

ANNUAL REPORT 2010-11

(FOR THE PERIOD APRIL 2010 TO MARCH 2011)

KRISHI VIGYAN KENDRA (VILLUPURAM)

PART I - GENERAL INFORMATION ABOUT THE KVK

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

KVK Address	Telephone		E mail	Web Address
	Office F	ax		
Krishi Vigyan Kendra Tamil Nadu Agricultural University Tindivanam, Villupuram District – 604 002	04147 250001 04147250002	04147 250001	kvktivm@tnau.ac.in kvktivm@yahoo.co.in	www.tnau.ac.in

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

Address Tele	phone		E mail	Web Address
	Office Fax			
Tamil Nadu Agricultural University Coimbatore – 641 003		091-0422- 6611433	dee@tnau.ac.in vctnau@tnau.ac.in	www.tnau.ac.in

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

Name	Telephone / Contact		
	Residence M	obile	Email
Dr.N.Sathiah 094424	33393	09994966060	nsathiah@rediffmail.com nsathiah@gmail.com

1.4. Year of sanction: 2003-04 (No.16-12/2003-AE-I-dated 16.8.2003, AE-I-dated 22.3.04 from ICAR, New Delhi)

1.5. Staff Position (as 31st March 2011)

Sl. No.	Sanctioned post	Name of the incumbent	Designation	M/F	Discipline	Highest Qualification (for PC, SMS and Prog. Asstt.)	Pay Scale	Basic pay	Date of joining KVK	Permanent /Temporary	Category (SC/ST/OBC/ Others)
1 P	rogramme Coordinator	Dr.N.Sathiah P	rofessor and Head	M	Agricultural Entomology	Ph.D 374	00-67000+AGP10000	49010+10000 16	.4.2010	Permanent	OC
2 SMS		Dr.K.Poornima	Associate Professor	F	Nem atology	Ph.D	37400-67000+AGP9000	38800+9000 9.	5.2008	Permanent	OC
3 S	MS	Dr.M.Renuga As	sistant Professor	F	Horticulture	Ph.D	15600-39100+AGP7000	22830+7000 5.	8.2009	Permanent	SC
4 S	MS	Dr.K.Natarajan	Assistant Professor	M	S eed Technology	Ph.D 156	00-39100+AGP6000	19600+6000 30	.12.2009	Permanent	MBC
5 SMS		Dr.V.Sendhilvel	Assistant Professor	M	P lant Pathology	Ph.D	15600-39100+AGP6000	19600+6000 30	.12.2009	Permanent	BC
6 SMS		Dr.R.Uma Sankaraeswari	Assistant Professor	F	Agricultural Microbiology	Ph.D 156	00-39100+AGP6000	19600+6000 31	.12.2009	Permanent	ST
7 SMS		Dr.P.C.Prabu	Assistant Professor	M	Envi ronmental Science	Ph.D 156	00-39100+AGP6000	19600+6000 6.	1.2010	Permanent	BC
8 P	rogramme Assistant(Lab Tech.)/T-4	Tmt.Vidhya.C P	rogramme Assistant (Tech.)	F	Hort iculture	M.Sc	9300-34800-4400	11600+4400	11.6.2007	Permanent	SC
9 P	rogramme Assistant (Computer)/ T-4	Tmt.M.Selvi Pro	rogramme Assistant (Computer)	F	Co mputer Science	Computer Science (Diploma)	9300-34800-4400 1	1130+4400	3.12.2008	Permanent	OC
10 P	rogramme Assistant/ Farm Manager	Tmt.A.Amudha F	arm Manager	F	Agronomy	M.Sc	9300-34800-4400	11600+4400	6.6.2007	Permanent	SC
11 Ass	istant	Th.S.Kalaivanan	Superintendent	M	-	-	9300-34800-4400	14680+4800	18.5.2006	Permanent	MBC
12 J	r. Stenographer	Th.D.Amirthalingam Ste	nographer	M	-	-	5200+20200+2000	6660+2400	9.8.2010	Permanent	MBC
13 Driv	er	Th.R.Mohan	Driver	M	-	-	5200-20200+2000	6710+2400	1.4.2009	Permanent	MBC
14 D	river	Th.P.Raja	PUSM	M	-	-	4800-10000+1300	6590+1300	1.3.2006	Permanent	MBC
15 S	upporting staff	Th.K.Uthiramoorthy PUS	M	M	-	-	4800-10000+1300	6730+1300	26.3.2010	Permanent	MBC
16 S	upporting staff	Th.G.Subramanian PUS	M	M	-	-	4800-10000+1300	70000+1300	25.7.2007	Permanent	MBC

1.6. Total land with KVK (in ha)**: 16.8 ha**

S. No.	Item	Area (ha)
1	Under Buildings	2.4
2.	Under Demonstration Units	160m2
3.	Under Crops	10
4.	Orchard/ Agro-forestry	2.8
5. O	thers	

1.7. Infrastructural Development:**A) Buildings**

S. No.	Name of building	Source of funding	Stage					
			Complete Inco			mplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.in lakhs)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR 1	.8.2007	550	39.85	1.7.2006		Completed
2.	Farmers Hostel	ICAR	1.8.2007	305	25.75	1.7.2006		Completed
3.	Staff Quarters	ICAR	1.8.07	400	32.00	1.7.06		Completed
1								
2								
3								
4								
5								
6								
4.	Demonstration Units	ICAR 1	8.07	40	4.00	1.7.06		Completed
1								
2								
3								
4								
5	Fencing	ICAR 1	8.07	250m	2.00	1.7.06 -		Completed
6	Rain Water harvesting system							
7	Threshing floor							
8	Farm godown							
9								
10								

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Bolero Jeep	2004	4,91,852	66743	condemned
Tractor with accessories	2005	4,96,553	1194	Good
Two wheeler (TVS Starcity)	2006	35,371	10639	Good
Two wheeler (TVS Scooty pep+)	2009	34027	120	Good
Power tiller	2010	1,49,528	-	Good

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
OHP with accessories	2004	24,850	Good
Slide projector with accessories	2006	24,730	Good
Xerox machine	2006	74,630	Good
Computer with accessories	2006	74,950	Good
Digital camera with accessories	2007	20,000	Good
Computer accessories including LCD	2007	1,00,000	Good

1.8. Details SAC meeting conducted in 2010-11

Sl.No.	Date	Number of Participants	No. of absentees	Salient Recommendations	Action taken
1.	27.9.2010				

Sl. No.	Salient Recommendations	Action taken
1.	The concepts of seed village using high yielding varieties must be popularized.	Through farmer participatory programme the production of hybrid paddy, sesamum and groundnut is being taken up during Rabi 2010
2.	Cultivation of oilseeds and pulses must be encouraged through training programmes and trials in farmers' fields.	On campus and off campus programmes through KVK programmes and sponsored programmes are taken. The list of programmes taken up is given under training subhead
3.	Knowledge on SSI in sugarcane must be spread far and wide through trainings.	Trainings to extension functionaries, farmers have been given under KVK, IAMWARM and NADP programmes
4.	The facilities available at TNAU website such Agri Tech Portal, DEMIC and DMI must be made available to the farmers including small, marginal and big farmers.	In all the oncampus programmes the demonstrations are conducted on the facilities available. Eight farmers were deputed for DMI programme at Coimbatore during February 2011
5.	Mobile sprinklers must be popularized among the farmers of this district.	Action has been taken to procure the machinery. The suggestion will be carried out
6.	Fodder grass CO 4 needs to be popularized among the farming community	The suggestions have been implemented. Information has been provided to all the farmers visiting the KVK. Mass media information has been given. Sale of the planting material is being taken up.
7.	Tmt. R.Amudha, and Th. V.Kannadasan SAC farmer representative members may be replaced by progressive farmers, who will take an active role in being SAC members.	The action will be taken upon approval of the SAC proceedings
8.	Documentation should be done for varietal and gene replacement for each crop.	The action has been initiated
9.	One Technocrat should be created in each village who inturn will be a role model and Informant for the rest of the village.	A separate proposal is being submitted to the NABARD for funding
10.	Soil and water testing lab should be put to full use for the benefit of the farmers when commisioned.	The Lab is under establishment. Recommendations will be followed

11.	Training may be given on after services required for maintaining the drip system in farmers' fields.	Given to the farmers under NADP programme
12.	Action must be taken on the various feedbacks received from farmers for each FLD.	Being followed
13.	Technologies from other institutes may also be assessed in our trials.	Included in the AAP 2011-12
14.	Trainings may be given to popularize integrated farming system among farmers.	Being carried out in the AH programmes
15.	Resistant variety of Sugarcane for woolly aphid may be popularized among Villupuram farmers by KVK.	The farmers attending NADP trainings have been sensitized
16.	The SSI technique for sugarcane must also be popularized among farmers by KVK through training programmes.	Three trainings covering extension functionaries, sugarcane officers and farmers have be completed.
17.	Capacity building trainings may be provided to the farmers through schemes such as ATMA, NATP etc.	ATMA farmers have been given trainings based on the need
18.	KVK has to make use of the facilities available with the AIR on day to day farm activities for better reach to the farming community.	Messages, speeches and interviews have been held
19.	KVK may provide a set of Dos & Don'ts for SRI technique as there is a wide variation in the yield got from this technique by the farmers.	Being done during the sornavari season 2011
20.	A pilot project may be prepared by the KVK wherein 100 farmers will be selected to act as vital informers of a particular technology in a village. This will help in the horizontal spread of the particular technology.	NABARD will be approached for the financial sanction
21.	KVK may provide the technology needed for processing guava to help the guava growers of this district.	Action will be initiated in this regard
22.	KVK shall guide the rural youth and farmers in forming small units such as vermicompost unit, honey bee unit, dairy unit sericulture unit etc., so as to help in lifting their socio economic lifestyle.	Trainings have been provided on these lines. NABARD will be approached for financial support. Two farmers have received loan already
23.	Most of the land of this district being under rainfed conditions, several information leaflets may be prepared and distributed for techniques to be followed under such rainfed conditions.	Action is being taken up.

PART II - DETAILS OF DISTRICT

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

S. No	Farming system/enterprise
a)	Wetland Rice - Rice -Sesame (June-July) (Aug-Sep) (March-April) Rice - Rice fallow pulses (Aug-Sept) (Jan-Mar) Sugarcane (Dec-Jan)
b)	Gardenland Groundnut -Gro undnut -Sesame (June-Sept) (Oct-Jan) (Feb-March)
c)	Dryland Groundnut -Gro undnut /Sesame/Pulses (June-Sept) (Oct-Jan)
d)	Othercrops Cotton, tapioca, cashew, chillies, watermelon, brinjal, gourds, crossandra, jasmine, banana, coconut, mango, guava, casurina
e)	Other enterprises EDP-Home products, toymaking, turmeric, flower crop and agro-forestry nursery, cashew processing, dairy farming, goat and sheep rearing.

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

S. No	Agro-climatic Zone	Characteristics
1.	North Eastern Zone	<p>The District is situated between 8 5' and 13 2' of north latitudes and 15' and 80 22' east longitudes. The mean annual rainfall 950 mm is received in 56 rainy days The north eastern season provides maximum amount of 601 mm rainfall in 27 rainy days followed by southwest monsoon contributing 294 mm in 24 rainy days</p> <p>The major soil types are red loam and clay loam. Black soils are present in limited extent and coastal alluvial soils occur along the sea coast. In coastal taluks have saline and alkaline soils of about 12,000 ha . They are distributed in patches.</p> <p>The climate in the Zone is basically semi arid tropical. The hottest months are April-June and the cold climate prevails during December and January. The average maximum temperature varies from 19.5C to 24.8C. It has a wet period of 7 months and dry period of 5 months in a year. The relative humidity is highest during the months of October- November.</p> <p>The ground water is available at a depth of 12-13mm from the ground surface in many locations (dry land areas). Therefore, it is possible to get water if necessary for tree crops during summer, for protective water supply. In the coastal areas, water logged /swampy area with saline water is seen and such areas can be properly used by suitable agro forestry programmes.</p>

S. No	Agro ecological situation	Characteristics
1	North Eastern Zone	<ol style="list-style-type: none"> 1. Red non calcareous – Low rainfall – Low Elevation 2. Red non calcareous – Low rainfall – Medium Elevation 3. Red non calcareous – Medium rainfall – Low Elevation 4. Red non calcareous – Medium rainfall –Medium Elevation 5. Red non calcareous – High rainfall – Low Elevation 6. Red calcareous – Low rainfall – Low Elevation 7. Red calcareous – Low rainfall – Medium Elevation 8. Red calcareous – Medium rainfall – Low Elevation 9. Red calcareous – Medium rainfall –Medium Elevation 10. Red calcareous – High rainfall – Low Elevation 11. Black non calcareous – Medium rainfall – Low Elevation 12. Black non calcareous – Medium rainfall – Medium Elevation 13. Black calcareous – Low rainfall – Medium Elevation 14. Black calcareous – Medium rainfall – Low Elevation 15. Black calcareous – Medium rainfall – Medium Elevation 16. Coastal saline alkaline and swamp – Medium rainfall – Low Elevation

2.3 Soil type/s

S. No	Soil type	Characteristics	Area in ha
1	Brown soil	Soil colour is brown. The texture ranges from sandy loam to silty loam. The soils are medium depth with good drainage.	167072
2	Red soil	The texture is usually loamy. Colour varies from red at the surface to yellow at the lower horizon. The soils are of medium depth with good drainage, free from accumulation of salt and calcium carbonate, PH ranging from 6.05 to 8.0 and contains amount of organic matter, nitrogen and phosphorous but generally adequate amount of potash and lime.	53399
3	Black soil	Soils are either shallow or deep up to 5m. These are highly argillaceous (30% clay). Deep cracks summer due to shrinkage on drying. They contain high amount of iron, calcium and magnesium.	26136
4	Alluvial soil	They occur along the coastal line. They origin may be sedimentary or formed by the rivers overlaid with sand glow from sea beaches.	1965

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	145403	480329	3303.4
2	Chola m	2934	3081	1050.10
3	Cumbu	15172	17242	1136.43
4	Ragi 945		1948	2061.37
5	Maize	3422	12739	3722.26
6	Other cereals	2123	2533	1193.12
7	Red gram	273	724	2652.0
8	Green gram	581	1065	1833.04
9	Black gram	18922	31613	1670.00
10	Surgarcane	56698	5787278	102.07(tones)
11	Groundnut	55317	132891	2402.35
12	Green gram	5012	2648	528.33
13	Cotton	7014	20178	2876.81

Crop and Season report from JDA office (2008-09) Villupuram

2.5. Weather data

Month	Rainfall (mm)	Temperature ° C		Relative Humidity (%)
		Maximum	Minimum	
April 2010	-	29.81	27.69	68.76
May 2010	31.5	28.55	26.72	79.66
June 2010	76	28.45	27.52	83.51
July 2010	62	27.92	27.42	85.86
August 2010	63	28.21	27.65	78.74
September 2010	93	27.70	27.14	87.43
October 2010	88.5	27.81	27.46	89.06
November 2010	317	26.79	28.20	95.83
December 2010 196		24.87	27.76	98.87
January 2011	-	26.62	28.03	98.32
February 2011	12	26.82	27.93	98.67
March 2011	-	26.84	27.55	97.83

(Source: Oilseeds Research Station, TNAU, Tindivanam)

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

Category	Population	Production	Productivity
Cattle			
<i>Crossbred</i>	154409 23	9294 tonnes	5.17 kg/day
<i>Indigenous</i>	158777 7	8484 tonnes	1.65 kg/day
Buffalo	22152 16	437 tonnes	2.47 kg/day
Sheep			
Crossbred 3	65307		
<i>Indigenous</i>			
Goats			
Pigs	495223		
<i>Crossbred</i>	30205		
<i>Indigenous</i>			
Rabbits			
	130		
Poultry			
Hens 7	72090	246.2 lakhs	132 eggs/year
<i>Desi</i>			
<i>Improved</i>			
Ducks			
Turkey and others			

Category	Area	Production	Productivity
Fish			
<i>Marine</i>			
<i>Inland</i>			
Prawn			
Scampi			
Shrimp			

From Regional Director of Animal husbandry office ,Villupuram.

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

2.8 Details of Operational area / Villages

Sl. No.	Taluk	Name of the block	Name of the village	Duration of covered under operational area of the KVK	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1.	Villupuram	Vikravandi Koliyanur	Asur Sithani Veedur Pidagam Kedelam	1	Paddy Sugarcane and Groundnut Mango Fodder Pulses Fisheries	<ol style="list-style-type: none"> 1.Labor Shortage 2.Terminal drought in paddy 3. Biological control of pest and disease 4. Lack of availability of certified seeds 5. Drought 6. Unavailability of compost 7. Storage pests for seeds 8. Reduction of the soil fertility and poor growth of crops 9. Lack of knowledge on nursery techniques in vegetables viz., protray method 10.Lack of knowledge on integrated disease management for redroot of sugarcane 11.Lack of awareness on growth regulators 12.Lack of knowledge on fodder bank and agrisylvi pasture system 13.Lack of knowledge on foliar application of nutrients and growth regulators 14.Lack of knowledge on integrated disease management for redroot of sugarcane 15.Poor organic matter in soil 16.Lack of awareness on IPM in Groundnut 17.Training on fish farming 	<ol style="list-style-type: none"> 1.Farm Mechanization 2.Bio fertigation 3.Biological control of pests and diseases, IPM 4.Sustainable agriculture by IFS and resource conservation 5.Seed Production techniques 6.Drought management 7.Bio composting 8.Organic farming 9.Seed storage techniques 10.Empowerment of rural youth for self employment by vocational trainings

2. Tind	iva nam	Marak kanam Maila m Olakk ur	Nadu kuppam Nallavur Chendur Kattusivri Andapattu Ural Mariamang alam		Paddy Vegetables Watermelon Casurina Small industries Coconut Goat rearing Flower crops (Jasmine, ,Crossandra and Tuberose)	<ol style="list-style-type: none"> 1.Lack of knowledge on foliar application of nutrients and growth regulators 2.Yield reduction due to pest and disease damage 3.Uneven income and wasting of farm By products 4.Lack of knowledge on seed production Techniques 5. Ignorance of pruning Techniques 6. Domestic goat and poultry 7.Lack of knowledge of insemination Method 8. Coastal saline soil 	<ol style="list-style-type: none"> 1.Crop management in watermelon 2.Crop production techniques in Mango 3.Nursery production of coconut seedlings 4.IPМ in flower crops 5.Pruning techniques 6.Flower arrangements- bouquet preparation 7.Artificial insemination in goats Campaign on cattle disease management 8.Sylvipastoral system
3. U	lunder pet	Ulund erpet	Mampakka m	Groun	ndnut Banana Sugarcane	<ol style="list-style-type: none"> 1. Uneven distribution of rain and over exploitation of ground water 2.Yield reduction due to pest and disease damage 3.Uneven income and wasting of farm byproducts 4.Poor organic matter in soil 5.Reduction of the soil fertility and poor growth of crops 6.Pest and disease problem in sugarcane 7.Lack of knowledge on integrated disease management for redrot of sugarcane 	<ol style="list-style-type: none"> 1.Drought management 2.Biological control of pests and diseases, IPМ 3.Sustainable agriculture by IFS and resource conservation 4.Seed Production techniques 5.Drought management 6.Bio composting 7.Organic farming 8.Seed storage techniques

4.	Thirukoilur	Thirukoilur	Manampoon		Sugarcane Paddy Chillies Brinjal	<ol style="list-style-type: none"> 1. Lack of knowledge on hybrid seed production in paddy 2. Water scarcity 3. Labour shortage 4. Lack of knowledge on Fertigation 5. Lack of knowledge on micro irrigation 6. Zinc deficiency in paddy 7. Red rot problem in sugarcane 8. Ignorance of biofertilizer 9. Shoot and fruit borer in brinjal 10. Ignorance of advanced nursery techniques 11. Lack of knowledge on pro tray method of nursery 	<ol style="list-style-type: none"> 1. Training on hybrid seed production technology 2. Micro irrigation 3. Drought management 4. Farm mechanization 5. Biofertilization 6. Foliar application of zinc for paddy 7. Integrated disease management for redroot 8. Awareness on biocontrol 9. Nursery techniques in vegetables 10. Liquid biofertilizer 11. Management techniques for shoot and fruit borer
5.	Vanur		Thailapuram Nallavur Avaiyarkuppam		Watermelon Casuarina Vegetables Coconut Groundnut Mango Sugarcane Paddy Brinjal Maize Crossandra	<ol style="list-style-type: none"> 1. Lack of knowledge on crop improvement in watermelon and post harvest 2. Shortage of watermelon seed 3. Scarcity of water 4. Lack of knowledge on vegetable cultivation 5. Helicoverpa problem in groundnut 6. Flower bearing in mango 7. Labour shortage 8. Lack of seed treatment 9. Conventional method of seedling multiplication 10. Lack of awareness on newer poultry breeds 11. Nematode wilt complex in crossandra 12. Lesser economic returns in dairy 13. Poor on-farm management of solid wastes 14. Lack of knowledge on growth promoters in water melon 	<ol style="list-style-type: none"> 1. Popularization of high yielding variety of watermelon and cultivation methods 2. Drought management by drip irrigation 3. IPM groundnut 4. Liquid biofertilizer for INM 5. Popularization of guinea, rhodowhite and Nandanam turkey 6. Vermicompost production 7. Valu addition in milk 8. Use of biofertilization in watermelon

6. Kallakurichi	Ka	Kalantharaya hills Pakkampadi Kalababusu midhram		Paddy Sugarcane Cotton Coleus Small millets Yam Turmeric Tapioca Semia Company Curry leaf Brinjal Tomato Goat rearing	<ol style="list-style-type: none"> 1. Labour shortage 2. Pest and disease problem in all major crops 3. Nutrient disorders in paddy 4. Lack of awareness of new variety 5. Lack of awareness of biological control on paddy and sugarcane 6. Non availability of knowledge on seed production (Paddy, groundnut and pulses) 7. Lack of knowledge on seed treatment 8. Limited knowledge on storage method in turmeric 9. Lack of awareness on fodder crops 10. Lack of knowledge of artificial insemination methods 11. Lack of exposure on biofertilizer application 12. Lack of knowledge on drought management techniques 13. Non practice of Organic farming 14. Unemployment of youth 	<ol style="list-style-type: none"> 1. Farm mechanization 2. Biofertilization 3. Biological control of pest and disease 4. Sustainable agriculture by IFS 5. Seed Production techniques 6. Drought management 7. Biocomposting 8. Organic farming training 9. Storage techniques 10. Empowerment of rural youth for self employment 2006 11. Post harvest processing in curry leaf 12. Protein Navathania Balls
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7. San	kara puram	Rish	ivanthi yam		<p>Paddy Sugarcane Cotton Maize Ragi Gingelly Pulses Vegetables Flower crops</p> <ol style="list-style-type: none"> 1. Labour shortage 2. Pest and disease problem in major crops 3. Nutrient disorders in paddy 4. Lack of awareness of new variety 5. Lack of awareness of biological control on paddy and sugarcane 6. Unavailability of knowledge on seed production (Paddy, groundnut and pulses) 7. Lack of knowledge on seed treatment 8. Limited knowledge on storage method 9. Lack of awareness on fodder crops 10. Lack of knowledge of artificial insemination methods 11. Lack of exposure on biofertilizer application 12. Lack of knowledge on drought management techniques 13. Non practice of organic farming 14. Unemployment of youth 15. Lack of knowledge on pest and disease management in flower crops 	<ol style="list-style-type: none"> 1. Farm mechanization 2. Bio Fertigation 3. Biological control of pest and disease 4. Sustainable agriculture by IFS 5. Seed Production techniques 6. Drought management 7. Biocomposting 8. Organic farming training 9. Storage techniques 10. Empowerment of rural youth for self employment
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8. Gin	gee		Gingee Melmalayan ur Vallam		Groundnut Sesamum Vegetables Goat rearing Paddy Sugarcane Pulses (blackgram) Watermelo n Chillies	<ol style="list-style-type: none"> 1. Pest and disease problem in major crops 2. Labour shortage 3. Nutrient disorders in paddy 4. Lack of awareness of new varieties 5. Lack of awareness of biological control on paddy and sugarcane 6. Lack of knowledge on seed production (Paddy, groundnut and pulses) 7. Lack of knowledge on seed treatment 8. Limited knowledge on storage method 9. Lack of awareness on fodder crops 10. Lack of knowledge of artificial insemination methods 11. Lack of exposure on biofertilizer application 12. Lack of knowledge on drought management techniques 13. Organic farming 14. Unemployment of youth 15. Value addition in Chillies and tomato-post harvest management 	<ol style="list-style-type: none"> 1. Farm mechanization 2. Bio Fertigation 3. Biological control of pest and disease 4. Sustainable agriculture by IFS 5. Seed Production techniques 6. Drought management 7. Biocomposting 8. Organic farming training 9. Storage techniques 10. Empowerment of rural youth for self employment 11. Tomato squash preparation
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2.9 Priority thrust areas

- | S. No. | Thrust area |
|--------|--|
| 1 | Introduction of crop varieties and hybrids |
| 2 | Integrated crop management in agriculture and horticulture crops |
| 3 | Farm Mechanization |
| 4 | Biological control of pests and diseases, IPM |
| 5 | Sustainable agriculture by IFS |
| 6 | Seed Production techniques |
| 7 | Drought management and mitigation |
| 8 | Poultry disease management |
| 9 | Nutrition management in Dairy cows |
| 10 | Resource conservation |
| 11 | Farm management techniques and group dynamism |

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
9	9	45	48	16	16	107	125

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
91	153	1820	531	1454	1637	2620	401
							5

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
120	80	35000	53,775 slips

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
Nil	40	Nil	2500 kg

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									Supply of bio products	
				Title of OFT if any	Title of FLD if any	Number of Trainin g (farmers)	Numbe r of Trainin g (Youth s)	Number of Training (extensio n personne l)	Extensio n activitie s (No.)	Supply of seeds (Qtl.)	Supply of planting materials (No.)	Suppl y of livesto ck (No.)	No.	Kg
1	Drought management	Blackgram	Water scarcity Lack of awareness on new techniques	- P	Popularization of drought mitigation technologies in pulses (Blackgram VBN 4)	2 -		-	4	100kg (Black gram VBN 4)	--		<i>Rhizobium</i> <i>Trichoderma</i> <i>Pseudomonas</i> <i>Methylobacterium</i>	0.6 1kg 1 kg 500ml
2	Integrated nutrient management	Blackgram	Nutrie nt deficiency	Assesse nt of the performa nce of the pulse wonder in pulse	- 10		-	-	3	20 kg of Black gram VBN- 4	-	-	Pulse wonder	6.25 kg
3	Crop production	Blackgram	Improper nutrient and weed management and lack of alternate variety	- Sp	Special technology demonstration for harnessing pulses productivity	5 -		2	6	120. kg (Black gram VBN 4)	--		Rhizobium Phospho bacteria <i>P.fluorescens</i> <i>T.viride</i> Pulse wonder	3kg 3kg 30kg 2kg 30kg
4	Integrated crop management	Greengram	Need to replace existing cultivar	- In	Introduction and popularization of greengram VBN3 and integrated crop management practices	2 -		-	5	-	-	-	Pseudomonas	1kg

5	Crop Improvement	Redgram	Lack of adoption on improved nursery technique and production technique	Assessment of planting method in redgram	- 2		-	-	6	25kg	25000 seedlings	- P	seudomonas Rhizobium Trichoderma	10kg 0.6kg 25kg
6	Integrated crop management	Sesame	Need to replace existing cultivar	- In production and popularization of latest variety TMV 7 sesame and integrated crop management practices	2 -		-	4	20 kg TMV 7 sesame	--			Pseudomonas Azospirillum Neemoil 2%	1kg 0.6 kg 10litre
7	Crop management	Groundnut	Lack of awareness on seed production and improper nutrient management	- P Popularisation of seed production in groundnut by farmer participatory approach	5		-	4	2 q	-	-		Rhizobium Pseudomonas T.viride Groundnut rich	600g 5kg 1kg 2.5kg
8	Crop management	Groundnut		- Introduction of HYV and Integrated crop management practices in groundnut in rabi season	--		-	1	120kg TMV1 3	--			-	-

9	Crop Management	Paddy	Lack of awareness on seed production	Production of hybrid rice CORH3 in farmer participatory approach		5	-	-	43	0 kg rice CORH3 (20kg A line, 10kg R line)	-	-	Pseudomonas	3kg
10	Crop improvement	Paddy	Lack of knowledge on SRI method and lack of awareness on hybrids.	Popularization of CORH3 paddy by SRI method		5	-	-	5	40 kg CORH3	--		Pseudomonas Azospirillum	14kg 4kg
11	Crop improvement	Paddy	Lack of awareness on new release and alternate variety for late samba	Popularization of alternate variety CO (R) 49 suitable for samba season		5	-	-	3	200 kg CO(R) 49	--		<i>Pseudomonas fluorescens</i> <i>Azophosmet</i>	14 kg 20 kg
12	IPM	Paddy	Pest and disease complex	- Integrated pest and disease management in paddy		17	-	-	4	-	-	-	<i>Pseudomonas fluorescens</i> Neem oil	1 kg 30 lit
13	Crop Improvement	Paddy	Lack of awareness on new variety	Assessment of new rice variety PMK(R) 4 Anna4 in drought prone area		-	-	-	3	60kg PMK(R) 4 Anna4	--		-	-

14 F	farm Mechanisation	Paddy Lab	Labour shortage	- P	Popularisation of Mechanisation in rice cultivation.	11 -		-	5	40 kg of TRY-1			Azospirillum Phosphobacter	0.6 kg 0.6 kg
15 F	farm Mechanisation	Sugarcane	Labour shortage	- M	Mechanisation in sugarcane cultivation	1 -		-	-	-	-	-	-	-
16 IP	M	Chillies	Pest and disease complex	Management of chillies pest and diseases	- 7		-	-	2	-	-	-	Azadiractin <i>Pseudomonas fluorescens</i>	1 lit 5 kg
17 Cro	crop Management	Watermelon (Variety-NS295)	Low yield Lack of awareness on use of liquid formulation of biofertilizer and bio control agents	Assessing the efficacy of combined application of liquid biofertilizer and <i>Pseudomonas fluorescences</i> in watermelon	- 8		-	-	4	-	-	-	Solid form Vermicompost Phosphobacteria <i>Pseudomonas fluorescens</i> Azotobacter Liquid form Azophosmet <i>Pseudomonas Jaggery</i>	2.5t 2.5kg 2.5kg 2.5kg 3.75litres 3.75litres 15kg
18 Cro	crop Improvement	Brinjal (hybrid Co (B) H2)	Poor yield Lack of awareness on new variety	- P	Popularisation of CO (B) H2 brinjal	13 -		-	5		28000 Nos CO(B)H2	- Coccopea	Azospirillum <i>Pseudomonas fluorescens</i> <i>Trichoderma viride</i>	300kg 2.5kg 2.5kg 1kg 750ml

19	Crop Improvement	Snake gourd (variety Palur -2)	Poor yield Lack of awareness on new variety	- P	Popularization of Palur -2 Snake gourd	9 -		1	4	1.5kg Palur - 2	Nil -		Azospirillum <i>Pseudomonas fluorescens</i> <i>Trichoderma viride</i>	2.5kg 2.5kg 1kg
20	Crop Management	Crossandra -		Management of nematode wilt complex in crossandra	- 2		-	-	1	-	5000 seedlings	--		-
21	Crop Improvement	Fodder	Lack of awareness on new variety	- P	Popularization of Fodder bank at village level	3 -		-	3	-	CO(CN) 4 (20,000 setts) Guinea grass (12,500 slips) Hedge lucern (3kg seeds) Subabul- (250Seed lings)	--		-

22 D	Disease Management	Poultry	Unhygienic house keeping High mortality of population leading to economic loss Difficulties in administering the vaccine by farmers	Control of Ranikhet Disease in Desi Chicken	- 3		-	-	2	-	-	-	Lasota vaccine Oral Pellet vaccine RDVK vaccine	500 doses 20 boxes 500 doses
23 N	Nutrition management	Dairy Im	Imbalance nutrition Non availability of mineral mixture Low economic returns	Area specific mineral mixture for dairy cows	3		-	-	1	-	-	-	TANUVAS mineral mixture Area specific TANUVAS mineral mixture 60 kg	60Kg@Rs 3000/- 60Kg @Rs 2700/-
24 E	Evolution of breeds	Goat Un	Even kidding Low weight at the time of culling	- S	Synchronization of oestrous and artificial insemination in goats	1	-	-	-	-	-	-	Trial is in progress due to non availability of boer cross semen	
25 C	Carp farming	Common carps	Low income due to non stratification and single culture	P	Popularization of composite fish culture in village ponds	3 -		-	1	-	-	-	Cuttla Rogu Mirgal Common carp Grass carp Silver carp	750Nos 750 Nos 500 Nos 400 Nos 250 Nos 150 Nos

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 new rice variety PMK (R) 4-ANNA 4 in drought prone areas	TNAU	Paddy	5	-	3	Leaflet prepared. Anna 4 rice variety obtained from ARS, Paramakudi. A zoospore, Pseudomonas application. Message given to extension functionaries in the monthly zonal workshop.
2	Production of hybrid rice CORH 3 in farmer participatory approach	TNAU	Paddy	5	-	5	Folder prepared on hybrid rice. Exposure visit to farmers arranged. Message given to extension functionaries in the monthly zonal workshop. Seed production in instructional farm taken up during 2010-11
3	Assessing the efficacy of combined application of liquid biofertilizer and <i>Pseudomonas fluorescens</i> in watermelon	TNAU	Watermelon	5	-	8	Method demonstration on biofertilizer application taken up. 5 Farmers exposure visit done in the OFT areas. Message given to extension functionaries in the monthly zonal workshop. Booklet on micro irrigation prepared.
4	Management of pest and disease complex in chillies	TNAU	Chillies	5	-	7	Message given to extension functionaries in the monthly zonal workshop. Leaflet on chillies pest and diseases prepared.
5	Assessment of the performance of the pulse wonder in pulses	TNAU P	Pulses	5	-	10	Exhibition arranged. Message given to extension functionaries in the monthly zonal workshop. Facilitated procurement of 4.75 tonnes of pulse wonder for A3 P programme in Thirunavalar block.
6	Assessment of planting method in redgram	TNAU	Redgram	5	-	2	Method demonstration on raising redgram for transplanting undertaken. Booklet on pigeonpea cultivation prepared. ICM for redgram demonstrated. Exhibition arranged. Message given to extension functionaries in the monthly zonal workshop. Under ATMA, exposure visits farmers were shown the OFT conducted in the KVK campus. Namakkal farmers visited the KVK to study the program.
7	Management of nematode wilt complex in crossandra	TNAU	Crossandra	5	-	2	OFT initiated. Seedlings production in instructional farm taken up during 2010-11

8	Control of Ranikhet disease in desi chicken	TANUVAS	Poultry	8	-	3	Exhibition organized. TN - IAMWARM farmers from Sivaganga and Pudukottai district visited OFT farm.
9	Area Specific Mineral Mixture for Dairy Cows	TANUVAS	Dairy	5	-	3	Message given to veterinary asst. surgeons during monthly zonal workshop.
10	Introduction and popularization of latest variety TMV 7 sesame and ICM practices	TNAU S	Sesame	-	8	2	Exhibition arranged. Method demonstration on right seed treatment method given. Collaborative training along with Regional Research Station, Virudhachalam on breeder seed production of newly introduced varieties in sesame is being given to 170 farmers of Vanur and Marakkanam block. Seed production in instructional farm taken up during 2010-11.
11	Popularisation of seed production in groundnut by farmer participatory approach	TNAU	Groundnut		5	5	Participant project farmers and non-FLD farmers taken on exposure visit to breeder seed plot in Srimushnum of Cuddalore district. Method demonstration arranged. Extension functionaries of seed certification department given two days on campus training. Breeder seed production in instructional farm taken up during 2010-11
12	Popularization of drought mitigation technologies in pulses (Blackgram VBN 4)	TNAU	Blackgram		10	2	Method demonstration on preparation and application of Methylobacterium shown to TN -IAMWARM farmers of Villupuram district. Exhibition organized. Message given to extension functionaries in the monthly zonal workshop.
13	Introduction and popularization of variety Greengram VBN3 and ICM practices	TNAU	Greengram		10	2	Booklet on IPM in pulses prepared. Exhibition arranged. Pest and disease surveillance methodology demonstrated to extension functionaries. Right method of DAP application demonstrated. Message given to extension functionaries in the monthly zonal workshop. Seed production in instructional farm taken up during 2010-11

14	Special technology demonstration for harnessing pulses productivity	TNAU BI	ackgram		12	8	Booklet on blakgram production technologies. Leaflet on blakgram production technologies. Exhibition arranged. Method demonstration on post emergence herbicide application taken up. Message given to extension functionaries in the monthly zonal workshop. Technology provided to non project farmers in sponsored training programme. Message given to extension functionaries in the monthly zonal workshop. Seed production in instructional farm taken up during 2010-11
15	Popularization of CORH3 paddy by SRI method	TNAU	Paddy		10	5	Method demonstration (On campus-season long) taken up for the farmers of Villupram district. Leaflet on cultivation techniques prepared. Leaflet on SRI – Dos and Don'ts prepared. Message given to extension functionaries in the monthly zonal workshop. Seed production in instructional farm taken up during 2010-11
16	Popularization of alternate variety CO(R) 49 suitable for samba season	TNAU	Paddy		10	5	Message given to extension functionaries in the monthly zonal workshop. Seed production in instructional farm taken up during 2010-11. Failure of crop 15 days after transplanting in FL D area (nadamanady) observed due to phytotoxicity caused by inappropriate preparation of pesticide-fungicide-botanical mixtures by 7 project farmers. TN-I AMWARM farmers and NADP farmers were sensitized on the superiority of CO 49 over BPT 5204.
17	Integrated management of blast and BPH in paddy	TNAU pa	ddy		10	17	Method demonstration given for integrated pest and disease management in farmers holdings. Techniques on field diagnosis and recognition of disease provided to extension functionaries. Message given to extension functionaries in the monthly zonal workshop. Exhibition arranged.

18	Mechanisation of Paddy cultivation	TNAU paddy		5	11	Method demonstration arranged. Group meeting conducted. Exhibition arranged. NADP and TN-IAMWARM farmers were shown the farm mechanization in KVK demo plot. Exposure visit to Coimbatore arranged.
19	Introduction of HYV and integrated crop management practices in groundnut in rabi season	TNAU Groundnut		5	-	KVK Namakkal facilitated the supply of these seed materials from their project farmers.
20	Mechanization in sugarcane cultivation	TNAU Sugarcane		5	1	FLD initiated
21	Popularization of CO(B) H2 brinjal	TNAU Brinjal		10	13	Seedling production in instructional farm taken up during 2010-11. Method demonstration on protrait method of seedling production taken up. Exhibition arranged. Three exposure visits for NADP farmers arranged in FLD areas. Diagnostic techniques and management measures given to extension functionaries of horticulture department.
22	Popularization of Palur -2 Snakegourd variety	TNAU Snakegourd		10	10	Message given to extension functionaries in the monthly zonal workshop. Method demonstration on ethrel application and shoot clippings given. Group meetings arranged. Two exposure visits arranged.
23	Popularization of Fodder bank at village level	TNAU Fodder		5	3	Forage crop multiplication in instructional farm taken up during 2010-11. Message given to extension functionaries in the monthly zonal workshop. Planting methodology demonstrated in project farmers field. KV K, Kattupakkam facilitated the supply of Leuceana seedlings and hedge lucern seeds.
24	Synchronization of oestrous and artificial insemination with Boer cross semen	TANUVAS Goat		-	1	-
25	Composite fish culture in village ponds	TANUVAS Fish		5	3	Method demonstration on selection of correct age group of fingerlings for stockings conducted.

3.B2 contd..

No. of farmers covered															
OFT				FLD				Training				Others (Specify)			
General		SC/ST		General		SC/ST		General		SC/ST		General		SC/ST	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
5	-	-	-					34	8	4	-				

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

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
Evaluation of Breeds						
Nutrition Management	1					1
Disease of Management		1				1
Value Addition						
Production and Management						
Feed and Fodder						
Small Scale income generating enterprises						
TOTAL	1 1					2

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

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

4.B. Achievements on technologies Assessed and Refined

4.B.1. Technologies Assessed under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha
Integrated Nutrient Management	Watermelon	Assessing the efficacy of combined application of liquid biofertilizer and <i>Pseudomonas fluorescences</i> in watermelon	5 5		1
Varietal Evaluation	Paddy	Assessment of new rice variety PMK(R)4 (Anna 4) in drought prone areas	5 5		1
Integrated Pest Management	Chillies	Management of chillies pest and disease complex	5	5	1
Integrated Crop Management	Blackgram	Assessment of the performance of the pulse wonder in pulses	5	5	1
	Crossandra	Management of nematode wilt complex in crossandra	5 5		1*
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries					
Integrated Farming System					
Seed / Plant production	Paddy	Production of hybrid rice CORH3 in farmer participatory approach	5 5		1*

	Redgram	Assessment of planting method in redgram	5	5	1
Value addition					
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total			35	35	7

* OFTs in progress

4.B.2. Technologies Refined under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha
Integrated Nutrient Management					
Varietal Evaluation					
Integrated Pest Management					
Integrated Crop Management					
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
000 .3Farm Machineries					
Integrated Farming System					
Seed / Plant production					
Value addition					
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total					

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

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Evaluation of breeds				
Nutrition management	Cattle	Area specific mineral mixture for dairy cows	5 units	5
Disease management	Poultry	Control of Ranikhet Disease in Desi Chicken	50 units	10
Value addition				
Production and management				
Feed and fodder				
Small scale income generating enterprises				
Total				15

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

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

4.C1. Results of Technologies Assessed

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No of tria ls	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justificat ion for refineme nt
1 2		3	4	5	6	7	8	9	10	11	12
Paddy Ra	infed	Water scarcity during critical stages of crop growth period and thereby yield will be reduced Non adoption of appropriate technogy results in the reducton of productive tillers and thereby reduced the yield to an extent of 20-30% Non availabilty of recentlt released drought tolerant cultivars	Assessment of new rice variety PMK (R) 4- ANNA 4 in drought prone areas	5	<u>Technology I</u> Conventional method of planting <u>Technology II</u> Seed (ADT 39/36/CO 43) Seed treatment with carbendazim @ 2g/kg of seed <u>Technology III</u> Direct sowing of new rice variety PMK (R) 4 -ANNA 4 in drought prone areas	Yield BCR	<u>Technology I</u> Yield : 2587kg/ha BCR : 1:1.36 <u>Technology II</u> Yield : 3432kg/ha BCR : 1:1.84 <u>Technology III</u> Yield : 3728 kg/ha BCR : 1:2.6	Broadcasting of newly released variety Anna 4 @ 40kg/ac alongwith seed treatment with chemicals and bioinoculants increased the yield by 8.62% over recommendede pracicie	Increased yield Reduced incidence of pest and diseases Ability to withstand terminal drought	--	
Paddy Irriga	ted	Availabilit y of hybrid rice seed	Production of hybrid rice CORH	5	<u>Technology I</u> Farmers	Yield BCR	In progress	-	-	--	

		material is negligible Lack of awareness on the seed production technology Opportunities for increased farm income through hybrid seed production is not known	3 in farmer participatory approach		practice (Commercial production) Technology II Varietal seed production Technology III CORH3 hybrid rice seed production The trial was implemented during the recommended period of seed production i.e. January 2011					
Watermelon Irrigated		Continuous monocropping Reduce soil fertility and organic matter Imbalance dose of fertilizer Lack of awareness on use of liquid formulation	Assessing the efficacy of combined application of liquid biofertilizer and <i>Pseudomonas fluorescens</i> in watermelon	5	Technology I No bio fertilizer Technology II 100% NPK +Solid biofertilizer, Phosphobacteria, Azotobacter and	Male to female ratio, Plant population, Fruit Weight, Yield BCR	Technology I Male to female flower ratio : 17 Plant population- 2120/ha Fruit Weight:5Kg/Fruit Yield : 19t/ha BCR : 1.89 Technology II Male to female flower ratio : 9.7 Fruit Weight:7.5Kg/Fruit Plant population-	Drip application of <i>Pseudomonas fluorescens</i> @ 500ml/ac, Azophosmet 500ml/ac and jaggrey 500g/ac 30, 45 and 30 days after sowing and foliar spray of ethrel in 4 splits increases the yield	Increased yield Reduced incidence of wilt diseases Farmers acquired awareness on the use of liquid formulation of biofertilizers, ethrel and biocontrol agents	--

		of biofertilizer and bio control agents. Low yield			<p><i>Pseudomonas fluorescens</i> +Ethrel 250 ppm -4 sprays (14, 21, 28, 35 DAS)</p> <p>Technology III 100% NPK +Liquid biofertilizer , Azophosmet, <i>Pseudomonas fluorescens</i> and Jaggery +Ethrel 250 ppm -4 sprays (14, 21, 28, 35 DAS)</p>	<p>2430/ha Yield : 30t/ha BCR : 2.61</p> <p>Technology III Male to female flower ratio : 9.2 Plant population- 2410/ha Fruit Weight:9Kg/Fruit Yield : 34.5t/ha BCR : 3.03</p>					
Chillies Irrigated	ted	Improper identification of the pest and disease problems 2. Indiscriminate use of pesticides	Management of pest and disease complex in chillies	5	<p>Technology I: Chemical control with carbendazim and systemic pyrethroids</p> <p>Technology II: Disease : Spraying of mancozeb</p>	<p>Disease incidence Podborer incidence Yield BCR</p>	<p>Technology I Disease incidence :39.4 PDI Podborer incidence : 34.3 % Yield : 2.5 t/ha BCR : 1.24</p> <p>Technology II Disease incidence : 11.6 PDI Podborer incidence : 16.4% Yield : 4.3 t/ha BCR :3.1</p> <p>Technology II</p>	<p>Spraying of Azadiractin@2ml/lit on 25th DAT followed by imidacloprid @0.3ml/lit on 30 DAT followed by <i>Pseudomonas fluorescens</i>@10g/lit on 40 DAT and then flubendamide @25g.ai/ha on 50 DAT and difenaconazole on 60 DAT effectively controlled the pest and disease complex</p>	<p>The fruit borer incidence was effectively managed Fruit rot incidence was controlled Incidence of leaf curl also reduced</p>	--	

		3. Lack of awareness on recent methods for management of pest and diseases		<p>@2g/lit at 15 days interval from the first appearance of the symptom</p> <p>Pest: Setup pheromone trap@12 no/ha Spraying of chlorpyriphos@2ml/lit</p> <p><u>Technology III:</u></p> <p>Disease: Difenaconazole-0.5ml/lit-35 DAT (need based) and 60 DAT</p> <p><i>P. fluorescens</i> @10g/lit on 40 DAT</p> <p>Pest: Azadiractin @2ml/lit on 25th DAT Imidacloprid@0.33ml/lit (need based) Flubendamide 25 g. ai/ha</p>	<p>Disease incidence :5.3 PDI Podborer incidence :0.0 Yield :8.4 t/ha BCR: 4.2</p>				
--	--	--	--	---	--	--	--	--	--

					Setup pheromone trap@12 no/ha						
Pulses Ra	infed	Nutrient deficiency in pulse crop Low yield	Assessment of the performance of the pulse wonder in pulses	5	<p>Technolog vI: Basal application of fertilizer 18 kg of N and 40 kg of P₂O₅</p> <p>Technolog vII: Basal application of fertilizer 18 kg of N and 40 kg of P₂O₅ Spraying of 2 % DAP at flowering stage NAA@40 ppm spraying on pre and flowering and 15 days after 1st spray</p> <p>Technolog vIII: Basal application of fertilizer 18 kg of N and 40 kg of P₂O₅ Sprayin</p>	No of the pods / plant Yield .BCR	<p>Technology I 1.No of the pods / plant :27.3 2.Yield : 320.3 Kg/ha 3.BCR : 1.91</p> <p>Technology II 1.No of the pods / plant :83.6 2.Yield : 560.6 Kg/ha 3.BCR : 2.52</p> <p>Technology II 1.No of the pods / plant :102.1 2.Yield : 760.1 Kg/ha 3.BCR : 2.85</p>	Spraying of pulse wonder@6.25kg./ha at flowering stage was found to enhance the yield.	Process of DAP spray fluid preparation is cumbersome and difficult Application of pulse wonder as ready to mix and apply form is very simple and adoptable Micronutrients in pulse wonder has synergistic effect on the disease resistance especially to yellow mosaic. Pod filling was excellent	--	

					g pulse wonder 6.25 kg/ha at flowering stage						
Redgram	Irrigated	Establishment of seedlings reduced in direct sowing method Early incidence of stemfly resulting in reduced plant stand Reduced yield in conventional cultivation techniques	Assessment of planting method in redgram	5	Technology I Direct sowing Technology II Direct sowing with seed treatment Technology III Polybag method will be adopted Seedlings will be raised in nursery and transplanting method will be adopted	plants/m ² pods/plant Yield BCR	Technology 1: 4 plants/m ² 77pods/plant 625 kg ha ⁻¹ BCR- 3.69 Technology 2: 6 plants/m ² 107 pods/plant 685 kg/ha BCR – 3.88 Technology 3: 3 plants/m ² 60 pods/plant 510.5 kg/ha BCR – 2.17	The varieties suitable for this method of cultivation has to be identified	The method is laborious and needs more labour for transplanting and gap filling 2. The method is costly 3. Flowering stage coincided with the rainfall and this resulted in excessive flower dropping leading to reduced yield in transplanting method	--	
Crossandra	Irrigated	Nutrient disorders Nematode and wilt complex Low yield	Management of nematode wilt complex in crossandra	5	Technology I Planting of cuttings without any insecticide or nematicide application Technology II	In progress				--	

				<p>Avoiding replanting of crossandra in nematode infested fields</p> <p>To control nematodes, application of phorate 10G or carbofuran 3G @ 1kg a.i /ha a week after planting and to be repeated six months after application at 3 and 9G respectively per meter length</p> <p>For wilt problem, drenching the soil around the plants with carbendazim 0.5g /l</p> <p><u>Technology III</u></p> <p>Soil application of Pseudomonas</p>		
--	--	--	--	---	--	--

				<p>fluorescens @ 1.5kg/ha + Trichoderma viride @1.5kg/ha mixed with 50 kgs FYM before transplanting Carbofuran 3G @ 1kg a.i /ha a week after planting and to be repeated six months after application Drenching the soil around the plants with carbendazim 0.5g /l</p>						
Poultry		Unhygienic maintenance of the birds – communicable disease High mortality of population leading to economic loss Difficulties in	Control of Ranikhet disease in desi chicken	<p>Technology I No Vaccination</p> <p>Technology II Lasota vaccine intranasal/intraocular on 7th day RDVK</p>	<p>Mortality % Disease incidence BCR</p>	<p>Technology I Mortality % - 12% Disease incidence- 20% BCR-1.15</p> <p>Technology II Mortality %- 3% Disease incidence-5% BCR_-1.62</p> <p>Technology III Mortality %-2% Disease incidence-2% BCR-1.95</p>	Feeding of oral pellet vaccine during 12 th day after hatching along with feed and RDVK vaccine at 8 th and 16 th week	Reduced incidence of ranikhet diseases Low mortality rate in young ones Ease in application and non requirement of skill in vaccination	--	

		administering the vaccine by farmers			vaccine on 8 th and 16 th week Technology III Oral pellet vaccine on 12 th day RDVK vaccine on 8 th and 16 th week					
Dairy		Imbalance nutrition Non availability of mineral mixture Delayed onset of first oestrus Low economic returns	Area Specific Mineral Mixture for Dairy Cows		Technology I No mineral mixture supplementation Technology II Supplementation with TANVAS U mineral mixture @30g/day for 365 days Technology III Supplementation with TANVAS U area specific mineral mixture @30g/day for 365 days	Milk yield Onset of first oestrus after calving No. of inseminations for one conception	Technology I <ul style="list-style-type: none"> Milk yield -4 litres/day/animal for the past 4 months Onset of first oestrus after calving No. of inseminations for one conception Technology II Milk yield-5.5 litres/day/animal for the past 4 months Onset of first oestrus after calving No. of inseminations for one conception Technology III Milk yield-6 litres/day/animal for the past 4 months Onset of first oestrus after calving No. of inseminations for one conception	Trial in progress		--

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
13 14			16	17	18
Technology option 1 (Farmer's practice)	Farmer's practice	2587	kg/ ha	8283	1.55
Technology option 2	TNAU	3432	kg /ha	14888	1.93
Technology option 3	TNAU	3728	kg /ha	17352	2.07
Technology option 1 (Farmer's practice)	Farmer's practice	-	kg/ha	--	
Technology option 2	TNAU	-	kg/ha	--	
Technology option 3	TNAU	-	kg/ha	--	
Technology option 1 (Farmer's practice)	Farmer's practice	19	t/ha	55500	1.89
Technology option 2	TNAU	30	t/ha	180000 2.	61
Technology option 3	TNAU	34.5	t/ha	207000 3.	03
Technology option 1 (Farmer's practice)	Farmer's practice	2.5	t/ha	29000 2.4	
Technology option 2	TNAU	4.3	t/ha	52000 3.1	
Technology option 3	TNAU	8.4	t/ha	105000 4	.2
Technology option 1 (Farmer's practice)	Farmer's practice	320.3	kg/ha	6400 1	.91
Technology option 2	TNAU	560.6	kg/ha	13080 2.	52
Technology option 3	TNAU	760.1	kg/ha	21300 2.	85
Technology option 1 (Farmer's practice)	Farmer's practice	625	kg/ha	28125 3.	69
Technology option 2	TNAU	685	kg/ha	30825 3.	88
Technology option 3	TNAU	510.5	kg/ha	22972 2.	17
Technology option 1 (Farmer's practice)	Farmer's practice	-	kg/ha	-	
Technology option 2	TNAU	-	kg/ha	-	
Technology option 3	TNAU	-	kg/ha	-	
Technology option 1 (Farmer's practice)	Farmer's practice –No vaccination		-	426 1.	15
Technology option 2	TANUVAS		-	656 1.	62
Technology option 3	TANUVAS		-	880 1.	95
Technology option 1 (Farmer's practice)	Farmer's practice –No vaccination	120litres/ month	lit/animal/year	--	
Technology option 2	TANUVAS	160litres/ month	lit/animal/year	--	
Technology option 3	TANUVAS	180litres/ month	lit/animal/year	-	-

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

1	Title of technology assessed / Refined	:	Assessment of new rice variety PMK (R) 4 -ANNA 4 in drought prone areas
2	Problem Definition	:	<ul style="list-style-type: none"> Water scarcity during critical stages of crop growth period and thereby yield will be reduced Non adoption of appropriate technology results in the reduction of productive tillers and thereby reduced the yield to an extent of 20-30% Non availability of recently released drought tolerant cultivars
3	Details of technologies selected for assessment / refinement	:	<p>Technology I Conventional method of planting</p> <p>Technology II Seed (ADT 39/36/CO 43) Seed treatment with carbendazim @ 2g/kg of seed</p> <p>Technology III Direct sowing of new rice variety PMK (R) 4 -ANNA 4 in drought prone areas</p>
4	Source of technology	:	TNAU , Coimbatore
5	Production system and thematic area	:	Rice-Pulses production system
6	Performance of the technology with performance indicators	:	<p>Technology I Yield : 2587kg/ha BCR : 1:1.36</p> <p>Technology II Yield : 3432kg/ha BCR : 1:1.84</p> <p>Technology III Yield : 3728 kg/ha BCR : 1:2.6</p>
7	Feed back of the farmers	:	<ul style="list-style-type: none"> Increased yield Reduced incidence of pest and diseases Ability to withstand terminal drought
8	Final recommendation for micro level situation	:	Broadcasting of newly released variety Anna 4 @ 40kg/ac alongwith seed treatment with chemicals and bioinoculants increased the yield by 8.62% over recommended practice.
9	Constraints identified and feedback for research	:	Weed management package to be developed for the rainfed method of raising Anna 4 variety
10	Process of farmers participation and their reaction	:	The technology was delivered to the farmers through demonstrations, training programmes and field visit.

OFT 2

1	Title of technology assessed	:	Production of hybrid rice CORH 3 in farmer participatory approach
2	Problem Definition	:	<p>Availability of hybrid rice seed material is negligible</p> <p>Lack of awareness on the seed production technology</p> <p>Opportunities for increased farm income through hybrid seed production is not known</p>
3	Details of technologies selected for assessment / refinement	:	<p>Technology I</p> <ul style="list-style-type: none"> Farmers practice (Commercial production) <p>Technology II</p> <ul style="list-style-type: none"> Varietal seed production <p>Technology III</p> <ul style="list-style-type: none"> CORH3 hybrid rice seed production

			The trial was implemented during the recommended period of seed production i.e. January 2011
4	Source of technology	:	TNAU
5	Production system and thematic area	:	Paddy – Pulse- Groundnut Crop improvement
6	Performance of the technology with performance indicators	:	Technology I • Yield and BCR Technology II • Yield and BCR Technology III • Yield and BCR
7	Feed back of the farmers	:	Trial in progress
8	Final recommendation for micro level situation	:	Too early to report
9	Constraints identified and feedback for research	:	Novice farmers experienced difficulties in adopting staggered method of sowing especially R line. Manual pollination method was extremely difficult to follow as per recommendation
10	Process of farmers participation and their reaction	:	The technology has been delivered to the farmers through demonstrations, trainings and exposure visit

OFT 3

1	Title of technology assessed / Refined	:	Assessing the efficacy of combined application of liquid biofertilizer and <i>Pseudomonas fluorescens</i> in watermelon
2	Problem Definition	:	Continuous monocropping Reduce soil fertility and organic matter Imbalance dose of fertilizer Lack of awareness on use of liquid formulation of biofertilizer and bio control agents. Low yield
3	Details of technologies selected for assessment / refinement	:	Technology I No bio fertilizer Technology II 100% NPK +Solid biofertilizer, Phosphobacteria, Azotobacter and <i>Pseudomonas fluorescens</i> +Ethrel 250 ppm -4 sprays (14, 21, 28, 35 DAS) Technology III 100% NPK +Liquid biofertilizer, Azophosmet, <i>Pseudomonas fluorescens</i> and Jaggery +Ethrel 250 ppm -4 sprays (14, 21, 28, 35 DAS)
4	Source of technology	:	TNAU, Coimbatore
5	Production system and thematic area	:	Groundnut –Watermelon
6	Performance of the technology with performance indicators	:	Technology I Male to female flower ratio : 17 Plant population-2120/ha Fruit Weight:5Kg/Fruit Yield : 19t/ha BCR : 1.89 Technology II Male to female flower ratio : 9.7 Fruit Weight:7.5Kg/Fruit Plant population- 2430/ha Yield : 30t/ha BCR : 2.61 Technology III Male to female flower ratio : 9.2 Plant population-2410/ha

			Fruit Weight:9Kg/Fruit Yield : 34.5t/ha BCR : 3.03
7	Feed back of the farmers	:	<ul style="list-style-type: none"> • Increased yield • Reduced incidence of wilt diseases • Farmers acquired awareness on the use of liquid formulation of biofertilizers, ethrel and biocontrol agents
8	Final recommendation for micro level situation	:	Drip application of <i>Pseudomonas fluorescens</i> @ 500ml/ac, Azophosmet 500ml/ac and jaggrey 500g/ac 30, 45 and 30 days after sowing and foliar spray of ethrel in 4 splits increases the yield
9	Constraints identified and feedback for research	:	Non availability of liquid biofertiliser
10	Process of farmers participation and their reaction	:	The technology was delivered to the farmers through demonstrations, training programmes and field visit. Farmers agreed to adopt the technology in view of the simplicity and economic parameters

OFT4

1	Title of technology assessed	:	Management of chillies pest and disease complex
2	Problem Definition	:	1.Improper identification of the pest and disease problems 2. Indiscriminate use of pesticides 3. Lack of awareness on recent methods for management of pest and diseases
3	Details of technologies selected for assessment / refinement	:	<p><u>Technology I:</u></p> <ul style="list-style-type: none"> • Chemical control with carbendazim and systemic pyrethroids <p><u>Technology II:</u> Disease :</p> <ul style="list-style-type: none"> • Spraying of mancozeb@2g/lit at 15 days interval from the first appearance of the symptom <p>Pest:</p> <ul style="list-style-type: none"> • Setup pheromone trap@12 no/ha • Spraying of chlorpyrifos@2ml/lit <p><u>Technology III:</u> Disease:</p> <ul style="list-style-type: none"> • Difenaconazole-0.5ml/lit- 35 DAT (need based) and 60 DAT • <i>P. fluorescens</i>@10g/lit on 40 DAT <p>Pest:</p> <ul style="list-style-type: none"> • Azadiractin@2ml/lit on 25th DAT • Imidacloprid@0.33ml/lit (need based) • Flubendamide 25 g. ai/ha • Setup pheromone trap@12 no/ha
4	Source of technology	:	TNAU
5	Production system and thematic area	:	Garden land production system
6	Performance of the technology with performance indicators	:	<p>Technology I</p> <ol style="list-style-type: none"> 1. Disease incidence :39.4 PDI 2. Podborer incidence : 34.3 % 3. Yield : 2.5 t/ha 4. BCR : 1.24 <p>Technology II</p> <ol style="list-style-type: none"> 1. Disease incidence : 11.6 PDI 2. Podborer incidence : 16.4% 3. Yield : 4.3 t/ha 4. BCR :3.1 <p>Technology III</p>

			<ol style="list-style-type: none"> 1. Disease incidence :5.3 PDI 2. Podborer incidence :0.0 3. Yield :8.4 t/ha 4. BCR: 4.2
7	Feed back of the farmers	:	<ul style="list-style-type: none"> • The fruit borer incidence was effectively managed • Fruit rot incidence was controlled • Incidence of leaf curl also reduced
8	Final recommendation for micro level situation	:	Spraying of Azadiractin@2ml/lit on 25 th DAT followed by imidacloprid @0.3ml/lit on 30 DAT followed by <i>Pseudomonas fluorescens</i> @10g/lit on 40 DAT and then flubendamide @25g.ai/ha on 50 DAT and difenaconazole on 60 DAT effectively controlled the pest and disease complex
9	Constraints identified and feedback for research	:	The cost of the chemical is high. The management process is highly labour and input intensive.
10	Process of farmers participation and their reaction	:	Farmers showed keen interest to adopt the technologies. The technology was demonstrated during preflowering and pod formation stage. After seeing the result, they have realized the need based control measures for the management of the pest and diseases in chillies.

OFT 5

1	Title of technology assessed	:	Assessment of the performance of the pulse wonder in pulses
2	Problem Definition	:	<ul style="list-style-type: none"> ❖ Nutrient deficiency in pulse crop ❖ Low yield
3	Details of technologies selected for assessment / refinement	:	<p><u>Technology I:</u></p> <ul style="list-style-type: none"> ❖ Basal application of fertilizer 18 kg of N and 40 kg of P₂O₅ <p><u>Technology II:</u></p> <ul style="list-style-type: none"> ❖ Basal application of fertilizer 18 kg of N and 40 kg of P₂O₅ ❖ Spraying of 2 % DAP at flowering stage ❖ NAA@40 ppm spraying on pre and flowering and 15 days after 1st spray <p><u>Technology III:</u></p> <ul style="list-style-type: none"> ❖ Basal application of fertilizer 18 kg of N and 40 kg of P₂O₅ ❖ Spraying pulse wonder 6.25 kg/ha at flowering stage
4	Source of technology	:	TNAU
5	Production system and thematic area	:	Paddy – Pulses production system
6	Performance of the technology with performance indicators	:	<p>Technology I</p> <ol style="list-style-type: none"> 1.No of the pods / plant :27.3 2.Yield : 320.3 Kg/ha 3.BCR : 1.91 <p>Technology II</p> <ol style="list-style-type: none"> 1.No of the pods / plant :83.6 2.Yield : 560.6 Kg/ha 3.BCR : 2.52 <p>Technology II</p> <ol style="list-style-type: none"> 1.No of the pods / plant :102.1 2.Yield : 760.1 Kg/ha 3.BCR : 2.85
7	Feed back of the farmers	:	<p>Process of DAP spray fluid preparation is cumbersome and difficult</p> <p>Application of pulse wonder as ready to mix and apply form is very simple and adoptable</p> <p>Micronutrients in pulse wonder has synergistic effect on the</p>

			disease resistance especially to yellow mosaic. Pod filling was excellent
8	Final recommendation for micro level situation	:	Spraying of pulse wonder@6.25kg./ha at flowering stage was found to enhance the yield.
9	Constraints identified and feedback for research	:	Nil
10	Process of farmers participation and their reaction	:	Through group discussion, method demonstration during exhibition the farmers were empowered.

OFT 6

1	Title of technology assessed	:	Assessment of planting method in redgram
2	Problem Definition	:	Establishment of seedlings reduced in direct sowing method Early incidence of stemfly resulting in reduced plant stand Reduced yield in conventional cultivation techniques
3	Details of technologies selected for assessment / refinement	:	Technology I Direct sowing Technology II Direct sowing with seed treatment Technology III <ul style="list-style-type: none"> • Polybag method will be adopted • Seedlings will be raised in nursery and transplanting method will be adopted
4	Source of technology	:	TNAU, Coimbatore
5	Production system and thematic area	:	Blackgram-Groundnut-Redgram
6	Performance of the technology with performance indicators	:	Technology 1: 4 plants/m ² 77pods/plant 625 kg ha ⁻¹ BCR- 3.69 Technology 2: 6 plants/m ² 107 pods/plant 685 kg/ha BCR – 3.88 Technology 3: 3 plants/m ² 60 pods/plant 510.5 kg/ha BCR – 2.17
7	Feed back of the farmers	:	1. The method is laborious and needs more labour for transplanting and gap filling 2. The method is costly 3. Flowering stage coincided with the rainfall and this resulted in excessive flower dropping leading to reduced yield in transplanting method
8	Final recommendation for micro level situation	:	The varieties suitable for this method of cultivation has to be identified
9	Constraints identified and feedback for research	:	Labour scarcity in raising seedlings in polybag and transplanting in pit method is difficult
10	Process of farmers participation and their reaction	:	Technology was delivered through the process of method demonstration. Farmers did not accept the technology in view of increased labour requirements and maintenance of the seedlings

OFT 7

1	Title of technology assessed / Refined	:	Maagement of nematode wilt complex in crossandra
2	Problem Definition	:	<ul style="list-style-type: none"> • Nutrient disorders • Nematode and wilt complex • Low yield
3	Details of technologies selected for assessment / refinement	:	<p><u>Technology I</u> Planting of cuttings without any insecticide or nematicide application</p> <p><u>Technology II</u> Avoiding replanting of crossandra in nematode infested fields To control nematodes, application of phorate 10G or carbofuran 3G @ 1kg a.i /ha a week after planting and to be repated six months after application at 3 and 9G respectively per meter length For wilt problem, drenching the soil around the plants with carbendazim 0.5g /l</p> <p><u>Technology III</u> Soil application of Pseudomonas fluorescens @ 1.5kg/ha + Trichoderma viride @1.5kg/ha mixed with 50 kgs FYM before transplanting Carbofuran 3G @ 1kg a.i /ha a week after planting and to be repated six months after application Drenching the soil around the plants with carbendazim 0.5g /l</p>
4	Source of technology	:	TNAU , Coimbatore
5	Production system and thematic area	:	Flower crop production system
6	Performance of the technology with performance indicators	:	<p><u>Technology I</u> <u>Technology II</u> <u>Technology III</u> In progress</p>
7	Feed back of the farmers	:	<ul style="list-style-type: none"> • Too early to report
8	Final recommendation for micro level situation	:	<ul style="list-style-type: none"> • Too early to report
9	Constraints identified and feedback for research	:	<ul style="list-style-type: none"> • Too early to report
10	Process of farmers participation and their reaction	:	Group meetings was conducted

OFT 8

1	Title of technology assessed / Refined	:	Control of Ranikhet disease in desi chicken
2	Problem Definition	:	<ul style="list-style-type: none"> ❖ Unhygienic maintenance of the birds – communicable disease ❖ High mortality of population leading to economic loss ❖ Difficulties in administering the vaccine by farmers
3	Details of technologies selected for assessment / refinement	:	<p><u>Technology I</u></p> <ul style="list-style-type: none"> • No Vaccination <p><u>Technology II</u></p> <ul style="list-style-type: none"> • Lasota vaccine intranasal/intraocular on 7th day • RDVK vaccine on 8th and 16th week <p><u>Technology III</u></p> <ul style="list-style-type: none"> • Oral pellet vaccine on 12th day • RDVK vaccine on 8th and 16th week
4	Source of technology	:	TANUVAS , Chennai
5	Production system and thematic area	:	Poultry-Disease management

6	Performance of the technology with performance indicators	:	<p>Technology I Mortality % - 12% Disease incidence-20% BCR-1.15</p> <p>Technology II Mortality %- 3% Disease incidence-5% BCR-1.62</p> <p>Technology III Mortality %-2% Disease incidence-2% BCR-1.95</p>
7	Feed back of the farmers	:	<ul style="list-style-type: none"> • Reduced incidence of ranikhet diseases • Low mortality rate in young ones • Ease in application and non requirement of skill in vaccination
8	Final recommendation for micro level situation	:	Feeding of oral pellet vaccine during 12 th day after hatching along with feed and RDVK vaccine at 8 th and 16 th week.
9	Constraints identified and feedback for research	:	Non availability of oral pellet vaccine and also vaccines at small scale level.
10	Process of farmers participation and their reaction	:	The technology has been delivered to the farmers through demonstrations, trainings and field visit and farmers are satisfied with the oral pellet vaccine due to its ease in application. Large scale availability of OPV has to be ensured as this is a successful method

OFT 9

1	Title of technology assessed / Refined	:	Area Specific Mineral Mixture for Dairy Cows
2	Problem Definition	:	<ul style="list-style-type: none"> ❖ Imbalance nutrition ❖ Non availability of mineral mixture ❖ Delayed onset of first oestrus ❖ Low economic returns
3	Details of technologies selected for assessment / refinement	:	<p>Technology I</p> <ul style="list-style-type: none"> • No mineral mixture supplementation <p>Technology II</p> <ul style="list-style-type: none"> • Supplementation with TANUVAS mineral mixture @30g/day for 365 days <p>Technology III</p> <ul style="list-style-type: none"> • Supplementation with TANUVAS area specific mineral mixture @30g/day for 365 days
4	Source of technology	:	TANUVAS, Chennai
5	Production system and thematic area	:	Dairy
6	Performance of the technology with performance indicators	:	<p>Technology I</p> <ul style="list-style-type: none"> • Milk yield -4 litres/day/animal for the past 4 months • Onset of first oestrus after calving • No.of inseminations for one conception <p>Technology II</p> <ul style="list-style-type: none"> • Milk yield-5.5 litres/day/animal for the past 4 months • Onset of first oestrus after calving • No.of inseminations for one conception <p>Technology III</p> <ul style="list-style-type: none"> • Milk yield-6 litres/day/animal for the past 4 months • Onset of first oestrus after calving • No.of inseminations for one conception

7	Feed back of the farmers	:	<ul style="list-style-type: none"> Increased milk yield Healthiness of animal Less number of inseminations for conception Sureness on conception
8	Final recommendation for micro level situation	:	The trial is in progress. Too early to report
9	Constraints identified and feedback for research	:	Non availability at district level and high mobilization cost
10	Process of farmers participation and their reaction	:	The technology has been delivered to the farmers through demonstrations, trainings and field visit and farmers are satisfied with the area specific mineral mixture

4.D1. Results of Technologies Refined : NIL

Results of On Farm Trial

Crop/enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology refined	Parameters of refined t	Data on the parameter	Results of refinement	Feedback from the farmer	Details of refinement done
1	2	3	4	5	6	7	8	9	10	11

Contd..

Technology Refined	Source of Technology for Technology Option1 / Justification for modification of assessed Technology Option 1	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
13		14	15	16	17
Technology Option 1 (best performing Technology Option in assessment)					
Technology Option 2 (Modification over Technology Option 1)					
Technology Option 3 (Another Modification over Technology Option 1)					

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

- Title of Technology refined
- Problem Definition
- Details of technologies selected for refinement
- Source of technology
- Production system and thematic area
- Performance of the Technology with performance indicators
- Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques
- Final recommendation for micro level situation
- Constraints identified and feedback for research
- Process of farmers participation and their reaction

PART V - FRONTLINE DEMONSTRATIONS

5.A. Summary of FLDs implemented during 2010-11

Sl. No.	Category F	Irrigating Situation	Season and Year	Crop V	Variety/breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
									Proposed A	Actual SC	/ST	Others	Total	
1 C	Crop production	Rainfed R	Rabi 2010	Sesame	TMV7	-	ICM	Introduction and popularization of latest variety TMV 7 sesame and ICM practices	4.4		-	8	8	-
2 S	Seed production	Irrigated	Rabi 2010	Groundnut	TMV 13	-	Seed Production	Popularisation of seed production in groundnut by farmer participatory approach	1.1		1	4	5	-
3 D	Drought mitigation	Rainfed R	Rabi 2010	Blackgram	VBN4	-	Drought management	Popularization of drought mitigation technologies in pulses (Blackgram VBN 4)	5.5		-	10	10	Mobile sprinkler could not be demonstrated
4 C	Crop production	Rainfed R	Rabi 2010	Greengram	VBN3	-	ICM	Introduction and popularization of variety Greengram VBN3 and ICM practices	5.5		-	10	10	-
5 C	Crop production	Irrigated	Rabi 2010	Blackgram	VBN 4	-	ICM	Special technology demonstration for harnessing pulses productivity	5.5		2	10	12	-
6	Crop production	Irrigated	Rabi 2010	Paddy		CORH3	Introduction and popularization	Popularization of CORH3 paddy by SRI method	5.5		2	8	10	-
7	Crop improvement	Irrigated	Rabi 2010	Paddy	CO (R) 49	-	Introduction and popularization for late samba season	Popularization of alternate variety CO (R) 49 suitable for samba season	5.5		3	7	10	Failure of demo in 7 holdings due to phytotoxicity. Results of 3 demos reported
8	Crop protection	Paddy-pulse – production system	Kharif-2010	Paddy	BPT-5204	-	Plant Protection	Integrated management of blast and BPH in paddy	5	5	-	10	10	-
9	Mechanization	Paddy-pulse – production system	Kharif-2010	Paddy	TRY-1	-	Mechanization	Mechanisation of Paddy cultivation	2	2	-	5	5	-
10	Crop improvement	Oilseed – pulse production system	Rabi2010	Groundnut	TMV 13	-	Introduction	Introduction of HYV and integrated crop management practices in groundnut in rabi season	1	1	-	5	5	-
11	Mechanization	Sugarcane –	Summer	Sugarcane	COC86032	-	Mechanization	Mechanization in sugarcane	1	1	-	5	5	Initiated

		casuarina system	2011					cultivation						
12	Brinjal	Vegetable R	abi 2011	Brinjal -		CO(B) H2	Crop improvement	Populariration of CO(B) H2 brinjal	1 1		1	9	10	-
13	Snake gourd	Irrigated A	ugust 2010	Snake gourd	PLR-2	-	Crop improvement	Popularization of Palur -2 Snake gourd variety	1 1		-	10	10	-
	Flowers													
	Ornamental													
	Fruit													
	Spices and condiments													
	Commercial													
	Medicinal and aromatic													
14	Fodder	Irrigated R	abi 2010	Cumbu napier Guinea grass Hedge lucern Lucern	- CO3 CO1 CO1	CO(CN)4 IFS		Popularization of Fodder bank at village level	1	1	-	5	5	-
	Plantation													
	Fibre													
	Dairy													
	Poultry													
	Rabbitry													
	Pigerry													
15	Sheep and goat	IFS	2010-11	Goat	Local	-	-	Synchronization of oestrous and artificial insemination with Boer cross semen	100 -					Non availability of Boer cross

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

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Season and year	Status of soil			Previous crop grown
										N P		K	
1	Oilseeds	Rainfed	Rabi	Sesame	TMV 7	- IC	M	Introduction and popularization of latest variety TMV 7 sesame and ICM practices	Rabi	L	M	M	Pulses Groundnut
2	Oilseeds	Irrigated	Rabi 2010	Groundnut	TMV 13		Seed Production	Popularisation of seed production in groundnut by farmer participatory approach	Rabi 2010	L M		M	Pulses
3	Pulses	Rainfed	Rabi	Blackgram	VBN 4	- D	Drought management	Popularization of drought mitigation technologies in pulses (Blackgram VBN 4)	Rabi H		M	M	Groundnut
4		Rainfed	Rabi	Greengram	VBN 3	- IC	M	Introduction and popularization of variety Greengram VBN3 and ICM practices	Rabi L		M	M	Groundnut
5	Pulses	Irrigated	Rabi 2010	Blackgram	VBN 4		Improving Pulses productivity	Special technology demonstration for harnessing pulses productivity	Rabi 2010	L M		L	Paddy
6	Cereals	Irrigated	Rabi 2010	Paddy		CORH 3	Introduction and popularization	Popularization of CORH3 paddy by SRI method	Rabi 2010	M L		M	Fallow
7		Irrigated	Rabi 2010	Paddy	CO (R) 49	Intr	Introduction and popularization for late samba season	Popularization of alternate variety CO(R) 49 suitable for samba season	Late samba 2010	L M		H	Daincha
8	Cereals	Integrated pest and disease management in paddy	Kharif -2010	Paddy	BPT 5204		IPM	<u>For Blast disease Management</u> : Pseudomonas-Seed treatment@10g/kg and Spraying of Tricycloazole@500g/ha at initial incipient of the symptom followed by Propiconazole@750ml/ha on 10 days after Tricycloazole spraying .	Kharif -2010	L	M	H	Blackgram

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
Oilseeds							H	L	A										
Sesame Int	roduction and popularization of latest variety TMV 7 sesame and ICM practices	TMV7 -	-	Rainfed	8	4	7.86	6.63	7.25	4.27	69.79	7280	32625	25345	4.48	5106	19215	14109	3.76
Oilseeds	Popularisation of seed production in groundnut by farmer participatory approach	TMV 13	-	Irrigated	5	1	30	15	25	15	66.67	30130	107500	77370	3.57	34460	64500	30040	1.87
Int	roduction of HYV and integrated crop management practices in groundnut in rabi season	TMV 13	-	Rainfed	5	1	17.6	9.07	13.4	8.02	67.08	-	-	-	-	-	-	-	-
Pulses																			
Greengram Int	roduction and popularization of variety Greengram VBN3 and ICM practices	VBN3	-	Rainfed	10	5	13.3	7.5	10.4	7.3	42.47	7940	44516	35502	5.56	5210	24236	19025	4.65

Ornamenta l																			
Fruit																			
Spices and condiments																			
Commercia l																			
Medicinal and aromatic																			
Fodder																			
Fodder Popularisation of fodder bank at village level	- CO(CN)	4	Irrigate d	5	1	Demonstration is in progress													
Plantation																			
Fibre																			
Others (pl.specify)	Mechanization in sugarcane	COC 86032	- Irri gated	1	1	Demonstration initiated													

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

** BCR= GROSS RETURN/GROSS COST

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

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

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Integrated pest and disease management in paddy		
Blast disease incidence	5.3 PDI	18.1 PDI
BPH	0.2 hoppr/tiller	1.5 hopper/tiller
Popularization of mechanization in paddy cultivation		
Productive tiller	63.3	48.1
Blast disease incidence	9.7 PDI	15.6 PDI
Stem borer	3 % dead heart	7.3 % dead heart

5.B.2. Livestock and related enterprises

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Yield (q/ha)		% Increase	*Economics of demonstration (Rs./unit)				*Economics of check (Rs./unit)					
					Demo	Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR		
					H	L	A										
Dairy																	
Poultry																	
Rabbitry																	
Pigerry																	
Sheep and goat	Synchronization of oestrous and artificial insemination with boer semen	Local	10	100				Boer cross semen is not available . Work will be completed as and when boer cross semen received									
Duckery																	
Others (pl. specify)																	

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

** BCR= GROSS RETURN/GROSS COST

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

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

5.B.3. Fisheries

Type of Breed	Name of the technology demonstrated	Breed	No. of Demo	Units/ Area (m ²)	Yield (q/ha)			% Increase	*Economics of demonstration Rs./unit) or (Rs./m ²)				*Economics of check Rs./unit) or (Rs./m ²)					
					Demo				Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR		
					H	L	A											
Common carps /Composite fish	Composite fish culture in village ponds	Cuttla Rogu Mirgal Common carp Grass carp Silver carp	50.	45 ha														
Mussels																		
Ornamental fishes																		
Others (pl.specify)																		

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

** BCR= GROSS RETURN/GROSS COST

H-High L-Low, A-Average

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

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

5.B.6.4 Demonstrations on farm implements

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

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

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

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

S. No	Crop / Enterprise	Name of the technology demonstrated	Feed Back
1	Sesame	Introduction and popularization of latest variety TMV 7 sesame and ICM practices	TMV 7 performed well as compared to the local cultivars ICM resulted in increased plant population, higher numbers of pods per plant resulting in increased yield.
	Blackgram	Speial technogy demonstration for harnessing pulses productivity	Application of the right nutrition has helped in raising a healthy crop giving a good yield. Keeping the field free from weeds, pests and diseases from sowing to harvest has helped in getting a good yield Inputs such as DAP and super phosphate unavailable in the market may be made easily available to the farmers
2	Blackgram	Popularization of d rought mitigation t echnologies i n p ulses (Blackgram VBN 4)	Methylobacterium a s a fa ctor in d rought mitigation imparted tolerance compared to the untreated check
3	Groundnut	Popularization of seed production in groundnut by farmers participatory approach	Seed production c ompared to pro duction o f kernel i n groundnut w as re munerative. Rec ognition o f see d producers t hrough part icipatory training, empowerment, group dynamcis and group association in groundnut will gr eatly solve the problem of low

			SRR. Spraying of micronutrient on 25 th and 35 th day after sowing improved pod filling compared to control block.
5	Groundnut	Introduction of HYV and integrated crop management practices in groundnut in rabi season	Seed treatment with <i>Pseudomonas fluorescens</i> @ 10 g/kg seed helped in protecting the seedlings from diseases such as collar rot and root rot. <i>Pf</i> treated blocks showed increase in general plant vigour compared to the control block. Gypsum application @ 200 kg/ha as basal and 200 kg/ha 40 th to 50 th DAS encouraged pod formation and better pod filling as against farmer practice of single application @ 200 kg/ha. Specific and timely spray of insecticides/pesticides helped in reducing drastic pest and disease incidence.
6	Paddy	Introduction and popularization of paddy CO49 alternate variety suitable for late samba season	Farmers are very much interested about the characters of variety for late samba season. Meanwhile farmers who have been facing erratic market price for their produce and also labour problem are much discouraged in cultivating the paddy.
7	Paddy	Popularization of CORH3 paddy by SRI method.	Cultivation of hybrid rice (CORH 3) compared to BPT 5204 in SRI method was adoptable by the farmers due to increased yield in the University bred hybrid
8	Paddy	Integrated pest and disease management in paddy	The seed treatment and seedling application of <i>Pseudomonas fluorescens</i> was effective in germination and establishment. Fixing yellow pan trap and spraying neem oil spray was effective in the control of the BPH during initial stage. The new fungicide molecule (Propiconazole) was excellent for controlling the disease while spraying at appropriate time.
	Paddy	Popularization of mechanization in paddy cultivation	Raising of nursery in plastic trays was useful in transplanting using transplanter. Mechanization in transplanting, weeding and harvesting effectively addressed the problem of labour shortage during the critical stages of crop growth. There is greater possibility for custom hiring of machinery in rice production.
3	Snakegourd	Popularization of PLR 2 snakegourd	Pinching the plants at right time increase the branches and fruit bearing structure. Small and uniform size fruits suitable for packing and transport. Shelf life was enhanced upto 3 days.

5.B.6.7 Farmers' reactions on specific technologies

S. No	Crop / Enterprise	Name of the technology demonstrated	Feed Back
1	Blackgram	Popularization of drought mitigation technologies in pulses (Blackgram VBN 4)	The package comprising of <i>Methylobacterium</i> and bioinoculants were useful in preventing wilting at terminal stage of crop growth. Additional benefits could be obtained if mobile sprinker technology is involved.
2	Blackgram	Special technology demonstration for harnessing the pulses productivity	The package developed for rainfed and gardenland production system is viable and need to be popularized. Components such as pre-emergence herbicide application, maintenance of plant stand through correct seed rate and line sowing, bioinoculants application, right seed treatment, foliar application of pulse wonder, insecticides have increased the yield.
3	Paddy	Popularization of mechanization in paddy cultivation	Raising of nursery followed by mechanized transplanting at definite spacing facilitated all the intercultural operations including cono weeder usage. The labour requirement was reduced by at least 70

			percent in transplanting, weeding and harvesting.
4	Paddy	Integrated pest and disease management in paddy	Spraying of propanil was effective for the management blast disease.
5.	Snakegourd	Popularization of PLR 2 snakegourd	Keeping quality was more. The market preference was high.

5.B.6.8 Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1 F	field days	5	145	
2 Fa	farmers Training	55	2153	
3	Media coverage	10	Mass coverage	
4	Training for extension functionaries	24	398	

Total																	
Fodder crops																	
Maize (Fodder)																	
Sorghum (Fodder)																	
Others (pl.specify)	Popularisation of fodder bank at village level	CO(C N)4	In progress														
Total																	

H-High L-Low, A-Average

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

Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl.specify)										
Production of Inputs at site										
Seed Production	2	71 6		77	14 7		21	85	13	98
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production										
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development	1	55	1	56	6	-	6	61	1	62
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
Others (pl.specify)										
Video conferencing of farmers with policy making	1	9	-	9	-	-	-	9	-	9
Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (Pl. specify)										
TOTAL	36 924		134	1058	124	27	151	1048	161	1209

Fish processing and value addition										
Others (pl.specify)										
Production of Inputs at site										
Seed Production	9	311 15		326	3	2	5	314 1	7	331
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production	3	84	9	93 -		-	- 84		9	93
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production	8	183	88	271	-	6	6	183	94	277
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development	1	11	6	17	5	1	6	16	7	23
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
Others (pl.specify)										
Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (Pl. specify)										
TOTAL	60	1672 270		1942	96	77	173	1768 3	47	2115

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
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl.specify)										
Improved technology for pulses	1	25	-	25	-	-	-	25	-	25
Mechanization in cultivation of paddy	1	24	-	24	1	-	1	25	-	25
TOTAL	2	49	- 49		1	-	1	50	-	50

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	4	128	16	102	-	-	-	128	16	144
Integrated Pest Management	7	259	43	302	4	-	4	263	43	306
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs	1	35	7	42	-	-	-	35	7	42
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs	1	18	8	26	4	1	5	22	9	31
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify) Climate Resilient on Agriculture	1	15	1	16	3	2	5	18	3	21
Seed certification	1	30	2	32	4	-	4	34	2	36
Total	15 4	85	77	520	15	3	18	500	80	580

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										
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify) Micro irrigation	4	502	25	527				502	25	527
Total	4	502	25	527				502	25	527

7.G. Sponsored training programmes

S.No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	Crop production and management										
1.a.	Increasing production and productivity of crops	6	206	35	241	32	8	40	238	43	281
1.b.	Commercial production of vegetables	8	158	32	190	5	7	12	163	39	202
2	Production and value addition										
2.a.	Fruit Plants	5	117	34	151	2	1	3	119	35	154
2.b.	Ornamental plants										
2.c.	Spices crops										
3.	Soil health and fertility management										
4	Production of Inputs at site	3	59	27	86	-	6	6	59	33	92
5	Methods of protective cultivation										
6	Others (pl.specify)										
	Plant protection	4	46	5	51	5	-	5	51	5	56
7	Post harvest technology and value addition										
7.a.	Processing and value addition										
7.b.	Others (pl.specify)										
8	Farm machinery										
8.a.	Farm machinery, tools and implements										
8.b.	Others (pl.specify)										
9.	Livestock and fisheries										
10	Livestock production and management										
10.a.	Animal Nutrition Management										
10.b.	Animal Disease Management										
10.c.	Fisheries Nutrition										
10.d.	Fisheries Management										
10.e.	Others (pl.specify)										
11.	Home Science										
11.a.	Household nutritional security										
11.b.	Economic empowerment of women	1	-	18	18	-	2	2	-	20	20
11.c.	Drudgery reduction of women										
11.d.	Others (pl.specify)										
12	Agricultural Extension										
12.a.	Capacity Building and Group Dynamics	2	66	7	73	11	1	12	77	8	85
12.b.	Others (pl.specify)										
	Total	29	652	158	810	55	25	80	707	183	890

Details of sponsoring agencies involved

1. FICCI, New Delhi
2. NABARD, Villupuram
3. Dhanuka Agri Tech Ltd, Tamil Nadu
4. GOI
5. Rajshree Sugars and Chemicals Limited, Semmedu
6. Directorate of Horticulture and Plantation crops, Chennai

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	Crop production and management										
1.a.	Commercial floriculture	1	25	-	25	-	-	- 25	-	-	25
1.b.	Commercial fruit production	1	25	-	25	-	-	-	25	-	25
1.c.	Commercial vegetable production										
1.d.	Integrated crop management										
1.e.	Organic farming										
1.f.	Others (pl.specify) Improved technology for pulses	1	25	-	25	-	-	-	25	-	25
2	Post harvest technology and value addition										
2.a.	Value addition										
2.b.	Others (pl.specify)										
3.	Livestock and fisheries										
3.a.	Dairy farming										
3.b.	Composite fish culture										
3.c.	Sheep and goat rearing										
3.d.	Piggery										
3.e.	Poultry farming										
3.f.	Others (pl.specify)										
4.	Income generation activities										
4.a.	Vermi-composting	1	7	4	11	5	-	5	12	4	16
4.b.	Production of bio-agents, bio-pesticides, bio-fertilizers etc.	1	18	-	18	2	-	2	20	-	20
4.c.	Repair and maintenance of farm machinery and implements	1	24	-	24	1	-	1	25	-	25
4.d.	Rural Crafts										
4.e.	Seed production	1	24	-	24	1	-	1	25	-	25
4.f.	Sericulture										
4.g.	Mushroom cultivation										
4.h.	Nursery, grafting etc.										
4.i.	Tailoring, stitching, embroidery, dying etc.										
4.j.	Agril. para-workers, para-vet training										
4.k.	Others (pl.specify)										
5	Agricultural Extension										
5.a.	Capacity building and group dynamics										
5.b.	Others (pl.specify)										
	Grand Total	7	148	4	152	9	0	9	157	4	161

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

Crop category	Name of the crop	Variety	Hybrid	Quantity of seed (qtl)	Value (Rs)	Number of farmers to whom provided
Cereals (crop wise)	Paddy	ADT 39		12.50	25000	
		CO 49		12.00	24000	
		CO50		15.00	30000	
Oilseeds G	roundnut	TMV 13		5.08	30480	4
		TMV 7		1.20	4800	
S	unflower	CO 2		0.40	640	1
Pulses Bl	ackgram	VBN 4		21.98	139900	24
		CO 6		0.20	1440	
G	reengram	VBN 2		1.61	8050	5
R	edgram	Co(Rg) 7		1.30	9100	5
M	othbean	TMV 1		3.50	17500	14
Commercial crops						
Vegetables						
Flower crops						
Spices						
Fodder crop seeds						
Fiber crops						
Forest Species						
Others (specify)						
Minor millets	Ragi	Paiyur 2		2.32	4640	
S	amai	Paiyur 2		1.10	2200	
K	udiraivalli	CO 2		0.38	760	
Vara	gu	local		1.60	3200	
Total				80.16	301710	53

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						
Fruits						
Ornamental plants						
Medicinal and Aromatic						
Plantation						
Spices						
Tuber						
Fodder crop saplings	Cumbu napier	CO 4		38775 slips	15510	32
	Guinea grass			15000 slips	7500	10
Forest Species						
Others(specify)						
Total				53775 slips	23010	42

9.C. Production of Bio-Products

	Name of the bio-product	Quantity Kg	Value (Rs.)	Number of farmers to whom provided
Bio Products				
Bio Fertilizers	Vermicompost	2500 1	0000	5
Bio-pesticide				
Bio-fungicide				
Bio Agents				
Others (specify)				
Total				

9.D. Production of livestock materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	Number of farmers to whom provided
Dairy animals				
Cows				
Buffaloes				
Calves				
Others (Pl. specify)				
Poultry				
Broilers				
Layers	Rhodowhite	20	3688 18	
Duals (broiler and layer)				
Japanese Quail				
Turkey	Nandhanam	10	7650 8	
Emu				
Ducks				
Others (Pl. specify)	Guinea fowl	10	2063 5	
Piggery				
Piglet				
Others (Pl. specify)				
Fisheries				
Fingerlings				
Others (Pl. specify)				
Total		40	13401	31

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.): 4; 500 copies; quarterly, given in table

(B) Literature developed/published

Item	Title	Authors name	Number
Research papers	-	-	-
Technical reports	Farm Innovators	-	10
KVK	Brochure	-	1000
D	Diagnostic visits report	- 7	
NICR	A-Brochure	-	1000
News letters	KVK Newsletter Vol. 2: Issues 1-4	Kalaiselvan, P., Sathiah, N, Renuga, M., Sendhilvel, V., Prabhu, PC., Uma Sankaraeswari, R., Natarajan, K.	2000
Technical bulletins	FFS on pigeonpea	Uma Sankaraeswari, R. Sendhilvel, V Sathiah, N,	-
Blac	kgram seed production techniques	Natarajan, K., Prabhu, PC., Amudha, A.	25
Mic	roirrigation and fertigation techniques	Renuga, M., Uma Sankaraeswari, R., Sendhilvel, V., Natarajan, K., Vidhya, C., and Sathiah, N.	100
	IPM in pulses	Uma Sankaraeswari, R. Sendhilvel, V Sathiah, N.	50
Popular articles	Farmers usher in farm innovation in Tamil Nadu., Uzhavarin Valaram Vezhanmai., Jan 2011	Sathiah, N., Kalaiselvan, P and Manoharan, T	-
Bio	inoculants and biofertilizers for dryland agriculture Uzhavarin Valaram Vezhanmai., May 2010	Uma Sankaraeswari, R, and Gunasekaran, S.	-
Extension literature			
Blac	kgram production technologies	- 1	000
S	eed production for hybrid rice	- 1	00
A	zolla multiplication	-	500
	Pests and disease complex in chillies	- 5	00
Mushr	oom production	- 5	00
Pes	t and disease management in paddy	- 5	00
Durai's	Modified conoweeder	- 5	00
Go	thandam's casuarinas stubble remover	- 5	00
Others (Pl. specify)	New messages	-	33
TOTAL			

10.B. Details of Electronic Media Produced: Nil

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

10.C. Success Stories / Case studies, if any (two or three pages write-up on each case with suitable action photographs. The Success Stories / Case Studies need not be restricted to the reporting period).**Success Story 1****SPECIAL TECHNOLOGY DEMONSTRATION FOR HARNESSING PULSES PRODUCTIVITY**

There has not been desirable increase in area and productivity of pulses over the years in Tamil Nadu and India. Farmers of Villupuram district face major constraints such as lack or poor irrigation facilities, acute labour shortage, ignorance of technical knowledge on latest cultivation techniques and indiscriminate dumping of fertilizers and pesticides based on the irrational recommendation of pesticide shop owners. Failing monsoons have further deteriorated the condition badly affecting the kharif crop.

The number of technologies with promise to raise the productivity levels which need to be demonstrated at farmers field with their active participation so as to convince them and build their confidence in new technologies. Old varieties and practices are still operation in many parts of the country. The programme envisages demonstrating production potential of newly developed technologies and varieties of pulses at farmers field through KVKs so as to bring in enhanced application of modern technologies to address the issues related to increased production of pulses in the country. Villupuram KVK selected the Ponnankuppam village of Vikravandi Block for demonstrating the Special pulse programme during rabi season for 12 acres. KVK provided the technical support through trainings, demonstration, exposure visit and exhibition to the FLD farmers of Special pulse programme

Details of training conducted

S.No.	Title of training conducted	Number of participants
1	Production technology of pulses	25 farmers
2.	Exposure visit	100 farmers
3.	Weed management in pulses for improving productivity	100 farmers
4.	Seed treatment for pulses	50 farmers
5.	Foliar application of Pulse wonder and DAP	25 farmers
6.	Mega A gri service on increasing productivity of pulses and oilseeds in Villupuram District	356 farmers

Apart from technical support, KVK provided the critical inputs like improved varieties of VBN 4, biofertilizers, bioinoculants, herbicide, post emergence herbicide, pulse wonder and pesticides to the farmers. P. Gopi, S/o. Perumal of Poonankuppam Village of Vikravandi Block, shares his experience on Special Pulse Programme on blackgram.

Usually I ploughed the field 3-4 times and applied basal application of DAP 50 kg/acre and sowing was taken without seed treatment of biofertilizers and bioinoculants. KVK intervened and explained the advantages of seed treatment of biofertilizers and bioinoculants and then I along with my villagers practiced the seed treatment and taken up the sowing. We learned the maintenance of optimum plant population to increase the yield and we practised the operation of thinning on 16-20 DAS. Generally we didn't practice of spraying of pesticides for pulses at younger stage. KVK staff advised me at younger stage spraying Dimethoate to control the sucking pest. In this way we practised and controlled the sucking pest at early stage and we get the higher yield. KVK has conducted the field demonstration on turga super herbicide application to control the weeds. We were impressed and followed the herbicide application as post emergence to control the weeds and it is easier due to labour shortage in our district. KVK staff explained the advantages of pulse wonder application and we followed the technology to increase the yield and uniform flowering and seed set.

We followed the technologies demonstrated by the KVK and get the maximum yield of 15 q/ha against the district average yield of 6q/ha. Application of the right nutrition has helped in raising a healthy crop giving a good yield. Keeping the field free from weeds, pests and diseases from sowing to harvest has helped in getting a good yield. So we have to follow the right technology at right time and maximise the yield for sustainable in pulse production.

Success Story II

Title : Popularisation of mechanisation in paddy cultivation

Background:

I am A. Elamurugan, S/o Arumugam residing at Emppar village, Thiruvennai Nallur block of Villupuram district. I am one of the Paddy crop cultivating farmers in this district. In my village, the labour shortage is the foremost menace for agriculture and allied farm works. As you know that the paddy cultivation is more labour consumption work. Some time I hesitated to cultivate paddy due to the labour shortage. In these circumstances, Krishi Vigyan Kendra, Villupuram Dt intervened me to provide essential knowledge support to use machinery for paddy cultivation. In the beginning I hesitated to use machine especially operation viz., transplanting because of the uncertainty on the maintenance of seedling numbers and spacing. As per their guidance, I used following machineries to cultivate paddy crop, Its benefits and addressing problem on labour shortage as follows....

Sl. No	Operations in Paddy crop cultivation	Process	KVK intervention	Addressing the local specific problem	Additional benefits
1	Nursery preparation	Method Demonstration	Tray method	Reduced labour for puddling the land	Healthy seedling

2	Seedling pulling		Tray method	10 men labour saved	Investment on cultivation reduced.
3.	Land preparation	Method Demonstration	Power tiller	20 men and 5 women labour saved for one ha	
4 T	Transplanting	Method Demonstration	Paddy transplanter	25 women labour saved for one ha	Uniform planting and required plant stand
5	Weeding	Method Demonstration	Conoweeder	25 women for one ha	Incorporation of weeds in to the field and aiding tilliering, organic manure incorporated.
6 H	Harvesting and processing	Method Demonstration	Paddy harvester	15 men and 15 women labour saved	Work completed in shortest possible time

Impact:

Horizontal spread:

Based on Mr. A. Elamuru's gan field, the neighboring farmers have shown keen interest to adopt the technologies viz., raising the nursery in tray method, transplanting by machine, using conoweeder for weeding and machinery harvesting.

Economic Gains:

Finally I would like to conclude that if I cultivate paddy in conventional method, every one rupee investment will give return two rupees but if I use machineries as I said, I will get Rs. 3.30. I would like to thank Kri shi Vigyan Kendra, Tindivanam for their intervention and encouraging me Paddy cultivation is profitable one.

Employment generation:

Since paddy mechanization is a skilled work, I learnt the operational skill and I will be source for custom hiring in the village. This FLD is technically empowering me to operate the machineries such as paddy transplanter, power tiller and conoweeder.

III. Case study on Backyard poultry

There is evidence that growth in the livestock sector can significantly contribute to economic growth and poverty reduction, because the largest share of the rural poor are partly dependent on livestock for their livelihoods and the demand for food from animal source is increasing relentlessly in developing countries and especially in India. There is also evidence that, given pervasive market and institutional imperfections, mainly commercial producers have benefited from the growing markets for animal protein, and that the potential contribution of livestock sector growth to poverty reduction has remained largely untapped. India's poultry sector is a case in point. Per capita consumption of poultry meat rose from 0.2 kg in 1970 to 1.6 kg in 2003. growth in the sector has been primarily driven by large-scale commercial farms whilst small farmers and the landless, who form the majority of the poultry producers, have largely

been by passed by this growth (GOI, 2005). In the most recent years, however, the Government of India has recognized the potential of small-scale poultry sector development for poverty reduction. The Eleventh Five Year Plan (2007-2012) of the Government of India – which is titled 'Inclusive Growth' stresses that economic growth, including agriculture, should be more balanced and inclusive than it has been so far. It sets a target GDP growth rate of 9 % per year, with agriculture anticipated to grow at 4 % per annum. Within agriculture, the livestock sector is expected to grow at between 6 and 7 % per year, with poultry growing at 10 % per year. 'For growth to be at all inclusive, the agricultural strategy must focus on the 85 % of farmers who are small and marginal, increasingly (especially) female, and who find it difficult to access inputs, credit, and extension or to market output' 'special programmes need to be designed and implemented to enable small farmers to go for high value commercial activities in crop production, dairy, poultry, fisheries, etc.' (GOI, 2007). Investing public resources in livestock and in poultry within livestock, for an inclusive growth of the agricultural sector, could be an effective way to contribute to poverty reduction.

Popularization of rhodo white chicken for backyard poultry fits very well to the GOI policy, which can help the farmers of Villupuram district to bridge the gap between demand and supply of eggs and poultry meat as well as generate self-employment to reduce poverty and empower farmers, rural men and women. Farmers of Villupuram district face major constraints such as lack or poor irrigation facilities, acute labour shortage, ignorance of technical knowledge on latest cultivation techniques and indiscriminate dumping of fertilizers and pesticides based on the irrational recommendation of pesticide shop owners. Failing monsoons have further deteriorated the condition and badly affecting the agricultural sector.

In these circumstances, Krishi Vigyan Kendra, Villupuram district helped the farmers through their intervention by popularizing rhodowhite chicken for backyard poultry. Thiru.A.Thirusankar, S/o Athimoolam, residing at Agoor Village, Mailam block of Villupuram district got benefit from the introduction of rhodo white chicken for backyard poultry. He narrates his experience.

In my village most of the farmers shifted to other activities due to the acute labour shortage and others migrate to Chennai city, which is very nearer from my village. In this situation, KVK supported me through the supply of 10 rhodowhite chicks and technical guidance to maintain them. Through this, I established a small-scale, self-sustainable poultry production unit which provides a small but steady income to me and also contributes to the household nutrition. Professor and Head, KVK informed me that this breed is a dual purpose medium heavy fowl; used more for egg production than meat production, relatively hardy, with marginal diets, the best egg layers among the dual purpose breeds and also show broodiness, which is a rare in some of the best egg production strains. They started egg laying on 24 weeks of age and I got an average of 180 eggs/bird. KVK helped me in selling of these eggs @Rs6/egg and I sold the matured bird for Rs. 250/bird. For maintaining the birds I put one shelter which is from my farm wastes and I spent none for the feeds, since the birds are well suited for the backyard system. I kept some 20 eggs for brooding and use them for sustainable poultry production.

Impact

Horizontal spread:

Based on my success, the neighbourhoods are attracted and showed keen interest to adopt the technology.

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

1. Farmer participatory seed production
2. Accelerating pulses production
3. Transplanting in redgram
4. SRI method of rice cultivation under TN-IAMWARM Project

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)

S. No.	Crop / Enterprise	ITK Practiced	Purpose of ITK

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

- Identification of courses for farmers/farm women: Nil
- Rural Youth: Nil
- Inservice personnel: Nil

10.G. Field activities

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

10. H. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab : Equipments, Chemicals and glasswares as well as the materials required for the analytical lab have been purchased

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

S. No	EQUIPMENT ETC	Units	AMOUNT Rs.
1	Computer with accessories	1	37599
2	L ab table	4	78000
3	IQBOARD	1	69680
4	Automatic digestion apparatus	1	233170
5	Balance (Top loading)	1	20592
6	Physical balance	1	6760
7	Digital conductivity meter	1	11326
8	Flame photometer & Digital conductivity meter	1 452	40
9	All glass single distillation unit	1	36400
10	Khan shaker	1	20800
11	Hot air oven	1	17680
12	Hot plate	1	7956
13	Wiley mill	1	32760
14	Waterbath	1	7249
15	Spectrophotometer	1	39104
16	pH Meter	1	5970
17	Sink unit, Exhaust fan and gas setup	1 698	46
18	Rack, almirah, angle iron rack	1	63921
19	Soil and plant sample storage	1	99840

20	RO System, GPS and airconditioner	1 556	40
21	Stabilizer	1	28600

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				
Water Samples				
Plant samples				
Manure samples				
Others (specify)				
Total				

Details of samples analyzed during the 2010-11 :

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

10.I. Technology Week celebration

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

Other Details

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

PART XI. IMPACT

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

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Value addition	120	20%	12,000	20,000
Mushroom cultivation	340	60%	-	20,000
Biopesticide production	60	30%	-	30,000
Precision Farming	155	62%	50000	1,50,000

11.B. Cases of large scale adoption

(Please furnish detailed information for each case)

PRECISION FARMING

i) Large scale demonstration of precision farming over 100ha was implemented from our KVK. For the implementation of the same each farmer have to spent an average amount of Rs.50,000 per hectare. As the farmers belong to middle class people and as their income was found to be low they were unable to bear such a huge amount to implement the same. In this context, Programme coordinator and the scheme officer in charge of precision farming discussed the issue with the Joint Registrar of Cooperative, Villupuram. He arranged a meeting with the farmers of Olakkur. Programme coordinator and the scheme officer along with the Registrar Cooperatives Mr.Swain (IAS), Chepauk Chennai at Olakkur. During the meeting Registrar was kind enough to give loan to the farmers upto a tune of Rs.50,000/farmer without any security. This model was followed unanimously through out Tamil Nadu by all cooperative banks. Hence, it was feasible at our end to implement the precision farming in vilupuram district over large scale. This approach had a multipartite linkage between TNAU, Farmer and Bankers. Based on the same, the farmers were empowered economically and they did agriculture as a business.

ii) A SWOC analysis was conducted for the Precision farming farmers by the scientist to draw the success, weaknesses, opportunities and challenges faced under this farming system.

iii) Farmers were motivated to conduct their own workshops inviting the rural youths, farmers and farm women, KVK scientists, bank officials and tertiary doctors in which an awareness was created on latest farming technologies, use of farm machineries and veterinary management.

iv) New crops such as carrot, beetroot and small onions were introduced under Precision farming system (at Chinnasalem). Farmers have also become open to changing the cropping pattern (from groundnut followed by water melon to small onions in larger scale).

II. TN-IAMWARM (Tamil Nadu Irrigated Agriculture Modernization and Waterbodies Restotration and Management) Project

The TN- IAMWARM project has been implemented in Nalla vur sub basin, which is being implemented by KVK, Tindivanam. The project is for three years with an budget outlay of Rs.75.61 lakhs. Under this project, the important activities are Green manure-System of rice intensification (SRI)-Rice fallow pulse (RFP)-12ha, SRI-RFP-44ha cropping sequence, improved production technologies in pulses-70ha, groundnut-70ha and integrated nutrient management in vegetables-20 ha/year. The total beneficiaries is 255 farmers from Vanur, Anpakkam, kodur, Thailapuram, Vilvanatham, Ozhindiyappatu, Nallavur, Peravur, Thenkodipakkam and Konjumangalam, Alankuppam, Agoor, Pant hamangalam, Omipper, siruvadi, Kattalai, Molasur, eriyalur, Vepperi, Athur, Gidanal, Ulagapuram, Semangalam, Endur, Omandur, Kurur, Uranji, Brammadesam, Endiyur, Munur, Kuruvammappettai, Elavalapakkam, Uppuvelur, Sithanampakkam, Endur, Marur, Pudukuppam, Vittalapuram villages covering Marakkanam, Vanur and Mailam blocks of Villupuram district. The yield benefit of SRI over conventional method of rice cultivation is given in the table below.

Comparative advantage of Rajarajan 1000 over conventional Practice in rice cultivation

Village /tank	Beneficiary name	Variety	Grain yield (SRI) (Kg/ha)	Grain yield Conventional practice (Kg/ha)	% Yield increase
Thailapuram Radhakrishnan	hnan	ADT 39	5985	5094	17.5
	Vijayaraman ADT	39	6088	5214	16.8
	Muthukumarasamy ADT	39	5600	4986	12.3
Vanur G	unasegaran	White Ponni	4600	4152	10.8
	Ravichandiran White	Ponni	5088.46	54	9.3
Anpakkam Sethuraman	man	ADT 39	4997.42	73	16.9
	Rajamanikkam ADT	39	6514.51	12	27.4
Nallavur Annadurai	rai	CR 1009	6058	4324	26.8
	Janakiraman CR	1009	5327.45	71	16.5
	Kanthasamy White	Ponni	5108.40	88	25.0
Kodur Anna	malai.P	White Ponni	5483.46	79	17.2
	Annamalai.S ADT	39	5422.46	74	16.0
Molassur R	amanathan	CR1009	6011.54	21	10.9
Omipper V	engadesan	CR1009	5989.50	12	19.5
	Manibalan CR1	009	6187.47	88	20.1
Eraiyalur Sa	ravanan	CR1009	6115.49	78	22.8

From the table it is evident that Rajarajan 1000 demo plots may be showed a minimum of 9.3 percent to maximum of 27.4 per cent yield increase over the conventional method of rice cultivation. This might be due to the varietal influence coupled with appropriateness in adoption of all the key components of Rajarajan 1000 technology. Among the varieties, ADT 39 performed better than the other varieties CR1009 and Improved White Ponni.


Case study

Farmers of Villupuram district face major constraints such as lack or poor irrigation facilities, acute water shortage, ignorance of technical knowledge on latest cultivation techniques, traditional methods of cultivation and indiscriminate dumping of fertilizers and pesticides based on the irrational recommendation of pesticide shop owners. Failing monsoons have further deteriorated the condition badly affecting the cultivation of paddy crop. Mr. Appadurai from Omipper village of Marakkanam block was one such farmer, traditionally a paddy grower, who was on the verge of closing down agriculture due to the above said constraints when our KVK staff happened to knock his doors for an introduction of Rajarajan 1000 rice cultivation.

Activity: Green Manure-SRI-RFP

Farmer 1:


Personal Profile

Name and address	:	Mr. V.Appadurai S/o Venkatesan Throuwbathy Amman Koil Street Omipper Village Marakkanam Block Villupuram Dt	
Age :		26	
Educational qualification	:	Diploma	
Landholding (in ha)	:	3 ha	
Farming experience (in years)	:	10 years	
Name of crops/ livestock / other enterprises adopted by the farmer	:	Paddy, sugarcane and Pulses	
Variety cultivated	:	CR 1009	
Season :		Samba	

Hearing about the scheme, TN-IAMWARM Nallavur sub basin, which is being operated at Omipper village, Marakkanam block immediately implemented the Rajarajan 1000 rice technology under Green manure-SRI-Rice fallow pulse cropping sequence in 2 acres of his land. Rajarajan 1000 technology clicked in Mr. Appadurai's field, which became the attractive spot for the other farmers since his field is in road corner. The paddy field under Rajarajan 1000 technology gave such an attractive sight through its uniformity of growth, abundance of productive tillers and ability to withstand against lodging as of conventional method of planting White Ponni variety.

Activity: SRI-RFP

Personal Profile

Name and address	:	Mr. D. RAMANATHAN S/o Durairaj Reddiayar Street Molassur Village Marakkanam taluk	
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		Villupuram Dt	
Age :		54 years	
Educational qualification	:	10 th std	
Landholding (in ha)	:	10 ha	
Farming experience (in years)	:	25 years	
Name of crops/ livestock / other enterprises adopted by the farmer	:	Paddy, Pulses and vegetables, casuarina	
Variety :		ADT 39	
Season :		Samba	

Mr. Ramanathan, traditional paddy and pulses also not happy with the returns from the farming activities. By hearing about the IAMWARM scheme from his village people he showed his interest to cultivate rice with Rajarajan 1000 technology. He approached the SRF and showed his willingness towards SRI technique. He went for ADT 39 paddy cultivation in 2.5 ac and maintained his field in a very good condition and got a yield of 6011 kg/ha. His field has been visited Ethiopian team, Registrar and Dean (Agri), TNAU, Coimbatore. The Ethiopian team members wondered about the uniformity of growth and abundance of productive tillers.

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

CASE STUDY 1:

PRECISION FARMING AS A TOOL FOR THE ECONOMIC EMPOWERMENT OF VILLUPURAM DISTRICT FARMERS

Farmers of Villupuram district face major constraints such as lack or poor irrigation facilities, acute labour shortage, ignorance of technical knowledge on latest cultivation techniques, traditional methods of cultivation and indiscriminate dumping of fertilizers and pesticides based on the irrational recommendation of pesticide shop owners. Failing monsoons have further deteriorated the condition badly affecting the kharif crop. Mr. L. Athimoolam from Olakkur block of Tindivanam was one such farmer, traditionally a vegetable grower, who was on the verge of closing down a griculture due to the above said constraints when our KVK staff happened to knock his doors for an introduction of Precision farming using a laptop. Three phase electricity is available only for 5 -6 hours within which time farmers have to irrigate their complete farm area. Drip and fertigation system used in Precision farming ensures water economy, precise application of water-soluble fertilizers to root zone and keep an ideal soil moisture regime of 60 percent and aeration of 40%. Hearing that this system of cultivation addresses all the above mentioned issues of agriculture, and further being the president of Olakkur block, he immediately implemented precision farming over an area of 1ha. Later he raised Brinjal over 1 ha and arranged a congregation of about 60 farmers in the village for a technical training on the know hows and steps involved in Precision farming. Out of the group, only one came forward to take up this technique which happened to be the president Mr. Athimoolam himself. This was in the year 2007.

Precision farming clicked in Mr. Athimoolam's field in brinjal crop in one hectare. By the time the plants started blooming, the field gave such an attractive sight through its uniformity of growth and abundance of flowers that his farmer friends started flocking at his field. By the time the fruits were harvested and the crates ready for the market, there was a bee line for undertaking this method in many such farms.

Mr. Athimoolam's field soon became a training platform for farmers across Villupuram district who were brought for an exposure of the technology, as a result more than 1000 farmers have undertaken precision farming in an area of approximately 100 hectares in Villupuram district. Deputy Director General Dr.P.Das visited his farm during 2008 and appreciated the farmers for their significant contribution. Vegetables such as coccinea, bottle gourd, brinjal, bhendi, bitter gourd, snake gourd, tomato, shallots are cultivated regularly by this method. Mr. Athimoolam who took up bitter gourd cultivation under this method, observed that due to the optimum usage of water and fertilizers in this system, the vegetables reach early maturity and are ready for harvest much earlier than in the conventional method. The total yield shot from 4 tons in conventional method to 10 tons in this system fetching me a return of rupees 40,000/- per acre as against 24,000/- in the conventional method. The impact of my success spread over to my fellow farmers and now 20 others in my village are cultivating various crops under precision farming system under the able guidance of scientists from KVK.

Apart from this, sugarcane and maize are also cultivated under precision farming system.

Sugarcane cultivated by Mr.Karunanidhi at Keezhamavillangai under the precision farming system, were planted in two row system which could bear heavy winds, reduce pest and disease incidence, and provide more aeration to the roots. Water used previously for one cropping cycle could now be used for two cycles. Fertilizer given as fertigation reduced any possible wastage of both water and fertilizers and prevented unnecessary growth of weeds. Conventional planting required detashing which in this case was not a requirement. "I am happy to inform that I am getting 110 tons as against 45 tons in conventional method by getting double returns. Apart from the confidence that has built up within me as a 'techno-farmer', I call this system as "*A boon from the Heavens*" for the farming community" says a happier and a more confident Karunanidhi.

Maize crop under precision farming:

Mr. Periyasamy from Villupuram dt., Kallakurichi block who cultivates maize under PF system says, "I am a very happy man with a farm full of maize crop laid with drip irrigation under a two row system as against the usual one row system, where spacing between plants were less leading to choking of root growth leading to low yields. Further, my land not being of uniform terrain, the conventional irrigation could never reach all the plants uniformly and often was seen stagnating in the low slopes leaving the higher elevations dry. This had resulted in smaller cobs with low and uneven filling fetching a low price in the market. Now in drip system, optimum water is being brought to the reach of each plant along with nutrients through fertigation and I am delighted to see more than 2 to 3 cobs in each plant getting an overall yield of 7.5 tonnes as against 5.2 tonnes previously".

Curry Leaf Under Precision Farming:

Crops such as curry leaf and turmeric are also included under this system of cultivation. Farmer by the name Mr.A.Anandan harvested about 8 tonnes of curry leaf with an annual income of Rs1,20,000/- annum. However in the traditional method of cultivation farmer had only two cuttings per annum with an annual yield of 4.5 tonnes fetching around Rs.65,000/annum. However under precision farming 4 harvest was possible. Mr.Anandan from Kallakurichi producing curry leaf under PF system is convinced that plants got the optimum amount of water throughout leaving the field greener and fresher fetching them a better price. Broader spacing gave better aeration for the roots and so

yield was twice as much as in the conventional method. He could use the water available in my well for two crop cycles as against one in the conventional method. Weeds never grew in the field due to absence of water stagnation, saving him from labour cost as against two to three weedings otherwise. Low pest and disease incidence was another plus point. The quality of his produce has made the buyers to come and pick up the produce from the field directly, saving him from transportation charges. Farmers of Villupuram district who were once taking steps to close down agriculture who accounts to more than 1000 in this district, are making double profits and continuing farming with full confidence and satisfaction. Precision farming fields were visited by higher officials from state and Centre and were recipients of much appreciation.

**YIELD AND INCOME DETAILS OF PRECISION FARMING FARMERS
OF VILLUPURAM DISTRICT**

SI.NO CRO	P	YIELD(t/ha)	INCOME Rs.
1 BANANA		60	800000
2 BRINJ	AL	28	168000
3 COLE	US	30	240000
4	ELEPHANT YAM	50	200000
5 ONION		10	150000
6 WATE	R MELON	18	540000
7 BITT	ER GOURD	10	150000
8 CHIL	LY	18	250000
9 CURRY	LEAF	8	120000
10 MAIZE		7.5	70000
11 SNAKE	GOURD	11	110000
12 BHENDI		12	96000
13 TURM	ERIC	60	240000
14 SUGAR	CANE	150	142000

Using the cluster approach in order to approach the various individuals more effectively, 18 registered Precision Farmers' Associations were formed comprising of small, medium and big farmers from different social strata and varying mind set. Trainings and field visits were performed for all the 18 associations ensuring that each individual farmer included all of the activities.

CASE II

Mushroom cultivation elevates socio economic life of farmers in Villupuram district

Our KVK imparted 72 trainings to 1200 beneficiaries in order to give technical empowerment of the farmers of Villupuram district. Commercial production of spawn, mushroom, and value addition of mushroom and spent waste was one of them which would lead to the development of agri business for the farmers.

Mr. Akbar was one among the many trainees who got benefited from the above trainings meant for agri business development. An autorickshaw initially, Mr. Akbar used to earn an amount of Rs.7500/- per month leading a very modest lifestyle at Tindivanam. He ventured himself into a full time mushroom grower. Initially he tried with Oyster mushrooms but due to its inferior keeping quality he could not thrive on it. Next he went into production of milky mushrooms which has prolonged shelf life, nature of rapid growth on a variety of substrates, increased productivity, simple production technology, substantial and sustainable yield, attractive milky white colour, the most preferable shape, high B:C ratio and highly suited for Villupuram conditions. He started getting a net profit of Rs. 10,000/- from the production unit by selling the produce to retailers, sub retailers, regular customers and door deliveries each at a fixed margin. But his entrepreneurial mind did not stop with this. He along with his wife moved into putting down their culinary skills on to mushrooms and soon they were found selling various value added products which included mushroom filled samosas (Rs. 5 each), chapathis (Rs.15 each), soup (Rs.5 each) and chilli mushroom (Rs.20 each). No sooner than his first successful month of this venture, his net profit shot up to Rs. 15,000/-. He has now paid off 50% of the money borrowed for setting up of the mushroom unit. His children are now into better schools. He is now a model for many such youth who are in search of a new ventures both for survival and to improve their life style.

Value addition in mushroom

Particulars	No sold	Income (Rs)
Mushroom soup @ Rs 5/no	55500 277	500
Mushroom Samosa @ Rs 5/ no	4950 2	4750
Mushroom Chappathi @ Rs 15/set	3450 5	1750
Chilly Mushroom @ Rs 20/ no	4050 8	1000
Total		4,35,000

PART XII - LINKAGES

12.A. Functional linkage with different organizations

Name of organization	Nature of linkage
ORGANISATION'S	
State Department of Agriculture	Joint implementation, participation in meeting
State Department of Horticulture	Joint implementation, mentoring services. Diagnostic services, DMIC Member, NHM programme implementation, Tribal welfare programmes, joint exhibitions, inspections
State Department of Fisheries	Conducting training programmes
Seed certification	Human resource development, certification work in instructional farm, resource person
Lead Banks	conducting training programmes
NABARD	Sponsored programmes, conducting training programmes
Revenue Department	participation in meeting
State Department of Agriculture Engineering	participation in meeting
TamilNadu Women Development Corporation (TWDC)	conducting training programmes
Centre for Environment and Agricultural Development (CEAD)	conducting training programmes
Pondicherry Agro Service Industrial Corporation (PASIC)	Input supply and services
Inter Caste Marriage Foundation (ICMF)	Participation in training
IFFCO	Participation in meeting
NGO's	
Hand in Hand, Tindivanam	Organising and participating in training
BOWDA, Villupuram	Organising and participating in training
SCAWD, Villupuram	Organising and participating in training
Kalvi 105endra, Villupuram	Organising and participating in training
SPEED(Society for People Education and Economical Development)	Organising and participating in training
SHG's (Self Help Groups)	
Malligai Magaliar Group, Mailam	Participation in training
Rooja Magaliar Group, Gungamangalam	Participation in training
Jansirani Magaliar Group, Avanampatti	Participation in training
Indhira Gandhi Magaliar Group, Thenkollapakkam	Participation in training
Mailam Magaliar Group, Mailam	Participation in training
Nehru Magaliar Group, Sengurichi	Participation in training
Ganapathy Magaliar Group, Tindivanam	Participation in training
Ezhai Mariamman Magaliar Group, Napalaya	Participation in training
Annai Magaliar Group, Kolliyanoor	Participation in training
Omsakthi Magaliar Group, Valavanoor	Participation in training
Pasunthalir ulavar Mandram, Kattusiviri	Participation in training
Athi parasakthi Magaliar Mandram, Andapattu	Participation in training
Hand in Hand	Participation in training

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

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
Bioefficacy of Isotianil 200SC and Isotianil 200SC + Trifloxystorin 500SC as seed treatment against Paddy blast	December 2010	Bayer Crop Science India Ltd	Rs.86,871
National Initiative on Climate Resilient Agriculture (NICRA)	March 2011	ICAR	Rs.10.0 lakhs
NHM – Model nursery	October 2008	National Horticulture Mission	17,50,000
Exploitation of phenazine and DAPG producing PGPR for the management of noni diseases	May 2007	World Noni Research Foundation	6,06,000
NADP-Programmes on farmer participatory approach in quality seed production in groundnut and sesamum	February, 2011	NADP-TNAU	Centrally operated budget
TN-IAMWARM Project	April, 2010	World Bank	Rs. 75.61lakhs

12.C. Details of linkage with ATMA

a) Is ATMA implemented in your district Yes/

If yes, role of KVK in preparation of SREP of the district?
SREP prepared already

Coordination activities between KVK and ATMA during 2010-11

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks (if any)
01	Meetings	Sensitization workshop	1	-	
02	Research projects				
03	Training programmes				
04	Demonstrations				
05	Extension Programmes				
	Kisan Mela				
	Technology Week				
	Exposure visit	Visit by beneficiaries of sister department	7		
	Exhibition				
	Soil health camps				
	Animal Health Campaigns				
	Others (Pl. specify)				
06	Publications				
	Video Films				
	Books				
	Extension Literature				
	Pamphlets				
	Others (Pl. specify)				
07	Other Activities (Pl. specify)				

	Watershed approach				
	Integrated Farm Development				
	Agripreneurs development				

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

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

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

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

12.F. Details of linkage with RKVY :

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks
1.	Training on precision farming	Training of farmers identified by sister departments	5,00,000/-	2,05560/-	Trainees: 296
2	NADP-Programmes on farmer participatory approach in quality seed production in groundnut and sesamum	February, 2011	NADP-TNAU	Centrally operated budget	-

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 2010			
May			
June			
July			
August			
September			
October			
November			
December			
January 2011			
February			
March			

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 P	roduce	Qty.	Cost of inputs	Gross income	
1 Mi	st chamber	2006 16	0m2	Delhi crossandra	Seedlings 5	000	5250	12500	Given for OFT
2 Sh	adenet			Brinjal CO(B)H2	Seedlings	28000	-	-	Given for FLD

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

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty (Kg).	Cost of inputs	Gross income	
Cereals									
Paddy 1	3.12.10	17.3.11	0.4 ha	ADT39	Seeds	1250		25,000	
	9.12.10 28	.3.11	0.3 ha	CO40	Seeds	1200		24,000	
	8.12.10	5.4.11	0.4 ha	CO 50	Seeds	1500		30,000	
Millets									
Ragi	2.9.10	3.12.10	0.4 ha	Paiyur 2	Seeds	232		4640	
Samai 1	8.9.10	31.12.10	0.5 ha	Paiyur 2	Seeds	110		2200	
	23.9.10 30	.12.10							
Kudiraivalli 7.9.10		3.2.10	0.2 ha	CO2	Seeds	38		760	
Varagu 19.9.1	0	18.1.11	0.2 ha	Local	Seeds	160		3200	
Pulses									
Blackgram 24.6.1	0	21.9.10	0.8 ha	VBN4	Seeds	485		24250	
	29.6.10 23	.9.10	0.2 ha	VBN4	Seeds	62	31	00	
	1.7.10 24	.9.10	0.4 ha	VBN4	Seeds	151		7550	
	26.6.10 13	.9.10	0.1ha	C06	Seeds	20		1440	
	31.12.10 24	.3.11	1.6 ha	VBN4	Seeds	1500		1,05,000	
Greengram	26.6.10	19.9.10	0.5 ha	VBN2	Seeds	161		8050	
Mothbean	29.12.10	14.3.11	0.8 ha	TMV1	Seeds	350		17,500	
Redgram	25.6.10	15.11.10	0.1 ha	CO(Rg)7	Seeds	130	91	00	
Redgram 23.7.2	010	16.8.2010	25cents	CO(Rg)7	Seedling	25000	-	-	
Oilseeds									
Groundnut 21.6.1	0	8.10.10	1.2 ha	TMV13	Seeds	508		30480	
	2.7.10	26.10.10	0.4 ha	TMV7	Seeds	120		4800	
Sunflower	6.7.10	20.9.10	0.1 ha	CO2	Seeds	40		640	
Fibers									
Spices & Plantation crops									
Floriculture									
Fruits									
Vegetables									
Others (specify)									
Cumbu Napier Grass	1.4.10 31	.3.11	0.1 ha	CO4	Stem cuttings	38775 slips	1	5,510	
Guinea grass	26.9.10	31.3.11	5 cents		Rooted slips	15000 slips	7	500	

PART XIV - FINANCIAL PERFORMANCE

14.A. Details of KVK Bank accounts

Bank account	Name of the bank	Location	Branch code	Account Name	Account Number	MICR Number	IFSC Number
With Host Institute							
With KVK	State Bank of India	Tindivanam	929	Saving	11092104400	604002002002	SBIN 0000929

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

S. No	Items / Head	Opening balance if any	Remittance by ZPD VIII Bangalore	Actual expenditure debit to Council A/C	Closing balance if any	Remarks
1	Production Technology – 50 ha					
a.	Essential inputs					
b.	POL, hiring vehicle, Kisan melas, printed materials, reports, demonstration boards	-49950 -		-	-49950	-
To	total	-49950			-49950	
2.	Farm Implements – 75 ha					
a.	New equipments	--		-	-	-
b.	Contingencies	-	-	-	-	-
T	total	-	-	-	-	-

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

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	99,65,000 99	,65,000	1,16,06,044
2	Traveling allowances	1,25,000 1	,25,000	1,24,905
3	Contingencies	13,00,000		
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	2,40,000 2	,40,000	2,39,872
B	POL, repair of vehicles, tractor and equipments	1,50,000	1,50,000	1,49,964
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	80,000 8	0,000	80,000
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	60,000 6	0,000	59,978
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	1,90,000 1	,90,000	1,89,953
F	FLD on Special Pulses Programme	24,000	24,000	23,861
G	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	91,000 9	1,000	87,228
H	Training of extension functionaries	10,000	10,000	9,917
I	Maintenance of buildings	-	-	-
J	Extension Activities	25,000	25,000	24,987
K	Farmers Field School	25,000	25,000	24976

<i>L</i>	Chemicals and glasswares for soil and water testing labs	2,50,000	2,50,000	249016
<i>M</i>	Petty items-such s pestle and mortar, cloth bag, plastic jar, tray, gas c onnection for f lame photometer and other use, test tub e ho lder, so il s ampling au ger e tc., fo r so il and water testing lab.	1,00,000	1,00,000	99956
<i>N</i>	Soil and plant sample processing and storage facility	50,000	50,000	49,400
<i>O</i>	Library	5,000	5,000	4,978
TOTAL (A)		13,00,000	13,00,000	
B. Non-Recurring Contingencies				
1	Equipments including SWTL & Furniture			
a. S	WTL	10,00,000		9,78,416*
b. S	prayer (2 Nos.)	50,000		49,900
c. EP	ABX System	50,000		48,940
d. D	igital camera	25,000		23,413
e.	Laser guided land leveler	5,00,000		4,99,400
f.	Plant Health Diagnostic facility	10,00,000		9,96,500*
3	Works			
4	Library (Purchase of assets like books & journals)	10,000		9960
TOTAL (B)		26,35,000		26,06,529
C. REVOLVING FUND				
GRAND TOTAL (A+B+C)				

* in progress

14.D. 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 2008 to March 2009	7,21,125.3	56,409	3,19,993	7,57,541
April 2009 to March 2010	7,57,541.3	69,858	6,42,577	4,84,822
April 2010 to March 2011	4,84,822.5	28,831	8,53,239	1,54,414

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

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
Dr.M.Renuga	SMS (Horticulture)	Swadeshi prem jagriti sangoshi	Hebbal, Bangalore	28.5.10 to 31.5.2010
Dr.K.Natarajan	SMS (Seed Technology)	Special technology for harnessing pulsesproductivity	MPKV,Rahuri	2.6.2010 to 7.6.2010
Dr.V.Senthilvel	SMS (Plant Pathology)	Training on partnering of KVKs/SAUs/ICAR institutes with NABARD's initiatives for rural prosperity	Lucknow 28.6.	2010 to 4.7.2010
Dr.K.Poornima	SMS (Nematology)	ATMA orientation training cum workshop	Vellore 18.6.	2010
Dr.V.Senthilvel	SMS (Plant Pathology)	Mealybug parasitoids mass culturing	TNAU, Coimbatore	13.10.2010 to 14.10.2010
Dr.K.Natarajan	SMS (Seed Technology)	Training cum seminar on roundup ready flex cotton technology	TNAU, Coimbatore	28.10.2010
Dr.V.Senthilvel	SMS (Plant Pathology)	National Consultation Workshop- Strategy for development and conservation of the parasitoids of the papaya mealybugs through the country	NABII, Bangalore	30.10.10
Dr.P.C.Prabu	SMS(Environmental Science)	Integrated Farming System	KVK, Kattupakkam	10.11.2010
Dr.R.Uma Sankareswari	SMS(Agrl.Microbiology)	Training cum workshop on strengthening gender perspective in Agricultural Research and Extension	Madhavaram milk colony,TANUVAS Chennai	24.1.2011 & 25.1.2011
Dr.P.C.Prabu	SMS(Environmental Science)	Integrated farming system	KVK, Kattupakkam	10.11.10 to 12.11.10
Tmt.A.Amudha	Farm Manager	Alternative poultry farming as a livelihood option for farming community"	KVK, Namakkal	24.11.10 to 26.11.10
Dr.P.C.Prabu	SMS(Environmental Science)	Advances in soil health and fertility management	Directorate of Extension Education, TNAU, Coimbatore	21.3.2011 to 23.3.2011
Dr.V.Senthilvel	SMS (Plant Pathology)	IPDM strategies for high value crops	Directorate of Extension Education, TNAU, Coimbatore	24.3.2011 to 25.3.2011
Tmt.Vidhya.C P	rogramme Assistant (Technical)	Protected cultivation in horticultural crops	Directorate of Extension Education, TNAU, Coimbatore	28.3.2011 to 29.3.2011
Tmt.M.Selvi P	rogramme Assistant (Computer)	Data base management, web content and web hosting development '	Directorate of Extension Education, TNAU, Coimbatore	29.03.2011 to 31.03.2011

Tmt.A.Amudha	Farm Manager	Weather based Advisory Services'	Directorate of Extension Education, TNAU, Coimbatore	30.03.2011 to 31.03.2011
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- 16. Please include any other important and relevant information which has not been reflected above (write in detail).**

SUMMARY FOR 2010-11

I. TECHNOLOGY ASSESSMENT

Summary of technologies assessed under various crops

Thematic areas	Crop	Name of the technology assessed	No. of trials
Integrated Nutrient Management	Watermelon	Assessing the efficacy of combined application of liquid biofertilizer and <i>Pseudomonas fluorescences</i> in watermelon	5
Varietal Evaluation	Paddy	Assessment of new rice variety PMK(R)4 (Anna 4) in drought prone areas	5
Integrated Pest Management	Chillies	Management of Chillies pest and disease Complex	5
Integrated Crop Management	Black gram	Assessment of the performance of the pulse Wonder in pluses	5
	Crossandra	Management of nematode wilt complex in crossandra	5
Integrated Disease Management			
Small Scale Income Generation Enterprises			
Weed Management			
Resource Conservation Technology			
Farm Machineries			
Integrated Farming System			
Seed / Plant production	Paddy	Production of hybrid rice CORH3 in farmers participatory approach	5
	Redgram	Assessment of planting method in redgram	5
Value addition			
Drudgery Reduction			
Storage Technique			
Others (Pl. specify)			
Total			

Summary of technologies assessed under livestock

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials
Disease Management	Poultry	Control of Ranikhet disease in desi chicken	50 units
Evaluation of Breeds			
Feed and Fodder management			
Nutrition Management	Cattle	Area specific mineral mixture for dairy cows	5
Production and Management			

II. TECHNOLOGY REFINEMENT

Summary of technologies refined under various crops

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

Summary of technologies assessed under refinement of various livestock

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

III. FRONTLINE DEMONSTRATION

Cotton

Frontline demonstration on cotton

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

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

** BCR= GROSS RETURN/GROSS COST

Other crops

Crop	Thematic area	Name of the technology demonstrated	No. of KVKs	No. of Farmer	Area (ha)	Yield (q/ha)		% change in yield	Other parameters		*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
						Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Cereals	Introduction and popularization	Popularization of CORH3 paddy by SRI method	10		5	44	30	46.67	-	-	21075	40120	19045	1.90	24400	26000	1600	1.06
	Introduction and popularization	Popularization of alternate variety CO(R) 49 suitable for samba season		10	5	40	30	33.33	-	-	22560	35100	12540	1.55	24400	26000	1600	1.06
	IPM	Integrated pest and disease management in paddy	10		5	5812	3562	63.17	-	-	21225	54056	32831	2.55	16223	33131	16908	2.04
	Mechanization	Popularization of mechanization in paddy cultivation	5		2	5906	4687	26.09	-	-	16280	54928	38648	3.38	21330	43593	22263	2.04
Millets																		
Oilseeds	ICM	Introduction and popularization of latest variety TMV 7 sesame and ICM practices		8	4	7.25	4.27	69.79	-	-	7280	32625	25345	4.48	5106	19215	14109	3.76
	Seed production	Popularisation of seed production in groundnut by farmer participatory approach	5		1	25	15	66.67	-	-	30130	107500	77370	3.57	34460	64500	30040	1.87
	Introduction	Introduction of HYV and integrated crop management practices in groundnut in rabi season	5		1	13.4	8.02	67.08	-	-	-	-	-	-	-	-	-	-
	ICM	Introduction and popularization of variety Greengram VBN3 and ICM practices		10	5	10.4	7.3	42.47	-	-	7940	44516	35502	5.56	5210	24236	19025	4.65
Pulses	Drought management	Popularization of drought mitigation technologies in pulses (Blackgram VBN 4)		10	5	7.83	5.63	39.08	-	-	9700	32005	22305	3.30	11120	20831	9711	1.87
	ICM Specia	1 technology demonstration for harnessing pulses productivity		12	5	11.2	5	124	-	-	15000	59400	44400	3.96	18260	27000	8740	1.48
	Vegetables	Crop improvement	Popularization of CO (B) H2 brinjal		10						Demonstration is in progress							
	Crop improvement	Popularization of Palur -2 snake gourd				290	170	70.59	-	-	56892	74000	117108	3.06	55000	102000	47000	1.85
Flowers																		
Ornamental																		
Fruit																		

Fisheries

Category	Thematic area	Name of the technology demonstrated	No. of KVKs	No. of Farmer	No. of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.)				*Economics of check (Rs.)				
						Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR	
Common carps	Inland fisheries	Composite fish culture in village ponds		5	5	Demonstration is in progress													
Mussels																			
Ornamental fishes																			
Others (pl. specify)																			
Total																			

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

** BCR= GROSS RETURN/GROSS COST

Other enterprises

Category	Name of the technology demonstrated	No. of KVKs	No. of Farmer	No. of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.) or Rs./unit				*Economics of check (Rs.) or Rs./unit					
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR		
Oyster mushroom																			
Button mushroom																			
Vermicompost																			
Sericulture																			
Apiculture																			
Others (pl. specify)																			
Total																			

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

** BCR= GROSS RETURN/GROSS COST

Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl.specify)										
Production of Inputs at site										
Seed Production	2	71	6	77	14	7	21	85	13	98
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production										
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development	1	55	1	56	6	-	6	61	1	62
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
Others (pl.specify)										
Video conferencing of farmers with policy making	1	9	-	9	-	-	-	9	-	9
Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (Pl. specify)										
TOTAL	36 924		134	1058	124	27	151	1048	161	1209

Fish processing and value addition										
Others (pl.specify)										
Production of Inputs at site										
Seed Production	9	311	15	326	3	2	5	314	17	331
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production	3	84	9	93	-	-	-	84	9	93
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production	8	183	88	271	-	6	6	183	94	277
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development	1	11	6	17	5	1	6	16	7	23
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
Others (pl.specify)										
Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (Pl. specify)										
TOTAL	60	1672	270	1942	96	77	173	1768	347	2115

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
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl.specify)										
Improved production technology for pulses	1	25	-	25	-	-	-	25	-	25
Mechanization in cultivation of paddy	1	24	-	24	1	-	1	25	-	25
TOTAL	2	29	-	29	1	-	1	50	-	50

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	4	128	16	102	-	-	-	128	16	144
Integrated Pest Management	7	259	43	302	4	-	4	263	43	306
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs	1	35	7	42	-	-	-	35	7	42
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs	1	18	8	26	4	1	5	22	9	31
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify)	1	15	1	16	3	2	5	18	3	21
Seed certification	1	30	2	32	4	-	4	34	2	36
Total	15	485	77	520	15	3	18	500	80	580

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										
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify) Micro irrigation	4	502	25	527				502	25	527
Total	4	502	25	527				502	25	527

Sponsored training programmes

S.No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	Crop production and management										
1.a.	Increasing production and productivity of crops	6	206	35	241	32	8	40	238	43	281
1.b.	Commercial production of vegetables	8	158	32	190	5	7	12	163	39	202
2	Production and value addition										
2.a.	Fruit Plants	5	117	34	151	2	1	3	119	35	154
2.b.	Ornamental plants										
2.c.	Spices crops										
3.	Soil health and fertility management										
4	Production of Inputs at site	3	59	27	86	-	6	6	59	33	92
5	Methods of protective cultivation										
6	Others (pl.specify)	4	46	5	51	5	-	5	51	5	56
7	Post harvest technology and value addition										
7.a.	Processing and value addition										
7.b. O	thers (pl.specify)										
8	Farm machinery										
8.a.	Farm machinery, tools and implements										
8.b. O	thers (pl.specify)										
9.	Livestock and fisheries										
10	Livestock production and management										
10.a.	Animal Nutrition Management										
10.b.	Animal Disease Management										
10.c.	Fisheries Nutrition										
10.d F	isheries Management										
10.e. O	thers (pl.specify)										
11.	Home Science										
11.a.	Household nutritional security										
11.b.	Economic empowerment of women	1	-	18	18	-	2	2	-	20	20
11.c.	Drudgery reduction of women										
11.d. O	thers (pl.specify)										
12	Agricultural Extension										
12.a.	Capacity Building and Group Dynamics	2	66	7	73	11	1	12	77	8	85
12.b. O	thers (pl.specify)										
	Total		29 652	158	810	55	25	80	707	183	890

Details of vocational training programmes carried out 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	Crop production and management										
1.a. C	Commercial floriculture	1	25	-	25	-	-	-	25	-	25
1.b.	Commercial fruit production	1	25	-	25	-	-	-	25	-	25
1.c.	Commercial vegetable production										
1.d.	Integrated crop management										
1.e. O	Organic farming										
1.f. O	Others (pl.specify) Improved production technology for pulses	1	25	-	25	-	-	-	25	-	25
2	Post harvest technology and value addition										
2.a. V	Value addition										
2.b. O	Others (pl.specify)										
3.	Livestock and fisheries										
3.a. D	Dairy farming										
3.b. C	Composite fish culture										
3.c.	Sheep and goat rearing										
3.d. Pigge	ry										
3.e. Poul	try farming										
3.f. O	Others (pl.specify)										
4.	Income generation activities										
4.a. V	Vermi-composting	1	7	4	11	5	-	5	12	4	16
4.b.	Production of bio-agents, bio-pesticides, bio-fertilizers etc.	1	18	-	18	2	-	2	20	-	20
4.c.	Repair and maintenance of farm machinery and implements	1	24	-	24	1	-	1	25	-	25
4.d. R	Rural Crafts										
4.e. Se	Seed production	1	24	-	24	1	-	1	25	-	25
4.f. Se	Sericulture										
4.g. Mush	room cultivation										
4.h. N	Nursery, grafting etc.										
4.i.	Tailoring, stitching, embroidery, dying etc.										
4.j.	Agril. para-workers, para-vet training										
4.k. O	Others (pl.specify)										
5	Agricultural Extension										
5.a.	Capacity building and group dynamics										
5.b. O	Others (pl.specify)										
	Grand Total	7	148	4	152	9	0	9	157	4	161

V. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	614	614	61	4
Diagnostic visits	12	89	89	
Field Day	9	483	- 5	0
Group discussions	52	261	- 26	1
Kisan Ghosthi				
Film Show				
Self -help groups				
Kisan Mela				
Exhibition	6	7967	88 805	5
Scientists' visit to farmers field	76			
Plant/animal health camps				
Farm Science Club				
Ex-trainees Sammelan				
Farmers' seminar/workshop	1	356	- 35	6
Method Demonstrations	76	-	--	
Celebration of important days				
Special day celebration				
Exposure visits	19			
Others (pl.specify)				
Total				

Details of other extension programmes

Particulars	Number
Electronic Media	-
Extension Literature	1
News Letter	-
News paper coverage	33
Technical Articles	3
Technical Bulletins	-
Technical Reports	-
Radio Talks	11
TV Talks	-
Animal health amps (Number of animals treated)	-
Others (pl.specify)	
Total	48

VI. PRODUCTION OF SEED/PLANTING MATERIAL

Production of seeds by the KVKs

Crop category	Name of the crop	Name of the variety (if hybrid pl. specify)	Quantity of seed (q)	Value (Rs)	Number of farmers
Cereals p	addy	ADT 39	12.50	25000	
		CO 49	12.00	24000	
		CO50	15.00	30000	
Oilseeds G	roundnut	TMV 13	5.08	30480	4
		TMV 7	1.20	4800	
S	unflower	CO 2	0.40	640	1
Pulses B	lackgram	VBN 4	21.98	139900	24
		CO 6	0.20	1440	
Gre	engram	VBN 2	1.61	8050	5
R	edgram	Co(Rg) 7	1.30	9100	5
Mo	thbean	TMV 1	3.50	17500	14
Commercial crops					
Vegetables					
Flower crops					
Spices					
Fodder crop seeds					
Fiber crops					
Forest Species					
Others					
Minor millets	Ragi	Paiyur 2	2.32	4640	
Sa	mai	Paiyur 2	1.10	2200	
K	udiraivalli	CO 2	0.38	760	
V	aragu	local	1.60	3200	
Total			80.16	301710	53

Production of planting materials by the KVKs

Crop category	Name of the crop	Name of the variety (if hybrid pl. specify)	Number	Value (Rs.)	Number of farmers
Commercial	Crossandra	D elhi crossandra	5000	12500	5
Vegetable seedlings	Brinjal	CO(B)H2	28000	-	10
Fruits					
Ornamental plants					
Medicinal and Aromatic					
Plantation					
Spices					
Tuber					
Fodder crop saplings	Cumbu napier	CO 4	38775 slips	15510	32
	Guinea grass		15000 slips	7500	10
Forest Species					
Others					
Total			53775 slips	23010	42

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity	Value (Rs.)	No. of Farmers
		Kg		
Bio Fertilizers	Vermicompost	250 1	0000	5
Bio-pesticide				
Bio-fungicide				
Bio Agents				
Others				
Total				

Production of livestock and related enterprise materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers
Dairy animals				
Cows				
Buffaloes				
Calves				
Others (Pl. specify)				
Poultry				
Broilers				
Layers	Rhodowhite	20	3688 1	8
Duals (broiler and layer)				
Japanese Quail				
Turkey	Nandhanam	10	7650 8	
Emu				
Ducks				
Others (Pl. specify)	Guinea fowl	10	2063 5	
Piggery				
Piglet				
Others (Pl. specify)				
Fisheries				
Fingerlings				
Others (Pl. specify)				
Total				

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

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

VIII. SCIENTIFIC ADVISORY COMMITTEE

Number of SACs conducted : 1

IX. NEWSLETTER

Number of issues of newsletter published : 4

X. RESEARCH PAPER PUBLISHED

Number of research paper published

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

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

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