suitable Ragi variety for salt affected soils of Thiruvarur district
2	Problem Definition	:	Non availability of suitable varieties
3	Details of technologies selected for assessment	:	Tech1:TRY-1 Tech2: GPU-67 Tech3:Co(Ra)-14
4	Source of technology	:	TNAU (1987 & 2004) and GBPUAT (2009)
5	Production system and thematic area	:	Irrigated rice and Integrated Crop Management
6	Performance of the Technology with performance indicators	:	Among the three ragi varieties Co(Ra) 14 is highly suitable under saline condition
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	Co(Ra) 14 ragi variety may be popularized
8	Final recommendation for micro level situation	:	Co(Ra) 14 is highly suitable under saline condition
9	Constraints identified and feedback for research	:	-
10	Process of farmers participation and their reaction	:	Good participation and actively involved in the assessment

## 2.Suitable short duration red gram varieties for Thiruvarur District

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials
1	2	3	4	5
Red gram	Irrigated	Non availability of suitable variety	Suitable short duration red gram varieties for Thiruvarur District	5

### Contd..

Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
6	7	T01	T02	T03	9	10	11	12
TO1: Farmers Practice TO2: VBN(RG)3 TO3: BRG 2	<ul style="list-style-type: none"> <li>• Plant Height</li> <li>• No. of branches /plant</li> <li>• No of pods/branch</li> <li>• Yield ( t/ha )</li> <li>• Economics</li> </ul>	-	-		On going –Crop is in vegetative stage			

### Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / ha	BC Ratio
13	14	15	16	17	18
<b>Tech.1:</b> Farmers Practice	-	-	Kg/ha	-	-
<b>Tech.2:</b> VBN(RG)3	TNAU 2005	-	Kg/ha	-	-
<b>Tech.3:</b> BRG 2	UAS, Bangaluru 2007	-	Kg/ha	-	-

#### 4.C2. Details of On Farm Trial

1	Title of Technology Assessed	:	Suitable short duration red gram varieties for Thiruvarur District
2	Problem Definition	:	Non availability of suitable varieties
3	Details of technologies selected for assessment	:	<b>Tech.1:</b> Farmers Practice <b>Tech.2:</b> VBN(RG)3 <b>Tech.3:</b> BRG 2
4	Source of technology	:	TNAU 2005 and UAS, Bangaluru 2007
5	Production system and thematic area	:	Irrigated rice and Varietal evaluation
6	Performance of the Technology with performance indicators	:	-
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	-
8	Final recommendation for micro level situation	:	On going –Crop is in vegetative stage
9	Constraints identified and feedback for research	:	-
10	Process of farmers participation and their reaction	:	-

### 3. Suitable beetel vine varieties for Thiruvarur District

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials
1	2	3	4	5
Beetelvine	Irrigated	Low income under local beetel vine types and major disease incidence.	Suitable beetel vine varieties for Thiruvarur District	5

#### Contd..

Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
		T01	T02	T03				
TO1:FP -Vella kodi TO2:SGM 1 TO3: SGM 2	<ul style="list-style-type: none"> <li>• No. of laterals/ vine</li> <li>• No. of internodes /vine</li> <li>• No. of leaves/vine</li> </ul>	-	-	-	-	On going -Crop is in vegetative stage		

#### Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / ha	BC Ratio
13	14	15	16	17	18
<b>Tech.1:</b> FP -Vellai kodi	-	-	Kg/ha	-	-
<b>Tech.2:</b> SGM 1	TNAU (1994)	-	Kg/ha	-	-
<b>Tech.3:</b> SGM 2	TNAU (2004)	-	Kg/ha	-	-

#### 4.C2. Details of On Farm Trial

1	Title of Technology Assessed	:	Suitable beetel vine varieties for Thiruvarur District
2	Problem Definition	:	Non availability of suitable varieties
3	Details of technologies selected for assessment	:	Tech.1: FP-Vellai kodi Tech.2: SGM 1 Tech.3: SGM 2
4	Source of technology	:	TNAU (1994 & 2004)
5	Production system and thematic area	:	Irrigated rice and Varietal evaluation
6	Performance of the Technology with performance indicators	:	-
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	-
8	Final recommendation for micro level situation	:	On going –Crop is in vegetative stage
9	Constraints identified and feedback for research	:	-
10	Process of farmers participation and their reaction	:	-



#### 4. Elephant foot yam varieties suitable for intercropping in coconut

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials
1	2	3	4	5
Elephant foot yam	Irrigated	Non utilization of interspaces and thus low income from coconut as sole crop	Elephant foot yam varieties suitable for intercropping in coconut	5

#### Contd..

Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
		T01	T02	T03				
6	7							
TO1: Local variety	<ul style="list-style-type: none"> <li>• No. of Cormels /plant</li> <li>• Yield ( t / ha)</li> <li>• Economics</li> </ul>	-	-	-	-	On going –Crop is in germination stage		
TO2: Sree Padma		-		-	-	-		
TO3: Gajendra			-				-	

#### Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / ha	BC Ratio
13	14	15	16	17	18
<b>Tech.1:</b> Local variety	-		Kg/ha		
<b>Tech.2:</b> Sree Padma	CTCRI (1993)		Kg/ha		
<b>Tech.3:</b> Gajendra	ANGRAU (2006)		Kg/ha		

**4.C2. Details of On Farm Trial**

1	Title of Technology Assessed	:	Elephant foot yam varieties suitable for intercropping in coconut
2	Problem Definition	:	Non utilization of interspaces and thus low income from coconut as sole crop
3	Details of technologies selected for assessment	:	Tech.1:Local variety Tech.2: Sree Padma Tech.3: Gajendra
4	Source of technology	:	CTCRI (1993) and ANGRAU (2006)
5	Production system and thematic area	:	Irrigated rice and Varietal evaluation
6	Performance of the Technology with performance indicators	:	-
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	-
8	Final recommendation for micro level situation	:	On going –Crop is in germination stage
9	Constraints identified and feedback for research	:	-
10	Process of farmers participation and their reaction	:	-

**4.D1. Results of Technologies Refined :Nil**

**PART V - FRONTLINE DEMONSTRATIONS**

**5.A. Summary of FLDs implemented during 2013-14**

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
									Proposed	Actual	SC/ST	Others	Total	
<b>2011-12</b>														
1	Plantation	Irrigated	Existing crop	Cocoa	-	-	Crop Diversification	Popularization of Cocoa as inter crop in Coconut plantation	4	4	4	6	10	-
<b>2012-13</b>														
2	Fruit	Irrigated	Kharif 2012	Banana	Poovan	-	Integrated Crop Management	Integrated Crop Management in Banana	2	2	3	7	10	-
<b>2013-14</b>														
3	Cereals	Irrigated	Kharif	Rice	Co 51	-	Variety introduction	Popularization and farmers participatory seed production of TNAU rice Co 51 in Kuruvai season	4	4	2	8	10	-
4	Cereals	Irrigated	Rabi	Rice	ADT 50		Variety introduction	Popularization and Farmers Participatory Seed Production of TNAU rice ADT 50 in Samba season	4	4	3	7	10	-
5	Cereals	Irrigated	Kharif 2013	Rice	ADT 43	-	Problematic Soil Management	Integrated management of hydrogen Sulphide injury in rice	4	4	2	8	10	-
6	Cereals	Irrigated	Kharif	Maize	-	Co 6	Hybrid Introduction	Popularization of TNAU maize hybrid Co6 in Thiruvavur District	6	6	5	10	15	-
7	Vegetables	Irrigated	Kharif	Lab lab	CO (GB) 14	-	Variety introduction	Popularization of bush type Lab Lab	2.4	2.4	4	8	12	-
8	Vegetables	Irrigated	Kharif	Brinjal	PLR (B) 2	-	Integrated Crop Management	Integrated Crop Management in Brinjal	2	2	3	7	10	-

9	Spices and condiments	Irrigated	Rabi	Pepper	Panniyur 1	-	Crop Diversification	Popularization of pepper as inter crop in Coconut plantation	2	2	3	7	10	-
10	Common carps	Irrigated	Annual	Fish	-	-	Enhancing the farm revenue through alternate farming	Rearing of Fingerlings in hapas	-	-	2	3	5	-
11	Sericulture	Irrigated	Kharif	Mulberry	V1	-	Integrated Pest Management	Management of sucking pests complex in mulberry	4	4	2	8	10	-
12	Implements	Irrigated	Kharif	Paddy	ADT 43	-	Farm mechanization	Popularization of Lazer guided leveler in Thiruvavur district	4	4	2	8	10	-
13	Others -IFS	Irrigated	Annual	Rice based cropping with allied enter prices	-	-	Enhancing the farm revenue through alternate farming	Integrated Farming Systems model	3	3	-	3	3	-

#### 5.A. 1. Soil fertility status of FLDs plots during 2013-14

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	
<b>2011-12</b>												
1	Plantation	Irrigated	Existing crop	Cocoa	-	-	Crop Diversification	Popularization of Cocoa as inter crop in Coconut plantation	L	M	H	Existing Coconut garden
<b>2012-13</b>												
2	Fruit	Irrigated	Annual	Banana	Poovan	-	Integrated Crop Management	Integrated Crop Management in banana	L	M	H	Banana
<b>2013-14</b>												
3	Cereals	Irrigated	Kharif 2013	Rice	ADT 43	-	Problematic Soil Management	Integrated management of hydrogen Sulphide injury in rice	L	M	H	Rice
4	Cereals	Irrigated	Rabi	Rice	ADT 50	-	Variety introduction	Popularization and Farmers Participatory Seed Production of TNAU rice ADT 50 in Samba season	L	M	H	Rice
5	Cereals	Irrigated	Kharif	Rice	Co 51	-	Variety introduction	Popularization and farmers participatory seed production of TNAU rice Co 51 in Kuruvai season	L	M	H	Rice
6	Cereals	Irrigated	Kharif	Maize	-	Co6	Hybrid Introduction	Popularization of TNAU maize hybrid Co6 in Thiruvavur District	L	M	H	Rice
7	Vegetables	Irrigated	Kharif	Lab lab	CO(GB) 14	-	Variety introduction	Popularization of bush type Lab Lab	L	M	H	Vegetables
8	Vegetables	Irrigated	Kharif	Brinjal	PLR (B) 2	-	Integrated Crop Management	Integrated Crop Management in Brinjal	L	M	H	Vegetables

9	Spices and condiments	Irrigated	Rabi	Pepper	Panniyur 1	-	Crop Diversification	Popularization of pepper as inter crop in Coconut plantation	L	M	H	Vegetables
10	Sericulture	Irrigated	Kharif	Mulberry	V1	-	Integrated Pest Management	Management of sucking pests complex in mulberry	L	M	H	Rice
11	Common carps	Irrigated	Annual	Fish	-	-	Enhancing the farm revenue through alternate farming	Rearing of Fingerlings in hapas	-	-	-	-
12	Others -IFS	Irrigated	Annual	Rice based cropping with allied enterprises	-	-	Enhancing the farm revenue through Alternate farming	Integrated Farming Systems model	L	M	H	Rice, Vegetables

## 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 (q/ha)			Check	% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
							Demo					Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
							H	L	A										
<b>2011-12</b>																			
Plantation	Popularization of Cocoa as inter crop in Coconut plantation	Existing crop	-	Irrigated	10	4	Crop is in vegetative stage. The yield of cocoa beans will be recorded from third year onwards												
<b>2012-13</b>																			
Fruit	Integrated Crop Management in Banana	Poovan	-	Irrigated	10	2	412.5	397.6	405.1	325.9	24.3	61000	202550	141550	3.32	56000	162950	106950	2.90
<b>2013-14</b>																			
Cereals	Integrated management of hydrogen Sulphide injury in rice	ADT 43	-	Irrigated	10	4	49.5	40.5	45.5	37	22.97	37800	61425	23625	1.63	33750	49950	16200	1.48

Cereals	Popularization and farmers participatory seed production of TNAU rice Co 51 in Kuruvai season	Co 51	-	Irrigated	10	4	69.8	63.4	67.5	61.2	10.29	37500	114750	77250	3.06	37500	104040	66540	2.77
	Popularization and Farmers Participatory Seed Production of TNAU rice ADT 50 in Samba season	ADT 50	-	Irrigated	10	4	63	45	57.15	45	27	37500	114300	76800	3.04	37500	90000	52500	2.40
Vegetables	Popularization of bush type Lab Lab	CO (GB) 14	-	Irrigated	12	2.4	92.4	84.6	88.5	71.2	24.3	22000	88500	66500	4.02	20500	71200	50700	3.47
	Integrated Crop Management in Brinjal	PLR (B) 2	-	Irrigated	10	2	388.2	342.5	365.4	302.5	20.79	50500	182700	132200	3.62	54000	151250	97250	2.80
Spices and condiments	Popularization of pepper as inter crop in Coconut plantation Crop	Panniyur-1	-	Irrigated	10	2	Crop is in establishment stage. Yield will be recorded from third year onwards												
Others	Management of sucking pests complex in mulberry	V1	-	Irrigated	10	4	15800	14200	15052	10260	46.71	210000	350000	140000	1.66	210000	240000	30000	1.14

\* Economics worked out based total cost of production per unit area

\*\* BCR= GROSS RETURN/GROSS COST

H - Highest Yield, L - Lowest Yield A - Average Yield

**Data on additional parameters other than yield****2012-13****Integrated Crop Management in Banana**

<b>Data on other parameters in relation to technology demonstrated</b>		
<b>Parameter with unit</b>	<b>Demo</b>	<b>Check</b>
Plant height (m)	3.8	3.2
No of hands per bunch	14	12
Numbers of fingers per hand	18	16
Mean hand weight (Kg)	2.3	2.1

**2013-14****Popularization and farmers participatory seed production of TNAU rice Co 51 in Kuruvai season**

<b>Data on other parameters in relation to technology demonstrated</b>		
<b>Parameter with unit</b>	<b>Demo</b>	<b>Check</b>
Days to Maturity (Days)	103	110
Disease(Blast) incidence (Per cent)	0	5
Lodging (Per cent)	3	10

**Popularization and Farmers Participatory Seed Production of TNAU rice ADT 50 in Samba season**

<b>Data on other parameters in relation to technology demonstrated</b>		
<b>Parameter with unit</b>	<b>Demo</b>	<b>Check</b>
Plant Height (cm)	120	92
No. of Productive Tillers/m <sup>2</sup>	17	12
Lodging (Per cent)	20	5

**Integrated management of hydrogen Sulphide injury in rice**

<b>Data on other parameters in relation to technology demonstrated</b>		
<b>Parameter with unit</b>	<b>Demo</b>	<b>Check</b>
Plant population at harvest /m <sup>2</sup>	54	32
Plant height (cm)	92.5	80.6
No of Tillers/hill	14	10
No of panicles/hill	9	6

**Popularization of bush type Lab Lab**

<b>Data on other parameters in relation to technology demonstrated</b>		
<b>Parameter with unit</b>	<b>Demo</b>	<b>Check</b>
Number of pods per plant	56	38
Pod weight (Gram)	10	6

**Integrated Crop Management in Brinjal**

<b>Data on other parameters in relation to technology demonstrated</b>		
<b>Parameter with unit</b>	<b>Demo</b>	<b>Check</b>
No. of fruits/plant	24	18
% fruit infestation	3.4	22.8
No. of marketable fruits /plant	22	14

**Management of sucking pests complex in mulberry****Natural enemies population**

<b>Natural enemies</b>	<b>Demo plot</b>	<b>Check</b>
<i>Cryptolaemus montrouzieri</i> grubs/plant	17	2
<i>Chrysoperla carnea</i> grubs/plant	13	1
Syrphus maggots/plant	5	0
Monochilus sexmaculatus beetles/plant	7	2
Mallada bonensis grubs/plant	9	0
Blue butterfly larvae, Lampides boeticus/plant	4	1

<b>Insect pest</b>	<b>Demo plot</b>	<b>Check</b>
Thrips population/top leaf	2	37
% Mealybug infestation	3	27
% leaf damage	2	28

**5.B.2. Livestock and related enterprises : Nil**



### 5.B.3. Fisheries

Type of Breed	Name of the technology demonstrated	Breed	No. of Demo	Units/ Area (m <sup>2</sup> )	Yield (q/ha)				% Increase	*Economics of demonstration (Rs./unit) or (Rs./m <sup>2</sup> )				*Economics of check (Rs./unit) or (Rs./m <sup>2</sup> )			
					Demo			Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Common carps	Rearing of Fingerlings in hapas	-	5	5	15	10	13.6	8	70	6200	10064	3864	1.62	3550	4800	1250	1.35

\* Economics worked out based total cost of production per unit area

\*\* BCR= GROSS RETURN/GROSS COST H-High L-Low, A-Average

### Data on additional parameters other than yield

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check if any
Survival rate in B 40 Hapas	13.6	8
Survival rate in B 16 Hapas	87	60
Labour for cleaning and feeding (hr/day)	1	-
Labour for harvest (Nos)	2	5

### 5.B.4. Other enterprises

Enterprise	Name of the technology demonstrated	Variety/ species	No. of Demo	Units/ Area {m <sup>2</sup> }	Yield (q/ha)				% Increase	*Economics of demonstration (Rs./unit) or (Rs./m <sup>2</sup> )				*Economics of check (Rs./unit) or (Rs./m <sup>2</sup> )			
					Demo			Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Others	Integrated Farming System	-	3	4000	-	-	-	-		78810	254168	175358	3.23	57800	154000	96200	2.66

\* Economics worked out based total cost of production per unit area

\*\* BCR= GROSS RETURN/GROSS COST

H-High L-Low, A-Average

**Data on additional parameters other than yield**

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Local
Income realized	<b>Rs 95543</b> (Additional Rs 21668-Mushroom and poultry)	Rs 73875 (Other than cropping)
Quantum of farm resources recycled –Azolla, Vermicompost, paddy straw, animal waste	3275 Kg	2260 Kg

**5.B.5. Farm implements and machinery**

Name of the implement	Cost of the implement in Rs.	Name of the technology demonstrated	No. of Demo	Area covered under demo in ha	Labour requirement in Mandays		% save	Savings in labour (Rs./ha)	*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
Lazer guided leveler	400000	Popularization of Lazer guided leveler in Thiruvarur district	10	4	2	8	400	2100	36600	82600	46000	2.25	35800	70800	35000	1.97

\* Economics worked out based total cost of production per unit area

\*\* BCR= GROSS RETURN/GROSS COST

**Data on additional parameters other than labour saved (viz., reduction in drudgery, time etc.)**

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Local
Population/m <sup>2</sup>	58	33
Percentage of crop establishment	95	91
No of panicles/hill	9	8
No of grains/panicle	125	112

### 5.B.6. Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organized	Number of participants	Remarks
1	Field days	20	432	
2	Farmers Training	27	860	
3	Media coverage	9	-	
4	Training for extension functionaries	3	92	
5	Others - Demonstration	54	845	

### PART VI – DEMONSTRATIONS ON CROP HYBRIDS

#### Demonstration details on crop hybrids

Type of Breed	Name of the technology demonstrated	Name of the hybrid	No. of Demo	Area (ha)	Yield (q/ha)				% 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
Maize	Popularization of TNAU maize hybrid Co6 in Thiruvapur District	TNAU maize hybrid Co6	15	6	92.8	76.4	81.25	76.5	6.21	27500	97500	70000	3.54	27500	91800	64300	3.34

H-High L-Low, A-Average

#### Popularization of TNAU maize hybrid Co 6 in Thiruvapur District

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Shelling ratio (Per cent)	82	76
Disease(Downey mildew) incidence (Per cent)	12	37
Days to maturity	103	110

**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		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
<b>Crop Production</b>										
Resource Conservation Technologies	1	38	10	48	5	3	8	43	13	56
Integrated Farming	1	10	4	14	5	1	6	15	5	20
Integrated Crop Management	2	63	10	73	12	-	12	75	10	85
Integrated Nutrient Management	1	24	6	30	4	-	4	28	6	34
<b>Horticulture</b>										
<b>a) Vegetable Crops</b>										
Production of low value and high volume crop	3	108	26	134	25	1	26	133	27	160
<b>Livestock Production and Management</b>										
Poultry Management	1	74	3	77	12	-	12	86	3	89
Animal Disease Management	1	28	14	42	6	3	9	34	17	51
Feed and Fodder technology	1	32	6	38	5	-	5	37	6	43
Value addition	7	160	107	267	12	28	40	172	135	307
<b>Production of Inputs at site</b>										
Seed Production	1	22	4	26	7	1	8	29	5	34
Vermi-compost production	1	32	3	35	10	-	10	42	3	45
Mushroom production	1	51	5	56	-	-	-	51	5	56
<b>Capacity Building and Group Dynamics</b>										
Group dynamics	2	84	2	86	11	2	13	95	4	99
<b>Agro-forestry</b>										
Production technologies	1	27	11	38	9	7	16	36	18	54
<b>TOTAL</b>	<b>24</b>	<b>753</b>	<b>211</b>	<b>964</b>	<b>123</b>	<b>46</b>	<b>169</b>	<b>876</b>	<b>257</b>	<b>1133</b>

**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		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
<b>Crop Production</b>										
Weed Management	2	84	21	109	18	9	27	102	30	132
Resource Conservation Technologies	1	16	2	18	-	-	-	16	2	18
Seed production	2	117	11	128	7	-	7	124	11	135
Integrated Crop Management	3	67	9	76	11	5	16	78	14	92
<b>Horticulture</b>										
<b>a) Vegetable Crops</b>										
Production of low value and high volume crop	2	26	-	26	24	-	24	50	-	50
Off-season vegetables	2	32	12	44	12	7	19	44	19	63
Nursery raising	2	38	14	52	17	3	20	55	17	72
Export potential vegetables	1	22	7	29	6	2	8	28	9	37
Grading and standardization	1	25	4	29	6	2	8	31	6	37
Protective cultivation	2	52	13	65	18	5	23	70	18	88
<b>b) Fruits</b>										
Layout and Management of Orchards	2	84	2	86	11	2	13	95	4	99
Cultivation of Fruit	1	24	3	27	9	4	13	33	7	40
Micro irrigation systems of orchards	3	75	43	118	15	7	22	90	50	140
<b>Agril. Engineering</b>										
Farm machinery and its maintenance	1	23	-	23	7	-	7	30	-	30
Fish processing and value addition	1	7	10	17	3	-	3	10	10	20
<b>Production of Inputs at site</b>										
Vermi-compost production	1	52	7	59	6	-	6	58	7	65
<b>TOTAL</b>	<b>27</b>	<b>744</b>	<b>158</b>	<b>906</b>	<b>170</b>	<b>46</b>	<b>216</b>	<b>914</b>	<b>204</b>	<b>1118</b>

**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		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Integrated farming	1	33	-	33	7	-	7	40	-	40
Mushroom Production	1	26	38	64	4	7	11	30	45	75
Bee-keeping	1	16	5	21	4	-	4	20	5	25
<b>TOTAL</b>	<b>3</b>	<b>75</b>	<b>43</b>	<b>118</b>	<b>15</b>	<b>7</b>	<b>22</b>	<b>90</b>	<b>50</b>	<b>140</b>

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Any other -Parthenium eradication awareness campaign	1	25	35	60	-	-	-	25	35	60
<b>TOTAL</b>	<b>1</b>	<b>25</b>	<b>35</b>	<b>60</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>25</b>	<b>35</b>	<b>60</b>

**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		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	2	64	10	74	6	-	6	70	10	80
Integrated Pest Management	1	52	8	60	13	4	17	65	12	77
Group Dynamics and farmers organization	1	52	-	52	-	-	-	52	-	52
Capacity building for ICT application	1	40	8	48	13	4	17	53	12	65
Any other -Postharvest handling marketing and processing in banana and Agro advisory services using Automatic weather station data	2	69	8	77	-	-	-	69	9	78
<b>Total</b>	<b>7</b>	<b>277</b>	<b>34</b>	<b>311</b>	<b>32</b>	<b>8</b>	<b>40</b>	<b>309</b>	<b>43</b>	<b>352</b>

**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			
			Male	Female	Total	Male	Female	Total	Male	Female	Total	
<b>1</b>	<b>Crop production and management</b>											
1.a.	Increasing production and productivity of crops	2	319	8	327	28	2	30	347	10	357	
1.b.	Commercial production of vegetables	1	122	28	156	-	-	-	122	28	150	
<b>6</b>	<b>Others</b>	4	76	4	80	8	2	10	84	6	90	
	• Sustainable Sugarcane initiative											
	• Precision Farming	28	748	182	930	192	108	300	940	290	1230	
	• PPV & FRA and its provisions	1	83	2	85	15	-	15	98	2	100	
<b>8</b>	<b>Farm machinery</b>											
8.a.	Farm machinery, tools and implements	1	57	-	57	-	-	-	57	-	57	
8.b.	Others - Mechanized rice cultivation	1	24	6	30							
<b>9.</b>	<b>Livestock and fisheries</b>	1	20	2	22	4	4	8	24	6	30	
<b>12</b>	<b>Agricultural Extension</b>											
12.a.	Capacity Building and Group Dynamics	1	34	6	40	8	2	10	42	8	50	
	<b>Total</b>	<b>40</b>	<b>1483</b>	<b>238</b>	<b>1727</b>	<b>255</b>	<b>118</b>	<b>373</b>	<b>1714</b>	<b>350</b>	<b>2064</b>	

**Details of sponsoring agencies involved**

- NABARD
- DCCD
- NADP (RKVY)
- NGO (Sheela)
- PPV & FRA

**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			
			Male	Female	Total	Male	Female	Total	Male	Female	Total	
<b>1</b>	<b>Crop production and management</b>											
1.d.	Integrated crop management	1	18	15	33	4	3	7	22	18	40	
<b>4.</b>	<b>Income generation activities</b>											
4.g.	Mushroom cultivation	1	3	40	43	2	4	6	5	44	49	
<b>5</b>	<b>Agricultural Extension</b>											
5.a.	Capacity building and group dynamics	2	118	2	120	23	-	23	141	2	143	
	<b>Grand Total</b>	<b>4</b>	<b>139</b>	<b>57</b>	<b>196</b>	<b>29</b>	<b>7</b>	<b>36</b>	<b>218</b>	<b>64</b>	<b>232</b>	



## PART VIII – EXTENSION ACTIVITIES

## Extension Programmes (including extension activities undertaken in FLD programmes)

Nature of Extension Programme	No. of Programmes	No. of Participants (General)			No. of Participants SC / ST			No. of extension personnel		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	20	332	50	382	30	-	30	17	3	20
Kisan Mela	3	450	324	774	212	180	392	7	-	7
Exhibition	14	1760	480	2240	300	150	450	14	6	20
Film Show	42	816	140	956	40	28	68	20	7	27
Method Demonstrations	142	1270	114	1384	78	123	201	10	-	10
Farmers Seminar	1	680	125	805	212	80	292	64	20	84
Workshop	14	100	30	130	-	-	-	583	22	605
Lectures delivered as resource persons	72	1152	225	1377	42	18	60	12	10	22
Newspaper coverage	70	-	-	-	-	-	-	-	-	-
Radio talks	10	-	-	-	-	-	-	-	-	-
TV talks	21	-	-	-	-	-	-	-	-	-
Popular articles	9	-	-	-	-	-	-	-	-	-
Extension Literature	18	-	-	-	-	-	-	-	-	-
Advisory Services	956	826	98	924	32	-	32	227	-	227
Scientific visit to farmers field	55	130	22	152	18	12	30	28	6	34
Farmers visit to KVK	855	650	120	770	32	20	52	28	5	33
Diagnostic visits	55	130	22	152	18	12	30	28	6	34
Exposure visits	40	1250	68	1318	102	40	142	46	-	46
Animal Health Camp	4	78	16	94	23	9	32	4	-	4
Farm Science Club Conveners meet	7	108	-	108	26	-	26	7	-	7
Celebration of important days	4	99	9	108	47	9	56	14	-	14
<b>Total</b>	<b>2412</b>	<b>9831</b>	<b>1843</b>	<b>11674</b>	<b>1212</b>	<b>681</b>	<b>1893</b>	<b>1109</b>	<b>85</b>	<b>1194</b>

## 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 (qtl)	Value (Rs)	Number of farmers to whom provided
Cereals	Rice (Seed)	TRY 3*	-	13.24	25156	42
		Swarna sub 1*	-	21.26	46772	23
		ADT50*	-	11.40	25080	12
		CR 1009*	-	97.48	185212	86
		ADT 49*	-	51.48	102960	46
		ADT 46*	-	8.20	18040	8
		ADT 43*	-	35.29	84696	52
		CO 51*	-	23.18	55632	12
		ADT 43	-	22.31	53544	64
		TKM 9	-	35.20	70400	58
		CR 1009	-	89.00	178000	-
		CR 1009 sub 1	-	35.00	70000	-
		TRY 3	-	29.50	59000	-
		Swarna sub 1	-	15.40	36960	-
		TM culture	-	19.50	46800	-
		CB 09123	-	12.50	30000	-
		CB 07540	-	4.25	10200	-
		ADT 49	-	22.00	52800	-
ADT 50	-	28.00	67200	-		
<b>Total</b>				<b>574.19</b>	<b>1218452</b>	<b>403</b>

	<b>Rice (Grain)</b>	CR 1009 mixed grain	-	20.60	29219	3
		ADT 36 grain		23.20	32828	2
<b>Total</b>				<b>43.80</b>	<b>62047</b>	<b>5</b>
Pulses	Blackgram	ADT 5 (FII)	-	26.20	1,96,500	<b>82</b>
<b>Total</b>				<b>26.20</b>	<b>1,96,500</b>	<b>82</b>
Fodder crop	Fodder	CO4 slips	-	5476	2738	132
<b>Total</b>				<b>5476</b>	<b>2738</b>	<b>132</b>

\* previous year seed sold during this year

#### 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
Fodder crop saplings	Cumbu Napier grass	-	Co (CN)4	5476	2738	132
<b>Total</b>				<b>5476</b>	<b>2738</b>	<b>132</b>

#### 9.C. Production of Bio-Products

Bio Products	Name of the bio-product	Quantity(Kg)	Value (Rs.)	Number of farmers to whom provided
Bio Fertilizers	Azolla	600	3000	20
	Vermicompost	545	3270	12
<b>Total</b>		<b>1145</b>	<b>6270</b>	<b>32</b>

#### 9.D. Production of livestock materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	Number of farmers to whom provided
<b>Poultry</b>				
Cross breed	Namakkal Eggs & SwarnaDara Eggs	528	2625	80
Turkey	Namakkal 1 Live bird	23 Kg	3450	8
Other	Nandanam 4 chicks	270	15400	8
Dairy animal	Boer bucks	14 Nos	70750	4
<b>Total</b>		<b>775 Nos + 23 Kg</b>	<b>92225</b>	<b>100</b>

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

**10. A. Literature Developed/Published**

**(A) KVK News Letter**

Name	:	Nerkalanjiyam
Date of start	:	September 2006
Periodicity	:	Quarterly
No. of copies distributed every quarter	:	100

**(B) Literature developed/published**

Item	Title	Authors name	Number
<b>Research papers</b>	Saved barley seed quality in mid altitude high lands of Southern Ethiopia-African journal of Agrl Research-vol 9 (4) p.no 448-454	Dr.V.Alex Albert	1
<b>Seminar papers</b>	Hydrogen sulphide injury of rice in Thiruvarur district – Proceedings of National ground water conference at TNAU, Coimbatore 2013 9 <sup>th</sup> December	Anandha krishneveni S, P.Suresh, K.Chozhan	1
	Sub surface dyke as a source of augment Proceedings of National ground water conference at TNAU, Coimbatore 2013 9 <sup>th</sup> December	Kamaraj A, V.Alex Albert, .Chozhan	1
	Popularization of stunted carp culture technology in Thiruvarur District by KVK, Needamanagalam- National seminar on development of fisheries in water deficient regions held at CIBA, Chennai on 25.02.2014 &26.02.2014	Dr.T.Dhamodaran and K.Chozhan	1
<b>Technical reports</b>	<ul style="list-style-type: none"> <li>• Farmers Success stories</li> <li>• Uzhavar Peruvizha report</li> <li>• EEC report</li> <li>• SWC report</li> <li>• SAC report</li> <li>• Annual Action Plan 2014-15</li> <li>• Video conferencing- Connectivity usage report</li> <li>• Report for Agri tech portal</li> <li>• KMAS Quarterly report</li> <li>• KVK Achievement report</li> <li>• QRT – Action Taken Report</li> <li>• Other scheme report</li> <li>• Parliament Assembly query report</li> <li>• Farmers innovation report</li> <li>• Mechanization report</li> </ul>		

<b>News letters</b>	Nerkalanjiyam (Quarterly)	Special Editor :Dr.K.A.Ponnusamy Editor: Dr.K.Chozhan Co Editor: Dr.T.Dhamodaran Dr.A.Kamaraj Dr.J.Jayakumar Dr.V.Sivakumar Dr.S. Anandha krishnaveni Dr.V.Alex Albert	100 copies / Quarter
<b>Popular articles</b>	Payirukku Uyir Kodukkum bale Bacteria – Pasumai vikadan, P.No. 26-29 dt. 25.05.2013.	Chozhan. K	1
	Mechanized rice cultivation - Nilavalam October 2013, P.No. 5-9	Kamaraj A, K.Chozhan	1
	Mechanized rice cultivation - Kalathu medu October 2013, P. No. 23-27	Kamaraj A, K.Chozhan	1
	Thinaiyin thigatatha thinpandangal – Nilavalam October 2013, P.No. 31	Reka D, P.Suresh, & K.Chozhan	1
	Value addition in fish – Nilavalam December 2013	Reka D, P.Suresh, K.Chozhan	1
	Arokkiyathinai kaakkum asathalana keeraigal – Nilavalam 2014, P.No. 31,32	Reka D, P.Suresh, K.Chozhan	1
	Nel payiril hydrogen sulphide nachin paathippum melanmai muraigalum Nilavalam – July 2013 46(4), P.No. 8	Anandha krishnaveni S, P.Suresh, K.Chozhan	1
	Kuraintha selavil niraintha varumaanam – Thirunthiya nel sagupadi – Nilavalam – July 2013 46(4), P.NO. 30	Anandha krishnaveni S, P.Suresh, K.Chozhan	1

<b>Extension literature</b>	Green manure seed production and cultivation	Alex Albert V, V.Sivakumar, A.Kamaraj, K.Chozhan - 2013	500
	Mulberry cultivation	Jayakumar J, V.Alex Albert, T,Dhamodaran, & K.Chozhan - 2013	200
	Roof top garden	Sivakumar V, V.Alex Albert, T,Dhamodaran, & K.Chozhan - 2013	250
	Management of Hydrogen Sulphide injury in rice	Anandha krishhnaveni S, P.Suresh, K.Chozhan – 2013	100

	Lazer thunaiyaal saman seiyum karuvi	Kamaraj A, V.Sivakumar, & K.Chozhan - 2013	100
	Nanjail puzhuthi vithippil manavari nel	A.Kamaraj, Dr.S.Anandha krishhnaveni, & K.Chozhan - 2013	100
	Thennanthoppil Cocoa	Sivakumar V, K.Kumanan, V.Alex Albert, D.Nakkiran, & K.Chozhan - 2013	200

<b>Extension literature</b>	Nanjail manavari neradi nel vithaippu	Kamaraj A, S.Anandha krishhnaveni, & K.Chozhan - 2013	250
	Leaf folder management in rice	Dhamodaran T, V.G.Mathirajan, J,Jayakumar, Dr.A.Kamaraj, K.Chozhan - 2013	200
	Bacterial leaf blight management in rice	T.Dhamodaran, V.G.Mathirajan, .A.Kamaraj, K.Chozhan - 2013	200
	False smut disease	Jayakumar J, V.Alex Albert, T.Dhamodaran, K.Chozhan - 2013	250
	Thavara Ragangal mattrum urimai paathukappu sattam	Alex Albert V, V.Sivakumar, K.Chozhan - 2014	200
	Foot and mouth disease	Alex Albert V, P.Suresh, K.Chozhan -2014	100
	Mealy bug management in paddy	Jayakumar J, V.Alex Albert, K.Chozhan - 2013	100
	Mithavai koodukalil(hapas)meen kunju valarththal	Dhamodaran. T, K.Chozhan - 2014	100
	Koottu kendai meen valarppil valarchi adakkappatta meen kunjugal	Dhamodaran. T, K.Chozhan - 2014	100
<b>Book</b>	Green fodders	Anandha krishnaveni S, T.Dhamodaran, P.Suresh, K. Chozhan - 2013 ISBN - 978-93-81972-13-7, AE.Publication, Coimbatore.	100
	Valam kundra vazhlvirkku oringinantha pannaiyam	Anandha krishnaveni S, K.Kumanan, T.Dhamodaran,A.Kamaraj, V.Sivakumar, K. Chozhan - 2013 ISBN-978-93-81972-27-6	500
	Kaakarippayirgalil orunginaintha payir melanmai	Sivakumar V, K.Kumanan, T.Dhamodaran, J.Jayakumar, K. Chozhan - 2013 ISBN-978-93-81972-27-4	100
	Yetram Tharum Maatru Ena Kozhigal	Senthilkumar M, M.Jayakumar, K.Mahendran, K.Chozhan	100

<b>News paper message</b>	Paper news about training / demonstration	-	70
	Paper news after conduct training / demonstration		
	Paper news about technology dissemination		

## 10.B. Details of Electronic Media Produced

S. No.	Type of media	Title of the programme	Number
1	Marutham Video Magazine - DVD	Green fodder bank	11
		Integrated Farming System	
		Mechanized rice cultivation	
		Turmeric cultivation	
		Drip fertigation	
		Inland Fish culture	
		Paddy varieties suitable for Thiruvarur District	
		Roof top garden	
		Activities of KVK Thiruvarur	
		Backyard poultry	
		Slatted house goat rearing	

## 10.C. Success Stories / Case studies

### 10 C.1.Success Stories

#### 1. TNAU Rice Co51 seed production

1	Name of the Farmer	:	<b>Th. P.Suriamurthy</b>
2	Address for communication with Pin code	:	S/o Pothiappan Melanatham village Mannargudi taluk Thiruvarur district
3	Contact Phone No	:	9943506270
4	Details of Farm Holding/Water Resources	:	4 hectares , 3 borewells and canal water
5	Technologies adopted	:	TNAU Rice Co51 Seed Production
6	Impact due to Technological intervention (in terms of productivity, production and income)	:	He used to cultivate ADT43 paddy in Kuruvai (June-July) season which is a ruling variety in short duration groups. Early duration paddy variety TNAU Rice Co51 has been released during 2013 was given to him as FLD to take up participatory seed production by KVK, Thiruvarur. He cultivated TNAU Rice Co51 in 4 ha during Kuruvai season and got 6,750kg/ha as seed yield. He got remuneration in terms of money value Rs.97,500/ha where as in old variety he harvested 6120kg/ha and earned up to Rs.61,800/ha which is >50% lesser as seed crop.
7	Lessons learnt	:	TNAU Rice Co51 is the best short duration variety in Kuruvai season in CDZ.
8	Details of spreading success to other farmers or farmers' groups	:	Initially TNAU Rice Co51 was demonstrated in Melanatham village of Kottur block for 4ha further it was upscaled by farmers seed exchange up to 40 ha in Mannargudi, Needamangalam, Nannilam and Valangaiman blocks of Thiruvarur district. Success of TNAU Rice Co51 in CDZ was recorded and telecasted in DD Pothigai TV.

## 2. Seed production of flood tolerant rice variety- Swarna sub1

1	Name of the Farmer	:	<b>Th. K.Asokan</b>
2	Address for communication with Pin code	:	Thiruvanchuzhi, Kunnor post Thiruthuraipoondi PIN 610 203
3	Contact Phone No	:	9894232900
4	Details of Farm Holding/Water Resources	:	15 acres , 1 borewell and canal water
5	Technologies adopted	:	Swarna sub 1 Flood tolerant rice variety seed production
6	Impact due to Technological intervention (in terms of productivity, production and income)	:	<ul style="list-style-type: none"> <li>• 4.5 ton seed was produced and distributed to 124 farmers.</li> <li>• Swarna sub-1 has recorded an average yield of 4500kg/ha even after 15 days of submergence during November 2011, which was 12 percent high over other varieties like CR1009 and BPT5204.</li> <li>• An average yield of 5740 kg/ha was recorded even during moisture stress condition in Samba 2012-13</li> </ul>
7	Lessons learnt	:	More profit can be achieved in seed production. This will reduce the problem of non availability of seeds
8	Details of spreading success to other farmers or farmers' groups	:	<ul style="list-style-type: none"> <li>• All the farmers have expressed their happiness on the performance of Swarna Sub-1 over the existing varieties.</li> <li>• The Farmers informed that there was less pests and disease incidence and the crop was always green even under moisture stress. It also needs low dose of fertilizers. Besides, they also expressed that Swarna Sub-1 variety did not lodge.</li> <li>• Altogether the area under Swarna Sub-1 may touch upon 750 acres in 2013-14 from 55 acres in 2010-11</li> <li>• The variety performed very well even under moisture stress condition</li> <li>• He himself directly sold the seeds to the farmers of seven district viz., Kanchipuram, Thiruvallur, Thirunelveli, Madurai, Thanjavur, Thiruvarur and Nagapattinam</li> <li>• His success was recorded and telecasted in Mass Medias like Makkal T.V, Pasumai vigadan.</li> </ul>



### 3.TNAU Maize Hybrid Co6

1	Name of the Farmer	:	<b>Th. N.Nalan</b>
2	Address for communication with Pin code	:	S/o Narayanan 3/35, North street Melathirupalakudi Mannargudi & taluk Thiruvarur district
3	Contact Phone No	:	9500649577
4	Details of Farm Holding/Water Resources	:	2 hectares , 1 borewell and canal water
5	Technologies adopted	:	TNAU Maize Hybrid Co6 Cultivation
6	Impact due to Technological intervention (in terms of productivity, production and income)	:	In Kuruvai (June-July) season he used to go for planting of paddy varieties which are suited in short duration groups. He got remuneration in terms of money value Rs.52,000/ha (yield 6200 kg/ha). In recent past the water availability in Cauvery delta is not sure for the timely cultivation of paddy crop. Hence KVK, Thiruvarur suggested TNAU Maize Hybrid Co6 as alternate crop for Kuruvai season through an FLD programme. He planted in 2 ha and got Rs.70,000/ha (yield 8500 kg/ha) as net profit which is >30% higher than compared to paddy cultivation that too in 4 times less water availability. Most of the farmers sold maize as green cobs @ Rs 2 per cob and earned Rs 75000 /ha which is fetching Rs 5000 extra when compare to selling as grain and also with in 60-70 days of crop duration.
7	Lessons learnt	:	TNAU Maize Hybrid Co6 is the best alternate crop for kuruvai season in CDZ where ever water logging is not a problem.
8	Details of spreading success to other farmers or farmers' groups	:	Initially TNAU Maize Hybrid Co6 was demonstrated in Melathirupalakkudi village for 2ha further it was expanded up to 20 ha in Melathirupalakkudi, Alankottai and Karikottai cluster villages of Mannargudi block. Success of TNAU Maize Hybrid Co6 in CDZ was recorded and telecasted in DD Pothigai TV.

#### 4.Rice based Integrated Farming System

1	Name of the Farmer	:	<b>Th.M.Deivamani</b>
2	Address for communication with Pin code	:	S/o Masilamani, Manankathan kottagam, Keluvathur-614705 Mannargudi Taluk, Thiruvarur District
3	Contact Phone No	:	9442887833
4	Details of Farm Holding/Water Resources	:	5 Acres with single submersible bore well and Canal water
5	Technologies adopted	:	Fingerlings production and Integrated Farming System
6	Impact due to Technological intervention (in terms of productivity, production and income)	:	<p>He Integrated all the components in his IFS farm. He used the excreta of cows, goats and chicks for fish feeding which reduced the cost of fish feeding. He is recycling all wastes into inputs and making his farm as eco friendly one. He is successfully doing the fish fingerlings production</p> <p>Now he is earning a sum of Rs. 5 lahks from his one acre IFS farm comprising of 25 numbers of Sirohi, Tellechery and local breeds, that too Rs. 2 lakhs from fingerlings production alone apart from fish farming.</p> <p>He strongly feels that an additional income of Rs 84250/ is obtained while adopting IFS</p>
7	Lessons learnt	:	Cropping along with allied enterprises will give the sustainable income to the farmers with reduced input cost
8	Details of spreading success to other farmers or farmers' groups	:	After the visit of District Collector to his farm, he is now admired among the farmers. His farm is also witnessed by other farmers from various places every day and sharing his experience for establishing Integrated Farming System and fingerlings production. He has supplied fodder slips to needy farmers. Day by day his farm has become popular for its being profitable one. He is an example for an young and energetic person who can achieve golden things

### 5.High Density Planting System in Banana

1	Name of the Farmer	:	Th.V.Baranidharan
2	Address for communication with Pin code	:	S/o Vaithiyathan, No. 215, Mudhaliyar Street, Kattur Post, Kudavasal Taluk Thiruvarur District – 610 104
3	Contact Phone No	:	9488024278
4	Details of Farm Holding/Water Resources	:	7 acres , 2 borewell
5	Technologies adopted	:	High Density Planting System in Banana
6	Impact due to Technological intervention (in terms of productivity, production and income)	:	Earlier he has following only one sucker per hill system of cultivation with a spacing of 2.1m X 2.1m (plant population 2260 plants / ha) in Banana with local variety. As single sucker per hill being a low remunerative planting system, he wanted to switch over to high density planting system with a spacing of 3.6m X 1.8m (plant population 3200 plants / ha) to sustain and generate more income from his land holding. He has approached KVK, Thiruvarur to take advice on improving his farm and to generate more income. Accordingly, the SMSs of KVK visited his farm and appropriate solutions were offered. He was suggested to go for high density planting system with spacing of 3.6m X 1.8m with 2 suckers per hill. Initially KVK, Thiruvarur has provided some important critical inputs like suckers and NRCB Banana Shakthi with technical back stopping. Thus he is now getting more than 2 lakhs in one acre as annual income from his High Density Planting system in Banana.
7	Lessons learnt	:	More profit can be achieved through the adaption of HDP in Banana
8	Details of spreading success to other farmers or farmers' groups	:	<ul style="list-style-type: none"> <li>• All the farmers have expressed their happiness on the performance of HDP system over the existing system.</li> <li>• The Farmers informed that there was a 20 per cent yield and profit increase through HDP system in banana.</li> </ul>

### 6. Rearing of fingerlings in hapas as remunerative enterprise

1	Name of the farmer	:	Th.D.Rajkumar
2	Address for communication with pin code	:	Devankudi & post Poovanoor (via) Needamangalam taluk Thiruvarur district Pin : 612 803
3	Contact phone no	:	Cell: 9600855150
4	Details of farm holding / water resource	:	10 acres of farm pond with borewells
5	Technology adopted	:	During 2013-14 Rearing of fingerlings in hapas was demonstrated in five villages by the KVK Thiruvarur. One lakh hatchlings with B 40 & B 16 hapas were demonstrated The farmer reared this hatchlings in B 40 hapas for 30 days. Then he replaced the fries to B16 hapas and reared for another 30 days. On 60 <sup>th</sup> day the fingerlings attained marketable size.
6	Impact due to technology intervention (in terms of productivity, production and income)	:	Through proper management and feeding, he recorded (hatchlings to fries) 15 percent recovery from B 40 hapas on 30th day. Then he replaced the fries to B 16 hapas and obtained 90 percent recovery of the fingerlings on 60 <sup>th</sup> day (13500 nos). In 120 days duration he reared 3 times and produced 40000 fingerlings in one set of B 40 & B 16 hapas. He used these fingerlings for his 10 acres of fish pond and sold extra fingerlings to others and obtained Rs. 20,000/- as income.
7	Lessons learnt	:	Rearing fingerlings in haps has helped to overcome the non availability and high cost of fingerlings. It has more advantages like higher recovery rates, high survival rate, less mortality, easy maintenance, possibilities of rearing of hatch lingers to fingerlings in the same pond and higher cost benefit ratio.
8	Case analysis	:	The case illustrates that rearing of fingerlings in hapas has fetched considerable income from limited area and resource. An attitude characterized by a strong orientation towards achieving the objectives has enabled him to reap the benefits of rearing fingerlings in hapas. Further his fulltime involvement and commitment in composite fish culture, production of stunted fingerlings and rearing of fingerlings as a main income generating activity, gave him the confidence for effective utilization of resources.

## 10 C.2. Case study

### Popularization of Stunted carp culture technology in Thiruvarur district

#### Background

Inland composite fish culture is a highly economic and profitable subsidiary farm enterprise in Cauvery delta region. It is one of the powerful income and employment generator for farming community in Thiruvarur district. As rice bowl of Tamil Nadu, the farmers of Thiruvarur district have taken up composite fish culture in own ponds, temple / panchayat ponds which are dependent on canal and rain water. The water storage period is limited to 5-6 months only. Thiruvarur district is located in the tail end of Cauvery delta region and prone to periodical flood and droughts. While demand for fish is on the rise, the production does not commensurate with the demand due to non availability of water for longer period (10-12 months) and use of ordinary carp fingerlings (8-10 gram weight). High mortality, low fish weight gain in short period of time, low productivity and less income are major drawbacks in ordinary fingerlings besides predatory fishes, weed fishes, natural enemies and diseases.

#### Intervention of Krishi Vigyan Kendra on stunted carp culture technology

##### Process

To realign gap between demand for fish and production of fish, Krishi Vigyan Kendra, Needamangalam has taken several planned interventions in Thiruvarur district to transfer the composite culture with stunted carp culture technology.

- A NABARD sponsored CAT programme on Inland fisheries as remunerative alternate option in Cauvery delta region has been organized from 10.02.2011 to 12.02.2011 at KVK premises to disseminate the message that inland fish culture can enhance the economic condition of the farmers in Thiruvarur district.
- A two days vocational training was organized between 15.03.2011 and 16.03.2011 in which the stunted carp culture technology has been demonstrated. Exhibition and exposure visit to successful farmers were arranged.
- A NABARD sponsored CAT programme on Integrated Farming System for sustainable livelihood has been organized from 20.08.13 to 22.08.13 at KVK premises to disseminate the message that inland fish culture under IFS can enhance the economic condition of farmers substantially.
- A NABARD sponsored CAT programme on Inland fisheries as remunerative alternate farming in Cauvery delta region has been organized from 5.09.2013 to 7.09.2013 at KVK premises to disseminate the message that inland fish culture can enhance the economic condition of farming community
- A demo unit has been set up in the KVK, Farm to demonstrate the technology of stunted fingerling to the visiting farmers, trainees and other visitors.
- One book and two folders were published for the benefit of farming community

## **Technology**

Stunted carp culture technology is an indigenous technology. It has been promoted by CIFA, in which stocking of two to three lakhs of fingerlings in an acre of fish pond and stunt the growth of fish through limited feeding for 9-12 months. Once they reached a size of 80-100 grams, they are released in grow out ponds where in the weight gain is found to be very high in a shorter period. Inland fish cultivation by using stunted fish fingerlings is a good venture in these village ponds which attains marketable weight within 5-6 months in the main pond/tank. Hence stunted fingerlings provide an opportunity for fish cultivation in any ponds which has water for at least 5-6 months. Main cause is normally carp have more growth rate in second year rather than first year.

KVK, Needamangalam has laid out On Farm Testing (OFT) during 2011-2012 for assessing the feasibility of stunted fingerlings technology in Poonthottam, Meppalam, Vadamangalam and Devangudi villages. Ordinary carp fingerlings of 8-10 gram weight (TANUVAS 2005) and stunted carp fingerlings of 80-100 weight (CIFA2009) were released to the OFT ponds. Based on the success of the OFT the KVK, Needamangalam had taken steps to popularize the stunted carp culture technology in Thiruvarur district. During the year 2012-13 one Front Line Demonstration (FLD) was laid out in Alathampadi, Manali, Karuvampulam, Devarkandanallur and Saruvan villages of Thiruvarur district.

## **Impact**

### **Horizontal spread**

Harnessed efforts of KVK, Needamangalam for popularization of stunted carp culture technology witnessed that number of farmers who utilized to stunted fingerlings in Inland composite fish culture showed a significantly increasing trend with the increase of 200-250 farmers every year.

### **Economic gains**

Growing of stunted carp fingerlings provided the way for remunerative income to few innovative farmers like Th. Ganeshkamalakannan of Kothangudi village, Th. Karthikumar of Pullavarayangudikadu, Th. Rajkumar of Devangudi village, Th. Ravichandran of Thirumeniari village and Th. Pugazendhi of Vaduvloor village. They earned five to ten lakh rupees thro selling of stunted fingerlings per annum.

### **Employment Generation**

The farmer and agricultural labourer are overwhelmed with this technology in Thiruvarur district. Since, Production of stunted fingerlings involves more labour for pond management, feeding of fingerlings, manuring, crop cultivation in the pond bunds, fingerlings harvest, packing and loading, the local labours get employment through out the year.

**10. D. Details of innovative technology of Transfer of Technology developed and used during the year**

The following are the innovative methodologies followed by scientists of KVK during 2013-14

1. **Pre and post evaluation of training** : To understand the knowledge level of participants before entry into a training programme a semi structured interview schedule was constructed and administered among the participants. This could be helpful for getting an idea about level of awareness/ understanding/ know how of participants. The post evaluation was also done to understand the effectiveness of the programme
2. **Kisan Mobile Advisory Service (KMAS)**: The KVK, Thiruvapur has continuous efforts to disseminate latest and timely information to the farming community through Kisan Mobile Advisory Service (KMAS)
3. **Farmers SMS portal** : The KVK, Thiruvapur has started disseminating latest and timely information to the farming community through Farmers SMS portal
4. **Video conferencing**: The KVK,Thiruvapur has been provided with Video conferencing facilities to interact with the scientists and farming community for getting Technical advice to soil and plant health management aspects .
5. **Local Cable Network Channel**: The KVK, Thiruvapur has timely delivered the crop management practices to the farming community through Local Cable Network Channel
6. **Media coverage**: Regular farm advisory / forewarning messages and the mandated activities of KVK Thiruvapur are being published through local dailies as well as All India Radio Trichirapalli and Karaikkal

10.E. Details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development :Nil

**10. F. Specific training need analysis methodology followed for Identification of courses for farmers/farm women, Rural Youth and In service personnel**

1. Participatory Rural Appraisal
2. Personal interaction
3. Group discussion
4. Self explanation
5. Farmers grievance day meeting
5. Monthly zonal workshop meeting with extension personnel

**10.G. Field activities**

1.	Number of villages adopted	:	51
2.	No. of farm families selected	:	228
3.	No. of survey conducted	:	10

**10.H. Activities of Soil and Water Testing Laboratory**

- Status of establishment of Lab :
1. Year of establishment : March 2011
  2. List of equipments purchased with amount :

Sl. No	Name of the Equipment	Qty.	Cost (Rs.)
1	pH meter	1	5,740
2	Digital conductivity meter	1	10,890
3	All Glass single distillation unit	1	35,000
4	Digital Spectrophotometer	1	37,600
5	Flame Photometer	1	43,500
6	Automatic Digestion System	1	1,07,900
7	Automatic Distillation System	1	1,75,900
<b>Total</b>			<b>4,16,530</b>

**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	107	96	29	-
Water Samples	88	78	23	-
<b>Total</b>	<b>195</b>	<b>174</b>	<b>52</b>	<b>-</b>

**Details of samples analyzed during the 2013-14 :**

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples	15	12	7	
Water Samples	42	36	12	-
<b>Total</b>	<b>57</b>	<b>48</b>	<b>19</b>	

**10.I. Technology Week celebration during 2013-14 Yes/No, :****10. J. Interventions on drought mitigation (if the KVK included in this special programme)**

- A. Introduction of alternate crops/varieties : Nil
- B. Major area coverage under alternate crops/varieties : Nil
- C. Farmers-scientists interaction on livestock management: Nil
- D. Animal health camps organized : Nil
- E. Seed distribution in drought hit states: Nil



## F. Large scale adoption of resource conservation technologies

State	Crops/cultivars and gist of resource conservation technologies introduced	Area (ha)	Number of farmers
Tamil Nadu	Sub – Surface Dyke as a source to augment water Supply	The dyke, running 140 metres across the Vennar river, five metres in width and 4.2 metres in depth, is made of nearly 38,000 sand bags arranged in a pyramid-like structure and covered by UV Stabilized silpaulin sheet	This is only a pilot demonstration project taken up under Agricultural Technology Management Agency (ATMA) scheme. For drought-stricken, water-starved Thiruvavur district, these measures will go a long way in sustaining groundwater

Inadequate rainfall, reduction of number of water flow days in rivers, and overexploitation of groundwater for various purposes had caused the depletion of groundwater and intrusion of saline water into first and second aquifers. Also conservative estimate shows net demand for water usage in a particular year is 54.69 tmcft for all purposes, including agriculture in Thiruvavur district. Current natural recharge level is 29.6 tmcft. The imbalance is 25.04 tmcft. The imbalance in the demand for water and natural recharge of groundwater in Thiruvavur district has necessitated the artificial recharge methods, namely sub-surface dyke to augment groundwater. The sub surface dyke has been constructed upstream of Vennar at Munar Thalaippu near Needamangalam for augmentation of groundwater. The dyke, running 140 metres across the river, five metres in width and 4.2 metres in depth, is made of nearly 38,000 sand bags arranged in a pyramid-like structure and covered by UV Stabilized silpaulin sheet. The dyke will act as a underground check dam and enable recharging of underground water flow.

Munar head is the entry point of Vennar, Koraiyar, and Baminiyar into Tiruvavur district and which form the main irrigation and drainage systems. Groundwater was found in two aquifers. One was found at a depth of 5.5metres which is a broad and continuous aquifer. Second was found at a depth of 30 metres in a semi-confined and confined location. In Vennar, there is 14 ft of sand at the surface level, upon which the surface water flows. Then there is 30-foot clay and then comes another thick formation of sand which is the second aquifer. The clay does not allow the surface water flowing in the river to recharge the second aquifer. By constructing the sub-surface dyke, the clay was punctured and formed the way for recharging the second aquifer which had caused considerable increase in groundwater recharge and the dug wells indicated the same results.

As for as the dug well and tube wells are concerned in the study area, the maximum number of wells are present on the dyke alignment. Most of the wells (of about 95%) are yielding good amount of water. Therefore, the green zone is observed along the whole alignment of dyke, while rest of the area is found dry and partly green (only rainy and autumn season) due to the less irrigation. Because most of the

wells in this area are dry or seasonal. Therefore, farmers are pumping water day-night from these wells with one or at some places two pumps of 5 or 10 HP set up on the well.

This is only a pilot demonstration project taken up under Agricultural Technology Management Agency (ATMA) scheme. For drought-stricken, water-starved Thiruvarur district, these measures will go a long way in sustaining groundwater

G. Awareness campaign :Nil

## PART XI. IMPACT

### 11.A. Impact of KVK activities

#### Impact of KVK activities

Sl. No	Name of the specific technology/skill transferred	No of participants	% of Adoption	Change in Income (Rs.)	
				Before (Rs/ha)	After (Rs/ha)
1	Swarna Sub-1 – Flood Tolerant rice variety	119	100	24860	37400
2	Integrated Farming System	187	30.5	30000/unit/annum	1,10,000/unit/annum
3	Mechanized bundling of Rice straw with baler in rice cultivation in Thiruvarur District	125	60	27000	50100

#### 1.Swarna Sub-1 – Flood Tolerant Variety

Agriculture is the main activity in Thiruvarur district. Rice is the Major crop of the district and normally cultivated in 175813 ha. Rice is cultivated in three season's viz., Kuruvai, Thaladi and Samba. During samba, rice is cultivated in 128412 ha. The Samba rice cultivation mainly depends upon canal water supply. Heavy sudden down pour during North East Monsoon and flood affects the Samba crop especially in tail end area like Thiruthuraipoondi and Muthupettai block, which has been a regular phenomena in alternate years.

#### Problems Faced by the Farmer

- Crop loss or very poor yield due to heavy rain and flood.
- Lack of drainage facilities leading to submergence of crops and yield reductions.
- Non availability of flood tolerant rice varieties

### **KVK Interventions**

To solve the problems, KVK has approached the Department of Rice, TNAU for hand in help and they have given Sub-1 introduced varieties for multi location assessment. Among three varieties Swarna Sub-1 was performed well under flooded situation. Based on the results/ performance of the variety, the KVK, Thiruvarur invited the Department of Rice, TNAU, Coimbatore for popularization of Swarna Sub-1 in Thiruvarur district. The KVK, Thiruvarur has arranged an awareness programme on Swarna Sub-1 meeting at KVK on 15.07.2011 by inviting 54 elite farmers and 70 officials. Totally 432 kg of quality Swarna Sub-1 seeds were distributed to all the 54 farmers @8kg/head. The seeds were supplied on free of cost by Department of Rice, TNAU. During the meeting, the technologies were delivered to the participants and they were provided with technical information printout. Frequently the Scientists had visited the farmer field and made observations. Finally Field day was conducted in the Flood prone Village namely Thiruvanchuzhi on 01.02.12. During the field day, the other fellow farmers were invited and showed the results/performance of the variety. All the participants had appreciated the variety and promised to go for next season. During the field day KVK invited the higher officials of line departments for showing the trustworthiness of the trial.

During 2012-13 also FLD on Popularization of Swarna sub 1 seed production was conducted in Thiruthuraipoondi block in 25 acres. Awareness training programme was organized at KVK Needamangalam on 15.07.2012 and critical inputs were demonstrated to the selected beneficiaries under FLD. Periodical monitoring and advisory services were given to the farmers of Thiruvanchuzhi cluster villages. An exemplary observation was made during field visit that the variety performed very well even under moisture stress condition. The same was witnessed by the University high officials and scientists during large scale demonstration on CM Samba special package implementation programme on 15.12.2012.

During 2013 – 14, the variety was still spread over in Kanchipuram, Thiruvallur, Madurai and Thirunelveli districts. Now it is cultivated in nearly 750 acres. Success of this variety was recorded and telecasted in Mass Medias like Makkal TV, Marudham Channel, Pasumai vigadan.

### **Out come**

- All the farmers have expressed their happiness on the performance of Swarna Sub-1 over the existing varieties.
- Swarna sub-1 has recorded an average yield of 4500kg/ha even after 15 days of submergence during November 2011, Which was 12 percent high over other varieties like CR1009 and BPT5204.
- The Farmers informed that there was less pests and disease incidence and the crop was always green and thus applied less fertilizer. Besides, they also expressed that Swarna Sub-1 variety did not lodge.

- All the farmers have retained the seeds of Swarna Sub-1 for their whole farm and promised to share the seeds with fellow farmers.
- KVK, Thiruvarur has produced a total of 2 tons of Swarna Sub-1 seeds for the use of farmers during last two years
- Altogether the area under Swarna Sub-1 may touch upon 750 acres in 2013-14 from 55 acres in 2010-11.
- An average yield of 5740 kg/ha was recorded even during moisture stress condition in Samba 2012-13
- The variety performed very well even under moisture stress condition

## **2. Integrated Farming System**

Integrated Farming System is an important concept of sustainable agriculture which scientifically integrates the cropping with allied agricultural enterprises for getting higher and sustainable income to a farmer throughout the year. All the farm resources are effectively utilized for recycling. It provides safe environment. IFS help to improve the soil health and sustaining the production system. Besides, it gives additional employment opportunity throughout the year.

### **KVK interventions**

In order to promote and popularize IFS in Thiruvarur district, the KVK, Needamangalam has made lot of interventions.

- An exhibition has been arranged at SWMRI, Kattuthottam and exhibited appropriate IFS model for Cauvery delta.
- On 23.12.2010, a training on IFS were conducted. Totally 30 farmers from different places of Thiruvarur district were participated.
- One day on campus training on slatted goat rearing was conducted at this institute on 07.04.2010, which was inaugurated by the district collector wherein 52 farmers were attended
- During a vocational training between 03.03.2011 to 05.03.2011 on vermicomposting the idea of waste recycling and Integrated farming System was imparted to twenty five selected farmers of NABARD farmers club.
- An on campus training on backyard poultry was conducted on 03.02.2011 where in 40 participants learnt the technologies related to backyard poultry rearing.
- Series of training programme on mushroom cultivation and value addition were conducted on 16.06.2011, 23.08.2011, 30.08.2011 and 20.10.2011
- On 06.09.2011, a training programme on slatted goat rearing was conducted and 70 participants attended.

- One on Campus training on alternate farming was conducted on 18.11.2011 and 30 farmers were attended
- On 29.02.2012, training on slatted goat rearing was conducted and 71 elite and innovative farmers were participated.
- Vocational training on backyard poultry rearing was conducted between 01.03.2012 and 02.03.2012. Totally 85 farmers were attended the training.
- Vocational training on Inland composite fish culture was conducted between 12.03.2012 and 13.03.2012 and totally 47 farmers were attended.
- During 2012-13 sponsored training was conducted at KVK, Needamangalam on 19.03.2013 and 20.03.2013 for 50 farmers
- Under FLD programme wetland based IFS model in 1 acre was well established at 3 farmers holdings in various blocks during 2012-13 and 2013 -14
- Sponsored training on IFS was conducted to the farmers on 18.03.2013
- NABARD CAT training programme on IFS was given to 35 farmers from 20.08.13 to 22.08.13
- A book on "IFS for Sustainable Livelihood" was also published during 2013 -14
- Send four farmers to IFS fields at Bangalore as exposure visit from 11.09.13 to 13.09.13
- Apart from these interventions, in KVK premises demo units on slatted goat rearing, rice-fish-Azolla integration, backyard poultry, vermicompost, mushroom production unit, composite fish culture pond and fodder cultivation are being maintained. The visiting farmers used to enthusiastically enquire about these demo units and showed keen interest to start their own units in their farm. The visiting farmers have been provided with technological information on IFS and distributed with extension literatures. Besides information were passed on through mass media like AIR and local dailies regularly.

### **Impact of KVK interventions**

- Due to KVK interventions and technical backstopping by the scientists, many farmers started IFS in Konthangudi, Edamelaiyur, Boothamangalam, Thirumeni, Devangudi, Nadupadugai, Vadamangalam and Eda annavasal villages.
- Due to its success, IFS models established at farmers holding were visited by various Government higher officials during 2013 - 14.
- Success of IFS was recorded and telecasted in Doordhasan, Makkal TV and Marudham channel.

Notable successful IFS entrepreneurs developed through KVK are

1. S.Ganesh Kamalakannan of Kotthangudi (Enkan) who has fish farming in 4 acres, fingerling production in 1 acre, Cropping in 10 acres, slatted house goat rearing, backyard poultry, biogas plant and Co 4 grass cultivation in his IFS farm. He is now earning Rs. 15 lakhs per annum. He was awarded with prestigious 'Sadhanaiyalar Viruthu-2011' by the daily Dinamalar.

2. Th. Syed Mohamed of Boothamanagalam who has cropping in 5 acres, composite fish culture in 2 acres, goat rearing under slatted house, dairy, Co4 grass cultivation in 2 acres and turkey rearing. He is now earning a sum of Rs 8 lakhs from his IFS farm.
3. Th.K.Meganathan of Eda Melaiyur has integrated his farm with cropping in 10 acres, vegetable cultivation under precision farming in 2 acres, Co4 grass cultivation in 3 acres, fish farming in 4 acres, dairy with 10 cows and earning Rs. 10 lakhs per annum. He was rewarded with 'Velanami Chemmal Award' for the year 2011 by TNAU for his success in precision farming.
4. Th.Ramachandran of Thirumeni has made his farm into an IFS farm with 4 acres of cropping, 60 acres of fish farming, 2 acres with fingerlings production, slatted house goat rearing with 100 goats, poultry unit with desi birds and turkey. He is earning Rs.25 lakhs per annum that too from fish farming.
5. Th.Deivamani of Keluvattur, Th.R.Karunanithi of Poonthottam and Th.V.Veerabaskaran of Adanoor village maintained their farm with IFS components viz., rice/sugarcane based cropping, Fish+poultry, slatted floor goat rearing, vermicompost production in silk paulin method in addition to fodder bank. Through the adoption of IFS model the said farmers earned nearly 2 lakh rupee as net income from 1 acre land

### Recognition from Higher officials

IFS models established at farmers holding visited by Government higher officials

Name of the IFS Farmer and Village	Higher officials visited	Date
Th.Deivamani Keluvattur Village Kottur block	Th.S.Natarajan, District Collector, Thiruvarur	05.02.2013
	Dr. Nagoor Meeran, Director, TNFU, Nagapattinam	21.06.2013
Th.R.Karunanithi Poonthottam Valangaiman block	Dr.S.Prabhu Kumar Zonal Project Director, Bangalore	13.08.2013
	Th.N.Ravisankar DDM of NABARD, Thiruvarur	19.09.2013
Th. S.Ganesh Kamalakannan Kotthagudi village Kudavasal block	Dr.C.V.Sairam Principal Scientist , ICAR	24.06.2013

Th.V.Veerabaskaran Adanoor village Needamangalam block	Dr.K.A.Ponnusamy Director of Extension Education, TNAU	07.03.2013
	Th.S.Natarajan , District Collector, Thiruvarur	17.04.2013
	Dr.K.Ramasamy, Vice Chancellor, TNAU Dr.C.V.Sairam, Principal Scientist	21.05.2013
	Th.S.Natarajan , District Collector, Thiruvarur	18.06.2013
	Dr.K.Arulmozhi, Principal Secretary to Govt. of Tamil Nadu Th.S.Natarajan District Collector, Thiruvarur	03.07.2013
	Dr.S.Prabhu Kumar Zonal Project Director, Bangalore	23.08.2013

An appreciation and encouragements were given to the farmers to continue the farming for getting more income.

### **3. Mechanized bundling of Rice straw with baler in rice cultivation in Thiruvarur District**

#### **Background**

The rice cultivation in Thiruvarur district has undergone a series of changes given the unprecedented labour shortage for important crop operations like transplanting, weeding and harvesting and disposal of paddy straw. The change has been fully dominated by complete mechanization of rice in the rice granary of Tamil Nadu.

Krishi Vigyan Kendra, Needamangalam situated in rice bowl of Tamil Nadu, has been championing the cause of Mechanisation in rice since its inception. It has intensified its efforts for the past two years through various well thought out interventions. Various small and large scale demonstrations of Mechanized bundling of Rice straw with baler in rice cultivation has been in operation for the past two years in villages spread all over the district. Fifteen farmers who got benefitted out of this have served as ambassadors for KVK in disseminating the concept of Mechanized bundling of Rice straw with baler in rice cultivation. Conventional manual bundling of rice straw with locally available

labour in rice cultivation with high spillage, wastage, non proper storage and even burning of rice straw in situ which caused both soil and environment pollution.

### **Intervention made by KVK**

Two demonstrations on paddy straw baler was jointly organized by KVK, Thiruvarur and Kartar Agri Implements training Institute, Attur on 15.09.2012 and 07.02.2013 . A total of 125 farmers had attended the demonstration. In all the trainings on mechanized rice cultivation, information and brochures on balers were disseminated and distributed

The farmers who adopt mechanized bundling of Rice straw with baler in rice cultivation could not directly increase the yield but they get extra income by selling the straw safely and also the labour problem is safeguarded. The average income and Benefit cost ratio of switching to Mechanized bundling of Rice straw with baler in rice cultivation in five selected village is given below

<b>Name of the operating villages</b>	<b>Average income from one ha of rice</b>	<b>BCR</b>
Vettaithidal	52500	1: 3.75
Vellakudi	50100	1:3.25
Devangudi	49180	1:2.99
Rishiyur	51450	1:3.33
Melanatham	49550	1:3.01

The table has clearly indicated that in all the villages farmers could get at least Rs.3,000 extra from one acre of rice cultivation by employing Mechanized bundling of Rice straw with baler in rice cultivation. The economic well being of farmers has been enhanced substantially as they could earn at least Rs.3000-4000 more by switching over to Mechanized bundling of Rice straw with baler in rice cultivation.

### **Other benefits**

- Labour saving. Only one Men labour and three women labour is sufficient to bale 5 acres of straw.
- Time saving
- Pollution free Land and environment as they were burning the straw earlier.
- Less labour stress

### **Micro level Impact**

Totally ten farmers from Needamangalam, Mannargudi, Nanilam and Thiruvarur block registered for subsidy for the purchase of balers from Agricultural Engineering Department.

One among the successful farmer is Th. Gopalaraman of Vellakudi village of Needamangalam block. He purchased baler without availing subsidy on his own. The cost of the baler is Rs 1.8 lakhs. He sells 22-25 kg of baled rice straw at the rate of 90-110 Rs per bale. The nearest farmers who witness his profitable farming are motivated to go for Mechanized bundling of Rice straw with baler in rice cultivation.



## **11.B. Cases of large scale adoption**

### **Precision farming in vegetable crops**

#### **Problems Faced by the Farmer**

The Cauvery delta region of Tamil Nadu which is most suitable for cultivation of paddy crop is of clayey nature. Farmers predominantly cultivate paddy throughout the all possible growing season in the area and the income generated out of the paddy crop is not much satisfactory. In certain pockets of the delta region few farmers go for cultivation of vegetables like Brinjal, Bhendi, Tomato and Amaranthus. Vegetable cultivation is not much popular among the delta farmers because of the unsuitability of land condition, lack of alternate cropping system, lack of awareness about the precision farming.

#### **KVK Interventions**

The progressive vegetable farmers across the Thiruvarur district were identified and sensitized about the cultivation of vegetables under Precision Farming, a turnkey project in cash crop cultivation. These farmers were trained and taken on exposure visits to Dharmapuri and Krishnagiri districts wherein the Precision Farming was a great success. The Precision Farming project was successfully implemented in Thiruvarur district in vegetable crops.

Technological demonstration on precision farming was implemented in Melanagai village, Mannargudi Taluk, Tiruvarur district under NADP Part II funded scheme. Before implementation of this project an association on farmers of precision farming in Melanagai village was formed. In this project, elite and dynamic farmers were identified based on their interest and involvement in agriculture and allied activities. The Cauvery Delta Farmers used to have strong mindset on traditional mono cropping of rice from time immemorial. Hence, farmers exposure visit to Dharmapuri and Krishnagiri districts was made to get acquaintance with the latest technical know how from the farmers who are already practicing it. We drew the farmers to precision farming project through repeated meetings and trainings both individually and group approach to orient their mindset towards scientific farming. Sixty demonstrations were laid out in our district with formidable success despite the unseasonal and erratic rainfall.

Recently, during 2014-15 financial year a Farmers Field School on ICM in vegetable crops was conducted. A total of 14 classes were organized during the crop period by adopting ICM technologies such as seed treatment, pro-tray nursery techniques, precision use inputs, advanced hybrids, seed production techniques in vegetables, drip Fertigation, marketing of fresh vegetables and eco friendly plant protection technologies were taught to them in the form of field demonstrative and skill oriented classes. Finally a field day was organized in which the experiences and benefits of FFS were shared by the FFS farmers. A total 40 farmers of Melanagai village participated and got the information on usefulness of ICM in vegetable cultivation.

## **Out come**

After the inception of precision farming project in their site, two hectares were brought under cultivation with high yielding hybrid vegetables like Brinjal, Bhendi, Chillies and Gourds. Now they are enjoying the fruition of this project by getting Rs. 1,500 to 2000/day/ ha as a daily income from this project and extending the additional area under the cultivation of other crops.

After the implementation of precision farming project the farmers are getting net income of Rs.2,00,000/- to Rs.4,00,000/- per acre through vegetable cultivation which is 5-6 folds higher than normal cultivation.

Their net income was raised to the tune of 20 fold after adopting the precision farming. Apart from realizing the enhanced and regular income, they are also cultivating the crops during summer season in entire area through single bore well by water saving drip system. Surprising outcome of this project was that additional area has been brought under the cultivation and mutual water sharing concept has been promoted among the brothers to reap the ultimate benefit of more income from the every drop of water for the livelihood security given the present day water scarcity which reduces the productivity of crops drastically.

As the KVK was the pioneer in successful conduct of the precision farming even in the rice bowl area, it is being identified as the training centre for precision farmers of nearby seven districts.

## **11.C. Details of impact analysis of KVK activities carried out during the reporting period**

### **1.TNAU Maize hybrid Co 6**

Very few farmers in Mannargudi block of Thiruvarur district are cultivating maize hybrids due to the efforts by private companies for their existence. Since it is a rice growing area, maize is a least preferred crop in delta districts. But KVK, Thiruvarur demonstrated TNAU Maize hybrid Co 6 as alternate crop for paddy in kuruvai season because of non-availability of water on time. Initially, during 2013 harif (June – July) in Melathiruppalakudi village it was demonstrated in 2 hectares. Near by rice growing farmers were astonished on seeing the performance of maize hybrid as well as the net return Rs. 75,000 /ha when sold as green cobs within 60-70 days of crop duration. This resulted in the expansion of area under TNAU Maize hybrid Co 6 in Navarai (December – January) season in Needamangalam and Nannilam block upto 20 hectares. Because farmers are getting Rs. 70,000/ha (yield 8500 kg/ha) as net profit which is > 30% higher than compared to paddy cultivation with 4 times lesser water usage. Hence, farmers are very eager to purchase TNAU Maize hybrid Co 6 from Tamil Nadu Agricultural University since, it is excelling in productivity when compared to other private hybrids in Cauvery delta zone.

## 2.Sub – surface Dyke as a source to augment underground water

Inadequate rainfall, reduction of number of water flow days in rivers, and overexploitation of groundwater for various purposes had caused the depletion of groundwater and intrusion of saline water into first and second aquifers. Also conservative estimate shows net demand for water usage in a particular year is 54.69 tmcft for all purposes, including agriculture in Thiruvarur district. Current natural recharge level is 29.6 tmcft. The imbalance is 25.04 tmcft. The imbalance in the demand for water and natural recharge of groundwater in Thiruvarur district has necessitated the artificial recharge methods, namely sub-surface dyke to augment groundwater. The sub surface dyke has been constructed upstream of Vennar at Munar Thalaippu near Needamangalam for augmentation of groundwater. The dyke, running 140 metres across the river, five metres in width and 4.2 metres in depth, is made of nearly 38,000 sand bags arranged in a pyramid-like structure and covered by UV Stabilized silpaulin sheet. The dyke will act as an underground check dam and enable recharging of underground water flow.

By constructing the sub-surface dyke, the clay was punctured and formed the way for recharging the second aquifer which had caused considerable increase in groundwater recharge. Most of the wells (of about 95%) are yielding good amount of water. Therefore, the green zone is observed along the whole alignment of dyke, while rest of the area is found dry and partly green (only rainy and autumn season) due to the less irrigation. This is only a pilot demonstration project taken up under Agricultural Technology Management Agency (ATMA) scheme. For drought-stricken, water-starved Thiruvarur district, these measures will go a long way in sustaining groundwater.

## PART XII - LINKAGES

### 12.A.Functional linkage with different organizations

Name of organization	Nature of linkage
<b>i) TNAU</b>	
a. NADP- RKVY- Precision farming	Training programme were conducted for the beneficiaries of Department of Agriculture and Horticulture.
b. NADP(RKVY) Seed production on” Production and supply of foundation seeds in pulses by TNAU”	Production foundation seeds through seed growers
c. NADP-RKVY-SSI	Four trainings were given to 80 farmers of Thanjavur and Thiruvarur District
d.MLT and ART	ART, MLT on rice and pulses were conducted
e. Department of Rice	Popularization of Swarna sub 1 and CR 1009 sub 1 in flood prone areas.
<b>ii) Central University of Tamil Nadu-Thiruvarur</b>	Offering certificate course on water management

iii) Line Departments	Activities
Department of Agriculture Department of Horticulture Department of Agrl. Engineering Department of Animal Husbandry Department of Fishery Department of Forestry Department of Sericulture Department of Agricultural Marketing and Agri Business Development	Field survey, diagnostic visits, joint implementation, participation in meetings and conduct of trainings on crop production and protection technologies of mandatory crops of this district.
District Administration, Thiruvarur	Technological backstopping during farmers grievance day
Irrigation Management Training Institute, Trichy.	Collaborative training programmes on water saving technologies and demonstrations
Thiru Aarooran Sugars, Kumbakonam	Sugar cane related field visits and demonstration on sugarcane harvester, shredder, detrasher, SSI technology.
Indian Institute of Crop Processing and Technology, Thanjavur	Training to farmers, rural youth, data Analysis for value addition
Central Warehousing Corporation, Chennai	Training farmers on post harvest technology

**12.B. Special programmes undertaken by the KVK and operational now, which have been financed by State Govt./Other Agencies**

Sl. No	Name of the Scheme	Date/ Month of initiation	Funding agency	Amount (Rs in lakhs.)
1	Production and Supply of Foundation seeds in Pulses by TNAU(Black gram ADT 5)"	Dec' 2011-March 2014	NADP	1.80
2	Promotion of quality seed production in green manures	April 2013-March 2014	NADP	2.96
3	Evaluation and dissemination of improved nutrient management practices through Web and mobile phone applications of <i>Nutrient Manager for Rice</i> in the Cauvery Delta, Tamil Nadu	Sept '11- Dec'14	(TNAU - IRRI - IPI collaborative project)	4.51
4	NABARD CAT Programme <ul style="list-style-type: none"> <li>• Integrated Farming System</li> <li>• Inland fisheries as remunerative alternate farming in Cauvery delta region</li> <li>• Mechanized rice cultivation</li> <li>• Hi tech farming in horticultural crops</li> </ul>	2013-14	NABARD	1.66

**12. C. Details of linkage with ATMA**a) Is ATMA implemented in your district : **Yes****Nature of KVK activity**

a) ATMA Governing Board (GB)	Member
b) ATMA Managing Committee	Member
Strategic Research Extension Plan	Coordination with line departments for preparation
District Action Plan	
Extension programmes like awareness campaign, exposure visit, training and demonstration	Coordination with line departments for execution of the extension programmes.
Monitoring of filed activities	Coordination with line departments for reviewing of progress.
Researchable Issues	Some important issues which will give immediate results are attended.
Laying out of demonstrations	Laying out of scientific oriented demonstrations.

**Coordination activities between KVK and ATMA during 2013-14**

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks (if any)
01	Meetings	Dt. Governing body Dt. Monitoring committee	12 12	- -	- -
02	Research projects	Sub - surface Dyke as a source to augment underground water	6	3	-
03	Training programmes	Recent advances in agriculture	-	3	-
04	Demonstrations	-	-	-	-
05	Extension Programmes	-	-	-	-
06	<b>Publications</b>	-	-	-	-
07	<b>Other Activities (Pl. specify)</b>				
1	Monthly zonal workshop		12	-	-
2	Uzhavar Peruvizha		106	2	
3	District action plan (PRA)		3		

12. D. Details of programmes implemented under National Horticultural Mission: Nil

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

**12. F. Details of linkage with RKVY**

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks
1	NADP(RKVY) Production and supply of foundation seeds in pulses by TNAU	Production of ADT 5 black gram foundation-II seeds through seed growers	1,85,000	1,85,000	Crop has been harvested and 2620 kg processed seed was obtained. Packing, sealing and tagging were completed. Seed distribution was completed.
2	Promotion of quality seed production in green manures	Production of daincha and sunnhemp TFL seeds through seed growers	296000	296000	Crop has been harvested and 3600 kg processed seed was obtained. Seed distribution is in progress
3	NADP Precision farming – Training to beneficiary farmers of Agriculture Department	Training the farmers on precision farming in sugarcane and exposure visit to successful precision farming field	3,92,400	3,92,400	<b>2010-11</b> Nine trainings were given to 450 participants
			3,75,000	3,75,000	<b>2011-12</b> Twelve trainings were given to 600 participants
			2,17,750	2,17,750	<b>2012-13</b> Seven trainings were given to 260 participants
4	NADP Precision farming – Training to beneficiary farmers of Horticulture Department	Training the farmers on precision farming in vegetables and exposure visit to successful precision farming field	8,28,400	8,28,400	<b>2010-11</b> Twenty four trainings were given to 950 participants

**12. G. Kisan Mobile Advisory Services**

Month	No. of SMS sent	No. of farmers to which SMS was sent	No. of feedback / query on SMS sent
April 2013	12	225	7
May 2013	17	229	12
June 2013	22	251	5
July 2013	35	232	3
August 2013	24	272	12
September 2013	27	275	14
October 2013	32	277	11
November 2013	33	298	6
December 2013	22	287	12
January 2014	26	269	9
February 2014	37	381	11
March 2014	34	345	14
<b>Total for the year 2013-14</b>	<b>321</b>	<b>3341</b>	<b>116</b>

**PART XIII- PERFORMANCE OF INFRASTRUCTURE IN KVK**

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

S. No.	Demo Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty. (kg)	Cost of inputs	Gross income	
1	Mushroom	2006	0.004	Pf1	Mushroom	7	300	675	
2	Backyard poultry	2009	0.01	Turkey	Live birds	23	1200	3450	
				Nandanam-4	Eggs	528	1300	2625	
				Nandanam-4	Chicks	270 Nos	6300	15400	
3	Slatted house goat rearing	2009	0.02	Tellichery Boer cross	Bucks	14 Nos (283 kg)	12380	70,750	
4	Azolla	2009	0.004	-	Azolla	600	1220	3000	
5	Vermicompost	2010	0.004	-	Vermicompost	545	1350	3270	
6	Coconut	2005	34 trees	tall	Coconut	977	1540	3365	
7	Kapok pods	2005	8 Nos	local	Pods	1600	200	800	



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

	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty. (kg)	Cost of inputs (Rs.)	Gross income (Rs.)	
Cereals- Rice	10.08.12	31.12.12	0.20	TRY 3	Seed	1324	7200	25156	Sold
	10.08.12	01.01.13	0.40	Swarna sub 1	Seed	2126	13500	46772	Sold
	10.08.12	02.01.13	0.30	ADT 50	Seed	1140	10300	57000	Sold
	10.08.12	10.01.13	2.40	CR 1009	Seed	9748	87300	185212	Sold
	10.08.12	25.01.13	1.40	ADT 49	seed	5146	22500	102920	Sold
	12.08.12	01.02.13	0.10	ADT 46	Seed	820	4600	18040	Sold
	22.01.13	22.05.13	0.60	ADT 43	Seed	3529	22600	84696	Sold
	27.05.13	26.09.13	0.60	CO 51	Seed	2318	21500	55632	Sold
	27.05.13	26.09.13	0.60	ADT 43	Seed	2231	22800	53544	Sold
	27.03.13	27.09.13	0.80	TKM 9	Seed	3520	29600	70400	Sold
	15.08.13	23.01.14	2.63	CR 1009	Seed	8900	105000	178000	Stock un processed
	15.08.13	24.01.14	0.40	CR1009sub1	Seed	3500	14600	70000	Stock unprocessed
	05.08.13	23.01.14	1.27	TRY 3	Seed	2950	46500	59000	Stock unprocessed
	15.08.13	24.01.14	0.54	Swarna sub 1	Seed	1540	16000	36960	Stock unprocessed
	28.10.13	08.02.14	0.40	TM culture	Seed	1950	14500	46800	Stock unprocessed
	15.10.13	25.02.14	0.20	CB 09123	Seed	1250	8000	30000	Stock unprocessed
	15.10.13	25.02.14	0.20	CB 07540	Seed	425	8200	10200	Stock unprocessed
	15.10.13	08.02.14	0.80	ADT 49	Seed	2200	28600	52800	Stock un processed
15.10.13	08.02.14	0.50	ADT 50	Seed	2800	18200	67200	Stock unprocessed	
<b>Total</b>						<b>57417</b>	<b>501500</b>	<b>1250332</b>	
Pulses- Blackgram	09.02.13	26.04.13	4.00	ADT 5	Seed	26.20	80000	<b>1,96,500</b>	Sold
<b>Total</b>						<b>26.20</b>		<b>1,96,500</b>	

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

S.No.	Name of the Product	Qty (kg)	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1.	Vermicompost	545	1350	3270	-
2.	Azolla	600	1220	3000	-
<b>Total</b>		<b>1145</b>	<b>2570</b>	<b>6270</b>	

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

S. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.(Nos)	Cost of inputs	Gross income	
1.	Goat	Tellichery Boercross	live goat	14 (283 kg)	12380	70,750	
<b>Total</b>				<b>14 (283 kg)</b>	<b>12380</b>	<b>70,750</b>	

**13.E. Utilization of hostel facilities**

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
April 2013	4	1	-
May 2013	1	2	-
July 2013	3		-
August 2013	17	34	-
September 2013	30	3	-
October 2013	2	1	-
December 2013	88	9	-
January 2014	104	14	-
February 2014	650	36	-
March 2014	292	19	-
<b>Total</b>	<b>1191</b>	<b>120</b>	-

**13.F. Database management**

S. No	Database target	Database created
1	District Agricultural inventory	Already prepared. Updating is being done. It will be completed during July 2014

**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							
With KVK	State Bank of India	Needamangalam	11070	ICAR - KVK	30489962661		SBI NOO 11070
	State Bank of India	Needamangalam	11070	KVK- RF	30489964578		SBIN0011070

## 14.B. Utilization of KVK funds during the year 2013-14 (Rs. in lakh)

S.No.	Particulars	Sanctioned	Released	Expenditure
<b>A. Recurring Contingencies</b>				
1	<b>Pay &amp; Allowances</b>	<b>73,00,000</b>		94,99,973
2	<b>Traveling allowances</b>	<b>2,00,000</b>		2,00,000
3	<b>Contingencies</b>	<b>10,75,000</b>		<b>10,75,000</b>
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	<b>2,00,000</b>	<b>Rs. 85,30,399/-</b>	199011
B	POL, repair of vehicles, tractor and equipments	<b>1,90,000</b>		190989
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	<b>75,000</b>		75000
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	<b>80,000</b>		80000
E	Frontline demonstration except oilseeds and pulses	<b>3,10,000</b>		310000
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	<b>90,000</b>		90000
G	Training of extension functionaries	<b>25,000</b>		25000
H	Maintenance of buildings	<b>40,000</b>		40000
I	Establishment of Soil, Plant & Water Testing Laboratory	<b>20,000</b>		20000
J	Library	<b>5,000</b>		5000
<b>TOTAL (A)</b>		<b>85,75,000</b>	<b>8530399</b>	<b>10774973</b>

<b>B. Non-Recurring Contingencies</b>				
1	<b>Works</b>			
2	<b>Equipments including SWTL &amp; Furniture</b>			
3	<b>Vehicle</b> (Four wheeler/Two wheeler, please specify)			
4	<b>Library</b> (Purchase of assets like books & journals)			
<b>TOTAL (B)</b>				
<b>C. REVOLVING FUND</b>				
<b>GRAND TOTAL (A+B+C)</b>		<b>85,75,000</b>	<b>8530399</b>	<b>10774973</b>

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

<b>Year</b>	<b>Opening balance as on 1<sup>st</sup> April</b>	<b>Income during the year</b>	<b>Expenditure during the year</b>	<b>Net balance in hand as on 1<sup>st</sup> April of each year</b>
April 2011 to March 2012	573638	974435	721773	826300
April 2012 to March 2013	826300	789147	684740	930707
April 2013 to March 2014	930707	1155150	1433066	652791

**15. Details of HRD activities attended by KVK staff during 2013-14**

<b>Name of the staff</b>	<b>Designation</b>	<b>Title of training programme</b>	<b>Institute where attended</b>	<b>Dates</b>
Dr.K.Chozhan	Programme Coordinator	Orientation programme on technology assessment, refinement and demonstration	KVK, Hasan, Karnataka	31.03.2013 to 07.04.2013
Dr.A.Kamaraj	SMS (Agrl. Engg.)			
Dr.V.Alex Albert	SMS (SS & T)			
Dr.T.Dhamodaran	SMS (Agrl. Extn.)	Training programme on Agriculture extension management for the extension scientist of KVK	MANAGE, Hyderabad	10.05.2013 to 19.05.2013
Dr.T.Dhamodaran	SMS (Agrl. Extn.)	Micro level planning workshop	Thiruvavarur	29.07.2013
Dr.A.Kamaraj	SMS (Agrl. Engg.)			
Dr.V.Alex Albert	SMS (SS & T)			
Dr.V.Sivakumar	SMS (Hort.)			
Dr.S.Anandha krishnaveni	SMS (Agron.)			
Dr.K.Chozhan	Programme Coordinator			
Dr.V.Alex Albert	SMS (SS & T)			
Dr.V.Sivakumar	SMS (Hort.)			
Dr.A.Kamaraj	SMS (Agrl. Engg.)	Crop modeling and yield estimation - ORYZA model	TNAU, Coimbatore	20.08.2013 to 23.08.2013
Dr.V.Alex Albert	SMS (SS & T)	Promotion of plywood plantation in Tamil Nadu through contract farming	Forest College and Research Institute, Mettupalayam	21.08.2013
Dr.K.Chozhan	Programme Coordinator	Cross learning programme	KVK, Nagappattinam	06.09.2013
Dr.A.Kamaraj	SMS (Agrl. Engg.)			
Dr.V.Alex Albert	SMS (SS & T)			
Dr.V.Sivakumar	SMS (Hort.)			
Dr.K.Chozhan	Programme Coordinator	Campaign on weed management in direct sown rice	Okai, Kudavasal	11.09.2013
Dr.S.Anandha krishnaveni	SMS (Agron.)			
Dr.K.Chozhan	Programme Coordinator	Cross learning programme	KVK, Madurai & Namakkal	13.09.2013
Dr.A.Kamaraj	SMS (Agrl. Engg.)			
Dr.V.Alex Albert	SMS (SS & T)			

Dr.K.Chozhan	Programme Coordinator	Cross learning programme	KVK, Dharmapuri	14.09.2013
Dr.A.Kamaraj	SMS (Agrl. Engg.)			
Dr.V.Alex Albert	SMS (SS & T)			
Dr.V.Alex Albert	SMS (SS & T)	Sensitization workshop on PPV&FRA	Bangalore	29.09.2013 to 01.10.2013
Dr.V.Alex Albert	SMS (SS & T)	Agriculture marketing training	TNAU, Coimbatore	09.10.2013 to 11.10.2013
Dr.K.Chozhan	Programme Coordinator	International conference on drip fertigation in rice	TNAU, Coimbatore	16.10.2013 to 19.10.2013
Dr.K.Chozhan	Programme Coordinator	8 <sup>th</sup> National conference on KVK	Bangalore	21.10.2013 to 27.10.2013
Dr.A.Kamaraj	SMS (Agrl. Engg.)			
Dr.V.Alex Albert	SMS (SS & T)			
Dr.V.Sivakumar	SMS (Hort.)			
Dr.K.Chozhan	Programme Coordinator	Workshop on mass media	TNAU, Coimbatore	04.11.2013 to 06.11.2013
Dr.S.Anandha krishnaveni	SMS (Agron.)	ICAR – Winter school on Drudgery reduction technologies useful for farm woman and farm worker	TNAU, Coimbatore	06.11.2013 to 26.11.2013
Dr.T.Dhamodaran	SMS (Agrl. Extn.)	Central team interaction meeting	Thiruvapur	09.11.2013
Dr.A.Kamaraj	SMS (Agrl. Engg.)			
Dr.K.Chozhan	Programme Coordinator	Seminar on agricultural technology delivery mechanism through KVK	Sri Ramakrishna Mission Vidyalaya Institute of Agriculture and Rural Development	14.11.2013
Dr.V.Alex Albert	SMS (SS & T)			
Dr.V.Sivakumar	SMS (Hort.)			
Dr.V.Alex Albert	SMS (SS & T)	Brain storming on NADP scheme	TNAU, Coimbatore	21.11.2013 to 22.11.2013
Dr.S.Anandha krishnaveni	SMS (Agron.)	NAARM, Sponsored training on data analysis using SAS	TNAU, Coimbatore	09.12.2013 to 14.12.2013
Dr.S.Anandha krishnaveni	SMS (Agron.)	National ground water conference	TNAU, Coimbatore	09.12.2013 to 11.12.2013
Dr.A.Kamaraj	SMS (Agrl. Engg.)	National ground water conference	TNAU, Coimbatore	08.12.2013 to 11.12.2013

Dr.V.Sivakumar	SMS (Hort.)	Training on professional skills for trainers of extension institute of agriculture and allied department	MANAGE, Hyderabad	16.12.2013 to 20.12.2013
Dr.J.Jayakumar	SMS (Nema.)	Organic farming	TNAU, Coimbatore	16.12.2013 to 20.12.2013
Dr.T.Dhamodaran	SMS (Agrl. Extn.)	Regional Agriculture Mela	TRRI, Aduthurai	10.01.2014
Dr.A.Kamaraj	SMS (Agrl. Engg.)			
Dr.S.Anandha krishnaveni	SMS (Agron.)			
Dr.K.Chozhan	Programme Coordinator	Farmers day 2014	TNAU, Coimbatore	11.01.2014
Dr.V.Alex Albert	SMS (SS & T)			
Dr.V.Sivakumar	SMS (Hort.)			
Dr.K.Chozhan	Programme Coordinator	Orientation programme	Central University, Thiruvarur	25.01.2014
Dr.V.Alex Albert	SMS (SS & T)	Foot and Mouth disease and its management workshop	IVRI, Bangalore	01.02.2014
Dr.K.Chozhan	Programme Coordinator	Farmers and scientist interaction meet at Krishi Vasant 2014	CICR, Nagpur	09.02.2014 to 13.02.2014
Dr.V.Sivakumar	SMS (Horti)			
Dr.A.Kamaraj	SMS (Agrl. Engg.)	National training course on economics and marketing of value added products	TNAU, Coimbatore	13.02.2014 to 19.02.2014
Dr.T.Dhamodaran	SMS (Agrl. Extn.)	Seminar on pulses production techniques	Velukudi	13.02.2014
Dr.V.Alex Albert	SMS (SS & T)			
Dr.T.Dhamodaran	SMS (Agrl. Extn.)	National seminar on development of fisheries in water deficient area	CIBA, Chennai	25.02.2014 to 26.02.2014
Dr.S.Anandha krishnaveni	SMS (Agron.)	Workshop on FAO, Hortivar	KVK, Madurai	05.03.2014 to 06.03.2014
Dr.V.Alex Albert	SMS (SS & T)	Workshop on expansion of castor area in Tamil Nadu	TCRS, Yethapur	11.03.2014
Dr.K.Chozhan	Programme Coordinator	Annual Action Plan workshop	TNAU, Coimbatore	12.03.2014 to 15.03.2014
Dr.V.Sivakumar	SMS (Hort.)			
Dr.V.Alex Albert	SMS (SS & T)	Workshop on transfer of tree seed cultivation technologies	IFGTB, Coimbatore	21.03.2014

## 16. Other important and relevant information

### FFS on Integrated Crop Management in vegetables

The productivity of vegetables is hampered by biotic & abiotic factors in Thiruvavur district. The farmers usually go for heavy dose of fertilizers, pesticides to obtain more yield without knowing the damage to the ecosystem and cost effectiveness. In order to advocate the use of Integrated crop Management in vegetable production and eco friendly form of crop protection, FFS on 'Integrated Crop Management in Vegetables' was conducted at Melanagai village with 25 farmers who were really wanted to adopt the ICM packages through interactive meetings and participatory demonstrations.

A total of 14 classes were organized during the crop period by adopting ICM technologies such as seed treatment, pro-tray nursery techniques, precision use of inputs, advanced hybrids, seed production techniques, drip fertigation, marketing of fresh vegetables and eco friendly plant protection technologies in the form of field demonstrative and skill oriented classes. Finally a field day was organized in which the experiences and benefits of FFS were shared by the FFS farmers. A total 40 farmers of Melanagai village participated in the field day and got the information on usefulness of ICM in vegetable cultivation.

### Impact of ICM in vegetables

#### Technological impact

The technological know-how and field level adoption of the 25 participatory farmers were thoroughly studied and presented below

Technology	Awareness		Adoption	
	No	%	No	%
Selection of good quality seed	25	100	25	100
Seed treatment with bio inputs	25	100	25	100
Pro-tray nursery raising	25	100	22	88
Precision use of inputs for vegetable cultivation	25	100	25	100
Seed production techniques in vegetables	25	100	25	100
Plant protection in vegetable crops	25	100	25	100
Marketing in vegetable crops	25	100	25	100
<b>Average</b>	<b>25</b>	<b>100</b>	<b>24</b>	<b>98.2</b>

It could be observed from the table that the knowledge gained through awareness on ICM in vegetables was 100 per cent because of the FFS and an average of 98.2 per cent of farmers have adopted ICM technologies.



### Extension and training activities

Sl. No	Activity	No. of activities	Date	No. of participated	Remarks
1	Farmers training	14	06.01.2014,13.01.2014 20.01.2014,27.01.2014 03.02.2014,17.02.2014 24.02.2014,03.03.2014 10.03.2014, 15.03.2014 18.03.2014, 21.03.2014 25.03.2014, 27.03.2014	350 (25 x 14)	Farmers are quite reactive, more involvement and work as a group. Collaborative learning, farmer centered discussion was achieved.
2	Demonstration	14	06.01.2014,13.01.2014 20.01.2014,27.01.2014 03.02.2014,17.02.2014 24.02.2014,03.03.2014 10.03.2014, 15.03.2014 18.03.2014, 21.03.2014 25.03.2014, 27.03.2014		
3	Field day	1	27.3.2013	40	

### Important events of KVK

#### Uzhavar Peruvizha at Thiruvarur District

During 2013-14 a month long “Uzhavar Peruvizha” was conducted from 14.04.2013 to 21.05.2013. The inaugural programme was held on 14.04.2013 at Aalangudi village of Valangaiman block which was chaired by District Collector and inaugurated by Hon’ble Food Minister Th. R. Kamaraj. Various extension activities viz., Lecture, Method demonstration, Film Show, Awareness walk, Exhibition were conducted by all the Subject Matter Specialists under the guidance of Programme Coordinator in all the 10 blocks of the district.

#### Visit of Agricultural Production Commissioner & Principal Secretary to Government

Thiru Sandeep Saxena I.A.S, Agricultural Production Commissioner & Principal Secretary to Government of Tamil Nadu visited KVK Thiruvarur on 21.05.2013 enroot to his visit to the sub surface dyke at munnar Thalaippu and green manure awareness campaign at Peruhavazhnthan. Dr. K. Ramasamy, Vice-Chancellor, TNAU, Dr. M. Rajendran I.A.S, Director of Agriculture, Thiru S. Natarajan I.A.S, District Collector, Dr. T. Jayaraj, Director, Tamil Nadu Rice Research Institute, Aduthurai and Dr. C. V. Sairam, Principal Scientist, Zonal Project Directorate - Zone VIII accompanied him.

### **Farmers-Scientist Interaction and District Level Exhibition on green manure crops cultivation**

A “Farmers-Scientist Interaction and District Level Exhibition on green manure crops cultivation” was organized by Krishi Vigyan Kendra, Needamangalam and Agricultural Technology Management Agency (ATMA), Thiruvarur District on 21.05.2013 at Perugavazhthan Village. Thiru A. Ganesan, Joint Director of Agriculture, Thiruvarur District welcomed the gathering. Thiru S. Natarajan I.A.S, District Collector has presided over. Thiru Sandeep Saxena I.A.S, Agricultural Production Commissioner & Principal Secretary to Government of Tamil Nadu delivered the presidential address. Special address on green manure crops was delivered by Dr. K.Ramasamy, Vice-Chancellor, Tamil Nadu Agricultural University, Coimbatore, Dr. M. Rajendran I.A.S, Director of Agriculture, Tamil Nadu, Thiru S. Ranganathan, Research Council Member, Tamil Nadu Agricultural University, Coimbatore. Dr. T. Jayaraj, Director, Tamil Nadu Rice Research Institute, Aduthurai and Dr. C. V. Sairam, Principal Scientist, Zonal Project Directorate - Zone VIII, Indian Council of Agricultural Research, Bangalore felicitated the function. Five hundred numbers of progressive farmers from the entire district of Thiruvarur participated in the interactive meet, exhibition and benefited. The trainees were exposed to various stall arrangements and live demonstration pertaining to Agriculture, Horticulture Agriculture Engineering, Animal husbandry and Sericulture. Farm equipments, seeds, Dr. K. Chozhan, Professor and Head, Krishi Vigyan Kendra, Needamangalam proposed the vote of thanks.

### **Visit of Dr. K. Arulmozhi, IAS, Mr. S. Natarajan, District Collector, Thiruvarur**

Dr. K. Arulmozhi, IAS, Principal Secretary, Backward Classes, Most Backward Classes and Minorities Welfare Department and Chairman, Monitoring Committee and Thiru. S.Natarajan, District Collector, Thiruvarur visited Krishi Vigyan Kendra on 03.07.2013. Dr. K. Chozhan, Professor and Head, explained the KVK activities and demo units viz. Rice seed production, Shade net production of Capsicum, Poultry unit, slated house goat rearing, Tube rose cultivation under shadenet, Vermi-compost unit, Mushroom production unit, Azolla unit and Plant health diagnostic facility. The pro-tray sowing of Capsicum seeds var Bombay and Indra was also inaugurated by Dr. K. Arulmozhi, IAS, and Mr. S. Natarajan, IAS, Thiruvarur. Saplings of the Poplar tree i. e. *Populus deltoids* (PL4) a willowood species were given to the District Collector by Dr. K. Arulmozhi as a token of popularization efforts to demonstrate the tree species among the farmer's of Thiruvarur District. They also visited the KVK contact farmer's IFS model at Aadhanoor village of Needamangalam block. He interacted with the farmer and got feedback about the advantages and revenue generation in IFS rather than conventional farming. Dr. K. Arulmozhi, IAS, appreciated the KVK activities.

### **Workshop on “Resource based micro level planning and execution”**

Workshop on “Resource based micro level planning and execution” was conducted on 29.07.2013 at Mini meeting Hall of Collectorate, Thiruvarur. The District collector Th.S. Nadarjan, I.A.S. presided over the workshop. Dr.K.Ramasamy, Vice chancellor of Tamil Nadu Agricultural University chaired the session. Director of Tamil Nadu Rice Research Institute, Aduthurai Dr. R. Rajendran delivered the introductory speech. Dr. R. Sivasamy, Professor and Head, Department of Remote Sensing and GIS, welcomed the gathering.

Dr.A.Natarajan, Principal Scientist, NBSS&LUP, Bangalore delivered a lecture on “Resource based planning for Thiruvarur District, Tamil Nadu”. During his presentation he has narrated how the scheme can be operated at village level based on the resource availability and what is the present scenario and how best the linkage should aim to better way to take it at farm level etc. In the 12<sup>th</sup> five year plan, an amount in Rs.3 lakh crore was allotted, however there is a mismatch between allocation and utility. In delta region, salinisation is not a greater problem but it’s an emerging one. From the data base it is observed that Thiruvarur has predominantly very deep, poorly drained clayey soils. Area under fallow is increasing every year. In these fallow lands, Prosopis is a fast spreading plant species which has very deep root system and extract more water from deeper layers. He emphasized that all data in digital format and need for the development of Digital library.

Dr.K.Ramasamy, Vice chancellor of Tamil Nadu Agricultural University, during his special address, he narrated that area under cultivation is decreasing day by day. Rainfall is also highly erratic in nature. In such situation, officials should educate the farmers on crop suitability according to the natural resources available. He emphasized that tree planting along the east coast line can be helpful to avoid sea water intrusion.

Presidential address of the District Collector emphasized that Thiruvarur district can be classified into three regions based on the soil type viz., red soil, alluvial soils and clayey soils accordingly plan the crop and allied agricultural enterprises for the benefit of farming community also market linkage should be strengthened.

Scientists from NBSS & LUP, Bangalore presented the methods of land use plan for Mysore district through Land Management Units (LMU) based on important properties of soil and water.

In the interaction session, suggestions were given for the inclusions of Jersey cross breeds, Improved dual purpose poultry breeds like Namakkal 1, bringing more area under horticulture especially flower crops and G 9 banana and Green fodder crops for increasing the productivity of milch animals.

In this workshop, senior officers and District Heads of Departments of Agriculture, Sericulture, Agricultural Marketing, Horticulture, NABARD, lead bank Co-operatives, Scientist of KVK, Needamangalam and Sikkal were participated. At the end of the programme, Director of Tamil Nadu Rice Research Institute, Aduthurai Dr. R. Rajendran proposed the vote of thanks.

### **Awareness campaign on Parthenium eradication**

One day district level “Awareness Campaign on Parthenium eradication ” was organized at Neelan Matriculation Higher Secondary School, Needamangalam by Krishi Vigyan Kendra, on 22.08.2013. A total of 85 students, teachers, public from different parts of Thiruvavur district attended the campaign. The campaign was inaugurated by the Principal of the Neelan Matriculation Higher Secondary School. Dr. K.Chozhan, the Professor and Head of KVK pointed out that invasion of parthenium weed to India, which spoils both crop and human health. Dr.S.Anandha Krishnaveni, organized the camp and briefly explained the various eradication methods and composting techniques of Parthenium. Th.Ilanchezhian, ADA, Needamangalam participated in the event.

### **District level training to mark the 9<sup>th</sup> Foundation day of Krishi Vigyan Kendra**

To popularize the Minor Millets, two day district level training on “Preparation of Value added products from Minor Millets” was conducted at Krishi Vigyan Kendra on 1<sup>st</sup> and 2<sup>nd</sup> August, 2013 on the eve of the 9<sup>th</sup> Foundation day of Krishi Vigyan Kendra, Needamangalam. The seminar was chaired by Dr.R.Rajendiran, Director, Tamil Nadu Rice Research Institute, Aduthurai. He emphasized the advantages and need of minor millets in food in the present life style. Dr.K.Chozhan, Professor and Head spoke on role of minor millets in children’s growth and the value of value added products in present system. About 125 participants from different sectors of Cauvery delta attended the training. Different products from minor millets were prepared by the trainees to know about their easyness in preparation. Tmt.D.Reka, Programme Assistant (Technical) acted as resource person.

### **District level seminar on Cocoa**

One day district level seminar on “Cocoa as a intercrop in coconut fields” was conducted at Krishi Vigyan Kendra, Needamangalam on 17<sup>th</sup> September, 2013. The seminar was chaired by the Deputy Director Horticulture, Thiruvavur, who delivered the inaugural address. ADA, Needamangalam delivered a special address on cocoa. Dr.K.Rajamanikkam, Professor (Ento.), CRS, Veppankulam delivered technical address about cocoa cultivation. He emphasized the advantages and need of cocoa cultivation as intercrop in coconut in the present scenario. Dr.K.Chozhan, Professor and Head spoke on role of Cocoa cultivation and the value of cocoa products in the farmers income. About 125 participants from Thiruvavur district attended the seminar. Different stages of cocoa cultivation were displayed in the exhibition for the farmers to know about their easiness in cultivation in convergence with Cadbury India Ltd.,. The seminar session was arranged by Dr.V.Sivakumar, Assistant Professor (Horti.), KVK, Needamangalam. Dr.K.Kumanan, Assistant Professor (Horti.) from HC&RI, TNAU, Coimbatore spoke in the seminar as a invited speaker. The seminar was funded by DCCD, Cochin.

### **Visit of NICRA monitoring team**

Dr.V.Veerabadriah, Chairman, NICRA Monitoring Committee, Dr.S Prabhukumar ,ZPD and Dr.K.A.Ponnusamy DEE (TNAU) along with NICRA scientists viz., Dr. Srinath Dixit and Dr. V. Sreenivasa Reddy visited Krishi Vigyan Kendra on 24.09.2013. The team gone through various activities undertaken by this Kendra and appreciated the efforts taken by the Kendra.

### **Visit of Director General, ICAR**

The Director General, ICAR Dr.S.Ayyappan visited KVK, Thiruvarur on 08.10.2013. He was received by the team of KVK Scientists, Agriculture Department Officers and progressive farmers of Thiruvarur district. The Director General planted a sapling of Nutmeg, *Myristica fragrans* in the Spice Garden demonstration unit of KVK, Thiruvarur. He visited the other demonstration units viz., Roof top garden, Poultry units, Slatted house goat rearing unit, Protected cultivation of tube rose, Fodder bank, Stunted fish fingerling pond, Azolla tubs, *Melia dubia* demonstration unit, Poplar tree demonstration besides visiting the Plant Health Diagnostic Facility.

The Director General gave away chicks of Nandanam 4, a recently released multicolored, dual purpose cross breed of chicken to three KVK – IFS farmers viz., Th.Deivamani, Keluvathoor, Th.Veerabaskaran, Aadanoor and Th.Karunanithi, Poonthottam. The visiting Director General interacted with the progressive IFS and Inland fish farmers of Thiruvarur district along with the scientists of KVK, Deputy Director (Agri.), Assistant Director of Agriculture, Needamangalam and Assistant Director of Agriculture (Quality Control) of Thiruvarur. He appreciated the farmers for their keen interest in IFS and Fish farming for their livelihood safety. He released the following two Tamil books for the benefit of the farmers and trainees of KVK, Thiruvarur viz., ICM in Vegetable crops and Yeetram tharum Maatru ina kolihal. He complemented the Team KVK, Thiruvarur for their strong linkage with farmers and line department officials of Thiruvarur district. Dr.S.Prabhukumar, Zonal Project Director, Zone VIII, Banagalore, Dr.R.Rajendran, Director, Tamil Nadu Rice Research Institute, Aduthurai accompanied the ICAR, Director General.

### **Dengu disinfestation.**

As a precautionary activity to arrest Dengu fever, Dengu disinfestation was done at Krishi Vigyan Kendra, Needamangalam. The camp was organized in collaboration with Health Department of Tamil Nadu. Discussion and information on Dengu fever was given to staff and labours of KVK, Needamangalam. Also disinfestations of dengue vectors were done by Health Department of Tamil Nadu in the office premises and farm premises on 29.10.2013.

### **Participation in 8<sup>th</sup> National conference on KVK at Bangalore.**

Krishi Vigyan Kendra, Thiruvarur exhibited important and latest technologies that are disseminated by KVK, Needamangalam in the 8<sup>th</sup> National Conference on KVKs held at University of Agricultural Sciences (GKVK Campus), Bengaluru from 23<sup>rd</sup> October, 2013 to 25<sup>th</sup> October, 2013. Three Subject Matter Specialists viz., Dr.A.Kamaraj, Dr.V.Sivakumar, Dr.V.Alex albert and Dr.K.Chozhan the Professor and Head of KVK, Thiruvarur attended the National conference. The exhibition stall was visited by the Union Agricultural Minister Shri Sharad Pawar, Chief Minister of Karnataka, State Ministers, Vice Chancellors of SAUs, farmers, technocrats, agricultural leading scientists, administrative members, students and staff of other KVKs.

### **Rice mealy bug – Mass Eradication Campaign**

In Thiruvarur district rainfall was received less than the normal rainfall and also the hot and humid weather have contributed to the increase in Mealy bug, and mite attack in many places. To control the above pests a rapid roving survey was conducted by Scientist of KVK along with Agriculture department officials in Mannargudi, Thiruthuraipoondi, Kottur and Muthupettai block from 1<sup>st</sup> to 6<sup>th</sup> November 2013.and Thiruvarur block on 08.11.2013. Also special lectures,leaflets, AIR message, Local dailies messages (Dinamalar,Daily thandhi, Dhinakaran and Dhinamani) and announcement through public conveyance system were also done. The direct seeded CR 1009 and BPT 5204 varieties of 60-70 days age were severely affected by Rice mealybug *Brevinia rehi* and leaf mite *Oligonychus oxzyae*, besides the rice leaf folder *Cnaphalocrocis medinalis* in few villages. Special lecture in Monthly zonal workshop, AIR, Trichy, Karaikal – Message, Local dailies (Dinamalar,Daily thandhi, Dhinakaran and Dhinamani), Rapid roving survey,Announcement through public address system,Invited Special address in Farmers grievance day,News Paper / Media coverage, suitable recommendations for Mealy bug,Leaf mite,Leaf folder,Bacterial Leaf Blight

A leaflet in Tamil was prepared and distributed to the farmers during the survey. The leaflet was given to the ADA's for display in prominent places in the offices, Depots. The team KVK continued the survey in the remaining blocks of Thiruvarur district and farmers were advised on the control measure for mealy bug and other pests of rice.

### **Seminar on agricultural technology**

Dr.K.Chozhan, Professor and Head delivered a special lecture in the seminar on “Agricultural technology delivery mechanism through KVK” organized by Sri Ramakrishna Mission Vidyalaya Institute of Agriculture and Rural Development, Coimbatore on 14.11.2013. Dr.V.Alex Albert, Assistant professor (SST) and Dr.V.Sivakumar Assistant professor (Hort.) of Krishi Vigyan Kendra, Needamangalam also participated in the seminar.

### **National Mission on food processing**

In order to double the production and triple the income of the farmers, Awareness training on National Mission on Food Processing was conducted at Krishi Vigyan Kendra, Thiruvarur on 21.11.2013. The meeting was organized in order to sensitize the Agricultural Officers of Thiruvarur, Nagappatinam, Pudukkottai and Thanjavur districts. The training was inaugurated by Dr.K.Chozhan, Professor and Head, KVK, Thiruvarur. During his inaugural address he reiterated the importance of value addition, extra income generated from marketing technique and also the ways to triple the income. Dr.Aruna from Periyar Maniammai University and Dr.Selvam, Executive Director, AMIBPC, delivered technical lectures. Th.N.Sampathkumar, Deputy Director, Marketing, Thiruvarur organized the training.

### **Krishi Vigyan Kendra, Thiruvarur farmers awarded for their outstanding performance**

The progressive and contact farmers of Krishi Vigyan Kendra, Needamangalam were awarded for their outstanding distinctive performance. Th.D.Rajkumar, Devankudi a progressive and innovative farmer of KVK received *Velanmai Chemmal* award on 11.01.2014 during Farmers day 2014 at Tamil Nadu Agricultural University, Coimbatore for complete mechanization in rice and for disseminating the latest agricultural technologies in Thiruvarur District. Another farmer Th.R.Arunkumar of Kaarikottai, an innovative farmer of this Kendra received an award at Tamil Nadu Rice Research Institute, Aduthurai on 10.01.2014 during Regional Agricultural Mela 2014 for his achievement in seed production of TNAU rice varieties

### **Participation in Farmers Day 2014 at TNAU, Coimbatore**

Path breaking technologies that are disseminated by KVK, Thiruvarur were exhibited in the Farmers Day 2014 held at Tamil Nadu Agricultural University, Coimbatore on 11<sup>th</sup> January, 2014. Two Subject Matter Specialists Viz., Dr.V.Sivakumar, Dr.V.Alex albert and Dr.K.Chozhan the Professor and Head of KVK, Thiruvarur attended the Farmers Day. The exhibition stall was visited by the Commissioner of Agriculture, the Vice Chancellor of TNAU, farmers, technocrats, leading agricultural scientists, administrative members, students and staff of other KVKs.

### **Participation in Krishi Vasant 2014**

The Krishi Vasant 2014 was organized at CICR campus, Nagpur from 09.02.2014 to 13.02.2014. Tamil Nadu Agricultural University has displayed the promising varieties and new technologies released from TNAU along with models and live specimen. The rice variety TRY – 3 and TNAU Rice drum seeder were highly attracted and appreciated by the farmers and scientist respectively. The farmers from the entire part of the country visited the Krishi Vasant, 2014. On an average 2 lakhs farmers visited the Krishi Vasant, 2014.

A team of Scientists from TNAU, viz., DR.N.Tamil Selvan, Professor and Head, KVK, Dharmapuri, Dr.K.Chozhan, Professor and Head, KVK, Thiruvarur, Dr.P.Sridar, Professor and Head, KVK, Vellore, Dr.P.P.Murugan, Professor, DEE office, TNUA, Coimbatore, Dr.V.Sivakumar, Asst. Prof. (Hort.), Dr.P.K.Padmanathan, Asst. Prof. (Agrl. Engg.) and Dr. D. Periyar Ramasamy Research Associate attended the programme on all 5 days and explained the visiting farmers about the varieties and Technologies released by TNAU for the benefit of the farming community.

The Krishi Vasanth 2014 at CICR, Nagpur was attended by more than 3000 farmers from Tamil Nadu representing all districts from Thiruvallur to Kanyakumari. They were mobilized to Nagpur by the respective Joint Directors of Agriculture from each district.

The farmers also attended a farmer's scientists interactive meeting in the seminar hall 2 on 12.02.2014. Where scientists from TNAU, TANUVAS, SBI, Coimbatore and IARI, New Delhi participated and explained more than 27 queries composing of crops viz., rice, sugarcane, banana, turmeric, vegetables and animal husbandry. The programme was webcasted and also connected through video conferencing.

All the farmers expressed their satisfaction about the arrangements.

The highlights of the events are

- ❖ There was an overwhelming response to the rice variety TRY 3 from the farmers of Maharashtra, Orissa and Mehalaya.
- ❖ The direct drum seeder for paddy evoked exemplary response from the farmers of all states especially Punjab and Orissa.
- ❖ The turmeric boiler model attracted the attention of visitors.
- ❖ The precision farming model and roof top garden model were among the top ranking models as far as the farmer's queries were concerned.



**Important visitors to KVK, Thiruvarur**

<b>Date</b>	<b>Name and Designation</b>	<b>Institution</b>	<b>Purpose</b>
10.04.2013	Dr.M.Rajendran Director of Agriculture	Agri. Commissionerate Chennai	Visit to the Demo unit
16.04.2013	Th.S.Natarajan IAS, Collector	Collectorate, Thiruvarur	To visit slatted house goat unit
21.05.2013	Dr.K.Ramasamy Vice Chancellor	TNAU, Coimbatore	To inspect the sub surface dyke
	Dr.M.Rajendran Director of Agriculture	Agri. Commissionerate Chennai	
	Th.S.Natarajan IAS, Collector	Collectorate, Thiruvarur	
	Th.Sandeep saxena Agriculture production commissioner	Agri. Commissionerate Chennai	
	Dr.T.Jayaraj Director, TRRI	TRRI, Aduthurai	
	Dr.C.V.Sairam Principal Scientist	Zone VIII, Bangalore	
24.06.2013	Dr.K.Ramasamy Vice Chancellor	TNAU, Coimbatore	To participate the Scientific advisory committee meeting
	Dr.K.A.Ponnusamy DEE	TNAU, Coimbatore	
	Th.S.Natarajan IAS, Collector	Collectorate, Thiruvarur	
	Dr.Mushtafa Director	NRCB, Trichy	
	Dr.T.Jayaraj Director	TRRI, Aduthurai	
	Dr.C.V.Sairam Principal Scientist	Zone VIII, Bangalore	
13.08.2013	Dr.S.Prabhukumar ZPD	Zone VIII, Bangalore	To sensitize the SMS and PA's
20.08.2013	Th.S.Natarajan IAS, Collector	Collectorate, Thiruvarur	To see the Roof top garden
22.08.2013	Dr.Roland Burush Dr.Sheetal Sharma Dr.Weing castle,Scientist	IRRI, Philippines	Discussion on NM Rice
23.08.2013	Dr.S.Prabhukumar ZPD	Zone VIII, Bangalore	To inspect the Demo unit
23.09.2013	Th.S.Renganathan Research council member	Mannargudi	To see the Roof top garden
24.09.2013	Chairman NICRA	NICRA	To see the KVK, activities
	Dr.S.Prabhukumar ZPD	Zone VIII, Bangalore	
	Dr.K.A.Ponnusamy, DEE	TNAU, Coimbatore	

01.10.2013	Dr.K.Ramasamy Vice Chancellor	TNAU, Coimbatore	To visit the Thondiyakadu lake
08.10.2013	Dr.S.Ayyappan Director General	ICAR – New Delhi	To sensitize the SMS,PA's on KVK activities
	Dr.S.Prabhukumar ZPD	Zone VIII, Bangalore	
	Dr.R.Rajendran Director	TRRI, Aduthurai	
12.11.2013	Project Director	Collectorate, Thiruvarur	To see the Vermi unit
20.11.2013	Consultant , ADB	Bangalore	To see the Vermi unit
28.11.2013	Dr.K.Ramasamy Vice Chancellor	TNAU, Coimbatore	To see the Back yard poultry unit
24.12.2013	Dr.R.Rajendran Director	TRRI, Aduthurai	NM Rice field visit
31.12.2013	Th.S.Natarajan IAS, Collector	Collectorate, Thiruvarur	To inspect the Spice garden
04.01.2014	Dr.B.J.Pandiyan WTC Director	TNAU, Coimbatore	CUTN certificate course discussion
10.01.2014	Dr.K.Ramasamy Vice Chancellor	TNAU, Coimbatore	To inspect the Slatted goat unit
17.01.2014	Th.S.Natarajan IAS, Collector	Collectorate, Thiruvarur	TO INSPECT THE Precision farming unit
22.01.2014	Dr.Isaya Vincent Sijali Scientist	Kenya Agriculture Research Institute, Nairobi	Exposure visit
25.01.2014	Dr.B.J.Pandiyan Director, WTC	TNAU, Coimbatore	CUTN course inauguration

## SUMMARY FOR 2013-14

### I. TECHNOLOGY ASSESSMENT

#### Summary of technologies assessed under various crops

<b>Thematic areas</b>	<b>Crop</b>	<b>Name of the technology assessed</b>	<b>No. of trials</b>
Varietal Evaluation	Tuberose	Tuberose varieties suitable for padugai lands of Thiruvarur District	5
	Tapioca	Assessing suitable varieties of tapioca	5
	Ragi	Suitable Ragi variety for salt affected soils of Thiruvarur district	7
	Red gram	Suitable short duration red gram varieties for Thiruvarur District	5
	Betel vine	Suitable betel vine varieties for Thiruvarur District	5
	Elephant foot yam	Elephant foot yam varieties suitable for intercropping in coconut	5

Summary of technologies assessed under livestock : Nil

Summary of technologies assessed under various enterprises: Nil

Summary of technologies assessed under home science: Nil

### II. TECHNOLOGY REFINEMENT

Nil

### III. FRONTLINE DEMONSTRATION

#### Crops

Crop	Thematic area	Name of the technology demonstrated	No. of KVKs	No. of Farmer	Area (ha)	Yield (q/ha)		% change in yield	Other parameters		*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
						Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
<b>2011-12</b>																		
Plantation	Crop Diversification	Popularization of Cocoa as inter crop in Coconut plantation		10	4	Crop is in vegetative stage. The yield of cocoa beans will be recorded from 5th year onwards												
<b>2012-13</b>																		
Fruits	Integrated Crop Management	Integrated Crop Management in Banana		10	2	405.1	325.9	24.3	Plant height (m)-3.8	3.2	61000	202550	141550	3.32	56000	162950	106950	2.90
<b>2013-14</b>																		
Cereals	Problematic Soil Management	Integrated management of hydrogen Sulphide injury in rice		10	4	45.5	37	22.97	Plant population at harvest /m <sup>2</sup> :54	32	37800	61425	23625	1.63	33750	49950	16200	1.48
	Variety introduction	Popularization and Farmers Participatory Seed Production of TNAU rice ADT 50 in Samba season		10	4	57.15	45	27	Plant Height (cm):120	92	37500	114300	76800	3.04	37500	90000	52500	2.40
	Variety introduction	Popularization and farmers participatory seed production of TNAU rice Co 51 in Kuruvai season		10	4	67.5	61.2	10.29	Days to Maturity (Days):103	110	37500	114750	77250	3.06	37500	104040	66540	2.77

Vegetables	Variety introduction	Popularization of bush type Lab Lab		12	2.4	88.5	71.2	24.3	Number of pods per plant:56	38	22000	88500	66500	4.02	20500	71200	50700	3.47
	Integrated Crop Management	Integrated Crop Management in Brinjal		10	2	365.4	302.5	20.79	% fruit infestation: 3.4	22.8	50500	182700	132200	3.62	54000	151250	97250	2.80
Spices and condiments	Crop Diversification	Popularization of pepper as inter crop in Coconut plantation Crop		10	2	Crop is in establishment stage. Yield will be recorded from third year onwards												
Fodder	Integrated Pest Management	Management of sucking pests complex in mulberry		10	4	15052	10260	46.71	<i>Cryptolaemus montrouzieri</i> grubs/plant:17	2	210000	350000	140000	1.66	210000	240000	30000	1.14

\* Economics worked out based total cost of production per unit area

\*\* BCR= GROSS RETURN/GROSS COST

### Livestock :Nil

### Fisheries

Category	Thematic area	Name of the technology demonstrated	No. of KVKs	No. of Farmer	No. of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.)				*Economics of check (Rs.)			
						Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Common carps	Enhancing the farm revenue through alternate farming	Rearing of Fingerlings in hapas		5	5	Survival rate in B 40 Hapas: 13.6	8	5.6	Survival rate in B 16 Hapas: 87	60	6200	10064	3864	1.62	3550	4800	1250	1.35

\* Economics worked out based total cost of production per unit area

\*\* BCR= GROSS RETURN/GROSS COST

### Other enterprises

Category	Name of the technology demonstrated	No. of KVKs	No. of Farmer	No. of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.) or Rs./unit				*Economics of check (Rs.) or Rs./unit			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Others- IFS	Integrated Farming System		3	3	Income realized: Rs 95543 (Additional Rs 21668- Mushroom and poultry)	Rs 73875 (Other than cropping)	-	Quantum of farm resources recycled: 3275 Kg	2260 Kg	78810	254168	175358	3.23	57800	154000	96200	2.66

\* Economics worked out based total cost of production per unit area

\*\* BCR= GROSS RETURN/GROSS COST

### Women empowerment: Nil

### Farm implements and machinery

Name of the implement	Crop	Name of the technology demonstrated	No. of KVKs	No. of Farmer	Area (ha)	Filed observation (output/man hour)		% change in major parameter	Labor reduction (man days)		Cost reduction (Rs./ha or Rs./Unit ect.)	
						Demonstration	Check		Labour reduction (%)	Demonstration	Check	Demonstration
Lazer guided leveler	Paddy	Popularization of Lazer guided leveler in Thiruvarur district		10	4	2	8	400	6	-	800	-

\* Economics worked out based total cost of production per unit area

\*\* BCR= GROSS RETURN/GROSS COST

### Demonstration details on crop hybrids

Crop	Name of the Hybrid	No. of farmers	Area (ha)	Yield (kg/ha) / major parameter			Economics (Rs./ha)			
				Demonstration	Local check	% change	Gross Cost	Gross Return	Net Return	BCR
Maize	TNAU maize hybrid Co6	15	6	8125	765	6.21	27500	97500	70000	3.54

#### IV. Training Programme

##### 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		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
<b>Crop Production</b>										
Resource Conservation Technologies	1	38	10	48	5	3	8	43	13	56
Integrated Farming	1	10	4	14	5	1	6	15	5	20
Integrated Crop Management	2	63	10	73	12	-	12	75	10	85
Integrated Nutrient Management	1	24	6	30	4	-	4	28	6	34
<b>Horticulture</b>										
<b>a) Vegetable Crops</b>										
Production of low value and high volume crop	3	108	26	134	25	1	26	133	27	160
<b>Livestock Production and Management</b>										
Poultry Management	1	74	3	77	12	-	12	86	3	89
Animal Disease Management	1	28	14	42	6	3	9	34	17	51
Feed and Fodder technology	1	32	6	38	5	-	5	37	6	43
Value addition	7	160	107	267	12	28	40	172	135	307
<b>Production of Inputs at site</b>										
Seed Production	1	22	4	26	7	1	8	29	5	34
Vermi-compost production	1	32	3	35	10	-	10	42	3	45
Mushroom production	1	51	5	56	-	-	-	51	5	56
<b>Capacity Building and Group Dynamics</b>										
Group dynamics	2	84	2	86	11	2	13	95	4	99
<b>Agro-forestry</b>										
Production technologies	1	27	11	38	9	7	16	36	18	54
<b>TOTAL</b>	<b>24</b>	<b>753</b>	<b>211</b>	<b>964</b>	<b>123</b>	<b>46</b>	<b>169</b>	<b>876</b>	<b>257</b>	<b>1133</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		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
<b>Crop Production</b>										
Weed Management	2	84	21	109	18	9	27	102	30	132
Resource Conservation Technologies	1	16	2	18	-	-	-	16	2	18
Seed production	2	117	11	128	7	-	7	124	11	135
Integrated Crop Management	3	67	9	76	11	5	16	78	14	92
<b>Horticulture</b>										
<b>a) Vegetable Crops</b>										
Production of low value and high volume crop	2	26	-	26	24	-	24	50	-	50
Off-season vegetables	2	32	12	44	12	7	19	44	19	63
Nursery raising	2	38	14	52	17	3	20	55	17	72
Export potential vegetables	1	22	7	29	6	2	8	28	9	37
Grading and standardization	1	25	4	29	6	2	8	31	6	37
Protective cultivation	2	52	13	65	18	5	23	70	18	88
<b>b) Fruits</b>										
Layout and Management of Orchards	2	84	2	86	11	2	13	95	4	99
Cultivation of Fruit	1	24	3	27	9	4	13	33	7	40
Micro irrigation systems of orchards	3	75	43	118	15	7	22	90	50	140
<b>Agril. Engineering</b>										
Farm machinery and its maintenance	1	23	-	23	7	-	7	30	-	30
Fish processing and value addition	1	7	10	17	3	-	3	10	10	20
<b>Production of Inputs at site</b>										
Vermi-compost production	1	52	7	59	6	-	6	58	7	65
<b>TOTAL</b>	<b>27</b>	<b>744</b>	<b>158</b>	<b>906</b>	<b>170</b>	<b>46</b>	<b>216</b>	<b>914</b>	<b>204</b>	<b>1118</b>



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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Integrated farming	1	33	-	33	7	-	7	40	-	40
Mushroom Production	1	26	38	64	4	7	11	30	45	75
Bee-keeping	1	16	5	21	4	-	4	20	5	25
<b>TOTAL</b>	<b>3</b>	<b>75</b>	<b>43</b>	<b>118</b>	<b>15</b>	<b>7</b>	<b>22</b>	<b>90</b>	<b>50</b>	<b>140</b>

**Training for Rural Youths including sponsored training programmes (off campus)**

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Any other -Parthenium eradication awareness campaign	1	25	35	60	-	-	-	25	35	60
<b>TOTAL</b>	<b>1</b>	<b>25</b>	<b>35</b>	<b>60</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>25</b>	<b>35</b>	<b>60</b>

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	2	64	10	74	6	-	6	70	10	80
Integrated Pest Management	1	52	8	60	13	4	17	65	12	77
Group Dynamics and farmers organization	1	52	-	52	-	-	-	52	-	52
Capacity building for ICT application	1	40	8	48	13	4	17	53	12	65
Any other -Postharvest handling marketing and processing in banana and Agro advisory services using Automatic weather station data	2	69	8	77	-	-	-	69	9	78
<b>Total</b>	<b>7</b>	<b>277</b>	<b>34</b>	<b>311</b>	<b>32</b>	<b>8</b>	<b>40</b>	<b>309</b>	<b>43</b>	<b>352</b>

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

**Sponsored training programmes conducted**

S.No.	Area of training	No. of Courses	No. of Participants									
			General			SC/ST			Grand Total			
			Male	Female	Total	Male	Female	Total	Male	Female	Total	
<b>1</b>	<b>Crop production and management</b>											
1.a.	Increasing production and productivity of crops	2	319	8	327	28	2	30	347	10	357	
1.b.	Commercial production of vegetables	1	122	28	156	-	-	-	122	28	150	
<b>6</b>	<b>Others</b>	4	76	4	80	8	2	10	84	6	90	
	• Sustainable Sugarcane initiative											
	• Precision Farming	28	748	182	930	192	108	300	940	290	1230	
	• PPV & FRA and its provisions	1	83	2	85	15	-	15	98	2	100	
<b>8</b>	<b>Farm machinery</b>											
8.a.	Farm machinery, tools and implements	1	57	-	57	-	-	-	57	-	57	
8.b.	Others - Mechanized rice cultivation	1	24	6	30							
<b>9.</b>	<b>Livestock and fisheries</b>	1	20	2	22	4	4	8	24	6	30	
<b>12</b>	<b>Agricultural Extension</b>											
12.a.	Capacity Building and Group Dynamics	1	34	6	40	8	2	10	42	8	50	
	<b>Total</b>	<b>40</b>	<b>1483</b>	<b>238</b>	<b>1727</b>	<b>255</b>	<b>118</b>	<b>373</b>	<b>1714</b>	<b>350</b>	<b>2064</b>	

**Details of sponsoring agencies involved**

- NABARD
- DCCD
- NADP (RKVY)
- NGO (Sheela)
- PPV & FRA

**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			
			Male	Female	Total	Male	Female	Total	Male	Female	Total	
<b>1</b>	<b>Crop production and management</b>											
1.d.	Integrated crop management	1	18	15	33	4	3	7	22	18	40	
<b>4.</b>	<b>Income generation activities</b>											
4.g.	Mushroom cultivation	1	3	40	43	2	4	6	5	44	49	
<b>5</b>	<b>Agricultural Extension</b>											
5.a.	Capacity building and group dynamics	2	118	2	120	23	-	23	141	2	143	
	<b>Grand Total</b>	<b>4</b>	<b>139</b>	<b>57</b>	<b>196</b>	<b>29</b>	<b>7</b>	<b>36</b>	<b>218</b>	<b>64</b>	<b>232</b>	

## V. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	956	956	227	1183
Diagnostic visits	55	182	34	216
Field Day	20	412	20	432
Film Show	42	1024	27	1051
Kisan Mela	3	1166	7	1173
Exhibition	14	2690	20	2710
Scientists' visit to farmers field	55	182	34	216
Plant/animal health camps	4	126	4	130
Farm Science Club	7	134	7	141
Farmers' seminar	1	1097	84	1181
Method Demonstrations	142	1585	10	1595
Celebration of important days (specigy)	4	164	14	178
Exposure visits	40	1460	46	1506
<b>Others</b>				
Lecture delivered as resource persons	72	1437	22	1459
News paper	70	-	-	-
Radio talk	10	-	-	-
TV talks	21	-	-	-
Popular articles	9	-	-	-
Extension Literature	18	-	-	-
Farmers visit to KVK	855	822	33	855
Workshop	14	130	605	735
<b>Total</b>	<b>2412</b>	<b>13567</b>	<b>1194</b>	<b>14761</b>

**Details of other extension programmes**

Particulars	Number
Electronic Media	11
Extension Literature	18
News Letter	400
News paper coverage	70
Technical Articles	8
Technical Bulletins	4
Technical Reports	16
Radio Talks	10
TV Talks	21
Animal health camps (Number of animals treated)	1
Others - Lecture delivered as resource person	72
<b>Total</b>	<b>631</b>

**VI. PRODUCTION OF SEED/PLANTING MATERIAL****Production of seeds by the KVKs**

Crop category	Name of the crop	Variety	Hybrid	Quantity of seed (qtl)	Value (Rs)	Number of farmers to whom provided
Cereals	Rice (Seed)	TRY 3*	-	13.24	25156	42
		Swarna sub 1*	-	21.26	46772	23
		ADT50*	-	11.40	25080	12
		CR 1009*	-	97.48	185212	86
		ADT 49*	-	51.48	102960	46
		ADT 46*	-	8.20	18040	8
		ADT 43*	-	35.29	84696	52
		CO 51*	-	23.18	55632	12
		ADT 43	-	22.31	53544	64
		TKM 9	-	35.20	70400	58
		CR 1009	-	89.00	178000	-

		CR 1009 sub 1	-	35.00	70000	-
		TRY 3	-	29.50	59000	-
		Swarna sub 1	-	15.40	36960	-
		TM culture	-	19.50	46800	-
		CB 09123	-	12.50	30000	-
		CB 07540	-	4.25	10200	-
		ADT 49	-	22.00	52800	-
		ADT 50	-	28.00	67200	-
<b>Total</b>				<b>574.19</b>	<b>1218452</b>	<b>403</b>
	<b>Rice (Grain)</b>	CR 1009 mixed grain	-	20.60	29219	3
		ADT 36 grain		23.20	32828	2
<b>Total</b>				<b>43.80</b>	<b>62047</b>	<b>5</b>
Pulses	Blackgram	ADT 5 (FII)	-	26.20	1,96,500	82
<b>Total</b>				<b>26.20</b>	<b>1,96,500</b>	<b>82</b>
Fodder crop	Fodder	CO4 slips	-	5476	2738	132
<b>Total</b>				<b>5476</b>	<b>2738</b>	<b>132</b>

\* previous year seed sold during this year

#### Production of planting materials by the KVKs

Crop category	Name of the crop	Variety	Hybrid	Number	Value (Rs.)	Number of farmers to whom provided
Fodder crop saplings	Cumbu Napier grass	-	Co (CN)4	5476	2738	132
<b>Total</b>				5476	2738	132

**Production of Bio-Products**

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	Number of farmers to whom provided
Bio Fertilizers	Azolla	600	3000	20
	Vermicompost	545	3270	12
<b>Total</b>		<b>1145</b>	<b>6270</b>	<b>32</b>

**Production of livestock materials**

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	Number of farmers to whom provided
<b>Poultry</b>				-
Cross breed	Namakkal Eggs & SwarnaDara Eggs	528	2625	80
Turkey	Namakkal 1 Live bird	23 Kg	3450	8
Other	Nandanam 4 chicks	270	15400	8
Dairy animal	Boer bucks	14 Nos	70750	4
<b>Total</b>		<b>775 Nos + 23 Kg</b>	<b>92225</b>	<b>100</b>

**VII. DETAILS OF SOIL, WATER AND PLANT ANALYSIS 2013-14**

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples	15	12	7	
Water Samples	42	36	12	-
Plant samples	-	-	-	-
Manure samples	-	-	-	-
Others (specify)	-	-	-	-
<b>Total</b>	<b>57</b>	<b>48</b>	<b>19</b>	<b>-</b>

**VIII. SCIENTIFIC ADVISORY COMMITTEE**

Number of SACs conducted
1

**IX. NEWSLETTER**

Number of issues of newsletter published
400

**X. RESEARCH PAPER PUBLISHED**

Number of research paper published
1

**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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