



TAMIL NADU AGRICULTURAL UNIVERSITY



ANNUAL REPORT 2014-15

(FOR THE PERIOD APRIL 2014 TO MARCH 2015)

**ICAR -KRISHI VIGYAN KENDRA
SIKKAL-611108
NAGAPATTINAM DISTRICT
TAMIL NADU**

PART I - GENERAL INFORMATION ABOUT THE KVK

1.1. Name and address of KVK with phone, fax and e-mail

KVK Address	Telephone		E mail	Web Address
Krishi Vigyan Kendra Tamil Nadu Agricultural University, Sikkal-611108 Nagapattinam District	04365- 246266	04365 - 246266	kvksikkal@tnau.ac.in	www.kvknagapattinam.com

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

Address	Telephone		E mail	Web Address
	Office	Fax		
Tamil Nadu Agricultural University Coimbatore - 641 003	0422- 2431222	91- 422- 2431672	vc@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.A.Anuratha	-	9865145075	anurakrish@yahoo.com

1.4. Year of sanction: 2004

1.5. Staff Position (as 31st March 2015)

Sl. No	Sanctioned post	Name of the incumbent	Designation	M/F	Discipline	Highest Qualification	Pay Scale	Basic pay	Date of joining KVK	Permanent /Temporary	Category
1	Programme Coordinator	Dr. A. Anuratha	Programme Coordinator	F	Soil Science	Ph.D	15600-39100+6000	23730+7000	04.08.2013	Permanent	OBC
2	SMS	Dr. T. Elaiyabharathi	Subject Matter Specialist	M	Agricultural Entomology	Ph.D	15600-39100+6000	23730+7000	11.08.2010	Permanent	OBC
3	SMS	Dr. J. Thilagam	Subject Matter Specialist	F	Agricultural Extension	Ph.D	15600-39100+6000	18850+6000	19.07.2014	Permanent	OBC
4	SMS	Dr. R. Ravi	Subject Matter Specialist	M	Forestry	Ph.D	15600-39100+6000	18850+6000	19.07.2014	Permanent	OBC
5	SMS	Dr. M. Alagar	Subject Matter Specialist	M	Agri. Ento.	Ph.D	15600-39100+6000	18850+6000	09.01.2014	Permanent	SC
6	SMS	Dr. J. Selvi	Subject Matter Specialist	F	Home Science	Ph.D	15600-39100+6000	18850+6000	17.09.2014	Permanent	OBC
7	SMS	Vacant	-								-
8	Programme Assistant (Lab Tech.) /T-4	Mr. V. Gnanabharathi	Programme Assistant (Technical)	M	Agricultural Science	B.Sc, (Agri)	9300-34800+4400	13620+4400	05.06.2007	-	SC
9	Programme Assistant (Computer) / T-4	Er. R. Sakunthala	Programme Assistant (Computer)	F	Computer Application	B.E(Agri), MCA	930034800+4400	12570+4400	27.10.2014	Permanent	OBC
10	Programme Assistant/ Farm Manager T-4	Mr.R.Vedharethinam	Farm Manager	M	Agronomy	M.Sc, (Agri)	930034800+4400	13620+4400	04.06.2007	Permanen	OBC

11	Assistant	Th. E. Sivanesan	Superintendent	M	Office	-	9300-34800 + 4800	12060 + 4800	20.06.2013	Permanent	OBC
12	Jr. Stenographer	Tmt. S. Shanthi	Junior Assistant cum Typist	F	Office	-	5200-20200 + 2400	6690+ 2400	28.02.2011	Permanent	OBC
13	Driver	Th. A. Janakiraman	Driver	M	-	-	9300- 34800+4200	10560+ 4200	06.05.2013	Permanent	OBC
14	Driver	Mr.C.Veerakumar	Agrl. Engg. Supervisor	M	-	-	9300- 34800+4200	15120+ 4400	07.06.2013	Permanent	OBC
15	Supporting staff	Mr.A.Ravi	Office Assistant	M	-	-	6000 (consolidated)	-	01.01.2014	Temporary	SC
16	Supporting staff	Mr.K.Krishnasamy	Office Assistant	M	-	-	6000 (consolidated)	-	01.01.2014	Temporary	SC

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	16.60
4.	Orchard/Agro-forestry	0.00
5.	Others	0.00
	Total	22.6

1.7. Infrastructural Development:

A) Buildings

B)

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs. in Lakhs)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	2009	548	41.65	-	-	Completed
2.	Farmers Hostel	ICAR	2009	300	26.38	-	-	Completed
3.	Staff Quarters	ICAR	2009	400	33.30	-	-	Completed
4.	Demonstration Units	-	-	-	-	-	-	-
5	Fencing	ICAR	2011	-	5.00	-	-	Completed
6	Rain Water harvesting system	AED, Nagai -(subsidy)	11.2.2007	2100	0.08	-	-	Completed
7	Threshing floor	ICAR	21.01.2015	900	3.00	-	-	Completed
8	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	189628	Poor performance
Two Wheeler (TVS - star city)	2006	39,641	81598	Poor performance
Two Wheeler (Suzuki Access 125)	2009	49,651	37050	Good condition

C) Equipments & AV aids

Name of the equipment	Cost (Rs.)	Purchased date	Present status
Desktop computer-Hp pavilion	48750	2005	Not in use
COMPAQ- Desktop computer with 17 " Sony TFT monitor, 0.6 KV Numeric UPS	93000	2007	Not in use
Digital Visible Spectrophotometer	39104	2011	Good Condition
Digital pH meter "Elico" Make	5970	2011	Good Condition
All Glass Single Distillation unit	36400	2011	Good Condition
Khan Shaker "Labline"	20800	2011	Good Condition
Hot air oven	17680	2011	Good Condition
Hot plate	7956	2011	Good Condition
Willey mill	32760	2011	Good Condition
Water Bath	7249	2011	Good Condition
UP based Flame Photometer "Elico" Make	45240	2011	Good Condition
Digital conductivity meter "Elico" Make	11326	2011	Good Condition
Electronic Top loading balance "Cyberlab"	6760	2011	Good Condition
Electronic Top loading balance "Shimadzu"	20592	2013	Good Condition
Water and Soil analysis kit	19750	2011	Good Condition
Digestion system (Kelplus)	112216	2011	Good Condition
Distillation system (Kelplus)	182936	2011	Good Condition
Instrument table	78000	2011	Good Condition
Rack,Almirah, Angle Iron rack	70000	2011	Good Condition

Soil and Plant storage cabin	100000	2011	Good Condition
Wash basin, sink and exhauster fan	70000	2011	Good Condition
Servo relay stabilizer – 2 Kva	75000	2011	Good Condition
Micropipette	3600	2011	Good Condition
Buchner funnel with flask	2000	2011	Good Condition
Titration unit	10000	2011	Good Condition
Vacuum pump	5000	2011	Good Condition
HCL Computer with printer	37600	2011	Good Condition
1 ton AC	19750	2011	Good Condition
Vertical stirrer	6500	2011	Good Condition
Electric muffal furnace	8892	2011	Good Condition
Remi model centrifuge	18946	2011	Good Condition
Laboratry incubator	16604	2011	Good Condition
Fire extinguisher	4500	2011	Good Condition
Soxhlet extraction mantle	5187	2011	Good Condition
Remi make cyclo mixer	4000	2011	Good Condition
Invertor	8650	2011	Good Condition
Battery	9850	2011	Good Condition
Executive chair netted	5800	2011	Good Condition
Computer table with cop board	4200	2011	Good Condition
Wall storage cup board	21250	2011	Good Condition
Wall side storage cabinet	5312	2011	Good Condition

Storage cabinet	44837	2011	Good Condition
Cabinet for conditioned storage of plant samples	10200	2011	Good Condition
Slotted angle iron rack	4250	2011	Good Condition
Steel Almirah	44200	2011	Good Condition
Revolving stool	7800	2011	Good Condition
Sink unit	36771	2011	Good Condition
Exhaust fan	12240	2011	Good Condition
Work table	9500	2011	Good Condition
Laboratory revolving chair	5658	2011	Good Condition
Steel senior plain cup board	36473	2011	Good Condition
Instrument table	69333	2011	Good Condition
Wall table	50825	2012	Good Condition
Sink with table	10750	2012	Good Condition
Revolving stools	6500	2012	Good Condition
Vortex mixer	6500	2012	Good Condition
Shaker	13388	2012	Good Condition
Water path	4620	2012	Good Condition
Split A/C with accessories	43300	2012	Good Condition
Vertical blinds	25500	2012	Good Condition
Separator	15500	2012	Good Condition
Electrical installation	5670	2012	Good Condition
Wall cupboard	24150	2012	Good Condition

Auto clave	28000	2012	Good Condition
Induction hot plate	3832	2012	Good Condition
Analytical balance	23100	2012	Good Condition
Magnetic stirrer	4725	2012	Good Condition
Laminar Air flow chamber	27300	2012	Good Condition
Laminar Air flow chamber	27300	2012	Good Condition
Thermo hygrometer	945	2012	Good Condition
Deep freezer	20475	2012	Good Condition
Stereo Zoom microscope	81900	2012	Good Condition
Stereo Zoom microscope	81900	2012	Good Condition
Stereo Zoom microscope	81900	2012	Good Condition
Hot air oven	18900	2012	Good Condition
Magnifer	4988	2012	Good Condition
B.O.D. Incubator	3600	2012	Good Condition
Digital pH meter	6300	2012	Good Condition
Dessicator (Table top plastic mount)	1575	2012	Good Condition
Dessicator (Table top plastic mount)	1575	2012	Good Condition
Refrigerated Centrifuge	149500	2012	Good Condition
D.O. Meter	9923	2012	Good Condition
U.V. Chamber	6825	2012	Good Condition
Display cabinet	25200	2012	Good Condition
Digital moisture meter	80950	2012	Good Condition

Cold water supplier	39950	2012	Good Condition
UPS (for Data processing system)	6700	2012	Good Condition
Refrigerator	17025	2012	Good Condition
Single glass distillation unit	45900	2012	Good Condition
Data processing system (one desktop, HP Colour printer)	90000	2012	Good Condition
Polarimeter	2999.85	2012	Good Condition
Force air circulator	11550	2012	Good Condition
Micro wave oven	5775	2012	Good Condition
Micro pipette and pipette holder	4200	2012	Good Condition
Colony counter	4935	2012	Good Condition
Portable Auto clave	4620	2012	Good Condition
SMS room partitioning	9180.5	2012	Good Condition
SWTL lab partitioning	9032.5	2012	Good Condition
Desktop computer-Hp pavilion	48750	2005	Not in use
COMPAQ- Desktop computer with 17 " Sony TFT monitor, 0.6 KV Numeric UPS	6500	2007	Not in use
COMPAQ- Desktop computer with 17 " Samsung TFT monitor, 0.6 KV Numeric UPS	46500	2007	Not in use
Apple i Mac work station	56000	2009	Good Condition
COMPAQ-Laptop	49400	2007	Good Condition
Hp laser printer-1010	8800	2007	Good Condition
TOSHIBA e studio 160- Copier cum printer	71400	2005	Not in use
Printer -HP-Colour Inkjet printer 3920	2600	2006	Good Condition

SAMSUNG Laser printer ML 1610	4925	2008	Not in use
SAMSUNG SCX4521-F fax cum printer	14400	2009	Good Condition
SAMSUNG Laser printer ML 1666	6800	2011	Not in use
Printer -HP-Laser jet 1020 plus	6450	2012	Good Condition
LCD projector SANYO- PLC XW 55	53500	2007	Good Condition
LCD projector SANYO- PLC XW 55	53500	2007	Good Condition
Scanner -UMAX ASTRA 4100	7150	2005	Good Condition
UPS numeric 1 KV extended battery	10250	2005	Not in use
UPS -1 KVA APC back BR 1000	7650	2009	Not in use
APC battery back BR	6300	2009	Not in use
UPS- numeric 1 KVA (Digital 1000 plus)	4750	2011	Not in use
GIGABYT key board with mouse	790	2008	Good Condition

1.8. Details SAC meeting conducted in 2014-15 :Nil

PART II - DETAILS OF DISTRICT

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

S. No	Farming system/enterprise
Rice based farming system is followed in this district	
1.	Rice – Rice – Rice fallow Pulse
2.	Rice – Rice - fallow Cotton
3.	Rice – Rice – Groundnut / Sesame
4.	Rice – Rice – Sugarcane (3 years rotation)
5	Rice – Rice fallow pulses/ Cotton
6	Rice – vegetables / flower crops

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 100 80 and 110 28' in North Latitude and 760 34' and 750 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 eco-system 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	98,000
2.	Clay sandy loam	Medium WHC	55,000
3.	Sandy soil	Low WHC	35,000
		Total	1,88,000

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	159246	5.43	3653
2.	Millets	-	-	-
3.	Black gram	43030	0.2395	549
4.	Green Gram	44299	0.2347	538
5.	Cotton	772	0.001964	250
6.	Sugarcane	2712	2.02	75000
7.	Ground Nut	1479	0.04349	3000
8.	Sesame	37	0.000188	500
9.	Mango	3084	-	-
10.	Cashew	1647	-	-
11.	Banana	571	-	-
12.	Vegetables	469	-	-

(Source-Joint Director of Agriculture, Nagapattinam Dt.)

2.5. Weather data

Month	Rainfall (mm)	Temperature ° C		Relative Humidity (%)
		Maximum	Minimum	
April 2014	-	33.2	27.6	76.8
May 2014	147.6	36.4	27.1	74.4
Jun-2014	26	37.3	26.7	63.6
July 2014	47.6	35.9	26.5	55.7
Aug 2014	103.3	35.2	25.6	96.5
Sep 2014	30.7	33.1	25.4	97.9
Oct 2014	436	31.8	23.7	55.7
Nov-2014	257	30.2	23.6	64.6
Dec 2014	0	28.8	23.4	94.1
Jan 2015	8	29.1	21.6	96.3
Feb 2015	0	28.9	21.8	97.2
March 2015	0	32.4	23.2	75.2

(Source-Joint Director of Agriculture, Nagapattinam Dt.)

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

Category	Population	Production	Productivity
Cattle			
<i>Crossbred</i>	254611	-	-
<i>Indigenous</i>		-	-
Buffalo	26934	-	-
Crossbred	54061	-	-
Sheep			
Crossbred	9834	-	-
<i>Indigenous</i>	23220	-	-

Goats		-	-
<i>Crossbred</i>	107719	-	-
<i>Indigenous</i>	322205	-	-
Pigs		-	-
<i>Crossbred</i>	818	-	-
<i>Indigenous</i>	2598	-	-
Rabbits	1377	-	-
Poultry			
Hens		-	-
<i>Desi</i>	264164	-	-
<i>Improved</i>	35894	-	-
Ducks	12712	-	-
Turkey and others	775	-	-

Category	Area	Production	Productivity
Fish	-		
<i>Marine</i>	-	61479	
<i>Inland</i>	-	7120	
Prawn	-	-	2.0 t
Scampi	-	-	
Shrimp	-	-	

(Source: Joint Director of Animal Husbandry, Nagapattinam)

2.7 District profile has been **Updated** for 2014-15 Yes /No - Yes

2.8 Details of Operational area / Villages

Sl.No.	Taluk	Name of the block	Name of the village	How long the village is covered under operational area of the KVK	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Nagapattinam	Nagapattinam	Oratthur	2 Years	Rice, Pulses	Water logged condition during NE monsoon leads to poor establishment	Integrated Crop Management
2	Kilvelur	Kilvelur	Valivalam	2 Years	Rice, Pulses	Water stress and heavy weed infestation in DSR in Samba paddy leads to yield loss , Very low yield due to non adoption of pest management practices	Integrated Disease Management
3	Kilvelur	Kilvelur	Aanaimangalam	3 Years	Rice, Pulses	Yield reduction due to pest and disease, water logging and labour scarcity	Integrated Crop Management
4	Kilvelur	Kilvelur	Atthipuliyur	3 Years	Rice, Pulses	Yield reduction due to pest and disease, water logging and labour scarcity	Integrated Crop Management
5	Thirukuvalai	Keelaiyur	Thirupoondi East, Vizhunthamaavadi	3 Years	Groundnut, Vegetables, Coconut	Coastal salinity, pest and disease, poor soil fertility, labour scarcity	Integrated Crop Management
6	Vedharanyam	Thalainayar	Avarikkadu, Paangal	3 Years	Rice, Pulses	Coastal salinity, pest and disease, water logging, labour scarcity	Integrated Crop Management
7	Vedharanyam	Vedharanyam	Katthiripulam, Voimedu	2 Years	Rice, Vegetables	Coastal salinity, pest and disease, drought, labour scarcity	Integrated Crop Management

8	Mayiladuthurai	Mayiladuthurai	Kodangudi	1 Year	Rice, Pulses, Fodder	Pest and disease, water logging, labour scarcity	Integrated Management	Crop
9	Tranqubar	Sembanarkoil	Neduvasal, Sembanarkoil, Keelaiyur	4 Years	Rice, Pulses, Vegetables, Banana	Water logging, pest and disease, soil salinity, labour scarcity	Integrated Management	Crop

2.9 Priority thrust areas

S. No	Thrust area
1.	Increasing the productivity of rice/ICM practices
2.	Increasing the productivity of rice fallow crops
3.	Evaluation of short duration red gram varieties for enhancing the farm returns
4.	Promoting saline tolerant crops in saline soils
5	Crop diversification
6	Farm mechanization
7	INM and IPDM for major crops
8	Integrated Farming System
9	ICM for Drought mitigation

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
4	2	20	10	20	20	195	195

Training				Extension Programmes			
3				4			
Number of Courses		Number of Participants		Number of Programmes		Number of participants	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
75	52	3100	2526	500	590	3000	6135

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
150	142.50	6000	6461

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
-	-	500	429.5

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

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions										
				Title of OFT if any	Title of FLD if any	Number of Training (farmers)	Number of Training (Youths)	Number of Training (extension personnel)	Extension activities (No.)	Supply of seeds (Qtl.)	Supply of planting materials (No.)	Supply of livestock (No.)	Supply of bio products	
1.	IDM for rice	Paddy	Bacterial leaf blight causes yield loss in rice during samba/ Thaladi season	Assessment of rice varieties for Bacterial leaf blight tolerance in Nagapattinam district	-	1	-	-	-	Demo-1	Seeds @40 kg /ha	-	-	Pseudomonas @ 2.5 kg/ha
2.	Varietal evaluation	Black gram	Low yield of existing black gram varieties	Assessment of suitable black gram varieties in Nagapattinam district for summer irrigated condition	-	1	-	-	-	Demo-1	Seeds @ 20 kg/ha	-	-	-
3	Seed production	Paddy	Low yield of existing short duration variety	-	Participatory seed production of newly released short duration rice variety CO 51	2	-	-	-	Field day-1, Demo-1	CO 51 Seeds @ 60 kg/ha	-	-	<i>Pseudomonas @10g/kg seeds</i>
4	ICM	Paddy	Water stress and heavy weed infestation in DSR in Samba paddy leads to yield loss	-	Demonstration of ICM practices for drought mitigation in DSR with tractor drawn seed drill	2	-	-	-	Field day-1, Demo-1	-	-	-	-
5	Varietal introduction	Paddy	Water stress and heavy weed infestation in DSR in samba paddy leads to yield loss	-	Demonstration of submergence tolerant rice variety CR 1009 Sub 1	2	-	1	-	Field day-1, Demo-1	CR 1009 Sub 1 Seeds 40kg/ha	-	-	<i>Pseudomonas 10g/kg seeds @160g/demo</i>
6	Varietal introduction	Paddy	Poor performance of existing rice variety under severe drought condition during Samba/Thaladi season	-	Demonstration on drought tolerant rice variety ANNA4	1	-	1	-	Field day-1, Demo-	ANNA4 Seeds@ 60kg/ha	-	-	<i>Pseudomonas 10g/kg of seeds</i>

7	Varietal introduction	Paddy	Yield reduction due to Saline soil problem (13,500 ha)	-	Demonstration on TRY 3 rice in saline soil	2	-	-	Field day-1, Demo-1	TRY 3 Seed@ 40 kg/ha	-	-	<i>Pseudomonas</i> 10/kg seeds
8	IPM	Paddy	Incidence of RMB (Rice Mealy Bug) under direct sown rice condition (20-40% damage due to RMB)	-	IPM strategies for Rice Mealy Bug (RMB) under direct sown rice	2	-	1	Field day-1, Demo-1	-	-	-	-
9	IDM	Paddy	Incidence of False smut, leaf streak in samba rice (40 % damage was found during samba season)	-	IDM strategies for Samba rice	2	-	-	Field day-1, Demo-1	-	-	-	<i>Pseudomonas</i> @ 10 gm /kg of seeds
10	Hybrid introduction	Maize	Introduction of high yielding maize hybrid in Nagapattinam district	-	Demonstration of TNAU hybrid maize Co - 6 in Nagapattinam district	1	-	-	Field day-1, Demo-1	Seeds@ 20 kg/ha	-	-	-
11	Variety introduction	Ground nut	Poor crop establishment due to heavy incidence of root rot disease and low yield (600 ha)	-	Demonstration of Groundnut var. TMV 13 (tolerant to terminal drought)	1	-	-	Field day-1, Demo-1	Seed TMV 13@ 120kg/ha	-	-	-
12	Variety introduction	Black gram	Very low yield due to non adoption of best management practices	-	Demonstration on rice fallow Black gram with Var. VBN 6	1	-	-	Field day-1, Demo-1	Seeds @ 20 kg/ha	-	-	-
13.	Varietal introduction	Green gram	Lack of Synchronized maturing variety	-	Demonstration of Newly released TNAU Green gram variety Co8	2	-	-	Field day-1, Demo-2	Seeds 20 Kg/ha	-	-	<i>Pseudomonas fluorescens</i> @ 10 g/kg of seed
14	Hybrid introduction	Tomato	Poor crop establishment and demand for organically grown tomato	-	Demonstration of TNAU Tomato Hybrid Co 3	1	-	-	Field day-1, Demo-1	Seeds@150 g/ha	-	-	<i>Trichoderma viride</i> @ 4g/kg of seeds
15	Yield maximization	Annual moringa	Low yield and low net profit in conventional system of planting	-	High density planting in Annual moringa -PKM1	1	-	-	Field day-1, Demo-1	seeds 0.75kg/ha	-	-	-
16	Hybrid introduction	Bhendi	Very low yield due to cultivation of local varieties	-	Popularization of TNAU Bhendi hybrid CO 1	1	-	-	Field day-1, Demo-1	Seeds 5 kg/ha	-	-	-
17	ICM	Snake gourd	Non adoption of ICM practises cause low yield	-	Integrated crop management in PLR (SG) 2 Snake gourd	1	-	1	Field day-1, Demo-1	Seeds PLR (SG) 2- 1.5kg/ha	-	-	-

18.	IPM	Mango	Flower drops and stem borer causes extensive damage in 10 yrs old trees	-	Production enhancement through nutrient and stem borer management in Mango	1	-	-	Demo-1	-	-	-	-
19.	Varietal introduction	Banana	Heavy damage of banana crop due to wind	-	Demonstration of CJ 9 clone as wind belt in banana plantations	1	-	-	Demo-1	-	CJ 9 clones 267 Nos/demo	-	VAM- 20 g/clone
20	Varietal introduction	Fodder Sorghum	Lack of awareness of new high yielding varieties	-	Demonstration of newly released variety Fodder Sorghum CO (FS) 31 in Nagapattinam district	1	-	1	Field day-1, Demo-1	Seeds - 5 Kg/ha	-	-	-
21.	Milk production	Dairy	Low yielding of milk fed gruel based unbalance feed	-	Promotion of TANUVAS GRAND supplement (Liquid formulation)	2	-	1	Field day-1, Demo-2	-	-	-	-
22	Disease Management	Dairy	Foot and Mouth Disease	-	Demonstration of Ethno Veterinary Herbal medicine for treatment of FMD in dairy cattle	2	-	-	Demo-1	No existence of FMD in Nagapattinam District. Hence only awareness programme was conducted			

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
1.	Assessment of rice varieties for Bacterial leaf blight tolerance in Nagapattinam district	DRR, 2007,TNAU,2011	Paddy	5	-	1	Demo-1
2.	Assessment of suitable black gram varieties in Nagapattinam district for summer irrigated condition	TNAU, 2014,RARS, 2009	Blackgram	5	-	1	Demo-1
3	Participatory seed production of newly released short duration rice variety CO 51	TNAU, 2013	Paddy	-	10	2	Field day-1, Demo-1
4	Demonstration of ICM practices for drought mitigation in DSR with tractor drawn seed drill	TNAU, 2013	Paddy	-	10	2	Field day-1, Demo-1
5	Demonstration of submergence tolerant rice variety CR 1009 Sub 1	IRRI/ CRR1/, 2010	Paddy	-	20	2	Field day-1, Demo-1
6	Demonstration on drought tolerant rice variety ANNA 4	TNAU, 2009	Paddy	-	20	1	Field day-1, Demo-1
7	Demonstration on TRY 3 rice in saline soil	TNAU , 2010	Paddy	-	10	2	Field day-1, Demo-1

8	IPM strategies for Rice Mealy Bug (RMB) under direct sown rice	TNAU,2013	Paddy	-	10	2	Field day-1, Demo-1
9	IDM strategies for Samba rice	TNAU , 2013	Paddy	-	10	2	Field day-1, Demo-1
10	Demonstration of TNAU hybrid maize Co - 6 in Nagapattinam district	TNAU, 2012	Maize	-	10	1	Field day-1, Demo-1
11	Demonstration of Groundnut var. TMV 13(tolerant to terminal drought)	TNAU, 2012	Groundnut	-	10	1	Field day-1, Demo-1
12	Demonstration on rice fallow Black gram with Var. VBN 6	TNAU, 2012	Blackgram	-	10	1	Field day-1, Demo-1
13	Demonstration of Newly released TNAU Green gram variety Co8	TNAU	Green gram	-	10	2	Field day-1, Demo-2
14	Demonstration of TNAU Tomato Hybrid Co 3	TNAU 2013	Tomato	-	10	1	Field day-1, Demo-1
15	High density planting in Annual moringa -PKM1	TNAU,2013	Annual moringa	-	10	1	Field day-1, Demo-1
16	Popularization of TNAU Bhendi hybrid CO 1	TNAU, 2013	Bhendi	-	10	1	Field day-1, Demo-1
17	Integrated crop management in PLR (SG) 2 Snake gourd	TNAU, 2012	Snake gourd	-	10	1	Field day-1, Demo-1
18	Production enhancement through nutrient and stem borer management in Mango	IIHR , 2012	Mango	-	10	1	Demo-1
19	Demonstration of CJ 9 clone as wind belt in banana plantations	IFGTB and FC&RI	Banana	-	5	1	Demo-1
20	Demonstration of newly released variety Fodder Sorghum CO (FS) 31 in Nagapattinam district	TNAU 2013	Fodder Sorghum	-	5	1	Field day-1, Demo-1
21	Promotion of TANUVAS GRAND supplement (Liquid formulation)	TANUVAS 2011	Dairy	-	100 cows	2	Field day-1, Demo-2
22	Demonstration of Ethno Veterinary Herbal medicine for treatment of FMD in dairy cattle	TANUVAS	Dairy	-	-	1	Demo-1

PART IV - On Farm Trial**4.A1. Abstract on the number of technologies assessed in respect of crops**

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Varietal Evaluation	1	-	1	-	-	-	-	-	-	2
Total	1	-	1	-	-	-	-	-	-	2

4.A2. Abstract on the number of technologies refined in respect of crops - NIL**4.A3. Abstract on the number of technologies assessed in respect of livestock enterprises : Nil****4.A4. Abstract on the number of technologies refined in respect of livestock enterprises : Nil****4.B. Achievements on technologies Assessed and Refined****4.B.1. Technologies Assessed under various Crops**

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trial covering all the Technological Options)
Varietal Evaluation	Rice	Assessment of Rice varieties for Bacterial leaf blight tolerance in Nagapattinam district	5	5	2
	Blackgram	Assessment of suitable Black gram varieties in Nagapattinam district for summer irrigated condition	5	5	2
Total			10	10	4

4.B.2. Technologies Refined under various Crops : - Nil**4.B.3. Technologies assessed under Livestock and other enterprises- Nil****4.B.4. Technologies Refined under Livestock and other enterprises -nil****4.C1. Results of Technologies Assessed**

OFT-1 - Assessment of rice varieties for Bacterial leaf blight tolerance in Nagapattinam district

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
							T01	T02	T03				
1	2	3	4	5	6	7	8	9	10	11	12		
Rice	Irrigated	Bacterial leaf blight causes yield loss in rice during Samba/Thaladi season (40%)	Assessment of rice varieties for Bacterial leaf blight tolerance in Nagapattinam district	5	TO 1: Farmer's practice TO 2: Improved Samba Mahsuri TO 3: ADT 49	% incidence of BLB Productive tillers/m ² Yield (q/ha) BCR	35.6 242 35.6 1.22	5.0 252 36.0 1.29	15.6 260 51.6 1.83	The varieties ADT 49 and Improved Samba Mahsuri were highly susceptible to False smut	IDM package along with the variety ADT 49 will be effective	-	-

Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
TO 1: Farmer's practice	-	35.6	q/ha	14180	1.22
TO 2: Improved Samba Mahsuri	DRR, 2007	36	q/ha	17900	1.29
TO 3: ADT 49	TNAU, 2011	51.6	q/ha	51040	1.83

OFT 2: Assessment of suitable black gram varieties in Nagapattinam district for summer irrigated condition

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
							T01	T02	T03				
1	2	3	4	5	6	7	8	9	10	11	12		
Blackgram	Irrigated	Low yield of existing black gram varieties	Assessment of suitable black gram varieties in Nagapattinam district for summer irrigated condition	5	TO 1: Farmer's practice TO 2: MDU 1 TO 3: LBG 752	% YMV disease incidence	28	2.5	4.2	MDU 1 variety performed better by producing higher pod yield (6.19 q/ha) than LBG 752 and local variety	MDU 1 variety performed better by producing higher pod yield (6.19 q/ha) with low incidence of YMV than LBG 752 and local variety	-	-
					No. of pods / plant	20	31	25					
					Yield (q/ha)	5.01	6.19	5.50					
					BCR	1.39	1.61	1.47					

Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
TO 1: Farmer's practice	Local	5.01	q/ha	8994	1.38
TO 2: MDU 1	TNAU, 2014	6.19	q/ha	14991	1.60
TO 3: LBG 752	RARS, 2009	5.50	q/ha	11200	1.47

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 - Assessment of rice varieties for Bacterial leaf blight tolerance in Nagapattinam district

1	Title of Technology Assessed	:	Assessment of rice varieties for Bacterial leaf blight tolerance in Nagapattinam district
2	Problem Definition	:	Bacterial leaf blight causes yield loss in rice during Samba/Thaladi season (40%)
3	Details of technologies selected for assessment	:	TO.1: Farmers practice TO 2: Improved Samba Mahsuri TO 3: ADT 49
4	Source of technology	:	DRR, 2007, TNAU,2011
5	Production system and thematic area	:	Irrigated and varietal evaluation
6	Performance of the Technology with performance indicators	:	T01:35.6 T02:36 T03:51.6
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	IDM package along with the variety ADT 49 will be effective
8	Final recommendation for micro level situation	:	The varieties ADT 49 and Improved Samba Mahsuri were highly susceptible to False smut package along with the variety ADT 49 will be effective
9	Constraints identified and feedback for research	:	-
10	Process of farmers participation and their reaction	:	-

OFT – 2 Assessment of suitable black gram varieties in Nagapattinam district for summer irrigated condition

1.	Title of Technology Assessed	:	Assessment of suitable black gram varieties in Nagapattinam district for summer irrigated condition
2.	Problem Definition	:	Low yield of existing black gram varieties
3.	Details of technologies selected for assessment	:	TO 1: Farmer's practice
			TO 2: MDU 1
			TO 3: LBG 752
4.	Source of technology	:	TNAU, 2014 RARS, 2009
5.	Production system and thematic area	:	Irrigated and varietal evaluation
6.	Performance of the Technology with performance indicators	:	TO1:5.01 q/ha TO2:6.19 q/ha TO3:5.50 q/ha
7.	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	MDU 1 variety performed better by producing higher pod yield (6.19 q/ha) with low incidence of YMV than LBG 752 and local variety
8.	Final recommendation for micro level situation	:	MDU 1 variety performed better by producing higher pod yield (6.19 q/ha) with low incidence of YMV than LBG 752 and local variety
9.	Constraints identified and feedback for research	:	-
10.	Process of farmers participation and their reaction	:	

4. D1. Results of Technologies Refined : Nil

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

PART V - FRONTLINE DEMONSTRATIONS

5.A. Summary of FLDs implemented during 2014-15

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	Irrigated	Kharif	Paddy	CO 51	-	Seed production	Participatory seed production of newly released short duration rice variety CO 51	4	4	2	8	10	-
2	Cereals	Irrigated	Rabi	Paddy	Variety	-	ICM	Demonstration of ICM practices for drought mitigation in DSR with tractor drawn seed drill	4	4	4	6	10	-
3	Cereals	Irrigated	Rabi	Paddy	CR 1009 Sub 1	-	Varietal introduction	Demonstration of submergence tolerant rice variety CR 1009 Sub 1	8	8	5	15	20	-
4	Cereals	Irrigated	Late Rabi	Paddy	ANNA 4	-	Varietal introduction	Demonstration on drought tolerant rice variety ANNA 4	8	8	4	16	20	-
5	Cereals	Irrigated	Rabi	Paddy	TRY 3	-	Varietal introduction	Demonstration on TRY 3 rice in saline soil	4	4	4	6	10	-
6	Cereals	Irrigated	Rabi	Paddy	Variety	-	IPM	IPM strategies for Rice Mealy Bug (RMB) under direct sown rice	4	4	2	7	10	-
7	Cereals	Irrigated	Rabi	Paddy	Variety	-	IDM	IDM strategies for Samba rice	4	4	3	7	10	
8	Cereals	Irrigated	Kharif	Maize	-	Co - 6	Hybrid introduction	Demonstration of TNAU hybrid maize Co - 6 in Nagapattinam district	4	4	2	8	10	-

9	Oilseeds	Irrigated	Kharif	Groundnut	TMV 13	-	Variety introduction	Demonstration of Groundnut var. TMV 13(tolerant to terminal drought)	4	4	3	7	10	-
10	Pulses	Irrigated	Winter irrigated (Dec-Jan)	Blackgram	VBN 6	-	Variety introduction	Demonstration on rice fallow Black gram with Var. VBN 6	4	4	2	8	10	-
11	Pulses	Irrigated	Summer irrigated	Green gram	Co8	-	Varietal introduction	Demonstration of Newly released TNAU Green gram variety Co8	4	4	4	6	10	-
12	Vegetables	Irrigated	Adi pattam (May-June)	Tomato	-	Co 3	Hybrid introduction	Demonstration of TNAU Tomato Hybrid Co 3	1	1	2	8	10	-
13	Vegetables	Irrigated	July-Oct	Annual moringa	-PKM1	-	Yield maximization	High density planting in Annual moringa - PKM1	4	4	3	7	10	-
14	Vegetables	Irrigated	June-Aug	Bhendi	-	CO 1	Hybrid introduction	Popularization of TNAU Bhendi hybrid CO 1	2	2	2	8	10	-
15	Vegetables	Irrigated	July and January	Snake gourd	PLR (SG) 2	-	ICM	Integrated crop management in PLR (SG) 2 Snake gourd	2	2	3	7	10	-
16	Vegetables	Irrigated	August	Mango	Local	-	IPM	Production enhancement through nutrient and stem borer management in Mango	100 trees	100 trees	3	7	10	-
17	Banana	Irrigated	February	Banana	CJ 9 clone	-	Varietal introduction	Demonstration of CJ 9 clone as windbelt in banana plantations	2	2	1	4	5	-

18	Fodder	Irrigated	Throughout the year	Fodder Sorghum	CO (FS) 31	-	Varietal introduction	Demonstration of newly released variety Fodder Sorghum CO (FS) 31 in Nagapattinam district	4	4	3	7	10	-
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19	Livestock	Irrigated	-	Dairy	-	-	Milk production	Promotion of TANUVAS GRAND supplement (Liquid formulation)	-	-	-	-	100 cows	-
20	Livestock	Irrigated	-	Dairy	-	-	Disease Management	Demonstration of Ethno Veterinary Herbal medicine for treatment of FMD in dairy cattle	No existence of FMD in Nagapattinam District. Hence only awareness programme was conducted					

5.A. 1. Soil fertility status of FLDs plots during 2014-15

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/breed	Hybrid	Thematic area	Technology Demonstrated	Status of soil			Previous crop grown
									N	P	K	
1	Cereals	Irrigated	Kharif	Paddy	CO 51	-	Seed production	Participatory seed production of newly released short duration rice variety CO 51	L	M	M	Paddy
2	Cereals	Irrigated	Rabi	Paddy	Variety	-	ICM	Demonstration of ICM practices for drought mitigation in DSR with tractor drawn seed drill	L	M	M	Sugarcane
3	Cereals	Irrigated	Rabi	Paddy	CR 1009 Sub 1	-	Varietal introduction	Demonstration of submergence tolerant rice variety CR 1009 Sub 1	L	M	M	Paddy
4	Cereals	Irrigated	Late Rabi	Paddy	ANNA 4	-	Varietal introduction	Demonstration on drought tolerant rice variety ANNA 4	L	M	M	Paddy
5	Cereals	Irrigated	Rabi	Paddy	TRY 3	-	Varietal introduction	Demonstration on TRY 3 rice in saline soil	L	M	M	Paddy
6	Cereals	Irrigated	Rabi	Paddy	Variety	-	IPM	IPM strategies for Rice Mealy Bug (RMB) under direct sown rice	L	M	M	Paddy
7	Cereals	Irrigated	Rabi	Paddy	Variety	-	IDM	IDM strategies for Samba rice	L	M	H	Paddy
8	Cereals	Irrigated	Kharif	Maize	-	Co - 6	Hybrid introduction	Demonstration of TNAU hybrid maize Co - 6 in Nagapattinam district	L	M	M	Paddy
9	Oilseeds	Irrigated	Kharif	Groundnut	TMV 13	-	Variety introduction	Demonstration of Groundnut var. TMV 13(tolerant to terminal drought)	L	M	M	Paddy

10	Pulses	Irrigated	Winter irrigated	Blackgram	VBN 6	-	Variety introduction	Demonstration on rice fallow Black gram with Var. VBN 6	L	M	M	Paddy
11	Pulses	Irrigated	Summer irrigated	Green gram	Co 8	-	Varietal introduction	Demonstration of Newly released TNAU Green gram variety Co8	L	M	M	Paddy
12	Vegetables	Irrigated	Adi pattam (May-June)	Tomato	-	Co 3	Hybrid introduction	Demonstration of TNAU Tomato Hybrid Co 3	L	M	M	Paddy
13	Vegetables	Irrigated	July-Oct	Annual moringa	PKM1	-	Yield maximazation	High density planting in Annual moringa - PKM1	L	M	H	Vegetables
14	Vegetables	Irrigated	June-Aug	Bhendi	-	CO 1	Hybrid introduction	Popularization of TNAU Bhendi hybrid CO 1	L	M	M	Vegetables
15	Vegetables	Irrigated	July and January	Snake gourd	PLR (SG) 2	-	ICM	Integrated crop management in PLR (SG) 2 Snake gourd	L	M	M	Vegetables
16	Vegetables	Irrigated	August	Mango	Local	-	IPM	Production enhancement through nutrient and stem borer management in Mango	L	M	M	Mango
17	Banana	Irrigated	February	Banana	CJ 9 clone	-	Varietal introduction	Demonstration of CJ 9 clone as windbelt in banana plantations	L	M	M	Banana
18	Fodder	Irrigated	Throughout the year	Fodder Sorghum	CO (FS) 31	-	Varietal introduction	Demonstration of newly released variety Fodder Sorghum CO (FS) 31 in Nagapattinam district	L	M	M	Vegetables

5.B. Results of Frontline Demonstrations

5.B.1. Crops

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo.	Area (ha)	Yield (q/ha)				% 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										
Cereals	Participatory seed production of newly released short duration rice variety CO 51	CO 51	-	Irrigated	10	4	50	40	45	40	11.11	15000	29600	14600	1.97	15000	24300	9300	1.62

Cereals	Demonstration of ICM practices for drought mitigation in DSR with tractor drawn seed drill	Variety	-	Irrigated	10	4	52	44.4	48.2	40.6	16.6	39890	70470	30580	1.76	37870	59170	21300	1.56
Cereals	Demonstration of submergence tolerant rice variety CR 1009 Sub 1	CR 1009 Sub 1	-	Irrigated	20	8	61.5	46	53.75	48.75	9.30	15000	29200	14200	1.97	15000	26450	11450	1.76
Cereals	Demonstration on drought tolerant rice variety ANNA 4	ANNA 4	-	Irrigated	20	8	40	34	37	31.88	13.85	11000	19980	8980	1.81	11000	17213	6213	1.56
Cereals	Demonstration on TRY 3 rice in saline soil	TRY 3	-	Irrigated	10	4	60.4	50	55.2	45.6	17.4	59832	78114	18282	1.30	53796	63732	9936	1.184
Cereals	IPM strategies for Rice Mealy Bug (RMB) under direct sown rice	Variety	-	Irrigated	10	4	48	42.4	45.2	36.2	19.9	63500	105600	42100	1.66	66000	74800	8800	1.133
Cereals	IDM strategies for Samba rice	Variety	-	Irrigated	10	4	47.4	39.4	43.4	38.2	12	65000	117500	52500	1.80	68000	77000	9000	1.13
Oilseeds	Demonstration of Groundnut var. TMV 13(tolerant to terminal drought)	TMV 13	-	Irrigated	10	4	18	14.4	16.20	11.75	27.47	35570	76469	40899	2.149	28120	54896	26776	1.95
Pulses	Demonstration on rice fallow Black gram with Var. VBN 6	VBN 6	-	Irrigated	10	4	6	5	5.50	3.9	41.2	5500	14300	8800	2.6	5500	8125	2625	1.47
Pulses	Demonstration of Newly released TNAU Green gram variety Co8	Co8	-	Irrigated	10	4	5.8	5.2	5.5	4.0	27.27	8000	19200	11200	2.4	5200	10800	5600	2.07
Vegetables	High density planting in Annual moringa - PKM1	PKM1	-	Irrigated	10	4	565	522.5	543.7	387	40	75000	217500	142500	2.9	75000	130000	55000	1.73
Vegetables	Integrated crop management in PLR (SG) 2 Snake gourd	PLR (SG) 2	-	Irrigated	10	2	140	136	138	102	35.78	20000	69000	49000	3.45	20000	46500	26500	2.325

Mango	Production enhancement through nutrient and stem borer management in Mango	Local	-	Irrigated	10	100 trees	Under Progress- % Recovery 80
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Banana	Demonstration of CJ 9 clone as windbelt in banana plantations	CJ 9 clone		Irrigated	5	2	Planting of CJ 9 clone as windbelt in banana plantations bunds at a spacing of 1.5x1.5 m in three rows completed during Feb 2015												
Fodder	Demonstration of newly released variety Fodder Sorghum CO (FS) 31 in Nagapattinam district	CO (FS) 31	-	Irrigated	10	4	225	200	212.5	153	38.82	3500	8500	5000	2.42	3300	5200	1900	1.57

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

Participatory seed production of newly released short duration rice variety CO 51

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Productive tillers (m ²)	244	235
Hills (m ²)	45	40
Yield (q/ha)	40	45
BCR	1.97	1.62

Demonstration of ICM practices for drought mitigation in DSR with tractor drawn seed drill

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Weed control %	83	100
Yield (q/ha)	48.2	40.6
% increase	16.6	-
BCR	1.75	1.55

Demonstration of submergence tolerant rice variety CR 1009 Sub 1

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Productive tillers/(m ²)	252	234
Hills/(m ²)	42	39
Yield (q/ha)	53.75	48.75
% of increase	9.30	-
BCR	1.94	1.76

Demonstration on drought tolerant rice variety ANNA 4

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Productive tillers/(m ²)	245	218
Hills/(m ²)	49	42
Yield (q/ha)	37	31.88
% of increase	13.85	-
BCR	1.82	1.56

Demonstration on TRY 3 rice in saline soil

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
p ^H	8.22	8.54
EC (dS/m)	0.38	0.42
Yield (q/ha)	55.2	45.6
% of increase	17.4	-
BCR	1.30	1.20

IDM strategies for Samba rice

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Percentage Diseases Reduction	80.1	63.9
No. of Productive tillers/m ²	232	222
Yield (q/ha)	43.4	38.2
% of increase	12.0	-
BCR	1.71	1.20

IPM strategies for Rice Mealy Bug (RMB) under direct sown rice

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Reduction in RMB	90.1	51.2
Productive tillers	30.1	21.9
Yield (q/ha)	45.2	36.2
% of increase	19.9	-
BCR	1.58	1.18

Demonstration of Groundnut var. TMV 13(tolerant to terminal drought)

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
% Reduction in root rot disease	82	55
Yield (q/ha)	16.20	11.75
% of increase	27.47	-
BCR	2.14	1.96

Demonstration on rice fallow Black gram with Var. VBN 6

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of Plants /m ²	26	19
No. of pods/ plant	29	20
Yield (q/ha)	5.50	3.13
% increase	43.0	-
BCR	2.6	1.4

Demonstration of Newly released TNAU Green gram variety Co8

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of pods /plant	33	28
No. of plants/m ²	26	22
Yield (q/ha)	5.5	4.0
% of increase	27.27	-
BCR	2.75	2.0

Demonstration of newly released variety Fodder Sorghum CO (FS) 31 in Nagapattinam district

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of tillers/ plant	13	1
Green fodder Yield (q/ha)	212.5	130
% of increase	38.82	-
BCR	2.43	1.58

High density planting in Annual moringa -PKM1

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of fruits /plant	160	100
Yield (q/ha)	543.75	325
% of increase	40.23	-
BCR	2.9	1.73

Integrated crop management in PLR (SG) 2 Snake gourd

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of fruits/plant	12	6
Fruit weight (g)	750	560
Yield (q/ha)	138	80
% increase	35.78	-
BCR	2.75	1.88

5.B.2. Livestock and related enterprises

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	milk yield (lit/month)			% 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	Promotion of TANUVAS GRAND supplement (Liquid formulation)	-	100 cows	-	200	190	195	158	23.1	1455	4875	3420	3.350515	1425	3750	2325	2.631579

Dairy	Demonstration of Ethno Veterinary Herbal medicine for treatment of FMD in dairy cattle	-	10 cows	No existence of FMD in Nagapattinam District.Hence only awareness programme was conducted
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Data on additional parameters other than yield (viz., reduction of percentage diseases, increase in conceiving rate, inter-calving period etc.)

Promotion of TANUVAS GRAND supplement (Liquid formulation)

Milk yield (lit/month)			BCR	
Demo	Check	% of increase	Demo	Check
195	150	23.1	3.35	2.63

5.B.3. Fisheries : - Nil

5.B.4. Other enterprises : - Nil

5.B.5. Farm implements and machinery: - Nil

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

Sl.No.	Activity	No. of activities organized	Number of participants	Remarks
1	Field days	17	275	-
2	Farmers Training	27	815	-
3	Media coverage	4	-	-
4	Training for extension functionaries	5	170	-
5	Others (Please specify) demonstration	19	285	-

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)			Check	% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
					Demo					Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Cereals																	
Cereals	Demonstration of TNAU hybrid maize Co - 6 in Nagapattinam district	Co - 6	10	4	60	55.2	57.6	49.5	14.1	35500	80360	44860	2.263662	37650	68880	31230	1.829482
Vegetables	Demonstration of TNAU Tomato Hybrid Co 3	Co 3	10	1			780	585	33.33	33000	78000	45000	2.36	22000	42000	20000	1.90
Vegetables	Popularization of TNAU Bhendi hybrid CO 1	Co1	10	2			220	167	31.82	2500	8800	6300	3.52	2500	6000	3500	2.4

H-High L-Low, A-Average

Demonstration of TNAU hybrid maize Co - 6 in Nagapattinam district

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
100 grain weight (g)	38	34
Yield (q/ha)	57.6	49.5
% of increase	14.1	-
BCR	2.27	1.84

Popularization of TNAU Bhendi hybrid CO 1

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of fruits /plant	28	18
Fruit weight (g)	25	20
Yield (q/ha)	220	150
% increase	31.82	-
BCR	3.52	2.4

Demonstration of TNAU Tomato Hybrid Co 3

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of fruits/ plant	30	23
Fruit weight (g)	70	55
Yield (q/ha)	780	520
% increase	33.33	-
BCR	2.36	1.91

Integrated Farming System

Sl.No	Farmer Name& address	IFS – Components	Achievements made	Annual Income before IFS (Rs)	Annual Income after IFS (Rs)
1	Mr. S. Gnanasekaran Vandalur Parappanur road, Simpiyamahadevi (P.O) Kilvelur (TK) Nagapattinam district Mobile No: 8012963013	Horticulture + Goat + Poultry + Fisheries + Vermicompost	<ul style="list-style-type: none"> • Maintaining Good IFS model farm in an area of two acres. • Maintaining three types of goat breeds and selling to other farmers • Maintaining good vermicompost unit. He earned money from all the components 	49000	169000
4	Mr. G. Jeevanandam Nangudi Village Kilvelur (Tk) Nagapattinam district Pin – 611 104 Mobile No: 9443375262	Agriculture + Horticulture + Poultry + Goat + Fisheries + Dairy + Vermicompost	<ul style="list-style-type: none"> • Maintaining Good IFS model farm in an area of 3 acres. • Trained on IFS and goat rearing techniques at KVK, Namakkal. • Maintaining all IFS components and selling to other farmers • He is role model for more than 100 IFS farmers in Nagapattinam district. • Economic benefits achieved if any. 	70000	297000
5	Th.S.Balakrishnan East Street Sikkal-611 108 Nagapattinam District Mobile No: 9442101445	Agriculture + Horticulture + Poultry + Fisheries + Dairy + Agroforestry + composting + organic farming	<ul style="list-style-type: none"> • Maintaining Good IFS model farm in an area of three acres. • Maintaining good dairy and poultry unit • Trained on organic farming techniques from Nammalvar farm and maintaining his farm in organic way 	35000	110000

Economics

Enterprise	S. Gnanasekaran	G. Jeevanantham	S. Balakrishnan
Rice, Pulses	--	60000	10000
Vegetables	10000	25500	15000
Goat	55000	60000	20000
Fish	70000	112500	30000
Poultry	25000	15000	10000
Dairy cow	--	18000	25000
Vermicompost	9000	6000	--
Grand Total	169000	297000	110000

FFS- Integrated Crop Management in Cotton

Operational village	:	Seshamoolai, Thirumarugal block
No. of farmers benefited	:	30
Inputs	:	Cotton plus @ 2.5 kg/ac
Literature	:	ICM for Cotton
Budget	:	Rs. 10,000/-
Progress	:	Under establishment stage

Class	Trainings and Demonstrations conducted
1.	Cultivation technology of Cotton and Introduction of varieties
2.	Seed treatment and sowing of seeds in ridges and furrows
3.	Integrated Nutrient Management in Cotton
4.	Integrated pest and disease management in cotton
5.	Demonstration of Cotton plus at the time of flowering and boll formation

PART VII. TRAINING

7. A.. Training of Farmers and Farm Women including sponsored training programmes (On campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Integrated Crop Management	2	95	4	99	28	-	28	123	4	127
Integrated Nutrient Management	1	65	3	68	17	1	18	82	4	86
Production of organic inputs	1	63	0	63	18	0	18	81	0	81
Others- Samba paddy cultivation techniques	1	45	15	60	9	3	12	54	18	72
Horticulture										
a) Vegetable Crops										
Awareness programme on Integrated Pest and Disease management in vegetables	1	82	18	100	18	8	26	100	18	118
Home Science/Women empowerment										
Value addition	2	56	13	69	16	5	21	72	18	90
Plant Protection										
Integrated Pest Management	1	82	18	100	18	8	26	100	26	126
Integrated Disease Management										
Production of Inputs at site										
Agro-forestry	1	20	-	20	-	-	-	20	-	20
TOTAL	11	568	71	639	124	25	149	692	88	780

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Cropping Systems	1	25	8	33	8	2	10	33	10	43
Integrated Crop Management	4	109	21	130	26	7	27	135	28	163
Integrated farming	1	-	100	100	-	28	28	0	128	128
a) Vegetable Crops										
Protective cultivation	2	53	2	55	5		5	58	5	63
Hybrid vegetable cultivation techniques	1	72	30	102	22	8	30	94	38	132
Production of low value & high volume crop	2	53	12	65	10	2	12	63	14	77
Cultivation of fruits and vegetables	1	15	7	22	4	2	6	19	9	28
Soil Health and Fertility Management										
Integrated nutrient management	1	35	2	37	8	1	9	43	3	46
Plant Protection										
Integrated Pest Management	2	65	-	65	12	-	12	77	-	77
Integrated Disease Management	3	82	10	92	38	4	42	120	14	134
Others - Bio-Control of pests and diseases	1	25	0	25	4	0	4	29	-	29
Production of Inputs at site										
Livestock Production and Management	1	11	-	11	4	-	4	15	-	15
Animal Nutrition Management	1	13	3	16	7	2	9	20	5	25
TOTAL	21	558	195	753	148	56	198	706	254	960

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management	1	21	5	26	2	2	4	23	7	30
Capacity Building and Group Dynamics	3	106	24	130	24	10	34	130	34	164
TOTAL	4	127	29	156	26	12	38	153	41	194

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Soil health and fertility management- NMR Interaction meeting	1	15	5	20	4	2	6	19	7	26
TOTAL	1	15	5	20	4	2	6	19	7	26

7.E.Training programmes for Extension Personnel including sponsored training programmes (on campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Farmer oriented Integrated Agricultural Extension System	1	50	4	54	6	-	6	56	4	60
Productivity enhancement in field crops	3	123	12	135	24	4	28	147	16	163
Integrated Disease Management	1	22	6	28	8	4	12	30	10	40
Protective cultivation	1	30	5	35	7	2	9	37	7	42
Total	6	225	4	23	54	198	45	10	55	270

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	2	25	5	30	5	1	6	30	6	36
Integrated Pest Management	1	30	5	35	-	-	-	30	5	35
Integrated Nutrient management	1	30	5	35	-	-	-	30	5	35
Any other (pl.specify) Soil Health	1	15	25	40	-	-	-	15	25	40
Integrates disease Management	1	30	5	35	-	-	-	30	5	35
Total	6	130	45	175	5	1	6	135	46	181

7. G. Sponsored training programmes conducted

S.No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	Capacity Building and Group Dynamics	1	9	2	11	10	4	14	19	6	25
2	Increasing production and productivity of crops	1	16	8	24	4	2	6	20	10	30
	Total	2	25	10	35	14	6	20	39	16	55

Details of sponsoring agencies involved

- 1.State Dept. of Agriculture
- 2.Market related extension activities
3. MSSRF

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

S.No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	Vermi-compost production	1	40	4	44	15	1	16	55	5	60
	Grand Total	1	40	4	44	15	1	16	55	5	60

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

Nature of Extension Programme	No. of Programmes	No. of Participants (General)			No. of Participants SC / ST			No. of extension personnel		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Scientific visit to farmers fields	160	300	54	354	59	44	103			
Field day	17	162	23	185	75	15	90	20	4	24
Kisan melas	1	798	255	1053	127	70	197	15	2	17
Exhibitions	4	949	273	1222	132	70	202	12	4	16
Film/Video shows	13	352	106	458	128	74	202	3	1	4
Campaign	2	340	15	355	60	25	85	5	2	7
Seminar	4	72	6	78	28	4	32	2	1	3
Zonal workshop	12	-	-	-	-	-	-	400	80	480
Farm advisory service	258	212	12	224	30	4	34			
Demonstrations	19	188	87	275	73	41	114	7	1	8
Exposure visit	11	200	0	200	45	0	45	2	-	2
Radio talk/broadcast	20	0	0	0	0	0	0			
TV coverage/Telecast	6	0	0	0	0	0	0			
News paper coverage	44	0	0	0	0	0	0			
Extension literature published	17	0	0	0	0	0	0			
Animal Campaign	2	31	9	40	16	8	24	2	-	2
Total	590	3604	840	4444	773	355	1128	468	95	563

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

Crop category	Name of the crop	Variety	Hybrid	Quantity of seed	Value (Rs)	Number of farmers to whom provided
Cereals (crop wise)	Paddy	CR1009		14250 kg	285000	73
Commercial crops						
Vegetables	Bhendi	C06		4.5 kg	135	5
Spices						
Fodder crop seeds	C:N grass	C03		4160 Slips	2080	30
	C:N grass	C04		675 Slips	338	10
Fiber crops						
Forest Species						
Others (specify)	Azolla			24.5	122.50	10
	Seminar Hall Rent			3 days	4500	-
	Hostel room rent	SSI farmer			8100	270
	Paddy illfilled grain			5 ton	10000	5
	Paddy straw			2 ton	8000	1
	Pseudomonas			380 kg	28500	25
	Coconut seedlings			1626 No	48780	120
	Protray			60 No	1500	10
	Cattle trespass			5 No	190	
	Vermicompost			1598 kg	9588	30
	Earthworms			2.5 kg	1000	2
	Cocopeat			25 kg	150	2
	Boom sprayer Hire charges			15 days	3000	3
Total					410983.00	596

9.B. Production of planting materials by the KVKs

Crop category	Name of the crop	Variety	Hybrid	Number	Value (Rs.)	Number of farmers to whom provided
Commercial						
Vegetable seedlings						
	Coconut seedlings	ECT		1626	48780	120
Fodder crop saplings	C:N grass	CO3		4160 slips	2080	30
	C:N grass	CO4		675 slips	338	10
Others(specify)	Vermicompost			1598 kg	9588	30
	Earth worms	E.foetida		2.5 kg	1000	2
Total					61786	192

9.C. Production of Bio-Products

Bio Products	Name of the bio-product	Quantity (Kg)	Value (Rs.)	Number of farmers to whom provided
Bio-fungicide	<i>Pseudomonas</i> (Talc)	380	28500	25
Bio Agents	Cocopeat	25	150	2
Others (specify)	Azolla	24.5	122.50	10
Total			28772.5	37

9.D. Production of livestock materials :Nil

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.)

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

(B) Literature developed/published

Item	Title	Authors name	Number
Research papers	-	-	-
Technical reports	-	-	-
News letters	Uzhavan	All SMS, PAs	400
Technical bulletins	-	-	-
Popular articles	Management of Fusarium wilt in cotton	K.Sasikala, 2014	100
	Management of field rats	Sasikala.K, and T.Elaiyabharathi 2014	100
	Samba paddy cultivation technologies	.Anuratha.A, S. Arunsuvetha and R.Rajendran, 2014	100
	Samba rice cultivation techniques	Anuratha.A, and R.Rajendran, 2014	100
	Usage of new Cisal plough to increase yield in paddy	Rajendran.R 2014	100
	Awareness on IPM practices in vegetables	Dr.R.Rajendran, 2014	100
	Samba direct sowing technologies	Anuratha.A, C.Arun suvetha and R.Rajendran, 2014	100
	Fertilizer and weed management for Samba paddy cultivation	Anuratha.A, C.Arun suvetha and R.Rajendran,2014	100
	Pest management and INM for Rice	Rajendran.R, 2014	100
	Value added products from papaya for income generation	Selvi, J. and R. Rajendran 2014	100
	Queen of medicinal plants-Tulsi(Basil)	Selvi, J and R. Rajendran 2015	100
	Medecinal and nutritional value of Tender Coconut	Selvi, J and R. Rajendran 2015	100
	Integrated Nutrient Management for pulses	Anuratha, A., J. Selvi and R.Rajendran 2015	100
	Value added products from papaya for income generation	Selvi, J. and R. Rajendran 2014	100
	Queen of medicinal plants-Tulsi(Basil)	Selvi, J and R. Rajendran 2015	100
Medecinal and nutritional value of Tender Coconut	Selvi, J and R. Rajendran 2015	100	

	Integrated Nutrient Management for pulses	Anuratha, A., J. Selvi and R.Rajendran 2015	100
	Curing of child disease Vasambu crop	Selvi, J., J. Thilagam., R. Ravi and R. Rajendran 2015	100
Extension literature	ICM in rice distributed	In the name of KVK 2014	100
	Sustainable Sugarcane Initiatives (SSI)	Krishi Vigyan Kendra, Nagapattinam, 2015	135
Symposium papers	Reduction in copper toxicity by applying organic manures in copper contaminated soils and its effects on Radish plants (Raphanus sativus L.) "	Anuratha.A, V.P. Duraisami, R. Rajendran and S. Arunsuvetha, 2014	100
	Evaluation on the response of Micronutrient mixture for Banana in Ramanathapuram District, Tamilnadu"	Anuratha.A, V. Ganesaraja, R. Rajendran and S. Arunsuvetha, 2014	100
Booklet	Value added products from Papaya.	Selvi, J., R. Rajendran, T. Elaiyabharathi. A. Anuratha., J. Thilagam., R. Ravi and M. Alagar. 2014	100
	Value addition in tomato.	Selvi, J., T. Elaiya Bharathi., A. Anuratha., J. Thilagam., R. Ravi, M. Alagar and R. Rajendran. 2014	100
Pamphlets	Integrated Crop Management in Flood affected rice	Alagar.M, T. Elaiya Bharathi., A. Anuratha.2014	100
	Integrated Pest and Disease Management in rice	Alagar.M, T. Elaiya Bharathi., A. Anuratha.2014	100
	Casuarina cultivation techniques	Ravi.R, R.Rajendran.2014	100

10.B. Details of Electronic Media Produced :Nil

10.C. Success Stories

1. KVK INDUCED TO DEVELOP AN STATE LEVEL ENTERPRISING FARMER ON FARM MECHANIZATION

1. Background

The rice cultivation in Nagapattinam district has undergone a series of changes given the unprecedented labour shortage and enhanced labour wages for important cultural operations like leveling, nursery preparation, transplanting, weeding and harvesting. The labour scarcity become acute leading to delay in agricultural operations in Nagapattinam district. Total mechanization is the only option for the acute labour problem in Nagapattinam district. By Understanding the critical needs of complete mechanization, 54 years aged progressive, innovative farmer Mr. S.Narayanasamy, Sikkal village change his mind set up from conventional farming to mechanization. He has 18 acres including fourteen acres of leased land.

2. Intervention Process

Hence, to address the above said problems Krishi Vigyan Kendra, Nagapattinam is working with the thrust area of "Mechanization in rice cultivation". KVK, approached the problem through popularization of direct sown drum seeder and machineries for transplanted rice. KVK took various interventions like On and Off campus trainings, FLDs and various small

and large scale demonstrations etc, to promote the mechanization in rice cultivation. FLDs on total mechanization were conducted in several villages. He used to actively involved in all the extension programmes conducted by KVK. He attended 5 days training on Farm machineries at CODISSIA, Coimbatore. Ten numbers of trainings related to farm machineries at KVK, Nagapattinam. Also attended Farmers Day conducted by TNAU, Coimbatore regularly.

3. Intervention Technology

Farm mechanization

The scientists at KVK, Nagapattinam to fulfill one of the most important thrust areas, mechanization in rice cultivation has planned a series of interventions namely on campus demonstration cum interactions, Front Line Demonstrations in farmers field, On Farm Trials, Farmers Field Schools and trainings in farmers field to reinforce the potential of farm mechanization in rice. Apart from these initiatives, efforts has been made to bring to reality the much spoken Public- Private partnership in Agricultural Extension through engaging influential farmers as Para-extension workers who can take the advantage of Mechanization in Rice cultivation to their fellow farmers.

By getting motivation from various interventions, he owned Machineries like Rice Transplanter, Power tiller, Conoweeder, Single row, Two row and Three row power weeders and tractor with cultivator and cage wheel , Hand Sprayer, Power sprayer and Oil engine for Irrigation purpose and extensively used in his farm.

4. Impact Horizontal Spread

Since 1993, he is being popularized the tractor drawn cultivator as hiring basis to the nearest area and about 100 acres were covered in a year. Sprayers and Power weeder is being popularized by the farmer since 1993 as hiring basis. He provided power weeders for conducting On Farm Trails on Assessment of different weeders under mechanized rice transplanting during 2012-13 in the farmers field of Nagapattinam district. He was selected as **Innovative farmer** for his invention of Single row rice power weeder(reducing the drudgery in weeding) in Farm Innovators Day Meet conducted by KVK, Sikkal on 06.09.2011. He received **State level enterprising farmer on farm mechanization award** on 20.03.2015, during demonstration of Farm machineries held at TNAU Coimbatore. The farmers realized that complete mechanization is the only way despite of the productivity aspects. The general feeling among farmers is to own their own power weeder so that they can anytime use it for weeding purpose. The economic well being of farmers has been enhanced substantially as they could earn at least Rs.5000- 6000 more by switching over to mechanized cultivation of rice from conventional cultivation

5. Impact Economic Gains

Presently he is a successful entrepreneur/ farmer having knowledge on crop cultivation rice, Rice fallow pulses. He also the first person in Nagapattinam to adopt farm mechanization. He got yield of Rice 2170 Kgs/acre through farm mechanization and also saved Rs 4000/acre/season over conventional method of cultivation. Rs. 50,000/year was earned as additional income through hiring of machineries during 2013-14. The change has been fully dominated by complete mechanization of rice only.

INTEGRATED FARMING SYSTEM (IFS)

1. Background

Name of the Farmer	:	Mr. S. Gnanasekaran
Address	:	Vandalur , Simpiyamadevi –Post, Kilvelur (TK) PIN-611 104 Nagapattinam Dt. Mobile:8012963013
Age	:	52 years
Educational Qualification	:	Eighth standard
Farming Experience	:	Forty years
Farm Size	:	2 acres own land and 3 acres leased land

2. Intervention Process

He has undergone training on Integrated Farming System, Vermicompost production technology and Vegetable production at KVK, Nagapattinam. Under the guidelines from KVK scientist he has undergone training on Goat rearing and Backyard poultry at KVK, Thiruvarur and Inland composite fish culture at Fisheries Dept. nagapattinam. Initially KVK, Nagapattinam has provided some important critical inputs like fish fingerlings, Tellichery goats and Namakkal chicks with technical back stopping

3. Intervention Technology

Previously he has practiced rice and vegetable cultivation. Due to low and seasonal income, he wanted to convert his farm to integrated farming system to get sustainable and more income from various components. He has approached KVK, Nagapattinam to take advice on improving his farm and to generate more income through Integrated Farming System. Simultaneously, the scientists of KVK visited his farm and appropriate solutions were given for improving his farm income. He was suggested to go for integrated farming system it includes goat rearing with raised platform method, fodder production, inland composite fish culture, vermicompost, backyard poultry and vegetable production.

4. Impact Horizontal Spread

His farm is one of the proven farm for Integrated Farming System with sustainable and more income from various components with short period of time. So many farmers from various places in Nagapattinam district visit his farm and discuss with him for establishing Integrated Farming System. He has supplied fish fingerlings, chicks and fodder slips to needy farmers on cost basis. Day to day his farm has become popular for its profitable one. Now he is planning to expand his area to get more income.

5. Impact Economic Gains

Previously he got income of around Rs. 1,00,00.00 per annum but now he got income of more than Rs. 3,50,000.00 from the following components 1. Goat rearing – Rs. 1,00,000 2. Poultry – Rs. 30,000 3. Fisheries – Rs. 2,00,000 4. Vermicompost – Rs. 30,000 Totally he got Rs. 3,60,000 annually from different IFS components.

6. Impact on Employment Generation

Earlier he has Employment only two seasons i.e 5-6 months in a year. But now he has employment throughout the year because of involving so many components in Integrated Farming System.

A FARMER MADE TO REAP THE BENEFITS OF SEED PRODUCTION

1. Background

The Cauvery Delta Farmers owe strong mindset on traditional mono cropping of rice from time immemorial. The Delta region is facing several problems viz., uncertainty in availability of canal water and paucity of labour availability coupled with enhanced labour wages which led to rice cropping becomes lack luster and less profitable. The area and productivity of rice fluctuate over years due to uncertainty release of Cauvery water and natural calamities. To step up the profitability in rice cultivation, the farmers has to adopt various new technologies such as Seed production, Complete mechanization, Crop diversification etc. More profit can be achieved in seed production. This will reduce the problem of non availability of seeds. One among successful progressive farmer is Th.Cauvery.V.Dhanapalan, S/O. Venkatachalam, who is residing at No. 26, north street, Othiyathur-611 104,Kilvelur-Taluk of Nagapattinam District. He has 40 ha of wetland and actively involved in Seed Production of Rice-Rice fallow pulses. In addition he is having Seed Processing Unit worth of Rs. 7.5 lakhs under NADP scheme. He is the Executive Director of Cauvery Farmers Producer Company Ltd, Nagapattinam District.

2. Intervention Process

He is actively attended all the trainings, demonstrations, awareness campaign programmes, OFT and FLD programmes conducted by KVK. He is one among the person who involved in various extension activities such as Farmers day, Agri Intex, Farmers exposure visits, Kisan mela, Exhibitions organized by TNAU and other allied departments.

3.Intervention Technology

Based on the experience and knowledge gained during the various programmes he involved in

- ✓ Seed Production of Rice-Rice fallow pulses- 40 ha,
- ✓ Having Seed Processing Unit- worth of Rs.7,50,000 under NADP scheme.

Seed crop & variety: Rice – Certified Seed- BPT 5204, CR 1009 ,Black gram-ADT 3, Green Gram - ADT 3

4. Impact Horizontal Spread

He was awarded best seed producer cum supplier with cash prize Rs.50,000 by Global Agriculture Summit held at Gujarat on 9-10 Sep'2013 received from Hon'ble Chief Minister, Shri. Narendra Modi, Gujarat state. Also he received the Velanmai Chemmal Award from the State Agricultural Minister, Tamil Nadu Government during the State Level farmers' day held at Tamil Nadu Agricultural University, Coimbatore on 09.01.2015. He is actively spread the KVK activities and TNAU technologies through News paper, All India Radio and Television. More than 1000 farmer members are under Cauvery Farmers Producer Company Ltd. were influenced by him.

5. Impact Economic Gains

He is marketing of Agricultural commodity like certified seed of CR1009, BPT 5204 in rice , ADT3 in Blackgram and ADT3 in Green gram **Income:** From Paddy seed-Rs.12,10,000 per annum From Black gram seed-Rs.1,80,000 per annum From green gram seed-Rs.1,00,000 per annum.

6. Impact on Employment Generation

Around 10 persons are getting employment throughout the year in his Seed Processing Unit. Eight agricultural laborers are continuously engaged to carryout the day to day activities of seed production

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

1. Plant health diagnostic centre: The KVK, Nagapattinam has provided with plant health diagnostics centre facilities serving to the farming community for technical advice for pest and disease and nutrient management aspects .

2. News coverage: The KVK, Nagapattinam has timely delivered the crop management practices to the farming community through News paper .

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

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

- Participatory Rural Appraisal
- Feed back analysis
- Group discussion
- Farmers meeting
- Survey and interview

10.G. Field activities

- i. Number of villages adopted: 1
- ii. No. of farm families selected: 25
- iii. No. of survey/PRA conducted: 2

10.H. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab : Completed

1. Year of establishment : 2011
2. List of equipments purchased with amount :

Sl. No	Name of the Equipment	Qty.	Cost
1.	Digital Visible Spectrophotometer	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	7,956
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	6,760
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 exhaust fan		70,000
20.	Servo relay stabilizer - 2 Kva	1	7,500
21.	Micropipette	2	3,600
22.	Buchner funnel with flask	1	2,000
23.	Titration unit	2	10,000
24.	Vacuum pump	1	5,000
25.	HCL Computer with printer	1	37,600
Total			9,50,439

Details of samples analyzed so far since establishment of SWTL:

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples	367	114	104	9175
Water Samples	232	214	118	2320
Total	599	328	222	11495

Details of samples analyzed during the 2014-15 :

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples	59	57	43	1475
Water Samples	49	49	36	490
Total	108	106	79	1965

10.I. Technology Week celebration during 2014-15 Yes/No, - No

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

Contingency Situation	No. of Taluk/ Block affect	Extent of Area (ha)	Major Crops affect (Nos)	Measures Taken
Flood	6	6000	Nagapattinam, Vedaranniyam, Thalainayiru, Mayiladuthurai, Kuttalam Sembarnarkovil- Rice 6000 Ha	Directly visited the flood affected farmers field on 29.10.2014, 30.10.2014, 31.10.2014 and suggested flood management measures to the farmers along with officials of state department of agriculture. Conducted off-campus training at T. Manalmedu village on 07.11.2014 about Integrated Crop Management in flood affected rice. Conducted on campus training about Integrated Crop Management in flood affected rice to extension officials. Radio talk on Integrated Pest and diseases management The flood management measures was published in the all daily news papers. Leaflets on flood management measures was distributed to the farmers during farmers grivence day meeting .

11.. Introduction of alternate crops/varieties - Nil

B. Major area coverage under alternate crops/varieties- nil

C. Farmers-scientists interaction on livestock management: nil

D. Animal health camps organized : Two Numbers (Kodangudi and Sangamangalam)

E. Seed distribution in drought hit states: nil

F. Large scale adoption of resource conservation technologies : nil

G. Awareness campaign : nil

PART XI. IMPACT

11.A. Impact of KVK activities

Village Name	:	Kodangudi
Taluk Name	:	Mayiladuthurai
Skill Transfer	:	TANUVAS GRAND supplement through frontline demonstration
Adoption (%)	:	100
Impact Before	:	The farmers provided dry fodder, groundnut cake and green fodder based on availability to their milch animal. They got 5-6 litres of milk per day from one animal. They spent nearly Rs.1450/month/animal approximately for getting 150 to 180 litres/month/animal
Impact After	:	TANUVAS GRAND supplement 20ml/day for 30 days was recommended to the milch animal which is giving more than 6 litres of milk per day. This supplement was given to the farmers at free of cost for transfer and popularization of technology among the farmers of Nagapattinam district. 100 farmers were selected from different blocks and Kodangudi is one of the village and the farmer is comes under IFS farmer. He got excess of 1.5 to 2 litres of milk per day by the cost of Rs.1 as excess amount. The farmer got satisfaction with this technology and he plan to provide this supplement for his milch animals continuously at the time of milking period.
Measures Taken	:	Planning to publish article on success of this initiation in newspaper and popular journals Taking farmers to the field of successful farmer to get exposure of the technology Providing training to farmers about the technology by using successful farmer as a resource person

11.B. Cases of large scale adoption :Nil

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

PART XII - LINKAGES

12.A. Functional linkage with different organizations

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. 3. Joint field diagnostic survey for pest and disease management 4. Pre kharif and rabi training programme 5. Flood / Drought assessment 6. yield performance assessment 7. Organizing Agricultural Exhibition and seminar at block and District level
Dept. of Horticulture	1. Joint training programmes 2. Offering need based technical guidance to the extension functionaries. 3. Field diagnostic visit 4. Flood / Drought assessment 5. yield performance assessment
NABARD	Organizing Farm Science Club and exposure visits.
Local NGOs like MSSRF, SWEET, NAMCO, WORLD VISION, DHANYA, CCD, CARE and CIKS	Organizing on/off campus training Programmes and exposure visits, offering need based technical guidance
ZPD, CRIDA, TANUVAS, IICPT, DEE, SCMS, CPPS, CPBG, TRRI-Aduthurai, SWMRI-Thanjavur, KVK-Thiruvarur, KVK-Trichy, KVK-Karaikal	Technical consultancy and exchange of SMS during training programmes.
1. AIR (Karaikal, Trichy,), 2. Kamban TV under CSR (Reliance Foundation)	1. Offering radio programmes on latest crop production technologies and periodical announcements of technologies on critical crop stage. 2. Offering Live TV programme on latest crop production technologies
District Collectorate.	Farmers grievance day meeting, Organizing need based training programme and promoting agricultural entrepreneurship

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

Name of the scheme	Role of KVK	Date/ Month of initiation	Funding agency	Amount (Rs.)
Evaluation and dissemination of improved nutrient management practices through web and mobile phone application of Nutrient Manager for Rice in Cauvery Delta, Tamil Nadu	Conducting trials as per the Fertilizer recommendation of NMR in Nagapattinam District	2011-12 to 2014-15	IPI and IRRI	15,00,000

12.C. Details of linkage with ATMA

a) Is ATMA implemented in your district- Yes

Role of KVK in preparation of SREP of the district:

District contingent plan has been prepared for Paddy Kuruvai and Samba season for the Nagapattinam District. Block level task force was identified for second green revolution based on vision 2023 of Tamil Nadu State, Demonstration, mass spraying campaign agricultural technologies were carried out under cluster approach.

Coordination activities between KVK and ATMA during 2014-15

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks
01	Meetings				
03	Training programmes	Capacity building training on Agricultural and allied activities for ATMA farmers members and block technology managers at block level was given	10	3	-
04	Extension Programmes	Field diagnostic visits, interaction meeting and exposure visit were made	4	4	165 farmers were benefitted and 20 extension personal were benefitted
05	Exhibition	Exhibition on agriculture were organized at block level	2	2	200 farmers were attended benefitted
06	Extension Literature	INM, IPDM technologies	10	-	

Functional linkage with different organizations 2014-15

Linkage Agency	Funds Received (Rs)	Expenditure (Rs)	Area covered (Ha)	Farmers Benefitted (Nos)	Remarks
IPM-CRSP, Virginia Tech, USA	37500	37500	300	50	IPM-CRSP, Virginia Tech, USA- Training On Awareness Programme On IPM In Vegetables
Forest Department, Nagapattinam	0	0	60	10	Forest Department, Nagapattinam- Casuarina growing farmers aware about recent technologies and new varieties about Casuarina cultivation

Rotary Club, Vedharanyam	0	0	0	75	Rotary Club, Vedharanyam-Casuarina growing farmers aware about recent technologies and new varieties about Casuarina cultivation
Dept. of Agriculture and Cooperation, Directorate of Marketing & Inspection, Govt. of India,	40000	40000	0	100	Dept. of Agriculture and Cooperation, Directorate of Marketing & Inspection, Ministry of Agriculture, Govt. of India, New Delhi;The farmers got knowledge on market activities through experts;29.09.2014, 30.09.2014,07.10.2014 and 08.10.2014 (Four one day training on Market Led Extension Activities)

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

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

12.F. Details of linkage with RKVY

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks
1	Sustainable Sugarcane Initiative (SSI) technologies- Training programmes	Farmers training	103775	103775	135 nos. of sugarcane farmers were benefitted

12.G. Kisan Mobile Advisory Services

Month	No. of SMS sent	No. of farmers to which SMS was sent	No. of feedback / query on SMS sent
April	9	325	6
May	7	224	5
June	7	287	3
July	8	275	4
August	9	321	2
September	7	328	4
October	8	415	6
November	14	587	8
December	11	589	11
January 2015	19	574	9
February 2015	13	678	11
March 2015	9	589	8
Total	121	5192	77

PART XIII- PERFORMANCE OF INFRASTRUCTURE IN KVK

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

Sl. No.	Demo Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	
1	Vermicompost Production through Silpaulin Vermi Bag	2013	-	African Earthworm	Vermicompost	1598 kgs.	1500	9588	Sold to the farmers
					Earth worm	2.5 kgs.	--	1000	
2	<i>Pseudomonas</i>	2013	-	<i>Pseudomonas florescence 1</i>	-	380 kg	3800	28500	Sold to the farmers
3	Coconut seedlings	2011		East Coast Tall	Coconut seedling	1626 No	25000	48780	Sold to the farmers
4	<i>Azolla</i> Production Unit	2011	1 cent	<i>Azolla microphilla</i>	Azolla as seed material	680 kg	-	3400	24.5 kg of azolla were sold and 655.5 kg of azolla were used in kvk

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

Name of the crop	Date of sowing	Date of harvest	Area (ac)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty. (Kg)	Cost of inputs	Gross income	
Cereals									
Paddy	24.09.2014	24.03.2015	15.0 ac	CR 1009	Seed (TFL)	7000	-		Under processing
Paddy	20.10.2014	03.03.2015	10.0 ac	ADT 46	Seed (TFL)	12500	-		
Paddy	24.09.2014	24.03.2015	3.75 ac	CR1009-sub-1	Seed (TFL)	1550	-		

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.	Vermicompost		1500		Sold to the farmers
2.	Azolla	680 kg	-	3400	24.5 kg of azolla were sold and 655.5 kg of azolla were used in kvk farm and free distribution to the farmers
3.	<i>Pseudomonas</i>	380 kg	3800	28500	25

13.D. Performance of instructional farm (livestock and fisheries production) :Nil**13.E. Utilization of hostel facilities**

Accommodation available (No. of beds): 20 beds

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall
---	Nil	--	Farmers who were coming for the training hails from local area within the district

13.F. Database management

S. No	Database target	Database created
1.	KVK, Nagapattinam, District Inventory	Under progress

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

PART XIV - FINANCIAL PERFORMANCE**14.A. Details of KVK Bank accounts**

Bank account	Name of the bank	Location	Branch code	Account Name	Account Number	MICR Number	IFSC Number
With Host Institute	State Bank of India	Coimbatore					
With KVK	State Bank of India	Nagapattinam	879	ICAR-KVK	10977883105	611002001	SBINO000879

14.B. Utilization of KVK funds during the year 2014-15(Rs. in lakh)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	82.00		82.60
2	Traveling allowances	1.04	69.78	1.04
3	Contingencies			
a	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance	0.30		1.84
b	POL, repair of vehicles, tractor and equipments	0.30		2.53
c	Meals/refreshment for trainees	0.20		0.23
d	Training material	0.20		0.65
e	Front line demonstration	2.00		2.00
f	On farm testing	0.50		0.50
g	Integrated Farming System (IFS)	0.10		0.10
h	Training of extension functionaries	0.10		0.22
i	Maintenance of buildings	0.10		0.25
j	Extension Activities	0.10		0.25

k	Farmers Field School	0.10		0.10
l	Library	0.00		0.04
B. Non-Recurring Contingencies				
1	Works			
2	Equipments including SWTL & Furniture			
3	Vehicle (Four wheeler/Two wheeler, please specify)			
4	Library (Purchase of assets like books & journals)			
GRAND TOTAL		87.04	69.78	92.65

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

Year	Opening balance as on 1 st April	Income during the year	Expenditure during the year	Net balance in hand as on 1 st April of each year
April 2012 to March 2013	1.37	5.24	4.2	2.41
April 2013to March 2014	2.41	3.82	1.37	4.86
April 2014 to March 2015	4.86	3.94	6.43	2.37

15. Details of HRD activities attended by KVK staff during 2014-15

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
Dr.J.Selvi	Subject Matter Specialist	Frontier Home Science Technologies for knowledge and Economic Empowerment	UAS, Dharwad	28.10.2014-30.10.2014
Dr.J.Selvi	Subject Matter Specialist	Extension Media Linkage Interface on Promoting the Market Potentials to Livestock and Poultry Products	Bharathidasan University, Trichy	29.12.2014-30.12.2014
Dr.J.Thilagam	Subject Matter Specialist	Farmers Field School	Directorate of Extension Education, TNAU, Coimbatore	20.11.2014-21.11.2014
Dr. A. Anuradha	Subject Matter Specialist	Organic Certification and Internal Control System Management	e- Extension centre, TNAU, Coimbatore	13.10.2014-18.10.2014
Dr. A. Anuradha	Subject Matter Specialist	SAR data processing for rice monitoring and flood mapping.	Department of Remote sensing and Geo informatics system, TNAU, Coimbatore	24.11.2014-28.11.2014
Dr. J. Selvi	Subject Matter Specialist	Frontier Home Science Technologies for knowledge and Economic Empowerment	UAS, Dharwad	28.10.2014-30.10.2014
Dr. J. Selvi	Subject Matter Specialist	Extension Media Linkage Interface on Promoting the Market Potentials to Livestock and Poultry Products	Bharathidasan University, Trichy	29.12.2014-30.12.2014
Dr. J. Thilagam	Subject Matter Specialist	Farmers Field School	Directorate of Extension Education, TNAU, Coimbatore	20.11.2014-21.11.2014
Dr. R. Ravi	Subject Matter Specialist	Commodity Future Market	SRS, TNAU, Cuddalore	19.09.2014-20.09.2014
Dr. R. Ravi	Subject Matter Specialist	Integrated Farming Systems	TNAU,Coimbatore	27.10.2014-28.10.2014
Dr. R. Ravi	Subject Matter Specialist	Sensitization Course in Forest, Wildlife and Environmental Conservation for Officers of Other Departments	Institute of Forest Genetics and Tree Breeding, Coimbatore	09.02.2014-11.02.2014
Dr. R. Ravi	Subject Matter Specialist	Bamboos & its Importance, Utilization and Conservation	Institute of Forest Genetics and Tree Breeding, Coimbatore	02.03.2015-04.03.2015
Dr.G.Malathi	Subject Matter Specialist	PMAC meeting	MSSRF office, Nagapattinam	28.04.2014

Dr. K. Sasikala	Programme Coordinator	SWC meeting	TNAU	29.05.2014-30.05.2014
Dr. K. Sasikala	Programme Coordinator	IPM	NIPHM, Hyderabad	04.06.2014-06.06.2014
Dr.T.Elaiyabharathi	Subject Matter Specialist	NCIPM training	Puducherry	09.09.2014-13.09.2014
Dr. R. Ravi	Subject Matter Specialist	NADP Methodology Workshop on "Urban Forestry to Combat Pollution"	FC & RI, Mettupalayam	08.10.2014
Dr.T.Elaiyabharathi	Subject Matter Specialist	Training programme on Professional skill for trainers of Extension institute of Agriculture and allied Department	MANAGE, Hyderabad	27.10.2014-01.11.2014
Dr. A. Anuradha	Subject Matter Specialist	6 th Indian Horti Congress 2014	TNAU,Coimbatore	05.11.2014-09.11.2014
Dr.T.Elaiyabharathi	Subject Matter Specialist	Horti intex 2014	TNAU,Coimbatore	09.11.2014
Mr. V. Gnanabharathi	Programme Assistant	Horti intex 2014	TNAU,Coimbatore	09.11.2014
Dr.T.Elaiyabharathi	Subject Matter Specialist	Training programme on PIMA	Mysore,Sutthur	30.11.2014-07.12.2014
Dr.R.Rajendran	Programme Coordinator	Training on work ethics for development professional	MANAGE, Hyderabad	30.11.2014-06.12.2014
Er. R. Sakunthala	Programme Assistant (Computer)	Database management training	Mysore,Sutthur	15.12.2014-18.12.2014
Dr.R.Rajendran	Programme Coordinator	CRS Steering Committee meeting	Newdelhi	15.12.2014-22.12.2014
Dr. J. Thilagam	Subject Matter Specialist	National Seminar on Extension methodologies	AC&RI, Madurai	12.12.2014-13.12.2014
Dr. A. Anuradha	Subject Matter Specialist	National seminar on Soil Resilience	AC&RI, Madurai	21.01.2015-22.01.2015
Dr.T.Elaiyabharathi	Subject Matter Specialist	International conference on Innovative Insect Management Approaches for Sustainable Agro-Ecosystem	AC&RI, Madurai	27.01.2015-30.01.2015

16. Any other important and relevant information which has not been reflected above :Nil

SUMMARY FOR 2014-15

I. TECHNOLOGY ASSESSMENT

Summary of technologies assessed under various crops

Thematic areas	Crop	Name of the technology assessed	No. of trials
Varietal Evaluation	Rice	Assessment of Rice varieties for Bacterial leaf blight tolerance in Nagapattinam district	5
	Blackgram	Assessment of suitable Black gram varieties in Nagapattinam district for summer irrigated condition	5
Total			10

Summary of technologies assessed under livestock: Nil

Summary of technologies assessed under various enterprises: Nil

Summary of technologies assessed under home science; Nil

II. TECHNOLOGY REFINEMENT

Summary of technologies refined under various crops :Nil

Summary of technologies assessed under refinement of various livestock :Nil

Summary of technologies refined under various enterprises :Nil

Summary of technologies refined under home science : Nil

III. FRONTLINE DEMONSTRATION

3.B.1. Crops

Crop	Thematic area	Name of the technology demonstrated	No. of KVKs	No. of Farmer.	Area (ha)	Yield (q/ha)		% change in yield	Other parameters		*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
						Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Cereals	Seed production	Participatory seed production of newly released short duration rice variety CO 51		10	4	40	45	222	PT :244	PT:235	15000	29600	14600	1.97	15000	24300	9300	1.62
Cereals	ICM	Demonstration of ICM practices for drought mitigation in DSR with tractor drawn seed drill		10	4	48.2	40.6	16.6	Weed control % :83	100	39890	70470	30580	1.76	37870	59170	21300	1.56
Cereals	Varietal introduction	Demonstration of submergence tolerant rice variety CR 1009 Sub 1		20	8	53.75	48.75	9.30	PT:252	PT:234	15000	29200	14200	1.97	15000	26450	11450	1.76
Cereals	Varietal introduction	Demonstration on drought tolerant rice variety ANNA 4		20	8	37	31.88	13.85	PT:245	PT:218	11000	19980	8980	1.81	11000	17213	6213	1.56
Cereals	Varietal introduction	Demonstration on TRY 3 rice in saline soil		10	4	55.2	45.6	17.4	p ^H : 8.22	p ^H : 8.54	59832	78114	18282	1.30	53796	63732	9936	1.18
Cereals	IPM	IPM strategies for Rice Mealy Bug (RMB) under direct sown rice		10	4	45.2	36.2	19.9	Reduction in RMB:90.1	Reduction in RMB: 51.2	63500	105600	42100	1.66	66000	74800	8800	1.13
Cereals	IDM	IDM strategies for Samba rice		10	4	43.4	38.2	12	% Diseases Reduction: 80.1	% Diseases Reduction: 63.9	65000	117500	52500	1.80	68000	77000	9000	1.13

Oil seeds	Varietal introduction	Demonstration of Groundnut var. TMV 13(tolerant to terminal drought)		10	4	16.20	11.75	27.47	% Reduction in root rot Disease: 82	% Reduction in root rot disease : 55	35570	76469	40899	2.14	28120	54896	26776	1.95
Pulses	Varietal introduction	Demonstration on rice fallow Black gram with Var. VBN 6		10	4	5.50	3.13	43	No. of Plants /m ² :26	No. of Plants /m ² :19	5500	14300	8800	2.6	5500	8125	2625	1.47
Pulses	Varietal introduction	Demonstration of Newly released TNAU Green gram variety Co8		10	4	5.5	4.0	27.27	No. of Plants /m ² :26	No. of Plants /m ² :22	8000	19200	11200	2.4	5200	10800	5600	2.07
Vegetables	Yield maximization	High density planting in Annual moringa -PKM1		10	4	543.75	325	40	No. of fruits /plant:160	No. of fruits /plant: 100	75000	217500	142500	2.9	75000	130000	55000	1.73
Vegetables	Varietal introduction	Integrated crop management in PLR (SG) 2 Snake gourd		10	2	138	80	35.78	No. of fruits/plant :12	No. of fruits/plant:6	20000	69000	49000	3.45	20000	46500	26500	2.325

Mango	IPM	Production enhancement through nutrient and stem borer management in Mango		10	100 trees	Under Progress- % Recovery 80												
Banana	Varietal introduction	Demonstration of CJ 9 clone as windbelt in banana plantations		5	2	Planting of CJ 9 clone as windbelt in banana plantations bunds at a spacing of 1.5x1.5 m in three rows completed during Feb 2015												
Fodder	Varietal introduction	Demonstration of newly released variety Fodder Sorghum CO (FS) 31 in Nagapattinam district		10	4	212.5	130	38.82	No. of tillers/plant:13	No. of tillers/plant :1	3500	8500	5000	2.42	3300	5200	1900	1.57

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

Demonstration on drought tolerant rice variety ANNA 4

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Productive tillers(m ²)	245	218
Hills(m ²)	49	42
Yield (q/ha)	37	31.88
% of increase	13.85	-
BCR	1.82	1.56

Demonstration of submergence tolerant rice variety CR 1009 Sub 1

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Productive tillers(m ²)	252	234
Hills(m ²)	42	39
Yield (q/ha)	53.75	48.75
% of increase	9.30	-
BCR	1.94	1.76

Participatory seed production of newly released short duration rice variety CO 51

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Productive tillers (m ²)	244	235
Hills (m ²)	45	40
Yield (q/ha)	40	45
BCR	1.97	1.62

IDM strategies for Samba rice

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Percentage Diseases Reduction	80.1	63.9
No. of Productive tillers/m ²	232	222
Yield (q/ha)	43.4	38.2
% of increase	12.0	-
BCR	1.71	1.20

IPM strategies for Rice Mealy Bug (RMB) under direct sown rice

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Reduction in RMB	90.1	51.2
Productive tillers	30.1	21.9
Yield (q/ha)	45.2	36.2
% of increase	19.9	-
BCR	1.58	1.18

Demonstration of Newly released TNAU Green gram variety Co8

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of pods /plant	33	28
No. of plants/m ²	26	22
Yield (q/ha)	5.5	4.0
% of increase	27.27	-
BCR	2.75	2.0

Demonstration of newly released variety Fodder Sorghum CO (FS) 31 in Nagapattinam district

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of tillers/ plant	13	1
Green fodder Yield (q/ha)	212.5	130
% of increase	38.82	-
BCR	2.43	1.58

High density planting in Annual moringa -PKM1

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of fruits /plant	160	100
Yield (q/ha)	543.75	325
% of increase	40.23	-
BCR	2.9	1.73

Integrated crop management in PLR (SG) 2 Snake gourd

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of fruits/plant	12	6
Fruit weight (g)	750	560
Yield (q/ha)	138	80
% increase	35.78	-
BCR	2.75	1.88

Demonstration of ICM practices for drought mitigation in DSR with tractor drawn seed drill

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Weed control %	83	100
Yield (q/ha)	48.2	40.6
% increase	16.6	-
BCR	1.75	1.55

Demonstration on TRY 3 rice in saline soil

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
p ^H	8.22	8.54
EC (dS/m)	0.38	0.42
Yield (q/ha)	55.2	45.6
% of increase	17.4	-
BCR	1.30	1.20

Demonstration on rice fallow Black gram with Var. VBN 6

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of Plants /m ²	26	19
No. of pods/ plant	29	20
Yield (q/ha)	5.50	3.13
% increase	43.0	-
BCR	2.6	1.4

Demonstration of Groundnut var. TMV 13(tolerant to terminal drought)

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
% Reduction in root rot disease	82	55
Yield (q/ha)	16.20	11.75
% of increase	27.47	-
BCR	2.14	1.96

3.B.2. Livestock and related enterprises

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	milk yield (lit/month)			Check if any	% Increase	*Economics of demonstration Rs./unit)				*Economics of check (Rs./unit)			
					Demo					Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Dairy	Promotion of TANUVAS GRAND supplement (Liquid formulation)	-	100 cows				195	150	23.1	1455	4875	3420	3.350515	1425	3750	2325	2.631579
Dairy	Demonstration of Ethno Veterinary Herbal medicine for treatment of FMD in dairy cattle		10 cows	No existence of FMD in Nagapattinam District. Hence only awareness programme was conducted													

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

Promotion of TANUVAS GRAND supplement (Liquid formulation)

Milk yield (lit/month)			BCR	
Demo	Check	% of increase	Demo	Check
195	150	23.1	3.35	2.63

DEMONSTRATIONS 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										
Cereals																	
Cereals	Demonstration of TNAU hybrid maize Co - 6 in Nagapattinam district	Co - 6	10	4			57.6	49.5	14.1	35500	80360	44860	2.26	37650	68880	31230	1.82
Vegetables	Demonstration of TNAU Tomato Hybrid Co 3	Co 3	10	1			780	520	33.33	33000	78000	45000	2.36	22000	42000	20000	1.90
Vegetables	Popularization of TNAU Bhendi hybrid CO 1	Co1	10	2			220	150	31.82	2500	8800	6300	3.52	2500	6000	3500	2.4

Demonstration of TNAU hybrid maize Co - 6 in Nagapattinam district

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
100 grain weight (g)	38	34
Yield (q/ha)	57.6	49.5
% of increase	14.1	-
BCR	2.27	1.84

Popularization of TNAU Bhendi hybrid CO 1

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of fruits /plant	28	18
Fruit weight (g)	25	20
Yield (q/ha)	220	150
% increase	31.82	-
BCR	3.52	2.4

Demonstration of TNAU Tomato Hybrid Co 3

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of fruits/ plant	30	23
Fruit weight (g)	70	55
Yield (q/ha)	780	520
% increase	33.33	-
BCR	2.36	1.91

Other enterprises : Integrated Farming System

Sl. No	Farmer Name& address	IFS – Components	Achievements made	Annual Income before IFS (Rs)	Annual Income after IFS (Rs)
1	Mr. S. Gnanasekaran Vandalur Parappanur road, Simpiyamahadevi (P.O) Kilvelur (TK) Nagapattinam district Mobile No: 8012963013	Horticulture + Goat + Poultry + Fisheries + Vermicompost	<ul style="list-style-type: none"> Maintaining Good IFS model farm in an area of two acres. Maintaining three types of goat breeds and selling to other farmers Maintaining good vermicompost unit. He earned money from all the components 	49000	169000
4	Mr. G. Jeevanandam Nangudi Village Kilvelur (Tk) Nagapattinam district Pin – 611 104 Mobile No: 9443375262	Agriculture + Horticulture + Poultry + Goat + Fisheries + Dairy + Vermicompost	<ul style="list-style-type: none"> Maintaining Good IFS model farm in an area of 3 acres. Trained on IFS and goat rearing techniques at KVK, Namakkal. Maintaining all IFS components and selling to other farmers He is role model for more than 100 IFS farmers in Nagapattinam district. 	70000	297000
5	Th.S.Balakrishnan East Street Sikkal-611 108 Nagapattinam District Mobile No: 9442101445	Agriculture + Horticulture + Poultry + Fisheries + Dairy + Agroforestry + composting	<ul style="list-style-type: none"> Maintaining Good IFS model farm in an area of three acres. Maintaining good dairy and poultry unit Trained on organic farming techniques from Nammalvar farm and maintaining his farm in organic way 	35000	110000

Economics

Enterprise	S. Gnanasekaran	G. Jeevanantham	S. Balakrishnan
Rice, Pulses	--	60000	10000
Vegetables	10000	25500	15000
Goat	55000	60000	20000
Fish	70000	112500	30000
Poultry	25000	15000	10000
Dairy cow	--	18000	25000
Vermicompost	9000	6000	--
Grand Total	169000	297000	110000

Women empowerment: Nil

Farm implements and machinery : Nil

IV. Training Programme

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Integrated Crop Management	2	95	4	99	28	-	28	123	4	127
Integrated Nutrient Management	1	65	3	68	17	1	18	82	4	86
Production of organic inputs	1	63	0	63	18	0	18	81	0	81
Others- Samba paddy cultivation techniques	1	45	15	60	9	3	12	54	18	72
Horticulture										
a) Vegetable Crops										
Awareness programme on Integrated Pest and Disease management in vegetables	1	82	18	100	18	8	26	100	18	118
Home Science/Women empowerment										
Value addition	2	56	13	69	16	5	21	72	18	90
Plant Protection										
Integrated Pest Management	1	82	18	100	18	8	26	100	26	126
Integrated Disease Management										
Production of Inputs at site	1	20	-	20	-	-	-	20	-	20
Agro-forestry	1	60	-	60				60	-	60
TOTAL	11	568	71	639	124	25	149	692	88	780

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Cropping Systems	1	25	8	33	8	2	10	33	10	43
Integrated Crop Management	4	109	21	130	26	7	27	135	28	163
Integrated farming	1	-	100	100	-	28	28	0	128	128
a) Vegetable Crops										
Protective cultivation	2	53	2	55	5		5	58	5	63
Hybrid vegetable cultivation techniques	1	72	30	102	22	8	30	94	38	132
Production of low value & high volume crop	2	53	12	65	10	2	12	63	14	77
Cultivation of fruits and vegetables	1	15	7	22	4	2	6	19	9	28
Soil Health and Fertility Management										
Integrated nutrient management	1	35	2	37	8	1	9	43	3	46
Plant Protection										
Integrated Pest Management	2	65	-	65	12	-	12	77	-	77
Integrated Disease Management	3	82	10	92	38	4	42	120	14	134
Others - Bio-Control of pests and diseases	1	25	0	25	4	0	4	29	-	29
Production of Inputs at site										
Livestock Production and Management	1	11	-	11	4	-	4	15	-	15
Animal Nutrition Management	1	13	3	16	7	2	9	20	5	25
TOTAL	21	558	195	753	148	56	198	706	254	960

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management	1	21	5	26	2	2	4	23	7	30
Capacity Building and Group Dynamics	3	106	24	130	24	10	34	130	34	164
TOTAL	4	127	29	156	26	12	38	153	41	194

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Soil health and fertility management- NMR Interaction meeting	1	15	5	20	4	2	6	19	7	26
TOTAL	1	15	5	20	4	2	6	19	7	26

3 .E.Training programmes for Extension Personnel including sponsored training programmes (on campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Farmer oriented Integrated Agricultural Extension System	1	50	4	54	6	-	6	56	4	60
Productivity enhancement in field crops	3	123	12	135	24	4	28	147	16	163
Integrated Disease Management	1	22	6	28	8	4	12	30	10	40
Protective cultivation	1	30	5	35	7	2	9	37	7	42
Total	6	225	4	23	54	198	45	10	55	270

4. F. Training programmes for Extension Personnel including sponsored training programmes (off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	2	25	5	30	5	1	6	30	6	36
Integrated Pest Management	1	30	5	35	-	-	-	30	5	35
Integrated Nutrient management	1	30	5	35	-	-	-	30	5	35
Any other (pl.specify) Soil Health	1	15	25	40	-	-	-	15	25	40
Integrates disease Management	1	30	5	35	-	-	-	30	5	35
Total	6	130	45	175	5	1	6	135	46	181

4. G. Sponsored training programmes conducted

S.No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	Capacity Building and Group Dynamics	1	9	2	11	10	4	14	19	6	25
2	Increasing production and productivity of crops	1	16	8	24	4	2	6	20	10	30
	Total	2	25	10	35	14	6	20	39	16	55

Details of sponsoring agencies involved

- 1.State Dept. of Agriculture
- 2.Market related extension activities
3. MSSRF

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

S.No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	Vermi-compost production	1	40	4	44	15	1	16	55	5	60
	Grand Total	1	40	4	44	15	1	16	55	5	60

V. Extension Programmes

Extension Programmes (including extension activities undertaken in FLD programmes)

Nature of Extension Programme	No. of Programmes	No. of Participants (General)			No. of Participants SC / ST			No. of extension personnel		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Scientific visit to farmers fields	160	300	54	354	59	44	103	-	-	-
Field day	17	162	23	185	75	15	90	20	4	24
Kisan melas	1	798	255	1053	127	70	197	15	2	17
Exhibitions	4	949	273	1222	132	70	202	12	4	16
Film/Video shows	13	352	106	458	128	74	202	3	1	4
Campaign	2	340	15	355	60	25	85	5	2	7
Seminar	4	72	6	78	28	4	32	2	1	3
Zonal workshop	12	-	-	-	-	-	-	400	80	480
Farm advisory service	258	212	12	224	30	4	34			
Demonstrations	19	188	87	275	73	41	114	7	1	8
Exposure visit	11	200	0	200	45	0	45	2	-	2
Radio talk/broadcast	20	0	0	0	0	0	0			
TV coverage/Telecast	6	0	0	0	0	0	0			
News paper coverage	44	0	0	0	0	0	0			
Extension literature published	17	0	0	0	0	0	0			
Animal Campaign	2	31	9	40	16	8	24	2	-	2
Total	590	3604	840	4444	773	355	1128	468	95	563

Details of other extension programmes

Particulars	Number
Extension Literature	4
News Letter	4
News paper coverage	44
Technical Articles	2
Technical Reports	6
Radio Talks	20
TV Talks	6
Total	86

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

Crop category	Name of the crop	Variety	Hybrid	Quantity of seed	Value (Rs)	Number of farmers to whom provided
Cereals (crop wise)	Paddy	CR1009	-	14250 kg	285000	73
Vegetables	Bhendi	CO6	-	4.5 kg	135	5
Fodder crop seeds	C:N grass	CO3	-	4160 Slips	2080	30
	C:N grass	CO4	-	675 Slips	338	10
Others (specify)	Azolla		-	24.5	122.50	10
	Seminar Hall Rent		-	3 days	4500	-
	Hostel room rent	SSI farmer			8100	270
	Paddy illfilled grain			5 ton	10000	5
	Paddy straw			2 ton	8000	1
	Pseudomonas			380 kg	28500	25
	Coconut seedlings			1626 No	48780	120
	Protray			60 No	1500	10

	Cattle trespass			5 No	190	
	Vermicompost			1598 kg	9588	30
	Earthworms			2.5 kg	1000	2
	Cocopeat			25 kg	150	2
	Boom sprayer Hire charges			15 days	3000	3
Total					410983.00	596

Production of planting materials by the KVKs

Crop category	Name of the crop	Variety	Hybrid	Number	Value (Rs.)	Number of farmers to whom provided
Commercial						
Vegetable seedlings						
	Coconut seedlings	ECT		1626	48780	120
Fodder crop saplings	C:N grass	CO3		4160 slips	2080	30
	C:N grass	CO4		675 slips	338	10
Others(specify)	Vermicompost			1598 kg	9588	30
	Earth worms	E.foetida		2.5 kg	1000	2
Total					61786	192

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	Number of farmers to whom provided
Bio-fungicide	<i>Pseudomonas</i> (Talc)	380	28500	25
Bio Agents	Cocopeat	25	150	2
Others (specify)	Azolla	24.5	122.50	10
Total			28772.5	37

9.D. Production of livestock materials :Nil

VII. DETAILS OF SOIL, WATER AND PLANT ANALYSIS 2014-15

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples	59	57	43	1475
Water Samples	49	49	36	490
Total	108	106	79	1965

VIII. SCIENTIFIC ADVISORY COMMITTEE

Number of SACs conducted	One (18.6.2013)
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IX. NEWSLETTER

Number of issues of newsletter published	4 Nos.
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X. RESEARCH PAPER PUBLISHED

Number of research paper published	Nil
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XI. DETAILS ON RAIN WATER HARVESTING STRUCTURE AND MICRO-IRRIGATION SYSTEM

Activities conducted				
No. of Training programmes	No. of Demonstrations	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)
-	-	-	-	-

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