

# **ANNUAL REPORT 2010-11**

**(FOR THE PERIOD APRIL 2010 TO MARCH 2011)**

**KRISHI VIGYAN KENDRA (NAGAPATTINAM)**

**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 Tamilnadu Agricultural University Sikkal, Nagapattinam – 611 108.	04365- 246266	04365- 246266	kvksikkal@tnau.ac.in	-

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

Address	Telephone		E mail	Web Address
	Office	Fax		
Tamilnadu Agricultural University Coimbatore -641 003	0422- 2431222	-	vctnau@tnau.ac.in	www.tnau.ac.in

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr.T.Dhamodaran, Ph.D.,	9150151495	93448 86867	kvksikkal@tnau.ac.in aexdhamlal@yahoo.com

**1.4. Year of sanction: 2004**

### 1.5. Staff Position (as 31<sup>st</sup> March 2011)

Sl. No.	Sanctioned post	Name of the incumbent	Designation	M/F	Discipline	Highest Qualification	Pay Scale	Basic pay	Date of joining KVK	Permanent /Temporary	Category (SC/ST/OBC/Others)
1	Programme Coordinator	Dr. T. Dhamodaran	Associate Professor	M	Agri. Extension	Ph.D.,	15600-39100+8000	26050 + 8000	31.05.10 (AN)	Permanent	SC
2	SMS	Dr. J. John Gunasekar	Associate Professor	M	Bio Energy	Ph.D.	37400-67000+9000	37400 + 9000	07.08.09	Permanent	BC
3	SMS	Dr. M. Joseph	Assistant Professor	M	Agronomy	Ph.D.	15600-39100+7000	22830 + 7000	21.07.10	Permanent	SC
4	SMS	Dr. G. Thangamani	Assistant Professor	F	Agri. Micro	Ph.D.	15600-39100+7000	22830 + 7000	18.11.2010	Permanent	MBC
5	SMS	Dr. T. Elaiyabharathi	Assistant Professor	M	Agri. Entomology	Ph.D.	15600-39100+6000	19600+ 6000	30.12.09	Temporary	BC
6	SMS	Dr. G. Malathi	Assistant Professor	F	Horticulture	Ph.D.	15600-39100+6000	19600+ 6000	31.12.09	Temporary	MBC
7	SMS	Dr. K. Sivakumar	Assistant Professor	M	Soil Science	Ph.D.	15600-39100+6000	18850+ 6000	12.01.10	Temporary	BC
8	Programme Assistant (Lab Tech.) /T-4	Th. V. GnanaBharathi	Programme Assistant (Lab Tech.)	M	Agriculture	B.Sc (Agri)	9300-34800+4400	11600 + 4400	05.06.07	Permanent	SC
9	Programme Assistant (Computer) / T-4	Th. R. S.Swamiappan	Programme Assistant (Computer)	M	Computer science	MCA	9300-34800+4400	11130 + 4400	8.12.08	Permanent	BC
10	Programme Assistant/ Farm Manager	Th. R. Vedharethinam	Programme Assistant/ Farm Manager	M	Agronomy	M.Sc (Ag) Agronomy	9300-34800+4400	11600 + 4400	04.06.07	Permanent	MBC
11	Assistant	Th. N. Sankar	Junior Assistant cum Typist	M	Office	MA, B.Ed	5200-20200	5200+ 2400	28.02.2011	Temporary	MBC
12	Jr. Stenographer	Tmt. S. Shanthi	Junior Assistant cum Typist	F	Office	MA	5200-20200	5200+ 2400	28.02.2011	Temporary	BC
13	Driver	Th. V. Rajan	Driver cum Mechanic (Foreman)	M	Office	--	5200-20200+2400	12650 + 4200	07.06.10	Permanent	MBC
14	Driver	Th. P. Govindaraju	Driver	M	Office	H Sc.,	5200-20200	5200+ 2000	28.02.2011	Temporary	SC
15	Supporting staff	Th. S. Rajendran	PUSM	M	Office	--	5200-20200+1300	6850+ 1300	03.05.10	Permanent	MBC
16	Supporting staff	Th. C .Kaliyaperumal	PUSM	M	Office	--	5200-20200+1300	7110+ 1300	14.09. 10	Permanent	BC

**1.6. Total land with KVK (in ha) : 22.6 ha**

S. No.	Item	Area (ha)
1	Under Buildings	2.40
2.	Under Demonstration Units	3.60
3.	Under Crops	15.40
4.	Orchard/Agro-forestry	1.20
5.	Others	0.0
	Total	<b>22.6</b>

**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. lakh)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR		548m2	41.65			Completed
2.	Farmers Hostel	ICAR		300m2	26.38			Completed
3.	Staff Quarters							
	1	ICAR		400m2	33.30			Completed
	2							
	3							
	4							
	5							
	6							
4.	Demonstration Units							
	1. Rain water harvesting	RSVY Agri		5000 m2	6.00			Completed
5	Fencing	ICAR		--	5.00			In progress
6	Rain Water harvesting system	AED, Nagai – (subsidy)		2100 m2	0.08			Completed
7	Threshing floor	ICAR		--	3.00			In progress
8	Implement/ vehicle shed	ICAR		--	3.00			In progress
9	Irrigation system	ICAR		--	3.00			In progress
10	Land levelling	ICAR		--	3.00			In progress
11	Farm godown	--		--	--			--

**B) Vehicles**

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Four Wheeler Bolero Jeep	2004	4,88,210/-	<b>119298</b>	Good condition
Two Wheeler (TVS – star city)	2006	39,641/-	<b>56305</b>	Good condition
Two Wheeler (Suzuki Access 125)	2009	49651/-	<b>11225</b>	Good condition

**C) Equipments & AV aids**

Sl. No.	Name of Equipments	Date of purchase	Cost (Rs. in lakhs)	Present status
1.	Tractor - TN-51-C-1924	2004	3,47,607	Good
2.	Rotavator	2004	68,500	Good
3.	Cultivator	2004	14,645	Good
4.	Cage Wheel	2004	11,684	Good
5.	Leveller	2004	8,922	Good
6.	Computer with Accessories	2005	75,000	Good
7.	Xerox machine	2005	73,968	Good
8.	Shredder	2006	25,605	Good
9.	Digital Camera	2006	19,950	Good
10.	Flow through paddy thresher	2006	50,000	Good
11.	Laminar air flow chamber	2007	37,856	Good
12.	Autoclave – vertical	2007	33,560	Good
13.	Digital pH meter	2007	14,850	Good
14.	Digital electronic balance	2007	18,150	Good
15.	Computer – Desktop – 2No	2007	93,000	Good
16.	Computer (Laptop – Compaq)	2007	49,400	Good
17.	LCD Projector – 2 No	2007	1,07,000	Good

**1.8. Details SAC meeting conducted in 2010-11**

Sl.No.	Date	Number of Participants	No. of absentees	Salient Recommendations	Action taken
1.					
2.					

## **PART II - DETAILS OF DISTRICT**

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

S. No	Farming system/enterprise
	<b>Rice based farming system is followed in this district</b>
1.	Rice – Rice – Rice fallow Pulse
2.	Rice – Rice fallow Pulses/Cotton/Gingelly
3.	Rice – Rice – Groundnut
4.	Rice – Rice – Gingelly
5.	Rice – Rice – Sugarcane (3 years rotation)

### 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	Nagapattinam a coastal district of Tamil Nadu, lies between 10 <sup>o</sup> 8 <sup>o</sup> and 11 <sup>o</sup> 28' in North Latitude and 76 <sup>o</sup> 34' and 75 <sup>o</sup> 53' in East Longitude. It is bounded on the north by Cuddalore, South by Palk Strait, west by Tiruvarur and on the east by Bay of Bengal

S. No	Agro ecological situation	Characteristics
1	Coastal Eco system	Nagapattinam is categorized as agro-ecological region 18, representing the Coastal eco-system-Eastern coastal plain, hot sub-humid to semi-arid ecosystem with a growing period of 90 to 210 days

### 2.3 Soil type/s

S. No	Soil type	Characteristics	Area in ha
1.	Clay loam	High WHC	
2.	Clay sandy loam	Medium WHC	
3.	Sandy soil	Low WHC	
		<b>Total</b>	

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

S. No	Crop	Area (ha)	Production (Metric tons)	Productivity (kg /ha)
1.	Paddy	160908	581329	3395
2.	Millets		NA	NA
3.	Pulses		NA	NA
	Blackgram	54476	40208	650
	Greengram	26313	21592	600
	<b>TOTAL</b>			
4.	Sugarcane	3694	NA	NA
5.	Cotton	1633	NA	NA
6.	Oilseeds		NA	NA
	Groundnut	3248	8133	2200
	Gingelly	624	487	480
7.	Coconut	3483	NA	NA
8.	Cashew	869	365	420
9.	Mango	1845	7232	3920

Source; JDA, Nagapattinam

## 2.5. Weather data

Month	Rainfall (mm)	Temperature <sup>0</sup> C		Relative Humidity (%)
		Maximum	Minimum	
April 2010	5.5	35.7	26.4	73.0
May 2010	141.5	35.2	26.7	76.9
June 2010	106.0	35.4	26.2	74.0
July 2010	63.5	34.7	25.6	68.7
August 2010	236.5	34.8	25.5	72.3
September 2010	113.0	32.5	25.3	81.1
October 2010	110.0	32.0	25.6	82.5
November 2010	541.0	29.6	24.2	94
December 2010	512.0	28.2	22.6	97.6
January 2011	18.0	28.9	21.3	93.2
February 2011	37.5	29.8	21.3	88.5
March 2011	0.0	31.7	22.1	83.1

\* Please provide latest data from authorized sources. Please quote the source

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

Category	Population	Production	Productivity
<b>Cattle</b>			
<i>Cow</i>	254611	NA	NA
Buffalo	26934	NA	NA
Crossbred	54061		
<b>Sheep</b>			
Crossbred	9834	NA	NA
<i>Indigenous</i>	23220	NA	NA
<b>Goats</b>			
Crossbred	107719	NA	NA
<i>Indigenous</i>	322205	NA	NA
<b>Pigs</b>			
<i>Crossbred</i>	818	NA	NA
<i>Indigenous</i>	2598	NA	NA
<b>Rabbits</b>	1377	NA	NA
<b>Poultry</b>			
Hens		NA	NA
<i>Desi</i>	264164	NA	NA
<i>Improved</i>	35894	NA	NA
Ducks	12712	NA	NA
Turkey and others	775	NA	NA
<b>Fish</b>			
<i>Marine</i>		61479 tonnes	
<i>Inland</i>		7120 tonnes	2.0t/ha
Prawn		NA	NA
Scampi		NA	NA
Shrimp		NA	NA

\* Please provide latest data from authorized sources. Please quote the source

**Source; Joint Director of Animal husbandry, Nagapattinam**

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





## 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 (specify the years)	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Nagapattinam	1. Nagapattinam	North Poigainallur., South Poigai nallur Palpannaichery Sikkal, Manikkapangu, Vadugacherri,	2005	Rice-Rice-Pulses Rice-Ground Nut Rice-Vegetables	1. Problematic soil 2. Low yield 3. Water scarcity during summer 4. Inundation of water during monsoon	1. Introduction of micro irrigation techniques 2. Crop diversification 3. Introduction of suitable high yielding & marketable varieties
		2. Thirumarugal	Poothanur, Edaiyathangudi, Panangudi,	2007	Rice-Rice-Pulses Rice-Rice-Cotton	1. Low yield 2. Water scarcity 3. Inundation of water during monsoon	1. Crop diversification 2. Introduction of suitable high yielding & marketable varieties
2	Tirukkuvalai	3. Keezhaiyur	Thirukkuvalai Keezhaiyur Palakurichi	2006	Rice-Rice-Pulses Rice-Rice-Ground Nut	1. Problematic soil 2. Water scarcity	1. Crop diversification 2. Soil health management
3.	Kilvelur	4. Kilvelur	Nangudi Kilvelur Athipuliyur Thevur Ilupur Avarani Puducherry	2004	Rice-Rice-Pulses	1. Water scarcity 2. Flood damages 3. Pest and disease problems	1. Introduction of suitable high yielding & marketable varieties 2. ICM & IPM 3. Diversification

4.	Vedaranyam	5. Vedaranyam	Vedaranyam Pushbahavanam Periyakuthagai Vettaikaranirrupu Kathiripulam	2005	Rice-Rice-Pulses Rice-Ground Nut Jasmine, Rice-Vegetables Cashew & Mango	1. Water scarcity 2. Inundation of water during monsoon 3. Salinity problem	1. Introduction of micro irrigation techniques 2. Introduction high value vegetables. 3. Soil health improvement
		6. Thalainayar	Thalainayar	2005	Rice-Rice-Pulses Jasmine, Rice-Vegetables Cashew & Mango	1. Flood water damage during monsoon 2. Water scarcity 3. Salinity problem	1. Introduction of suitable high yielding & marketable varieties 2. Soil health improvement
5.	Mayiladuthurai	7. Mayiladuthurai	Mayiladuthurai Manganallur	2009	Rice-Rice-Pulses Rice-Rice-Ground Nut Rice-Rice-Cotton Rice-Banana	1. Flood damages 2. Heavy Soil with poor drainage	1. IFS concept 2. Introduction of alternate cropping system 3. Farm mechanization
		8. Kuthalam	Kuthalam	2009	Rice-Rice-Pulses Rice-Banana Rice-Rice-Ground Nut Rice-Rice-Cotton/ Vegetable	1. Flood damages 2. Heavy Soil with poor drainage	1. IFS concept 2. Introduction of alternate cropping system 3. Farm mechanization
6.	Sirkazhi	9. Sirkazhi	Agani Thirukadaiyur Sirkali Vaitheeswarankoil	2007	Rice-Rice-Pulses Rice-Rice-Cotton Rice-Ground Nut/Vegetables Banana, Sugarcane	1. Poor drainage in heavy soils 2. Saline problem	1. Precision farming in Vegetables 2. Crop diversification
		10. Kollidam	Kollidam	2009	Rice-Rice-Pulses Rice-Rice-Cotton Rice-Ground Nut/Vegetables Sugarcane, Banana	1. Poor drainage in heavy soils 2. Saline problem	1. Precision farming in Vegetables 2. Crop diversification
7.	Tharangampadi	11.Sembanarkoil	Poraiyar Tharangampadi Anaimattam	2009	Rice – Rice – Pulses Rice – Groundnut/Vegetables Rice – Cotton Sugarcane & Banana	1. Poor drainage in low lands 2. Saline problem 3. Water scarcity	1. Precision farming in Vegetables 2. Crop diversification

**2.9 Priority thrust areas**

<b>S. No</b>	<b>Thrust area</b>
1	Precision farming
2	Crop diversification
3	Integrated farming system concept
4	Soil and water conservation
5	Soil health management
6	Farm mechanization
7	Agroforestry
8	Non crop activities
9	Seed production





### PART III - TECHNICAL ACHIEVEMENTS

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

OFT				FLD			
1				2			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
6	6	30	30	13	13	89	69

Training				Extension Programmes			
3				4			
Number of Courses		Number of Participants		Number of Programmes		Number of participants	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
98	81	5000	2649	510	475	5000	4149

Seed Production (Qtl.)			Planting materials (Nos.)		
5			6		
Target	Achievement		Target	Achievement	

Livestock, poultry strains and fingerlings (No.)			Bio-products (Kg)		
7			8		
Target	Achievement		Target	Achievement	



**3. B1. Abstract of interventions undertaken based on thrust areas identified for the district as given in Sl.No.2.9**

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions										Supply of bio products	
				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.)	No.	Kg	
	Precision farming	Vegetables	-												
	Crop diversification	Rice	Inundation and water logging during monsoon period	Evaluation of submergence tolerance rice varieties for samba season	Popularization of CORH 3 Hybrid Rice under SRI	2	-	6	15	50+ 50	-	-	-	-	
		Vegetables	Problematic soil Low yield Water scarcity during summer	-	Popularization of PKM 1 Moringa in deltoic alluvial soil					100g					
	Integrated farming system concept	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Soil and water conservation	Pulses and oil seeds	Water scarcity during summer		Popularization of mobile sprinkler in rice fallow pulses and oil seeds	1	-	1	2	-	-	-	-	-	



	Soil health management	Rice	Inundation of water during monsoon	Integrated algal management in rice ecosystem	-	1	-	-	-	Copper sulphate 12.5 kg	-			
		Rice	Low yield		ICM using bio-inoculants in rice	3	1	-	-	PSB, KSB, SISB, ZnSB	-	-	-	-
	Farm mechanization	Rice	Heavy infestation of weeds Poor crop establishment in SRI	Evaluation of different weeder s in SRI		2	1	-	-	-	-	-	-	-
		Rice	Labour scarcity		Farm Mechanization	4	1	-	-	Seeds and hiring macheneries				
	Agroforestry	-	Non availability of fodders		Populazation of fodder bank at village level	-	-	-	-	-	-	-	-	-
	Non crop activities	Dairy	Low milk yield	Area Specific Mineral Mixture for Dairy cows	-	-	-	-	-	ASMM and TANUVA S mineral mixture				
		Fishery	Low income under composite fish culture	Evaluation of polyculture in inland fisheries in Delta region	-	1	-	-	-	Fish varieties				

		Poultry	Less hatchery percentage		Populazation of low cost poultry egg incubator	-	-	-	-	Incubator				
		Poultry	Low income for landless laborers		Promotion of Backyard poultry to improve the livelihood of farm women	-	-	-	-	-	-	-	-	-
			Less feeding efficiency and poor awareness		Scientific composite fish culture	1		-	-	Fish				
	IPDM	Rice	Yield reduction due to False Smut disease in rice during Samba season	Management of False Smut disease in Samba paddy	-	1	-	-	-	Fungicides				
			Yield reduction due to stem borer and leaf folder and other bacterial diseases		IPDM for Samba rice	4	2	-	-	Biopesticides	-	-	-	-



**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 (Specify)
1	2	3	4	5	6	7	8
<b>OFT</b> 1	Evaluation of different weeders in SRI	TNAU	Rice	5	-	3	1
2	Management of False Smut disease in Samba paddy	TNAU	Rice	5	-	1	-
3	Evaluation of polyculture in inland fisheries in Delta region	TANUVAS	Fishery	5	-	1	-
4	Evaluation of submergence tolerance rice varieties for samba season	TNAU	Rice	5	-	-	-
5	Area Specific Mineral Mixture for Dairy cows	TANUVAS	Dairy	10	-	-	-
6	Integrated algal management in rice eco system	TNAU	Rice	5	-	1	-
<b>FLD</b> 7	Farm Mechanization	TNAU	Rice	-	5	4	-
8	Popularization of CORH 3 Hybrid Rice under SRI	TNAU	Rice	-	10	1	-
9	IPDM for Samba rice	TNAU	Rice	-	10	4	-
10	ICM using bio- inoculants in rice	TNAU	Rice	-	10	2	-
11	Popularization of mobile sprinkler in rice fallow pulses and oil seeds	TNAU	Pulses/oil seeds	-	5	1	1
12	Special pulses programme	TNAU	Pulses	-	10	2	1
13	Farmers' participatory seed production in groundnut	TNAU	Ground nut	-	5	-	-
14	Popularization of PKM 1 Moringa in deltoic alluvial soil	TNAU	Moringa	-	5	-	-
15	Protected Cultivation of vegetables under shade net during off season	TNAU	Vegetables	-	4	3	-
16	Popularization of fodder bank at village level	TANUVAS	Fodder	-	5	-	-
17	Popularization of low cost poultry egg incubator	TANUVAS	Poultry	-	5	-	-
18	Promotion of Backyard poultry to improve the livelihood of farm women	TANUVAS	Poultry	-	10	-	-
19	Scientific composite fish culture	TANUVAS	Fishery	-	5	1	-

## 3.B2 contd..

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
4	1	-	-	-	-	-	-	57	18	-	-	15	2	-	-
3	-	2	-	-	-	-	-	67	3	-	-	-	-	-	-
5	-	-	-	-	-	-	-	50	1	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	25	5	-	-	-	-	-	-
-	-	-	-	5	-	-	-	113	22	-	-	30	10	-	-
-	-	-	-	10	-	-	-	55	5	-	*	-	-	-	-
-	-	-	-	10	-	-	-	89	10	-	-	-	-	-	-
-	-	-	-	10	-	-	-	25	10	-	-	-	-	-	-
-	-	-	-	5	-	-	-	20	0	-	-	-	-	-	-
-	-	-	-	10	-	-	-	20	2	-	-	-	-	-	-
-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	4	-	-	-	46	11	-	-	-	-	-	-
-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	5	-	-	-	50	1	-	-	-	-	-	-



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

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
Evaluation of Breeds						
Nutrition Management	1	-	-	-	-	-
Disease of Management						
Value Addition						
Production and Management						
Feed and Fodder						
Small Scale income generating enterprises						
<b>TOTAL</b>						

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

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
Evaluation of Breeds						
Nutrition Management						
Disease of Management						
Value Addition						
Production and Management						
Feed and Fodder						
Small Scale income generating enterprises						
<b>TOTAL</b>						

### 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
Integrated Nutrient Management					
Varietal Evaluation		Evaluation of submergence tolerance rice varieties for samba season	5	5	
Integrated Pest Management					
Integrated Crop Management					
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries	Rice	Evaluation of different weeders in SRI	5	5	
Integrated Farming System					
Seed / Plant production	Rice	Management of False Smut disease in Samba paddy	5	5	

Value addition					
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
<b>Total</b>					

#### 4.B.2. Technologies Refined under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha
Integrated Nutrient Management					
Varietal Evaluation					
Integrated Pest Management					
Integrated Crop Management	Rice	Area Specific Mineral Mixture for Dairy cows	10	10	1
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries					
Integrated Farming System					
Seed / Plant production					
Value addition					
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
<b>Total</b>					



**4.B.3. Technologies assessed under Livestock and other enterprises**

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Evaluation of breeds				
Nutrition management	Milch cow	Area Specific Mineral Mixture for Dairy cows	10	
Disease management				
Value addition				
Production and management	Fish	Evaluation of polyculture in inland fisheries in Delta region	5	5
Feed and fodder				
Small scale income generating enterprises				
<b>Total</b>				

**4.B.4. Technologies Refined under Livestock and other enterprises**

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Evaluation of breeds				
Nutrition management				
Disease management				
Value addition				
Production and management				
Feed and fodder				
Small scale income generating enterprises				
<b>Total</b>				



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

##### Results of On Farm Trial

Crop/enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter 8	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7		9	10
Rice	Rice-Rice-Pulses	1.Heavy infestation of weeds 2.Poor crop establishment in SRI	Evaluation of different weeders in SRI	5 No.	T1- FP- Hand weeding T 2- Cono weeder T 3- TNAU Power weeder	Weed population/m <sup>2</sup> , WCE, Plant height, No of tillers/m <sup>2</sup> , No. of panicles/hill, Panicle length, No. of grains/panicle, 1000 grain weight, Grain & Straw yield and B:C ratio	13.0 77 101 cm 39 37 83 141 20.2 6.6 t 7.8 t 2.81	TNAU power weeder performed well and recorded marginally higher grain yield and higher B:C ratio. Easy to operate and increased field capacity are other benefits of TNAU power weeder	Row to row spacing and line to line spacing should be kept more than 25 cm. Square planting also be necessarily maintained. More stirring with easy operation are the benefit.
Rice	Rice-Rice-Pulses	Yield reduction due to False Smut disease in rice during Samba season	Management of False Smut disease in Samba paddy	5 No	T1- FP- No prophylactic spray T 2- Copper hydroxide (Cocide) 500 ml/ha T 3- Propiconazole @ 500 ml/ha T 4- Super Pseudomonas 2.5 Kg/ha T 5- Carbendzim + Mancozeb @ 1Kg/ha	% grains infested,  % panicle infested,  Grain yield,  B:C ratio	29.6  22.22  4.9 t/ha  2.04	Spraying of Propiconazole @ 500 ml/ha was found effective control of false smut with lesser number of grain infestation (29.6%) and panicle (22.2%) followed by recommended Kocide (22.6%) as against untreated check (29.62%). Propiconazole and Kocide treatments higher grain yielded of 4950kg/ha and 4332 kg/ha respectively than check.	The farmers got first time awareness on the prophylactic spray with fungicides to control false smut disease and appreciated.
Fish	Inland Fish culture	Low income under composite fish culture	Evaluation of polyculture in inland fisheries in Delta region	5 No	T1- Stunted Fingerlings of Fresh water fish Carp varieties (composite fish culture) @ 2500/ac  T2- Stunted Fingerlings of Carp varieties with fresh water Prawn (Macrobrackium spp) (Poly fish culture) @ 2500+2500/ac	Feed utilization efficiency, Growth of fish, Fish yield, B:C ratio	In progress		

Rice	Rice-Rice-Pulses	Inundation and water logging during monsoon period	Evaluation of submergence tolerance rice varieties for samba season	5 No	T1 - FP  T 2- Sub swarna 1	Growth & yield data	4000  5000	Occurrence of prolonged inundation for 10 days before flowering, the Swarna Sub 1 performed better than the local variety BPT 5204 and recorded grain yield of 5t/ha than the local check (4t/ha).	Swarna sub 1 performed better under prolonged water stagnation than the local variety.
Milch cow	Live Stock		Area Specific Mineral Mixture for Dairy cows	10	T1 - Farmers practice (No/irregular mineral supplementation) T 2- <b>Mineral Mixture</b> 30-50 g/day continuously for one year from the day after calving T 3- <b>Area specific Mineral Mixture</b> 30-50 g/day continuously for one year from the day after calving	Milk yield Onset of first estrum after calving No. of inseminations required for conception	In progress		

## Contd..

OFT No.	Any refinement needed	Justification for refinement	Technology Assessed	Source of Technology	Production	unit	Net Return in Rs. / unit	BC Ratio
	11	12	13	14	15	16	17	18
1	Not Needed	Not needed	T1- FP- Hand weeding		6100	(kg/ha)	33200	2.56
			T 2- Cono weeder	TNAU	6500	(kg/ha)	36400	2.80
			T 3- TNAU Power weeder	TNAU	6600	(kg/ha)	36800	2.81
2	Not needed. May be proposed to FLD for 2011-12 programme	Spraying of Propiconazole @500ml/ha as prophylactic measure for effective control of false smut	T1- FP- no prophylactic spray		3985	(kg/ha)	18000	1.8
			T 2- Copper hydroxide (Cocide) 500 ml/ha	TNAU	4332	(kg/ha)	23000	2.04
			T 3- Propiconazole @ 500 ml/ha	TNAU	4950	(kg/ha)	28000	2.27
			T 4- Super Pseudomonas 2.5 Kg/ha	TNAU	4055	(kg/ha)	20000	1.90
			T 5- Carbendzim + Mancozeb @ 1Kg/ha	TNAU	4102	(kg/ha)	21000	1.95
3			T1- Stunted Fingerlings of Fresh water fish Carp varieties (composite fish culture) @ 2500/ac	(TANUVAS)		(kg/ha)		
			T2- Stunted Fingerlings of Carp varieties with fresh water Prawn (Poly fish culture) @ 2500+2500/ac	(TANUVAS)		(kg/ha)		
4	Not Needed	Not needed	T1 - FP (BPT 5204)		4000	(kg/ha)	20,000	2.00
			T 2- Swarna Sub 1	TNAU	5000	(kg/ha)	30,000	2.50
5			T1 - Farmers practice (No/irregular mineral supplementation)					
			T 2- <b>Mineral Mixture</b> 30-50 g/day continuously for one year from the day after calving	(TANUVAS)		Lit/day		
			T 3- <b>Area specific Mineral Mixture</b> 30-50 g/day continuously for one year from the day after calving	(TANUVAS)		Lit/day		





**4.C2. Details of each On Farm Trial for assessment to be furnished in the following format separately as per the following details**

**OFT - 1**

<b>1</b>	Title of Technology Assessed	:	Evaluation of different weeders in SRI	
<b>2</b>	Problem Definition	:	1.Heavy infestation of weeds 2.Poor crop establishment in SRI	
<b>3</b>	Details of technologies selected for assessment	:	T1- FP- Hand weeding T 2- Cono weeder T 3- TNAU Power weeder T 4- Rotary weeder	
<b>4</b>	Source of technology	:	T1- FP- Hand weeding T 2- Cono weeder - TNAU T 3- TNAU Power weeder - TNAU T 4- Rotary weeder - TNAU	
<b>5</b>	Production system and thematic area	:	Rice-Rice-Pulses	
<b>6</b>	Performance of the Technology with performance indicators	:	<b>Technology Assessed</b>	<b>Production (kg/ha)</b>
			T1- FP- Hand weeding	6100
			T 2- Cono weeder - TNAU	6500
			T 3- TNAU Power weeder - TNAU	6600
<b>7</b>	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	Square planting with the spacing more than 25 cm need to be maintained in case of TNAU power weeder. More stiring with easy to operate are the benefit of TNAU power weeder.	
<b>8</b>	Final recommendation for micro level situation	:	TNAU power weeder can be adopted for Nagapattinam District	
<b>9</b>	Constraints identified and feedback for research	:	Farmers opined that the TNAU power weeder performed well over conoweeder	
<b>10</b>	Process of farmers participation and their reaction	:		



## OFT - 2

1	Title of Technology Assessed	:	Management of False Smut disease in Samba paddy	
2	Problem Definition	:	Yield reduction due to False Smut disease in rice during Samba season	
3	Details of technologies selected for assessment	:	T1- FP- No prophylatic spray T 2- Copper hydroxide (Cocide) 500 ml/ha T 3- Propiconozole @ 500 ml/ha T 4- Super Pseudomonas 2.5 Kg/ha T 5- Carbendzim + Mancozeb @ 1Kg/ha	
4	Source of technology	:	T1- FP- No prophylatic spray T 2- Copper hydroxide (Cocide) 500 ml/ha - TNAU T 3- Propiconozole @ 500 ml/ha - TNAU T 4- Super Pseudomonas 2.5 Kg/ha - TNAU T 5- Carbendzim + Mancozeb @ 1Kg/ha - TNAU	
5	Production system and thematic area	:	Rice-Rice-Pulses	
6	Performance of the Technology with performance indicators	:	<b>Technology Assessed</b>	<b>Production (kg/ha)</b>
			T1- FP- No prophylatic spray	3985
			T 2- Copper hydroxide (Cocide) 500 ml/ha	4332
			T 3- Propiconozole @ 500 ml/ha	4950
			T 4- Super Pseudomonas 2.5 Kg/ha	4055
			T 5- Carbendzim + Mancozeb @ 1Kg/ha	4102
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	The farmers got first time awareness on the prophylactic spray with fungicides to control false smut disease and appreciated.	
8	Final recommendation for micro level situation	:	Spraying of propiconozole @ 500 ml/ha as prophylactic measure during boot leaf and milky stage to control false smut.	
9	Constraints identified and feedback for research	:	Nil	
10	Process of farmers participation and their reaction	:	Farmers are highly interested to adopt to take prophylactic measure against false smut disease during the due course.	

**OFT - 3**

<b>1</b>	Title of Technology Assessed	:	Evaluation of polyculture in inland fisheries in Delta region						
<b>2</b>	Problem Definition	:	Low income under composite fish culture						
<b>3</b>	Details of technologies selected for assessment	:	T1- Stunted Fingerlings of Fresh water fish Carp varieties (composite fish culture) @ 2500/ac T2- Stunted Fingerlings of Carp varieties with fresh water Prawn (Macrobrackium spp) (Poly fish culture) @ 2500+2500/ac						
<b>4</b>	Source of technology	:	T1- Stunted Fingerlings of Fresh water fish Carp varieties (composite fish culture) @ 2500/ac - (TANUVAS) T2- Stunted Fingerlings of Carp varieties with fresh water Prawn (Macrobrackium spp) (Poly fish culture) @ 2500+2500/ac- (TANUVAS)						
<b>5</b>	Production system and thematic area	:	Inland Fish culture						
<b>6</b>	Performance of the Technology with performance indicators	:	<table border="1"> <thead> <tr> <th>Technology Assessed</th> <th>Production (kg/ha)</th> </tr> </thead> <tbody> <tr> <td>T1- Stunted Fingerlings of Fresh water fish Carp varieties (composite fish culture) @ 2500/ac</td> <td></td> </tr> <tr> <td>T2- Stunted Fingerlings of Carp varieties with fresh water Prawn (Macrobrackium spp) (Poly fish culture) @ 2500+2500/ac</td> <td></td> </tr> </tbody> </table>	Technology Assessed	Production (kg/ha)	T1- Stunted Fingerlings of Fresh water fish Carp varieties (composite fish culture) @ 2500/ac		T2- Stunted Fingerlings of Carp varieties with fresh water Prawn (Macrobrackium spp) (Poly fish culture) @ 2500+2500/ac	
Technology Assessed	Production (kg/ha)								
T1- Stunted Fingerlings of Fresh water fish Carp varieties (composite fish culture) @ 2500/ac									
T2- Stunted Fingerlings of Carp varieties with fresh water Prawn (Macrobrackium spp) (Poly fish culture) @ 2500+2500/ac									
<b>7</b>	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:							
<b>8</b>	Final recommendation for micro level situation	:							
<b>9</b>	Constraints identified and feedback for research	:							
<b>10</b>	Process of farmers participation and their reaction	:							

**OFT - 4**

<b>1</b>	Title of Technology Assessed	:	Evaluation of submergence tolerance rice varieties for samba season						
<b>2</b>	Problem Definition	:	Inundation and water logging during monsoon period						
<b>3</b>	Details of technologies selected for assessment	:	T1 - FP T2- Swarna1 Sub 1						
<b>4</b>	Source of technology	:	T1 - FP T2- - Swarna Sub 1                      TNAU						
<b>5</b>	Production system and thematic area	:	Rice-Rice-Pulses						
<b>6</b>	Performance of the Technology with performance indicators	:	<table border="1"> <thead> <tr> <th>Technology Assessed</th> <th>Production (kg/ha)</th> </tr> </thead> <tbody> <tr> <td>T1 - FP</td> <td>4000</td> </tr> <tr> <td>T 2- Swarna Sub 1</td> <td>5000</td> </tr> </tbody> </table>	Technology Assessed	Production (kg/ha)	T1 - FP	4000	T 2- Swarna Sub 1	5000
Technology Assessed	Production (kg/ha)								
T1 - FP	4000								
T 2- Swarna Sub 1	5000								
<b>7</b>	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	Though the occurrence of prolonged inundation during the flowering stage, Swarna Sub 1 performed better than local variety BPT 5204						
<b>8</b>	Final recommendation for micro level situation	:	Swarna Sub 1 can be recommended for low lying area during rainy season						
<b>9</b>	Constraints identified and feedback for research	:	--						
<b>10</b>	Process of farmers participation and their reaction	:	Farmers were reluctant to cultivate new Swarna Sub 1 because of Market preference.						

**OFT - 5**

<b>1</b>	Title of Technology Assessed	:	Area Specific Mineral Mixture for Dairy cows	
<b>2</b>	Problem Definition	:		
<b>3</b>	Details of technologies selected for assessment	:	T1 - Farmers practice (No/irregular mineral supplementation) T 2- <b>Mineral Mixture</b> 30-50 g/day continuously for one year from the day after calving T 3- <b>Area specific Mineral Mixture</b> 30-50 g/day continuously for one year from the day after calving	
<b>4</b>	Source of technology	:	T1 - Farmers practice (No/irregular mineral supplementation) T 2- <b>Mineral Mixture</b> (TANUVAS) 30-50 g/day continuously for one year from the day after calving T 3- <b>Area specific Mineral Mixture</b> (TANUVAS) 30-50 g/day continuously for one year from the day after calving	
<b>5</b>	Production system and thematic area	:	Live Stock	
<b>6</b>	Performance of the Technology with performance indicators	:	<b>Technology Assessed</b>	<b>Production (kg/ha)</b>
			T1 - Farmers practice (No/irregular mineral supplementation)	
			T 2- <b>Mineral Mixture</b> 30-50 g/day continuously for one year from the day after calving	
	T 3- <b>Area specific Mineral Mixture</b> 30-50 g/day continuously for one year from the day after calving			
<b>7</b>	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:		
<b>8</b>	Final recommendation for micro level situation	:		
<b>9</b>	Constraints identified and feedback for research	:		
<b>10</b>	Process of farmers participation and their reaction	:		



## D1. Results of Technologies Refined

### Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology refined	Parameters of refined	Data on the parameter	Results of refinement	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Rice	Rice-Rice- Pulses		Integrated algal managemen t in rice eco system	5 no	T1 - FP No application of Cu So4 T 2- Cu So4 @2.5 Kg/ha T 3- CuSo <sub>4</sub> - 2.5kg/ha @200/kg  Cono / rotary weeder 2No./ha @500/No  Potash -100 kg/ha @6/kg	Growth & yield data	4750  4950  5190	Yield increased with the application of CuSO <sub>4</sub> along with potash and cono-weeder by increasing the tillering capacity of the crop.	Farmers had better results with the application of CuSO <sub>4</sub> along with potash and cono-weeder. Some farmers felt that the application of CuSO <sub>4</sub> may be increased to have better results.

### Contd..

OFT No.	Any refinement needed	Justification for refinement	Technology Assessed	Source of Technology	Production	unit	Net Return in Rs. / unit	BC Ratio
	11	12	13	14	15	16	17	18
1			T1 - FP No application of Cu So4		4750	(kg/ha)	20,000/ha	1:1.72
			T 2- Cu So4 @2.5 Kg/ha	TNAU	4950	(kg/ha)	21,500/ha	1:1.78
			T 3- CuSo <sub>4</sub> -2.5kg/ha @150/kg Cono / rotary weeder 2No./ha @500/No Potash -100 kg/ha @6/kg	TNAU	5190	(kg/ha)	22,900/ha	1:1.83



**4. D. 2. Details of each On Farm Trial for refinement to be furnished in the following format separately as per the proforma below**

**OFT - 1**

<b>1</b>	Title of Technology refined	:	Integrated algal management in rice eco system	
<b>2</b>	Problem Definition	:		
<b>3</b>	Details of technologies selected for refinement	:	T1 - FP No application of Cu So4 T 2- Cu So4 @2.5 Kg/ha T 3- CuSo <sub>4</sub> -2.5kg/ha @200/kg Cono / rotary weeder 2No./ha @500/No Potash -100 kg/ha @6/kg	
<b>4</b>	Source of technology	:	T1 - FP No application of Cu So4 T 2- Cu So4 @2.5 Kg/ha - TNAU T 3- CuSo <sub>4</sub> -2.5kg/ha @200/kg - TNAU Cono / rotary weeder 2No./ha @500/No Potash -100 kg/ha @6/kg	
<b>5</b>	Production system and thematic area	:	Rice-Rice-Pulses	
<b>6</b>	Performance of the Technology with performance indicators	:	<b>Technology Assessed</b>	<b>Production (kg/ha)</b>
			T1 - FP No application of Cu So4	4750
			T 2- Cu So4 @2.5 Kg/ha	4950
			T 3- CuSo <sub>4</sub> -2.5kg/ha @200/kg Cono / rotary weeder 2No./ha @500/No Potash -100 kg/ha @6/kg	5190
<b>7</b>	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	Farmers had better results with the application of CuSO <sub>4</sub> along with potash and cono-weeder.	
<b>8</b>	Final recommendation for micro level situation	:	Algal management is very effective in the areas where there is bore-well irrigation.	
<b>9</b>	Constraints identified and feedback for research	:	Nil	
<b>10</b>	Process of farmers participation and their reaction	:	Some farmers felt that the application of CuSO <sub>4</sub> may be increased to have better results.	





## PART V - FRONTLINE DEMONSTRATIONS

### 4. A. Summary of FLDs implemented during 2010-11

5.

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	
1	Cereals	Wetland	Rabi 2010	Rice	BPT 5204	-	Farm Mechanization	Mechanization in Rice	2	2		5	5	--
2		Wetland	Rabi 2010	Rice	-	CORH 3	Popularization	Popularization of CORH 3 Hybrid Rice under SRI	5	5		10	10	--
3		Wetland	Rabi 2010	Rice	BPT 5204	--	Yield maximization	IPDM for Samba rice	4	4		10	10	--
4		Wetland	Rabi 2010	Rice			Yield maximization	ICM using bio-inoculants in rice	10	10		10	10	
5	Pulses	Wetland	Winter 2011	Rice fallow pulses & oil seeds		--	Popularization	Popularization of mobile sprinkler in rice fallow pulses and oil seeds	10 (5 Pulses + 5Oil seeds)	5		5	5	Delay in purchase of mobile sprinkler
6		Garden land	summer 2011	Black gram		--	Integrated Crop Mangement.	Special pulses programme	4	4		10	10	
	Oilseeds	Garden land	summer 2011	Ground nut		--	Integrated Crop Mangement.	Farmers' participatory seed production in groundnut	1	1		5	5	
	Millets													
	Vegetables	Garden land	Kharif 2010	Moringa	PKM 1	--	Popularization	Popularization of PKM 1 Moringa in deltoic alluvial soil	1	1		5	5	--
		Garden land	Summer 2011	Tomato, Chillies Capsicum	Indra	Lakshmi Priyanka	Yield maximization	Protected Cultivation of vegetables under shade net during off season	1200 sq.m	1200 sq.m		4	4	--

	Flowers													
	Ornamental													
	Fruit													
	Spices and condiments													
	Commercial													
	Medicinal and aromatic													
	Fodder	Garden land	Summer 2011	CO(CO(CN) 4 Guinea grass – Desmanthus Subabul	CO(CO(CN) 4 - Guinea grass – Desmanthus Subabul		Popularization	Popularization of fodder bank at village level	1			5		
	Plantation													
	Fibre													
	Dairy													
	Poultry	Incubator	2010-2011	low cost poultry egg incubator			Popularization	Popularization of low cost poultry egg incubator	--	--		5		
		Irrigated	2010-11	Backyard poultry	Local & hybrid		Improving livelihood of farmers	Promotion of Backyard poultry to improve the livelihood of farm women	-	-		10		





## 5.A. 1. Soil fertility status of FLDs plots during 2010-11

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety / breed	Hybrid	Thematic area	Technology Demonstrated	Season and year	Status of soil			Previous crop grown
										N	P	K	
1	Oilseeds	Garden land	summer 2011	Ground nut		--	Integrated Crop Mangement.	Farmers' participatory seed production in groundnut	summer 2011	L	M	H	
2	Pulses	Wetland	Winter 2011	Rice fallow pulses & oil seeds		--	Popularization	Popularization of mobile sprinkler in rice fallow pulses and oil seeds	Winter 2011				
3		Garden land	summer 2011	Black gram		--	Integrated Crop Mangement.	Special pulses programme	summer 2011	L	M	H	
4	Cereals	Wetland	Rabi 2010	Rice	BPT 5204	-	Farm Mechanization	Mechanization in Rice	Rabi 2010	L	M	H	Fallow
5		Wetland	Rabi 2010	Rice	--	CORH 3	Popularization	Popularization of CORH 3 Hybrid Rice under SRI	Rabi 2010	L	M	H	Fallow
6		Wetland	Rabi 2010	Rice	BPT 5204	--	Yield maximization	IPDM for Samba rice	Rabi 2010	L	M	H	Fallow
7		Wetland	Rabi 2010	Rice			Yield maximization	ICM using bio-inoculants in rice	Rabi 2010	L	M	H	Fallow
	Millets												
8	Vegetables	Garden land	Kharif 2010	Moringa	PKM 1	--	Popularization	Popularization of PKM 1 Moringa in deltoic alluvial soil	Kharif 2010	L	M	H	Vegetables
9		Garden land	Summer 2011	Tomato, Chillies Capsicum	--	Lakshmi Priyanka indra	Yield maximization	Protected Cultivation of vegetables under shade net during off season	Summer 2011	L	M	H	Vegetables









Ornamental																			
Fruit																			
Spices and condiments																			
Commercial																			
Medicinal and aromatic																			
Fodder	Popularization of fodder bank at village level	Garden land	CO(CO(CN) 4 - " Guinea grass – Desmanthus ' Subabul		5	1													In progress
Plantation																			
Fibre																			
Others (pl.specify)																			

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

\*\* BCR= GROSS RETURN/GROSS COST

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

**Data on additional parameters other than yield (viz., reduction of percentage in weed/pest/ diseases etc.)**

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check

### 5.B.2. Livestock and related enterprises

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Yield (q/ha)			% Increase	*Economics of demonstration (Rs./unit)				*Economics of check (Rs./unit)					
					Demo				Check if any	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR	
					H	L	A											
Dairy																		
Poultry	Popularization of low cost poultry egg incubator	egg incubator	5	1					<b>In progress</b>									
	Promotion of Backyard poultry to improve the livelihood of farm women	Local & hybrid	10	-					<b>In progress</b>									
Rabbitry																		
Pigerry																		
Sheep and goat																		
Duckery																		
Others (pl.specify)																		

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

\*\* BCR= GROSS RETURN/GROSS COST

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

Parameter with unit	Data on other parameters in relation to technology demonstrated	
	Demo	Check if any

**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./m2)				*Economics of check Rs./unit) or (Rs./m2)						
					Demo				Check if any	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR		
					H	L	A												
Common carps	Scientific composite fish culture	Cutla Rogu Mirgal	5	0.4															
Mussels																			
Ornamental fishes																			
Others (pl.specify)																			

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

\*\* BCR= GROSS RETURN/GROSS COST

H-High L-Low, A-Average

**Data on additional parameters other than yield (viz., reduction of percentage diseases, effective use of land etc.)**

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check if any

**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											
Oyster mushroom																		
Button mushroom																		
Vermicompost																		
Sericulture																		
Apiculture																		
Others (pl.specify)																		

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

\*\* BCR= GROSS RETURN/GROSS COST

H-High L-Low, A-Average

**Data on additional parameters other than yield (viz., additional income realized, employment generation, quantum of farm resources recycled etc.)**

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Local

**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		

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

\*\* BCR= GROSS RETURN/GROSS COST

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

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Local








**5.B.6.4 Demonstrations on farm implements**

Name of the implement	Area (Ha)	No. of Demo.	Name of the technology demonstrated	Labour requirement for operation (Rs./ha)		
				Demo	Local check	% change
<b>Total</b>						

**5.B.6.5 Extension Programmes organized in Cotton Demonstration Plots**

Extension activity	No. of Programmes	Participants			SC/ST		
		Male	Female	Total	Male	Female	Total
Consultancy							
Conventions							
Demonstrations							
Diagnostic surveys							
Exhibition							
Farmer study tours							
Farmers Field school							
Field Days							
Field visits							
Gram sabha							
Group discussions							
Kisan Gosthi							
Kisan Mela							
Training for Extension Functionaries							
Training for farmers							
Viedo show							
Newspaper coverage							
Popular articles							
Publication							
Radio talks							
T.V. Programme							
Others (Pl.specify)							
<b>TOTAL</b>							

**5.B.6.6 Technical Feedback on the demonstrated technologies on all crops / enterprise**

S. No	Crop / Enterprise	Name of the technology demonstrated	Feed Back
1			
2			

**5.B.6.7 Farmers' reactions on specific technologies**

S. No	Crop / Enterprise	Name of the technology demonstrated	Feed Back
1			
2			

**5.B.6.8 Extension and Training activities under FLD**

<b>Sl.No.</b>	<b>Activity</b>	<b>No. of activities organised</b>	<b>Number of participants</b>	<b>Remarks</b>
1	Field days			
2	Farmers Training			
3	Media coverage			
4	Training for extension functionaries			

**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	
					H	L	A											
<b>Cereals</b>																		
Bajra																		
Maize																		
Paddy																		
Sorghum																		
Wheat																		
Others (pl.specify)																		
<b>Total</b>																		
<b>Oilseeds</b>																		
Castor																		
Mustard																		
Safflower																		
Sesame																		
Sunflower																		
Groundnut																		
Soybean																		
Others (pl.specify)																		
<b>Total</b>																		
<b>Pulses</b>																		
Greengram																		
Blackgram																		
Bengalgram																		
Redgram																		
Others (pl.specify)																		
<b>Total</b>																		
<b>Vegetable crops</b>																		
Bottle gourd																		
Capsicum																		
Others (pl.specify)																		
<b>Total</b>																		
Cucumber																		
Tomato																		
Brinjal																		
Okra																		
Onion																		
Potato																		
Field bean																		
Others (pl.specify)																		
<b>Total</b>																		
<b>Commercial crops</b>																		
Sugarcane																		
Coconut																		
Others (pl.specify)																		
<b>Total</b>																		
Fodder crops																		
Maize (Fodder)																		
Sorghum (Fodder)																		
Others (pl.specify)																		
<b>Total</b>																		

H-High L-Low, A-Average

\*Please ensure that the name of the hybrid is correct pertaining to the crop specified



























### 7.G. Sponsored training programmes

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													
1.b.	Commercial production of vegetables													
<b>2</b>	<b>Production and value addition</b>													
2.a.	Fruit Plants													
2.b.	Ornamental plants													
2.c.	Spices crops													
<b>3.</b>	<b>Soil health and fertility management</b>													
<b>4</b>	<b>Production of Inputs at site</b>													
<b>5</b>	<b>Methods of protective cultivation</b>													
<b>6</b>	<b>Others (pl. specify)</b>													
<b>7</b>	<b>Post harvest technology and value addition</b>													
7.a.	Processing and value addition													
7.b.	Others (pl. specify)													
<b>8</b>	<b>Farm machinery</b>													
8.a.	Farm machinery, tools and implements	<b>1</b>	<b>20</b>	<b>-</b>	<b>20</b>				<b>20</b>	<b>-</b>	<b>20</b>			
8.b.	Others (rice mechanization )	<b>1</b>	<b>18</b>	<b>2</b>	<b>20</b>				<b>18</b>	<b>2</b>	<b>20</b>			
<b>9.</b>	<b>Livestock and fisheries</b>													
<b>10</b>	<b>Livestock production and management</b>													
10.a.	Animal Nutrition Management													
10.b.	Animal Disease Management													
10.c.	Fisheries Nutrition													
10.d.	Fisheries Management													
10.e.	Others (Post harvest technology and fish processing)	<b>1</b>	<b>-</b>	<b>34</b>	<b>34</b>				<b>-</b>	<b>34</b>	<b>34</b>			
<b>11.</b>	<b>Home Science</b>													
11.a.	Household nutritional security													
11.b.	Economic empowerment of women													
11.c.	Drudgery reduction of women													
11.d.	Others ("Gender sensitization")	<b>1</b>	<b>18</b>	<b>2</b>	<b>20</b>				<b>18</b>	<b>2</b>	<b>20</b>			
<b>12</b>	<b>Agricultural Extension</b>													
12.a.	Capacity Building and Group Dynamics													
12.b.	Others (pl. specify)													
	<b>Total</b>													

#### Details of sponsoring agencies involved

1. Department of Agricultural Engineering, Nagapattinam
2. GOI through Directorate of Extension Education, TNAU, Coimbatore
3. Central Institute of Fisheries Technology (CIFT), Cochin







**PART IX – PRODUCTION OF SEED, PLANT AND LIVESTOCK MATERIALS****9.A. Production of seeds by the KVKs**

<b>Crop category</b>	<b>Name of the crop</b>	<b>Variety</b>	<b>Hybrid</b>	<b>Quantity of seed (qtl)</b>	<b>Value (Rs)</b>	<b>Number of farmers to whom provided</b>
Cereals (crop wise)						
Oilseeds						
Pulses						
Commercial crops						
Vegetables						
Flower crops						
Spices						
Fodder crop seeds						
Fiber crops						
Forest Species						
Others (specify)						
<b>Total</b>						

**9.B. Production of planting materials by the KVKs**

<b>Crop category</b>	<b>Name of the crop</b>	<b>Variety</b>	<b>Hybrid</b>	<b>Number</b>	<b>Value (Rs.)</b>	<b>Number of farmers to whom provided</b>
Commercial						
Vegetable seedlings						
Fruits						
Ornamental plants						
Medicinal and Aromatic						
Plantation						
Spices						
Tuber						
Fodder crop saplings						
Forest Species						
Others(specify)						
<b>Total</b>						

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

	Name of the bio-product	Quantity Kg	Value (Rs.)	Number of farmers to whom provided
<b>Bio Products</b>				
Bio Fertilizers				
Bio-pesticide				
Bio-fungicide				
Bio Agents				
Others (specify)				
<b>Total</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>Dairy animals</b>				
Cows				
Buffaloes				
Calves				
Others (Pl. specify)				
<b>Poultry</b>				
Broilers				
Layers				
Duals (broiler and layer)				
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				
<b>Piggery</b>				
Piglet				
Others (Pl. specify)				
<b>Fisheries</b>				
Fingerlings				
Others (Pl. specify)				
<b>Total</b>				

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

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

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

<b>Name</b>	:	<b>Uzhavan</b>
Date of start	:	Oct – Dec 2007
Periodicity	:	Quarterly
No. of copies distributed every quarter	:	100

(B) Literature developed/published

<b>Item</b>	<b>Title</b>	<b>Authors name</b>	<b>Number</b>
Research papers	Influence of organics for increased sugar recovery in sugarcane. IN: International conference on Food technology	Venkatakrishnan, D., K. Dhanasekaran, K. Sivakumar and R. Devanathan.	
	Role of Humic acid and fertilizers on Nutrient uptake of rice.	Sivakumar, K and T. Dhamodaran	
	<i>Per se</i> performance & heterosis of two hybrids of chillies for capsaicin & Oleoresin content in three different seasons	Malathi. G.,T. Dhamaodaran and D.Veeraragavaththam	
	Seasonal influence of per re performance of 2 hybrids and their parents of chillies for growth & yield characlets	Malathi. G.,T. Dhamaodaran and D.Veeraragavaththam	
	Effect of humic acid and fertilizers on growth and yield of rice.	Sivakumar. K., Dhamodaran. T, D. Venkatakrishnan and K. Dhanasekaran	
	Effect of different organic manures on yield components of sugarcane.	Venkatakrishnan, D., S. Manimaran, K. Dhanasekaran, K. Sivakumar and S. Srinivasan	
	<i>Per se</i> performance of twelve hybrids and their parents of chillies for yield contributing triats.	Malathi, D. D. Veeraragavathantham and T. Dhamodarn	
	Preserving soil health and maximizing rice yield by integrated application of fertilizer and humic acid.	Sivakumar. K and T. Dhamodaran	
Technical reports			
News letters			
Technical bulletins			
Popular articles	Azolla as feed for turkey	T. Dhamaodaran, Sivakumar. K and V. Gnanabharathi	
	Sea bass culture in fresh water	T. Dhamaodaran, R. Revathi and Sivakumar.	
Extension literature	Newly released varieties and farm implements of TNAU	T. Dhamaodaran, V. Gnanabharathi and R.Vedharathinam	500
Others (books)	SRI technology & farm implements	Dr. K. Rangasamy, Dr. P.Dhananchezhiyan, Dr.J.John Gunasekar, Selvi. K.Rathi kanna, Dr.B.J. Pandiyan,	

		Dr.M.V.Rengasamy	
	Plant Biochemistry	Dr.V.Arunkumar, Dr.N.Senthil Kumar and Dr.K.Sivakumar	
	Flora of Tropical Dry ever green forest	Dr.A.Bala, Dr. R.Revathi and Dr.M.G.Rao	
<b>TOTAL</b>			

#### 10. B. Details of Electronic Media Produced

S. No.	Type of media (CD / VCD / DVD/ Audio-Cassette)	Title of the programme	Number
	--		

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

##### Success Story I

Mr.M.Sekar, S/O Muthu, Pattamangalam, Keelvelur has landholding of 9 acres wetland and has 15 years of experience in rice cultivation. He is a B.Sc. graduate working in Tamil Nadu Civil Supplies Corporation. He happened to attend the trainings conducted by Krishi Vigyan Kendra, Sikkal three years back on SRI cultivation that is how he had his first contact with KVK. Subsequently, he was trained on benefits of Azolla, mechanization and nutrient management in rice cultivation. He was further taken to various rice research stations of Tamil Nadu Agricultural University (TNAU) on exposure visit. He was much impressed and decided to take up the technologies of TNAU and ICAR. He showed much interest towards adopting the technologies. His adoption of new and improved technologies were well monitored by KVK scientists.

His conviction in following the technologies has prompted KVK to give On Farm Trials (OFT), Adaptive Research Trials (ART) and Front Line Demonstration Trials (FLD) in paddy for the past two years. His income has increased upto Rs.22,500/acre in 2011, while he got only Rs.15,000/acre under conventional method of rice cultivation in 2009. Now he has become a progressive farmer in the village and farmers receive cropping advice from him. Hence, his social status and recognition among the farming community has improved tremendously which was a source of encouragement for his daughter to become an agriculture scientist. To fulfill her aim she has joined B.Sc. (Agri) in 2010 which was hailed by her parents and relatives.

##### Success Story II

**Shri. Balakrishnan, S/o. Sankaran** a progressive farmer of Karaiyiruppu a nearby village from KVK premises, who used to visit KVK very frequently to take advice on farm activities. He is a rice producer and was not able to generate good remuneration for all his efforts, all the firms fighting against floods, droughts and natural calamities, being this coastal district from the tail end of the cauvery delta net work. Rice is the prime crop since the soil is clayey with poor drainage and any cropping is only based on rice farming. Rice being a low remunerative crop

he wanted to switch over to alternate cropping/farming system to generate more income and sustainability in production system.

Since water is a very scarce input during summer and kharif, he has excavated a farm pond (1.0 acre) for harvesting rain water with the assistance of the department of Agricultural Engineering. He has also raised a piece of low level (0.5 ac) with the excavated soil. He has been practicing dairy, fish farming besides rearing back yard poultry. He has approached the KVK to take advice on improving his farm and to generate more income. Accordingly KVK scientists have visited his farm and appropriate advises/solutions were offered from time to time.

He was suggested to go for high value crops like bhendi, chillies and tomato in the raised portion of his farm (0.5 ac.). He has also made a record yield from this bhendi crop. He has obtained Rs.60,000/- by sale of bhendi (price ranged from Rs.8/- to Rs.12/- per kg).

This crop was witnessed by 250 of farmers who have been motivated to go for hybrid vegetables. His field is being witnessed by farmers from various blocks and taking his advice. He is serving an excellent model in this district, not only in vegetables, but also in back yard poultry.

### **Success Story III**

**Tmt. Kasthuri** W/o.Mr. Ramadoss, Agni, Sirkali taluk of Nagapattinam District is a privileged and inventive woman keen on utilizing scientific information in crop production technologies. She used to actively participate in various training programmes conducted regularly at KVK, Sikkal. Apart from attending the training programme she also has the habit of watching Agricultural programmes in Doordhashan (Pothigai) channel, listening AIR, reading dailies and agriculture magazines.

#### **Reasons for establishment**

- ❖ Started vegetable production to utilize recourses effectively with some income generation.
- ❖ Self reliance
- ❖ Social status
- ❖ Perceived opinion

Due to vegetable production the following advantages were perceived.

- ❖ Increased family income
- ❖ Improved social status
- ❖ Increased self satisfaction

#### **Constraints and Suggestions**

- ❖ Non availability of quality seeds/ seedlings
- ❖ Fluctuation in production/yield depending upon the climatic condition
- ❖ Limited area and resource
- ❖ Price fluctuation

Institutional support on market intelligence will greatly help in marketing the products at higher price thus increasing the profit margin.

### **Case analysis**

The case illustrates that vegetable production by Tmt. Kasthuri has fetched considerable income from limited area and resource. An attitude characterized by a strong orientation towards scientific and systematic approach to achieve the objectives has enabled her to reap the benefits of the vegetable cultivation.

Further her full time involvement and commitment in vegetable as a main avocation and income generating activity, gave her the confidence for effective involvement of resources and time in listening/reading mass media, contacting KVK and TNAU scientists in acquiring knowledge about the improved vegetable production which proved to be the driving force for producing vegetables.

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

- a. The training Programmes, OFT and FLD are proposed based on the needs of the farming community
- b. All the training Programmes were announced well in advance through AIR, Karaikal and local dailies.
- c. Method demonstrations are also arranged in the village based on the requirements.
- d. The technologies are explained and computer and CD's in the training conducted in the village also.
- e. Trainees are taken on exposure visit to the fields of successful farmers to create confidence and motivate them to start a new venture for becoming entrepreneur.
- f. In training programmes resource farmers are being hired to share their experience with trainees to build confidence about the technical feasibility and economic viability.
- g. The impact of TOT is documented by action oriented photographs, video film, writing of success stories and publishing in dailies and journals.

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

<b>S. No.</b>	<b>Crop / Enterprise</b>	<b>ITK Practiced</b>	<b>Purpose of ITK</b>
1	Rice	Cultivated 40 numbers of rice traditional varieties	To create awareness



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

- Group Discussion
- Group interaction
- Village visit
- Personal contact
- Grievance day meeting
- Monthly zonal workshop

**10. G. Field activities**

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

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

Status of establishment of Lab :

1. Year of establishment : 2010-11
2. List of equipments purchased with amount :

Sl. No	Name of the Equipment	Qty.	Cost
1	Digital Visible Spectrophotometer Model SL-207 "Elico" Make	1	39,104
2	Digital pH meter "Elico" Make	1	5,970
3	All Glass Single Distillation unit	1	36,400
4	Khan Shaker "Labline"	1	20,800
5	Hot air oven	1	17,680
6	Hot plate	1	7956
7	Willey mill	1	32,760
8	Water Bath	1	7,249
9	UP based Flame Photometer "Elico" Make	1	45,240
10	Digital conductivity meter "Elico" Make	1	11,326
11	Electronic Top loading balance "Cyberlab"	1	6760
12	Electronic Top loading balance "Shimadzu"	1	20,592
13	Water and Soil analysis kit	1	19,750
14	Digestion system (Kelplus)	1	1,12,216
15	Distillation system (Kelplus)	1	1,82,936
16	Instrument table	5	78,000
17	Rack,Almirah, Angle Iron rack	-	70,000
18	Soil and Plant storage cabin	-	1,00,000
19	Wash basin, sink and exhauster fan		70,000
20	Servo relay stabilizer – 2 Kva	1	7,500
21	Micropipette	2	3600
22	Buchner funnel with flask	1	2000
23	Titration unit	2	10,000
24	Vacuum pump	1	5000
25	HCL Computer with printer	1	37,600
<b>Total</b>			<b>9,50,439</b>

**Details of samples analyzed so far since establishment of SWTL: Nil**

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples				
Water Samples				
Plant samples				
Manure samples				
Others (specify)				
<b>Total</b>				

**Details of samples analyzed during the 2010-11 : Nil**

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples				
Water Samples				
Plant samples				
Manure samples				
Others (specify)				
<b>Total</b>				

**10. I. Technology Week celebration**

Period of observing Technology Week: From \_\_\_\_\_ to \_\_\_\_\_  
 Total number of farmers visited : \_\_\_\_\_  
 Total number of agencies involved : \_\_\_\_\_  
 Number of demonstrations visited by the farmers within KVK campus : \_\_\_\_\_

Other Details

Types of Activities	No. of Activities	Number of Farmers	Related crop/livestock technology
Gosthies			
Lectures organized			
Exhibition			
Film show			
Fair			
Farm Visit			
Diagnostic Practicals			
Supply of Literature (No.)			
Supply of Seed (q)			
Supply of Planting materials (No.)			
Bio Product supply (Kg)			
Bio Fertilizers (q)			
Supply of fingerlings			
Supply of Livestock specimen (No.)			
Total number of farmers visited the technology week			

**10. J. Interventions on drought mitigation (if the KVK included in this special programme)****A. Introduction of alternate crops/varieties**

State	Crops/cultivars	Area (ha)	Number of beneficiaries
Tamil nadu – Nagapattinam	Rice – CORH 3	10	10
Tamil nadu – Nagapattinam	Rice – Sub Swarna	5	5



## PART XI. IMPACT

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

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)

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

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

<b>Rice mechanization</b>	-	Tractor drawn cage wheel, rotavator, SRI weeders and combine harvester/ paddy threshers
<b>Popularizing CORH 3</b>		Popularized newly released rice hybrid
<b>Azolla</b>	-	Production technology and popularizing as a feed for animals, poultry and fish
<b>Hybrid vegetables introduction</b>	-	Chillies (Priyanka), Tomato (Lakshmi), Bhendi (My-11,12) Cabbage (Hari rani), Knolkhol (White Vienna), French beans (S-9), Pole beans (US2)
<b>High yielding rice varieties</b>	-	Popularized newly released high yielding rice varieties viz., CO(R)48, CO(R)-49, CO(R)-50

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

## PART XII - LINKAGES

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

Name of organization	Nature of linkage
State dept. of Agriculture	1.Joint training, extension programmes and implementations of Rashtriya Sam Vikas Yojana, 2.Giving technical support and infrastructural support during monthly zonal workshop.
Dept. of Horticulture	1.Joint training programmes 2.Offering need based technical guidance to the extension functionaries. 3. Pre kharif and rabi training programme 4. Field diagnostic visit 5. Flood / Drought assessment 6. yield performance assesment
NABARD	Organizing Farm Science Club and exposure visits.
Local, NGOs (DHAN, KUDUMBAM, CAP-TEEN, CREATE, CWS, CES, PCI,NCRC, MSSRF, RCPDS, PEDA, VAANGHAI)	Organizing on/off campus training Programmes offering need based technical guidance.
ZPD, CRIDA, CIAE, IICPT, CIFT, DEE, SCMS, CPPS, CPBG, TRRI (Aduthurai), SWMRI (Thanjavur) Krishi Vigyan Kendra, (Needamangalam)	Technical consultancy and exchange of SMS during training programmes.

AIR (Trichy, Karaikal)	Offering radio programmes on latest crop production technologies and announcements.
NHM	To implement the precision farming
District Collectorate DRDA, Nagapattinam	To implement the waste land development scheme and land reforms counseling and grievance day meeting Organizing skill development training programme to rural youth SHGs. Organizing need based training programme and promoting agricultural entrepreneurship

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

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
IFS	2007	RSVY- Agriculture	15,00,000/-
NICRA	2010 - 11	CRIDA, HYD	30,35,000

**12.C. Details of linkage with ATMA**

a) Is ATMA implemented in your district Yes/ No

S. No.	Programme	Nature of linkage	Remarks
1.	District level planning, technology transfer and activities related with researchable issues	Member in the ATMA governing board and management committee	Collaborated in the district action plan preparation

**Coordination activities between KVK and ATMA during 2010-11**

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks (if any)
01	Meetings				
02	Research projects				
03	Training programmes				
04	Demonstrations				
05	Extension Programmes				
	Kisan Mela				
	Technology Week				
	Exposure visit				
	Exhibition				
	Soil health camps				
	Animal Health Campaigns				
	Others (Pl. specify)				
06	Publications				
	Video Films				
	Books				
	Extension Literature				

	Pamphlets				
	Others (Pl. specify)				
<b>07</b>	<b>Other Activities</b> (Pl. specify)				
	Watershed approach				
	Integrated Farm Development				
	Agri-preneurs development				

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

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

**12.E. Nature of linkage with National Fisheries Development Board**

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

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

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



<b>Oilseeds</b>									
Fibers									
Spices & Plantation crops									
Floriculture									
Fruits									
<b>Vegetables</b>									
Brinjal						26.5		265	
Others									
(Azolla)				Rong Ping	Bio product	150 kg			
Casurina seedlings						50 no		100	
Protray						149 no		2235	
Seedlings with tray						14 no		1050	

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

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1	Vermi compost	644 kg		3220	
2	Cocopeat	130 kg		420	

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

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
	Egg			3395 no		7808	
	Layer bird			21 no		840	

### 13.E. Utilization of hostel facilities

Accommodation available (No. of beds)

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
October 2008			
November 2008			
December 2008			
January 2009			
February 2009			
March 2009			
April 2009			
May 2009			
June 2009			
July 2009			
August 2009			
September 2009			





**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							

**14. B. Utilization of funds under FLD on Cotton (*Rs. in Lakh*)**

S. No	Items / Head	Opening balance if any	Remittance by ZPD VIII Bangalore	Actual expenditure debitable to Council A/C	Closing balance if any	Remarks
<b>1</b>	<b>Production Technology – 50 ha</b>					
	a. Essential inputs					
	b. POL, hiring vehicle, Kisan melas, printed materials, reports, demonstration boards					
	Total					
<b>2.</b>	<b>Farm Implements – 75 ha</b>					
	a. New equipments					
	b. Contingencies					
	Total					

**14. C. Utilization of KVK funds during the year 2010-11 (Rs. in lakh)**

S. No.	Particulars	Sanctioned	Released	Actual Expenditure
<b>A. Recurring Contingencies</b>				
1	<b>Pay &amp; Allowances</b>	4500000		7702494
2	<b>Traveling allowances</b>	100000		100712
3	<b>Contingencies</b>			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	190000	} 5813000	485267
B	POL, repair of vehicles, tractor and equipments	150000		182867
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	100000		123597
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	65000		65000
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	200000		200000
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	68000		68000
G	Training of extension functionaries	10000		10000
H	Maintenance of buildings	25000		25000
I	Establishment of Soil, Plant & Water Testing Laboratory	400000		400000
J	Library	5000		5000
<b>TOTAL (A)</b>		<b>5813000</b>		<b>9367937</b>
<b>B. Non-Recurring Contingencies</b>				
1	<b>Works</b>	1700000		1700000
2	<b>Equipments including SWTL &amp; Furniture</b>	1430000		1430000
3	<b>Vehicle</b> (Four wheeler/Two wheeler, please specify)	0		0
4	<b>Library</b> (Purchase of assets like books & journals)	10000		10000
<b>TOTAL (B)</b>		<b>3140000</b>		<b>3140000</b>
<b>C. REVOLVING FUND</b>		0		0
<b>GRAND TOTAL (A+B+C)</b>		<b>8953000</b>		<b>12507937</b>

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

Year	Opening balance as on 1 <sup>st</sup> April	Income during the year	Expenditure during the year	Net balance in hand as on 1 <sup>st</sup> April of each year
April 2008 to March 2009				
April 2009 to March 2010				
April 2010 to March 2011				

**15. Details of HRD activities attended by KVK staff during 2010-11**

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
Dr.K.Sivakumar	Assistant Professor	International Conference on "Eliminating hunger and Poverty"	MSSRF, Chennai	7.8.2010 to 9.8.2010
Dr.G.Malathi	Assistant Professor	National Seminar on Production of Medicinal plants	HC&RI, TNAU, Coimbatore	24.09.2010 to 26.09.2010
Dr.J.John Gunasekar	Associate Professor	International conference on food supply and security	IICPT, Thanjavur	30.10.2010 to 31.10.2010
Dr. K. Sivakumar, Dr.G.Malathi	Assistant Professor	International Conference on Bio resource Technology its application and achievements	Nirmala College for women, Coimbatore	07.10.2010, 08.10.2010
Dr.T.Dhamodaran Dr.M.Joseph	Associate Professor Assistant Professor	Round up Ready flex cotton Technology	TNAU, Coimbatore	28.10.10
Dr.T.Elaiyabharathi,	Assistant Professor	Mealybug management	NBAII, Bangalore	30.10.2010
Dr.M.Joseph	Assistant Professor	Integrated Farming System for sustainable farming	KVK, Kattupakkam	10 – 12.11.2010
Dr.M.Joseph	Assistant Professor	On Alternative Poultry farming as a livelihood option for farming community	KVK, Namakkal	24 – 26.11.2010
Dr.G.Malathi	Assistant Professor	Plant diversity for Aesthetic values and landscape gardening	HC&RI, Coimbatore	26- 28.11.2010
Dr. K. Sivakumar	Assistant Professor	Southern region STCR training cum seminar	Dept. of SS&AC, TNAU, Coimbatore	15.12.10 to 16.12.10
Dr.T.Dhamodaran	Associate Professor	5 <sup>th</sup> National Conference on KVK 2010	Maharana Pratap University of Agriculture and Technology, Udaipur	22.12.10 to 24.12.10
Dr. G. Malathi	Assistant Professor	Strengthening Gender perspective in agricultural research and development	TANUVAS, Madhavaram, Chennai	24.01.2011 to 25.01.2011
Mr. V. Gnanabharathi	Programme Assistant	Communication skill	SWMRI, Thanjavur	15.2.2011
Dr. G. Malathi	Assistant Professor	Protection of plant varieties and farmers right act	TRRI, Aduthurai	15.3.11
Dr. T. Elaiyabharathi	Assistant Professor	IPDM in major crops	Office of the DEE, TNAU, Coimbatore	25.03.2011 & 26.3.2011
Dr. G. Malathi	Assistant Professor	Protected cultivation of horticultural crops	Office of the DEE, TNAU, Coimbatore	28.3.2011 to 29.3.2011
Dr. M. Joseph	Assistant Professor	'Weather based Advisory Services'	Office of the DEE, TNAU, Coimbatore	30 - 31.3.2011

**16. Please include any other important and relevant information which has not been reflected above (write in detail).**

# SUMMARY FOR 2010-11

## I. TECHNOLOGY ASSESSMENT

### Summary of technologies assessed under various crops

Thematic areas	Crop	Name of the technology assessed	No. of trials
Integrated Nutrient Management			
Varietal Evaluation	1	Evaluation of submergence tolerance rice varieties for samba season	5
Integrated Pest Management			
Integrated Crop Management			
Integrated Disease Management	1	Management of False Smut disease in Samba paddy	5
Small Scale Income Generation Enterprises			
Weed Management			
Resource Conservation Technology			
Farm Machineries	1	Evaluation of different weeders in SRI	5
Integrated Farming System	1	Evaluation of polyculture in inland fisheries in Delta region	5
Seed / Plant production			
Value addition			
Drudgery Reduction			
Storage Technique			
Others (Pl. specify)			
<b>Total</b>			

### Summary of technologies assessed under livestock

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials
Disease Management			
Evaluation of Breeds			
Feed and Fodder management			
Nutrition Management	Dairy	Area Specific Mineral Mixture for Dairy cows	10
Production and Management			
Others (Pl. specify)			
<b>Total</b>			



## II. TECHNOLOGY REFINEMENT

### Summary of technologies refined under various crops

Thematic areas	Crop	Name of the technology refined	No. of trials
Integrated Nutrient Management			
Varietal Evaluation			
Integrated Pest Management			
Integrated Crop Management	1	Integrated algal management in rice eco system	5
Integrated Disease Management			
Small Scale Income Generation Enterprises			
Weed Management			
Resource Conservation Technology			
Farm Machineries			
Integrated Farming System			
Seed / Plant production			
Value addition			
Drudgery Reduction			
Storage Technique			
Others (Pl. specify)			
<b>Total</b>			

### Summary of technologies assessed under refinement of various livestock

Thematic areas	Name of the livestock enterprise	Name of the technology refined	No. of trials
Disease Management			
Evaluation of Breeds			
Feed and Fodder management			
Nutrition Management			
Production and Management			
Others (Pl. specify)			
<b>Total</b>			









### III. FRONTLINE DEMONSTRATION

#### Cotton

#### Frontline demonstration on cotton

Crop	Thematic Area	Name of the technology demonstrated	No. of KVVKs	No. of Farmers	Area (ha)	Yield (q/ha)		% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)					
						Demonstration	Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR		
<b>Total</b>																		

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

\*\* BCR= GROSS RETURN/GROSS COST



	Yield maximization	Protected Cultivation of vegetables under shade net during off season		4	1200 sq.m													
Flowers																		
Ornamental																		
Fruit																		
Spices and condiments																		
Commercial																		
Medicinal and aromatic																		
Fodder	Popularization	Popularization of fodder bank at village level		5	1													
Plantation																		
Fibre																		
Others (pl.specify)																		
		<b>Total</b>																

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

\*\* BCR= GROSS RETURN/GROSS COST





		<b>Total</b>																

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

\*\* BCR= GROSS RETURN/GROSS COST

### Women empowerment

Category	Name of technology	No. of KVKs	No. of demonstrations	Name of observations	Demonstration	Check
<b>Women</b>						
Pregnant women						
Adolescent Girl						
Other women						
<b>Children</b>						
Neonats						
Infants						
Children						

### 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											

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

\*\* BCR= GROSS RETURN/GROSS COST







































### Sponsored training programmes

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													
1.b.	Commercial production of vegetables													
<b>2</b>	<b>Production and value addition</b>													
2.a.	Fruit Plants													
2.b.	Ornamental plants													
2.c.	Spices crops													
<b>3.</b>	<b>Soil health and fertility management</b>													
<b>4</b>	<b>Production of Inputs at site</b>													
<b>5</b>	<b>Methods of protective cultivation</b>													
<b>6</b>	<b>Others (pl. specify)</b>													
<b>7</b>	<b>Post harvest technology and value addition</b>													
7.a.	Processing and value addition													
7.b.	Others (pl. specify)													
<b>8</b>	<b>Farm machinery</b>													
8.a.	Farm machinery, tools and implements	<b>1</b>	<b>20</b>	<b>-</b>	<b>20</b>					<b>20</b>	<b>-</b>	<b>20</b>		
8.b.	Others (rice mechanization )	<b>1</b>	<b>18</b>	<b>2</b>	<b>20</b>					<b>18</b>	<b>2</b>	<b>20</b>		
<b>9.</b>	<b>Livestock and fisheries</b>													
<b>10</b>	<b>Livestock production and management</b>													
10.a.	Animal Nutrition Management													
10.b.	Animal Disease Management													
10.c.	Fisheries Nutrition													
10.d.	Fisheries Management													
10.e.	Others (Post harvest technology and fish processing)	<b>1</b>	<b>-</b>	<b>34</b>	<b>34</b>					<b>-</b>	<b>34</b>	<b>34</b>		
<b>11.</b>	<b>Home Science</b>													
11.a.	Household nutritional security													
11.b.	Economic empowerment of women													
11.c.	Drudgery reduction of women													
11.d.	Others ("Gender sensitization")	<b>1</b>	<b>18</b>	<b>2</b>	<b>20</b>					<b>18</b>	<b>2</b>	<b>20</b>		
<b>12</b>	<b>Agricultural Extension</b>													
12.a.	Capacity Building and Group Dynamics													
12.b.	Others (pl. specify)													
	<b>Total</b>													

#### Details of sponsoring agencies involved

1. Department of Agricultural Engineering, Nagapattinam
2. GOI through Directorate of Extension Education, TNAU, Coimbatore
3. Central Institute of Fisheries Technology (CIFT), Cochin



## V. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	129	654	17	671
Diagnostic visits	89	84	5	89
Field Day	9	168	5	173
Group discussions	-	-	-	-
Kisan Ghosthi	-	-	-	-
Film Show	-	-	-	-
Self -help groups	-	-	-	-
Kisan Mela	-	-	-	-
Exhibition	3	1365	22	1387
Scientists' visit to farmers field	110	-	-	-
Plant/animal health camps	-	-	-	-
Farm Science Club	-	-	-	-
Ex-trainees Sammelan	-	-	-	-
Farmers' seminar/workshop	3	150	-	150
Method Demonstrations	15	872	-	872
Celebration of important days				
Special day celebration				
Exposure visits	4	200	2	202
Others (pl.specify)				
<b>Total</b>				

### Details of other extension programmes

Particulars	Number
Electronic Media	0
Extension Literature	9
News Letter	2
News paper coverage	63
Technical Articles	27
Technical Bulletins	3
Technical Reports	0
Radio Talks	20
TV Talks	5
Animal health amps (Number of animals treated)	0
Others (pl.specify)	0
<b>Total</b>	<b>129</b>

## VI. PRODUCTION OF SEED/PLANTING MATERIAL

### Production of seeds by the KVKs

Crop category	Name of the crop	Name of the variety (if hybrid pl. specify)	Quantity of seed (q)	Value (Rs)	Number of farmers
Cereals					
Oilseeds					
Pulses					
Commercial crops					
Vegetables					
Flower crops					
Spices					
Fodder crop seeds					
Fiber crops					
Forest Species					
Others					
<b>Total</b>					

### Production of planting materials by the KVKs

Crop category	Name of the crop	Name of the variety (if hybrid pl. specify)	Number	Value (Rs.)	Number of farmers
Commercial					
Vegetable seedlings					
Fruits					
Ornamental plants					
Medicinal and Aromatic					
Plantation					
Spices					
Tuber					
Fodder crop saplings					
Forest Species					
Others					
<b>Total</b>					

### Production of Bio-Products

Bio Products	Name of the bio-product	Quantity	Value (Rs.)	No. of Farmers
		Kg		
Bio Fertilizers				
Bio-pesticide				
Bio-fungicide				
Bio Agents				
Others				
<b>Total</b>				

**Production of livestock and related enterprise materials**

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers
<b>Dairy animals</b>				
Cows				
Buffaloes				
Calves				
Others (Pl. specify)				
<b>Poultry</b>				
Broilers				
Layers				
Duals (broiler and layer)				
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				
<b>Piggery</b>				
Piglet				
Others (Pl. specify)				
<b>Fisheries</b>				
Fingerlings				
Others (Pl. specify)				
<b>Total</b>				

**VII. DETAILS OF SOIL, WATER AND PLANT ANALYSIS 2010-11**

Samples	No. of Samples	No. of Farmers	No. of Villages	Amount realized (Rs.)
Soil				
Water				
Plant				
Manure				
Others (pl. specify)				
<b>Total</b>				

**VIII. SCIENTIFIC ADVISORY COMMITTEE**

<b>Number of SACs conducted</b>

**IX. NEWSLETTER**

<b>Number of issues of newsletter published : two</b>

## X. RESEARCH PAPER PUBLISHED

Number of research paper published
<p><b>Book</b></p> <ul style="list-style-type: none"> <li>❖ SRI technology &amp; farm implements - Dr. K. Rangasamy, Dr. P.Dhananchezhiyan, Dr.J.John Gunasekar, Selvi. K.Rathi kannan, Dr.B.J. Pandiyan, Dr.M.V.Rengasamy</li> <li>❖ Plant Biochemistry - Dr.V.Arunkumar, Dr.N.Senthil Kumar and Dr.K.Sivakumar</li> <li>❖ Flora of Tropical Dry ever green forest - Dr.A.Bala, Dr. R.Revathi and Dr.M.G.Rao</li> </ul>
<p><b>Book Chapter:</b></p> <ul style="list-style-type: none"> <li>❖ Sivakumar, K., K. Dhanasekaran, S.Srinivasan and D.Venkatakrishnan. 2011. Effect of Humic acid and fertilizers on yield of Rice and soil available micronutrient status. IN: proceedings of the National Seminar on crop Improvement strategies for sustainable Agriculture. Pp 65-70.</li> <li>❖ Dhanasekaran, K., K. Sivakumar, R.Bhuvaneshwari and S.Sathiamurthy. 2011. Effect of Humic acid and micronutrient mixture on the quality and yield of tomato. IN: proceedings of the National Seminar on crop Improvement strategies for sustainable Agriculture. Pp 1-7.</li> <li>❖ Srinivasan, S., A.Angayarkanni, D.Venkatakrishnan, K.Sivakumar, and A.Anandan. 2011. Improvement of Grain yield of Rice under targeted yield model. IN: proceedings of the National Seminar on crop Improvement strategies for sustainable Agriculture. Pp 19- 22.</li> <li>❖ Venkatakrishnan, D., Sivakumar, K., Mohandas, S, S.Srinivasan and K. Dhanasekaran. 2011. Influence of Zinc on Ca, Mg, Zn and Cu uptake of tomato. IN: proceedings of the National Seminar on crop Improvement strategies for sustainable Agriculture. Pp 61-63.</li> </ul>
<p><b>Research articles:</b></p> <ol style="list-style-type: none"> <li>1. Venkatakrishnan, D., K. Dhanasekaran, K. Sivakumar and R. Devanathan. 2010. Influence of organics for increased sugar recovery in sugarcane IN: International conference on Food technology, Ed. II (Infotech 2010) held at IICPT, Tanjore.</li> <li>2. Sivakumar, K and T. Dhamodaran. 2011. Role of Humic acid and fertilizers on Nutrient uptake of rice. IN: proceedings of the International conference on Bioresource technology (ICBRT) held at Nirmala college of women, Coimbatore. Pp 207-2013.</li> <li>3. Malathi. G., T. Dhamodaran and D.Veeraragavathatham. 2011. <i>Per se</i> performance &amp; heterosis of two hybrids of chillies for capsaicin &amp;</li> </ol>

Oleoresin content in three different reasons in ICBRT

4. Malathi. G.,T. Dhamaodaran and D.Veeraragavathattham. 2011 Seasonal influence of per re performance of 2 hybrids and their parents of chillies for growrh & yield characlets in ICBRT

5. Sivakumar. K., Dhamodaran. T, D. Venkatakrishnan and K. Dhanasekaran 2011. Effect of humic acid and fertilizers on growth and yield of rice.

6. Venkatakrishnan, D., S. Manimaran, K. Dhanasekaran, K. Sivakumar and S Srinivasan. Effect of different organic manures on yield components of sugarcane.

7. Malathi, D. D. Veeraragavathantham and T. Dhamodarn. 2011. Per se performance of twelve hybrids and their parents of chillies for yield contributing triats.

8 Sivakumar. K and T. Dhamodaran. D. 2011. Preserving soil health and maximizing rice yield by integrated application of fertilizer and humic acid. **IN** : National seminar on soil health improvement for enhancing crop productivity held at TNAU, Coimbatore during 17-18.3.2011.

#### **Booklet**

- ❖ Role Of microbes for sustainable agriculture - Dr.K.C.Gouthaman, Dr.T.Elaiya bharathi and Dr.John Gunasekar

#### **Popular**

- ❖ Role of humic acid and fertilizer on nutrient uptake of rice' at ICBRT, Coimbatore.
- ❖ Dhaniya keerai in "Nilavalam", September 2010 (Page No. 16 to 18)

#### **act in Seminar:**

1. Venkatakrishnan. D., R.Devanathan, M.Ravichandran, K.Sivakumar, K.Dhanasekaran and S. Srinivasan. 2010. Effect of different organic manures on Post harvesr NPK status in Sugarcane grown soil .New challenges and oppurtunities in soil organic matters Research held on 26<sup>th</sup> February 2010 at Department of Soil Science & Agricultural Chemistry faculty of Agricultural Annamalai University.
2. Sivakumar.K. and T.Dhamodaran 2010 Role of humic acid and fertilizers an nutrient uptake of Rice. In : International Conference on Bio resource Technology –its applications and achievements held at Nirmala College for women, Coimbatore on 7-8, October 2010.
3. Malathi.G., T.Dhamodaran and D.Veeraragavathatham 2010 Seasonal influence on Per re performance of two hybrids and their parents of chillies (capsicum annum) for growth and yield contributing characters In : International Conference on Bio resource Technology –its applications and achievements held at Nirmala College for women, Coimbatore on 7-8, October 2010.
4. Malathi.G., T.Dhamodaran and D.Veeraragavathatham 2010 Per se performance and heterosis of two F1 hybrids of chillies for Capsaicin and Oleoresin content in

three different season. In : International Conference on Bio resource Technology – its applications and achievements held at Nirmala College for women, Coimbatore on 7-8, October 2010.

5. Malathi.G., T.Dhamodaran and D.Veeraragavathatham 2010. Capsicum genetic diversity in colour extraction & landscape gardening. . In : International Conference on Bio resource Technology –its applications and achievements held at Nirmala College for women, Coimbatore on 7-8, October 2010.

## **XI. DETAILS ON RAIN WATER HARVESTING STRUCTURE AND MICRO-IRRIGATION SYSTEM**

<b>Activities conducted</b>				
<b>No. of Training programmes</b>	<b>No. of Demonstrations</b>	<b>No. of plant materials produced</b>	<b>Visit by farmers (No.)</b>	<b>Visit by officials (No.)</b>

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