

PROFORMA FOR ANNUAL REPORT 2010-11

(FOR THE PERIOD APRIL 2010 TO MARCH 2011)

KRISHI VIGYAN KENDRA (VIRUDHUNAGAR)

GENERAL INFORMATION ABOUT THE KVK

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

KVK Address	Telephone	E mail	Web Address
Krishi Vigyan Kendra, Kovilangulam Aruppukottai -626107 Virudhunagar District, TN	Office 04566-220561	FAX 04566220561	kvkvirudhunagar@tnau.ac.in www.tnau.ac.in

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

Address	Telephone	E mail	Web Address
	Office Fax		
Tamil Nadu Agricultural University, Coimbatore-641 003	0422-6611433	ee@tnau.ac.in	www.tnau.ac.in

1.3. Name of the Programme Coordinator with phone & mobile No	Telephone / Contact
Res Dr.S.Murali Krishnasamy	idence 09244244034

Mobile	Email
9994399200	muralikrishnasamy @ yahoo.com muralikrishnasamy @ gmail.com

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	Programme Coordinator	Dr.S.Murali Krishnasamy	Professor M	Agronomy	Ph.D.	37400-67333-GP-10000	590103	0.06.07	Permanent	OC
2	SMS	Mr.M.Rajendran	Asst. Professor M	Agricultural Entomology	M.Sc.(Ag.) 37	400-67333-GP-9000	564600	7.05.08	Permanent	OBC
3	SMS	Dr.D.Jegadeeswari	Asst. Professor F	Soil Science &Ag.Chemistry	Ph.D. 15	600-39100-GP-7000	298301	7.05.06	Permanent	OBC
4	SMS	Mr.K.Ramakrishnan	Asst. Professor M	Agricultural Extension	M.Sc.(Ag.) 15	600-39100-GP-6000	243201	9.04.10	Permanent	OBC
5	SMS	Dr.R.Jayashree	Asst. Professor F	Environmental Science	Ph.D. 15	600-39100-GP-6000	256003	0.12.09	Permanent	OBC
6	SMS	Dr.S.Rathika	Asst. Professor F	Agronomy	Ph.D.	15600-39100-GP-6000	256003	0.12.09	Permanent	OBC
7	SMS	Dr.S.Muthuramu	Asst. Professor M	Plant Breeding & Genetics	Ph.D. 15	600-39100-GP-6000	256001	3.01.10	Permanent	SC

8	Programme Assistant (Lab Tech.)/ T-4	Mrs. M. Kavitha	Programme Assistant	F	Home Science	B.Sc.(H.Sc.)	9300-34800-GP-4400	13700	24.02.11	Permanent	BC
9	Programme Assistant (Computer)/ T-4	Mrs.N.Ramya Co	Computer Programmer	F	Computer	BCA	9300-34800-GP-4400	15530	04.12.08	Permanent	SC
10	Programme Assistant/ Farm Manager	Mr.R.Karthik F	Farm Manager	M	Horticulture	M.Sc.(Horti.)	9300-34800-GP-4400	15995	17.09.10	Permanent	OBC
11	Accountant	Mrs.S.Dhanalachumi	Superintendent	F	-	-	9300-34800-GP-4800	19480	9.05.06	Permanent	SC
12	Jr. Stenographer	Mr.A.Mohamed kasin	Superintendent	M	-	-	9300-34800-GP-4800	18910	23.02.06	Permanent	OBC
13	Driver	Mr.S. Jawahar	Mechanic	M	-	-	5200-20200-GP-2400	11310	10.05.06	Permanent	OBC
14	Driver	Mr.M. Gurumoorthi	Driver	M	-	-	5200-20200-GP-2000	9140	23.07.07	Permanent	OBC
15	Supporting staff	Mr. N. Sakthivel	Office Assistant	M	-	-	5200-20200-GP-1800	9660	23.02.06	Permanent	OBC
16	Supporting staff	Mrs.V. Krishnaveni	Office Assistant	F	-	-	5200-20200-GP-1300	7490	23.02.06	Permanent	OBC

1.6. Total land with KVK (in ha) :

S. No.	Item	Area (ha)
1	Under Buildings	0.4
2.	Under Demonstration Units	0.6
3.	Under Crops	14.6 ha
4.	Orchard/Agro-forestry	0.4
5.	Others	-

1.7. Infrastructural Development:

A) Buildings

S. No.	Name of building	Source of funding	Stage					
			Complete In			complete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR			55,00,000	4.6.2010	550	Nearing Completion will be over by May 2011
2.	Farmers Hostel	ICAR	March 2011	300	30,00,000			Completed
3.	Staff Quarters	Not sanctioned						
1								
2								
3								
4								
5								
6								
4.	Demonstration Units							
	1.Goat Demo Unit	ICAR	March 2011	80	7,60,000			Completed
2	.Poultry Demo Unit	ICAR	March 2011	80	3,40,000			Completed
	3 Shade net nursery	NMPB	March 2009	50	30,000			Completed
5	Fencing							
6	Rain Water harvesting system							
7	Treshing floor							
8	Farm godown							

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Jeep	2009	5,58,000	48200	Good and in use
Two wheeler	2009	58,000	10027	Good and in use
Two wheeler	2009	41,805	5037	Good and in use
Tractor	2010	5,00,000	50 hour	Good and in use
Power Tiller	2010	1,33,328	10 hour	Good and in use

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Computer with accessories	2007	45,462	Working
Digital Camera	2007	16,640	Working
Digital copier Machine	2007	74,996	Working
LCD Projector	2007	53,500	Working
Digital pH Meter	2007	7,946	Working
Digital Conductivity Meter	2007	8,300	Working
Spectrophotometer	2007	89,454	Working
Flame photometer	2007	33,300	Working
Automatic KJEL PLUS Block digestion and Distillation system	2007	1,76,432	Working
ANAMED Electronic balance -6000 g Capacity	2007	28,567	Working
ANAMED Electronic balance -200 g capacity	2007	92,007	Working
Hot plate	2007	1,919	Working
Hot air oven	2007	7,070	Working
Grinder	2007	12,428	Working
Refrigerator 2	007	9,950	Working
Spring type projection screen	2007	2,100	Working
Electrical water bath	2007	3,400	Working
Water still	2007	28,418	Working
Mechanical shaker	2007	22,247	Working
Fax machine	2009	15,000	Working
Chaff cutter (1.5H.P)	2011	12,584	Working
Homestead incubator	2011	15,600	Working
UPS 600 VA, UTL	2011	5,351	Working
Hi-Power 80 M battery	2011	8,820	Working
EPABX system	2011	49,820	Working
Computer and Accessories	2011	74,996	Working
LCD TV Panasonic	2011	20,999	Working
LG 1.5 Ton split AC with stabilizers	2011	88,799	Working
Multimedia Projector Infocus	2011	32,724	Working
Konica laser colour printer	2011	17,280	Working
Laser Land Leveler	2011	3,40,000	Working
Generator 2	011	2,25,000	Installed

1.8. Details SAC meeting conducted in 2010-11

Sl.No.	Date	Number of Participants	No. of absentees	Salient Recommendations	Action taken
1.	21.09.10	55	1	Introduction of TPS 3 Rice, Sericulture	Included in the Annual Action Plan 2011-12
2.				Mass Popularization of PMK-4(Anna) Rice Variety	FLD conducted and to be continued this year also
3.				Popularization of backyard poultry breed Cauvery and Namakkal 1	Included in the Annual Action Plan 2011-12
4.					

PART II - DETAILS OF DISTRICT

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

S. No	Farming system/enterprise
1	Farming Situations - Rainfed Vertisol Rainfed Cotton + Pulses – fallow Rainfed sorghum + Cowpea – fallow Rainfed Pulses – fallow Rainfed sunflower – fallow Rainfed maize/Pearl millet – fallow Rainfed Coriander +Bengal gram
2	Farming Situations - Rainfed Alfisol Rainfed Groundnut + Redgram –fallow Rainfed sorghum + Cowpea – fallow
3	Rainfed tank ayacut Rice – fallow
4	Gardenlands Pulses – Rice/Cotton – Vegetables

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

S. No	Agro-climatic Zone	Characteristics
1	Southern Agro-climatic Zone	The climate of the region is semi-arid tropic with an average annual rainfall of 830 mm. The station is having black soil, the depth ranging from 0.6 to 1.2 m. The soil group is vertisol with clay loam and underlying canker nodules.

S. No	Agro ecological situation	Characteristics
1	Agro ecological Zone-I	Rainfed area is 2.62 lakh ha, receiving 425 mm annual rainfall mainly from NEM and LGP is 115 days. Specifically Unimodel Rainfall and single crop

2.3 Soil type/s

S. No	Soil type	Characteristics	Area
1	Red loam	Shallow to very deep, well drained with clay enriched B horizon and more of sesquioxide in the surface horizon, red to yellow in colour due to ferric oxides, variable in texture from loamy sand to clay loam, pH of 6.0 TO 7.5, shallow to deep depth, well drained, low in CEC and base saturation, low in organic matter, low in N,P, and high in K.	Rajapalayam Watrap Srivilliputhur Taluks
2	Lateratic Soil	More of sesquioxide in the surface horizon, deeply weathered, high clay content, pH of 6.0 TO 6.8, with depth there is a decreasing intensity of red colour and clay content, deficient in P due to high P fixing capacity, toxicity of Al and Mn, deficiency of K,Ca,Mg,Zn and B	Tiruchuli Kariappatti Taluks
3	Black Soil	Having high clay content,towards calcareous, pH of 7.8 to 9.4, have high CEC, high moisture holding capacity,black colour due to clay humus complexes,low in organic matter, low in N,P, and high in K	Sattur, Srivilliputhur Aruppukkottai Virudhunagar Taluks
4	Sandy Coastal Alluviam	Recently formed,shows little or no horizonation, light coloured,Coarse in texture mostly sandy loam, pose problems of soil salinity and or sodicity,deficient in N.P and organic matter	Narikkudi Kariappatti Taluks

2.4. Area, Production and Productivity of major crops cultivated in the district (2009-10)

S. No	Crop	Total Cropped Area (ha)	Production '1000 tonnes	Productivity (kg/ha)
1 Pa	ddy	32496.65	107.239	3300
2 Cho	lam	11077.35	9.36	845
3 Cum	bu	3129.995	6.013	1921
4 Rag	i	199.75	0.318	1592
5 Korr	a	0	0	0
6 Vara	gu	15.94	0.023	1443
7 Sama	i	0	0	0
8 Ma	ize	16465.84	86.544	5256
9 Oth	er Cereals	990.545	0.512	517
10 Red	gram	398.875	0.28	702
11 Be	ngalgram	167.35	0.04	239
12 Gree	ngram	8026.65	4.519	563
13 Bla	ckgram	4237.885	1.102	260
14 Hors	egram	63.51	0.028	441
15 Oth	er pulses	924.585	0.161	174
16 Grou	ndnut	8795.45	10.405	1183
17 Ging	elly	2527.41	0.9	356
18 Su	nflower	1522.1	1.087	714
19 Co	tton	8705.255	2.324	267
20 Su	garcane	3902.195	386.317	99000
21 To	pioca	38.435	1.622	42201
22 Ind	igo	0	0	0
23 Ba	nana	862.74	41.188	47741
24 Cor	iander	3288.6	2.038	620
25 Chi	llies	3104.105	1.782	574
26 Onio	n	1295.065	6.913	5338
27 Car	damom	278.59	0.024	86

* Sugarcane, Banana, productivity in t/ha

Source: Department of Economics and Statistics, Virudhunagar

2.5. Weather data

Month R	ainfall (mm)	Temperature ° C		Relative Humidity (%)
		Maximum	Minimum	
April 2010	43	34.6	21.2	65.5
May 2010	48.3	37.4	23.8	58.5
June 2010	0	36.8	24.3	55.5
July 2010	0	37	23.8	52.5
August 2010	90.6	36.6	23.2	56.5
September 2010	70.4	36.7	24.4	64
October 2010	33.2	33.6	23.7	61
November 2010	262.8	30.9	23.3	84.5
December 2010	33.6	29.5	20.4	84.5
January 2011	1.8	30.8	20.7	67.7
February 2011	0	31.8	21	68.7
March 2011	21	35.4	21.3	59.5

*Agricultural Meteorological Observatory, Regional Research Station, Kovilangulam

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

Category	Population (in '000)	Production	Productivity
Cattle	231574		
<i>Crossbred</i>			
<i>Indigenous</i>			
Buffalo	25713		
Sheep 27	2762		
<i>Crossbred</i>			
<i>Indigenous</i>			
Goats	275249		
Pigs	14023		
<i>Crossbred</i>			
<i>Indigenous</i>			
Rabbits			
Poultry 38	6268		
Hens			
<i>Desi</i>			
<i>Improved</i>			
Ducks			
Turkey and others			

Source: Department of Economics and Statistics, Chennai-6

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

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

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

2.8 Details of Operational area / Villages

Sl.No.	Taluk	Name of the block	Name of the village	How long the village is covered under operational area of the KVK (specify the years)	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1.	W	atrap	Watrap Maharajapuram Sundarapandiyam	3 Ri ce		Superfine rice variety BPT 5204 is in vogue due to market preference It is prone to blast disease Alternative to BPT is required	Super fine rice variety with good market preference
2.	A	ruppukottai	Muthuramalingapuram Naarthampatti	4 1	Black gram	Low yields. Flower drop Weed menace Broad cast sowing Poor establishment	Introduction of high yielding varieties ICM Pulse wonder spray
3.		Arupukottai and Kariyapatti	Gopalapuram Muthuramalingapuram Pisindi	4 3	Redgram Redgram	cultivation is getting reduced in the district. Even if it is cultivated, it is seldom raised as a pure crop.	Integrated Production Technology
4.		Arupukottai and Rajapalayam	Muthuramalingapuram Rajapalayam	4	Redgram Lo	w productivity due to local variety	Introduction of New Hybrids
5.		Kariapaati	Maraikulam	5	Ground nut	Cultivating old variety – poor yielding Non application of Gypsum Pest and disease problem (Thrips and leaf spot)	Mechanised sowing ICM
6.		Kariappatti and Sathur	D.Kadambankulam Nalli	4 and 1	Chillies	Use of low yielding variety	Variety introduction
7.		Virudhunagar, Arupukottai	Virudhunagar, Arupukottai	4	Dairy Lo	w milk yield Fertility problem and oestrous synchronisation in animals	Mineral nutrition introduction
8.		Virudhunagar, Arupukottai	Kuppampatti Ondipuli Naickanur Mudukkankulam Sankaralingapuram	1	Poultry Ra	nikhet disease is disastrous in poultry	Poultry Disease management
9.		Arupukottai	Muthuramalingapuram and Kallumadam	4 1	Blackgram Lo	w productivity Water scarcity in rainfed cultivation	Mini mobile sprinkler introduction and ICM

10	Srivilliputhur		Srivilliputhur Karisalkulam Mamsapuram	3 2 1	Rice L	Low yielding varieties Non adoption of INM and IPM Low productivity	Introduction of Co(R)H 3 hybrid under SRI
11	Thiruchuli		Senkulam Paralatchi Melaiyur	4 3 1	Rice Lo	Low productivity Drought Use of local variety Poor management practices	Drought tolerant rice Drought management strategy
12	Rajapalayam		Rajapalayam Sethur Muthusamipuram Dalavoipuram	3 2 1	Rice L	Labor scarcity	Farm mechanisation in rice
13.	Thiruchuli and Virudhunagar blocks		Sengulam Sundaralingapuram	1 1	Cumbu Dr	Drought	Drought management practices
14.	Aruppukottai		Chidhambarapuram Ramalingapuram Ramanaickanpatti Vadhuvarpatti Muthuramalingapuram Naarthampatti	2 2 2 2 1	Fodder grass	Low productivity Local variety	Integrated Crop Management practices by cultivating latest released variety with high yield potential
15.	Kariapatti and Virudhunagar		Kariapatti Mudukankulam	4 4	Onion	Use of low yielding variety	Variety introduction
16.	Kariapatti		Aaviyur Arasagulam Melathulukkangulam	4 4 5	Poultry L	Low productivity Local variety	Popularisation of CARI Aseel
17.	Aruppukottai and Kariapatti		Muthuramalingapuram 4		Kudiraivali	Low productivity Local variety	Variety introduction
18.	Virudhunagar, Aruppukottai		Virudhunagar, Aruppukottai	2 4	Goat L	Low body weight due to nutrient deficiency	Popularisation of mineral salt lick cake
19.	Rajapalayam and Kariapatti		Rajapalayam Sethur Muthusamipuram Dalavoipuram Mudukankulam	3 2 1 1 4	Mango L	Low productivity Local variety	Introduction of high density planting in Alfanse
20.	Kariapatti and Aruppukottai		V.Nangoor Vaduvarpatti	3 2	Sesamum	Use of low yielding variety	Varietal introduction
21.	Thiruchuli		Vadakkunatham	1	Blackgram Greengram	Poor management practices Low productivity	Integrated Production Technology
22.	Kariapatti and Aruppukottai		Aviyoor Amanakkunatham	4 3	Castor	Use of low yielding variety	Hybrid introduction
23.	Sivakasi and Vembakkottai		Erichchanatham D. Reddiyapatti O.Muthuswamipuram	4 2 1	Sunflower	Use of low yielding variety	Hybrid introduction

2.9 Priority thrust areas

S. No	Thrust area
	Crop production
1	Farm Mechanisation/ Mechanised sowing
2	Drought management practices
3	Varietal / hybrid introduction
4.	Weather based crop planning and response farming
5.	Micro Irrigation and water / moisture conservation measures
6.	Integrated Pest and disease management
7.	Arid zone fruit crops – management
8. In	tegrated farming system
.9	Weed management technologies
10	Integrated Production Technology/ ICM practices
	Animal Husbandry
1	Cattle – breed improvement
2	Animal Nutrition in cattle – to improve fertility and health
3	Poultry Disease management – raniket disease management
4	Breed improvement in goats – to sustain high temperature and drought
	Home Science
1	Value addition in Arid Zone fruits
2	Extruded products from millets
3	Extraction of oleo resins from chillies and jasmine
4	Packaging technology for spices
	Farm machinery
1	Farm mechanization – seed drills, weeders, threshers and Improved paddy transplanter for square planting
2	Motorised power weeder with adjustable row spacing
3	Processing of pulses and sunflower

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			
Target	Achievement	Target	Achievement	Targets	Achievement	Target	Achievement		
8	8	70	1	06	2	0	20	140	404

Training				Extension Programmes			
3				4			
Number of Courses		Number of Participants		Number of Programmes		Number of participants	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
75	77	2000	2387	125	292	5000	10771

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
		Seedlings & Grafts	2958

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
Ornamental fish	132	Portable vermi unit	20 Nos.

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

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions										
				Title of OFT if any	Title of FLD if any	Number of Training (farmers)	Number of Training (Youths)	Number of Training (extension personnel)	Extension activities (No.)	Supply of seeds (Qtl.)	Supply of planting materials (No.)	Supply of livestock (No.)	Supply of bio products	
													No	Kg
1	Variety evaluation	Rice	Superfine rice variety BPT 5204 is in vogue due to market preference. It is prone to blast disease. Alternative to BPT required.	Assessment of rice varieties for productivity and market preference.	1						Seeds			
2	Variety evaluation	Black gram	Low yields. Flower drop. Weed menace. Broadcast sowing. Poor establishment.	Assessment of black gram varieties for enhancing productivity by floral retention.	6				1		Seeds Pulse wonder			
3	Integrated Production Technology	Redgram	Lower yield due to improper planting method. Non adoption of foliar spray during flowering stage. Improper pest management practices.	Assessment of different crop establishment techniques in Redgram.							Seeds			

4.	Micro irrigation	Blackgram	Low productivity due to local variety Inadquate plant population Non adoption of INM and water management practices	Mini mobile sprinkler irrigation in blackgram						Seeds				
5.	Mechanised sowing	Groundnut	Cultivating old variety – poor yielding Non application of Gypsum Pest and disease problem (Thrips and leaf spot)	Assessment of mechanised sowing in groundnut	1									
6.	Variety introduction	Chillies	Use of low yielding variety	Assessment of chillie varieties for yield and market ability as spice	13					Seeds				
7.	Milch animals improvement	Dairy	Low milk yield Fertility problem and oestrous synchronisation in animals	Management of post partum anestrus in crossbred cows						Mineral mixture Deworming liquid				
8.	Poultry Disease management	Poultry	Ranikhet disease is disastrous in poultry Mortality due to Ranikhet disease	Control of Ranikhet disease in desi chicken	1				2	RDV K Vaccine Lasota eye drops Oral pellet Ranikhet vaccine				

9.	Hybrid introduction	Rice	Low yielding varieties Non adoption of INM and IPM Low productivity	In	Production of Co(R) H 3 rice hybrid under SRI	4			1	Seed				
10.	Drought tolerant rice variety introduction	Rice	Low productivity Drought Use of local variety Poor management practices	In	Production of Semi dry rice variety Anna	4			1	Seed Chemicals				
11.	Farm mechanization in rice	Rice	Labour scarcity Uneven population Delayed operations	Popul	Introduction of fully mechanized cultivation of rice			1	1	Seed				
12.	Variety introduction	Bajra	Low yielding variety Terminal drought	In	Production of bajra variety Co(Cu) 9	4								
13.	Variety introduction	Guinea grass	Low productivity by Local variety	In	Production of Co(GG) 3 Guinea grass	1					Fodder slips			

14	Hybrid popularisation	Cumbu napier hybrid grass + Desmantis	Non availability of fodder Low productivity by Local variety	Popul	arisati on of Co(C N) 4 Cumb u Napier hybri d grass + legu me fodde r desm anthu s	4				Desm anthu s seed	Fodder slips			
15	Va riety popularis ation/ Horticultu re	Onion U	se of local variety Poor productivit y High bulb cost	Popul	arisati on of Co(5) Onion					Seed	Bulb			
16	Va riety popularis ation/ Horticultu re	Onion U	se of local variety Poor productivit y High bulb cost	Popul	aisati on of Nasik red Bellar y Onoio n					Seed	Bulb			
17	Popularis ation of Poultry breed	Poultry Po	or egg production Slow growing breeds used	Popul	arisati on of CARI breed Aseel backy rad poultr y	1				CARI Aseel poultr y				
18	Va riety introducti on	Kudiraiv alli			Popul arisati on Kudir aivali variet y Co 2	1				Seed				

19	Animal Nutrition	Goat	Low	weight Increased intercalvin g period Poor milk production	Popul	arisati on of miner al salt lick cake in goat nutriti on	1				Mineral salt lick cake			
20	Horticulture	Mango	Low	yield Low population	Hi	gh densit y planti ng in mang o					Seedling s			
21	Integrated crop management	Sesame		Local variety Manganes e deficiency Sesamum wilt	In	tegr ated Crop Mana gemnt in Sesa mum	1				Seed Chem icals			
22	Production technology	Blackgram		Lower yield due to use of local variety Inadequat e plant population Non adoption of foliar spray of nutrients Micro nutrient applicatio n is seldom done leading to poor pod setting and reduced seed weight. Flower dropping and reduced seed size.		Popul arisati on of VBN (Bg) 3 Black gram	8		1	1	Seed Pulse wond er			

23	Production technology	Greengram	Lower yield due to use of local variety Inadequate plant population Non adoption of foliar spray of nutrients Micro nutrient application is seldom done leading to poor pod setting and reduced seed weight. Flower dropping and reduced seed size.	Population	Introduction of VBN (GG) 3 green gram	8		1	1	Seed Pulse winder				
24	Mechanized sowing	Groundnut	Drudgery of labour Non availability of labour for sowing Inadequate plant population	Mechanization	Mechanized sowing in Groundnut	1				Seed				
25	ICM	Castor	Varieties are low yielding Non adoption of INM	Introduction	Introduction of castor hybrid YRC H 1	1				Seed				
26	ICM	Sunflower	Varieties are low yielding Non adoption of INM	Population	Introduction of Sunflower hybrid KBS H 1	2				Seed				

27	Chaff cutter popularisation	Chaff cutter	Labour scarcity Fodder wastage Drudgery of labour	Popul	arisati on of Chaff cutter	4		1	3					
28	Poultry production	Homestead incubator	Low hatching tendency	Ho	me stead incubator for desi egg hatching	1								

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) Field Day
1	2	3	4	5	6	7	8
1	Assessment of rice varieties for productivity and market preference	TNAU	Rice 1			1	
2	Assessment of blackgram varieties for enhancing productivity by floral retention	TNAU B	black gram	1		6	
3	Assessment of different crop establishment techniques in Redgram	TNAU and UAS, Dharwad	Redgram	1		-	1
4	Mini mobile sprinkler irrigation in blackgram	TNAU Bla	ckgram	1		-	
5	Assessment of mechanised sowing in groundnut	ICRISAT Grou	ndnut	1		1	
6	Assessment of chillie varieties for yield and marketability as spice	UAS, Bangalore and Gundur	Chillies 1			13	
7	Mangement of post partum anestrus in crossbred cows	TANUVAS Dairy		1		-	
8	Control of Ranikhet disease in desi chicken	TANUVAS Pou	ltry	1		1	
9	Introduction of Co(R)H 3 rice hybrid under SRI	TNAU Ri	ce		1	4	1
10	Introduction of Semi dry rice variety Anna	TNAU Ri	ce	1		4	1
11	Popularisation of fully mechanized cultivation of rice	TNAU Ri	ce		1	1	
12	Introduction of bajra variety Co(Cu) 9	TNAU Bajar	a		1	4	
13	Introduction of Co(GG) 3 Guinea grass	TNAU Gu	inea grass		1	1	
14	Popularisation of Co(CN) 4 Cumbu Napier hybrid grass + legume fodder desmanthus	TNAU Cum	bu napier hybrid grass + Desmanthus	1		4	

Resource Conservation Technology										
Farm Machineries		1								
Integrated Farming System										
Seed / Plant production										
Value addition										
Drudgery Reduction										
Storage Technique										
Mushroom cultivation										
Total	1	13			1				6	

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

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fru its	Flower	Plantation crops	Tuber Crops	TOTAL
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										
Mushroom cultivation										
Total										

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	11					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	Rice	Assessment of rice varieties for productivity and market preference	4	4	1.6
Varietal / Hybrid Evaluation	Blackgram	Assessment of blackgram varieties for enhancing productivity by floral retention	5	5	2.0
	Chilli	Assessment of chillie varieties for yield and marketability as spice	5	5	2.0
Integrated Pest Management					
Integrated Crop Management	Redgram	Assessment of different crop establishment techniques in Redgram	5	5	1.5
	Blackgram	Mini mobile sprinkler irrigation in blackgram	5	5	2.0
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries	Groundnut	Assessment of mechanised sowing in groundnut	5	5	2.0
Integrated Farming System					
Seed / Plant production					
Value addition					
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total			34	34	13

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

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					
Farm 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	Management of post partum anestrus in crossbred cows	50 animals	25
Disease management	Poultry	Control of Ranikhet disease in desi chicken	1000 birds	47
Value addition				
Production and management				
Feed and fodder				
Small scale income generating enterprises				
Total			27	2

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

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 trials	Technology Assessed	Param eters of assess ment	Data on the parameter	Results of assess ment	Feedb ack from the farmer	Any refi ne me nt nee ded	Justifi catio n for refine ment
1	2	3	4	5	6	7	8	9	10	11	12
Rice Irriga d	te	Superfine rice variety BPT 5204 is in vogue due to market preference It is prone to blast disease Alternative to BPT required	Assessment of rice Varieties and productivity and market preference	4 BPT	5204 CO (R) 49 CO (R) 48	No.of Product ive tillers/m 2 No.of filled grains / panicle 1000 grain weight (g) Seed yield (q/ha)	T.O.1: No.of Productive tillers/m ² - 236 No.of filled grains / panicle - 91 1000 grain weight (g) – 18.25 Seed yield (q/ha) – 54.25 T.O.2: No.of Productive tillers/m ² - 238 No.of filled grains / panicle - 103 1000 grain weight (g) – 21 Seed yield (q/ha) – 59 T.O.3: No.of Productive tillers/m ² - 244 No.of filled grains / panicle - 115 1000 grain weight (g) – 20.25 Seed yield (q/ha) – 63.8	The yield recorded by CO (R) 48 is better than other two varieties. CO 48 is better alternativ e to BPT 5204 in terms of fine variety, high yield and moderate ly blast resistant.	CO (R) 48 is suitabl e for cookin g. Better choice of variety in terms of quality and yield.		

Black gram	Rainfed	Low yields. Flower drop Weed menace Broad cast sowing Poor establishment	Assessment of blackgram varieties for enhancing productivity by floral retention	5	TOP 1(FP) Vamban (Bg) 4 TOP 2 Vamban (Bg) 5 TOP 3 ADT 5	Population/m ² No. of pods/plant No. of seeds/pod Days to 50% flowering Test weight (g) Yield (kg/ha) BC ratio	TOP 1 (FP) Population/m ² - 32 No. of pods/plant - 35 No. of seeds/pod - 7 Days to 50% flowering - 38 Test weight (g) - 4.7 Yield (kg/ha) - 650 BC ratio - 2.50 TOP 2 Population/m ² - 32 No. of pods/plant - 33 No. of seeds/pod - 8 Days to 50% flowering - 37 Test weight (g) - 4.8 Yield (kg/ha) - 735 BC ratio - 2.77 TOP 3 Population/m ² - 31 No. of pods/plant - 28 No. of seeds/pod - 27 Days to 50% flowering - 32 Test weight (g) - 3.2 Yield (kg/ha) - 592 BC ratio - 2.15	Cultivation of blackgram variety Vamban (Bg) 5 Produced higher yield and profitability under rainfed condition	Vamban (Bg) 5 blackgram variety recorded higher yield over other varieties besides tolerant to Yellow Mosaic disease		
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Redgram		Lower yield due to improper planting method Non adoption of foliar spray during flowering stage Improper pest management practices	Assessment of different crop establishment techniques in Redgram	3	TOP 1 (FP) Dibbling TOP 2 Sowing using seed drill TOP 3 Seedling raised in polybags and transplanted	Area covered by seed drill in 1 day Plant population/m ² Root length at 20 DAS-15.2 Shoot length at 20 DAS-27.46 Yield (kg/ha)-674 BC ratio 3.78 TOP 2 Area covered by seed drill in 1 day Plant population/m ² Shoot length at 20 DAS-22.7 Shoot length at 20 DAS-33.6 Yield (kg/ha)-830 BC ratio 3.1				
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Blackgram	Rainfed	Low productivity due to local variety Inadequate plant population Non adoption of INM and water management practices	Mini mobile sprinkler irrigation in blackgram	2	<p>TOP 1 (FP) Dryland blackgram Vamban(Bg) 3 without any supplemental irrigation</p> <p>TOP 2 Dryland blackgram Vamban(Bg) 3 without any supplemented with mini mobile irrigation at flowering</p> <p>TOP 3 Dryland blackgram Vamban(Bg) 3 without any supplemented with mini mobile irrigation at flowering and pod formation stages</p>	<p>Plant population/m² No. of pods/plant Test weight Yield (Kg/ha) BC ratio</p>	<p>TOP 1 (FP) Plant population/m² 31 No. of pods/plant-29.8 Test weight-3.94 Yield (Kg/ha)-564 BC ratio 2.05</p> <p>TOP 2 Plant population/m² 30.4 No. of pods/plant—46.8 Test weight—4.32 Yield (Kg/ha)-644 BC ratio 2.93</p> <p>TOP 3 Plant population/m² - 31.6 No. of pods/plant-50 Test weight-4.38 Yield (Kg/ha)-710 BC ratio -3.26</p>				
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Groundnut	Ra inf ed	Cultivating old variety – poor yielding Non application of Gypsum Pest and disease problem (Thrips and leaf spot)	Assessment of mechanised sowing in groundnut	3	TOP 1 (FP) FP Sowing behind country plough TOP 2 Sowing with tractor drawn seed cum fertilizer drill TOP 3 Sowing with tractor drawn seed drill in broad bed and furrows	Germination (%) Plant population/m ² No. of filled pods /plant Pod yield (q/ha) B:C ratio	TOP 1 (FP) Germination (%) - 78.6 Plant population/m ² - 28 No. of filled pods /plant - 24.4 Pod yield (q/ha) - 12.1 B:C ratio - 2.46 TOP 2 Germination (%) - 89 Plant population/m ² - 31.4 No. of filled pods /plant - 38 Pod yield (q/ha) - 16 B:C ratio - 3.33 TOP 3 Germination (%) - 81.2 Plant population/m ² - 30.8 No. of filled pods /plant - 36 Pod yield (q/ha) - 14.8 B:C ratio - 2.05				
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Chilli Irrigation	Farmers are predominantly cultivating local varieties which are poor yielder and lower market price.	Assessment of chilli Varieties for yield and marketability as spice	5 Local variety	Byadgi G4	Plant height (cm) No. of fruits / plant Fruit length (cm) Dry fruit yield (q/ha)	T.O.1: Plant height (cm) – 95.4 No. of fruits / plant - 95 Fruit length (cm) – 8.5 Dry fruit yield (q/ha) – 23.24 T.O.2: Plant height (cm) – 107 No. of fruits / plant - 125 Fruit length (cm) – 10.2 Dry fruit yield (q/ha) – 32.5 T.O.3: Plant height (cm) – 103 No. of fruits / plant - 114 Fruit length (cm) – 10.12 Dry fruit yield (q/ha) – 30.56	Byadgi was given high yield and better market price when compared to G4 and local variety.	High appealing colour of pod gives better price in the market. Hence Byadgi is most preferable in the market side.		
Dairy	Low milk yield Fertility problem and oestrous synchronisation in animals	Management of post partum anestrus in crossbred cows	50 animals	TOP 1 (FP) Conventional method TOP 2 Deworming and supplementation of TANUVAS area specific Mineral mixture	Milk yield/month or lactation	TOP 1 (FP) Milk yield/day 12.1 or lactation TOP 2 Milk yield/day-- or lactation— 12.6				

Poultry		Ranikhet disease is disastrous in poultry Mortality due to Ranikhet disease	Control of Ranikhet disease in desi chicken	100 birds	TOP 1 (FP) No vaccination TOP 2 Lasota vaccine eye drops on 7 th and 14 th day RDVK– Subcutaneous on 8 th and 16 th week TOP 3 Oral pellet Ranikhet vaccine on 7 th and 14 th day RDVK – Subcutaneous on 8 th and 16 th week	Mortality pattern	TOP 1 (FP) Mortality 35% TOP 2 Mortality– 9.4% TOP 3 Mortality – No mortality	Controlling of ranikhet disease in poultry either through Lasota vaccine eye drops on 7 th and 14 th day or RDVK– Subcutaneous on 8 th and 16 th week or oral pellet Ranikhet vaccine on 7 th and 14 th day is highly helpful to the poultry farmers to reduce the mortality of poultry.	Management of ranikhet disease in poultry by Lasota vaccine eye drops on 7 th and 14 th day or RDVK– Subcutaneous on 8 th and 16 th week or oral pellet Ranikhet vaccine on 7 th and 14 th day is highly helpful to the poultry farmers to reduce the mortality completely.		
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Contd.. OFT 1

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. / ha	B:C Ratio
13 14		15	16	17	18
Technology option 1: (Farmer's practice) BPT 5204	APAU 54	.25	q/ha	34333 2	.35
Technology option 2: CO (R) 48	TNAU	63.80	q/ha	38425 2	.52
Technology option 3: CO (R) 49	TNAU	59.00	q/ha	27773 2	.10

Contd.. OFT 2

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. / ha	BC Ratio
13 14		15	16	17	18
Technology option 1 (Farmer's practice) Vamban (Bg) 4	TNAU	6.50 q	/ha	13626	2.50
Technology option 2 Vamban (Bg) 5	TNAU	7.35 q	/ha	16454	2.77
Technology option 3 ADT 5	TNAU	5.92 q	/ha	10142	2.15

Contd.. OFT 3

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		15	16	17	18
Technology option 1 (Farmer's practice) Dibbling		6.74	q/ha 29	760	3.78
Technology option 2 Seedling raised in polybags and transplanted	UAS, Dharwad	8.30	q/ha 34	900	3.1

Contd.. OFT 4

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		15	16	17	18
Technology option 1 (Farmer's practice) Dryland blackgram VBN (Bg) 3 without any supplemental irrigation	TNAU 5	.64	q/ha 12	998	2.05
Technology option 2 Dryland blackgram VBN (Bg) 3 supplemented with mini mobile irrigation at flowering	ICRISAT 6	.44	q/ha 19	080	2.93
Technology option 3 Dryland blackgram Vamban(Bg) 3 supplemented with mini mobile irrigation at flowering and pod formation stages	UAS, Bangalore	7.10	q/ha 22	150	3.26

Contd.. OFT 5

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		15	16	17	18
Technology option 1 (Farmer's practice) Sowing behind country plough	Farmers	12 q	/ha	32340	2.46
Technology option 2 Sowing with tractor drawn seed cum fertilizer drill	ICRISAT	18 q	/ha	50390	3.33
Technology option 3 Sowing with tractor drawn seed drill in broad bed and furrows	ICRISAT	12 q	/ha	22610	1.95

Contd.. OFT 6

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		15	16	17	18
Technology option 1: (Farmer's practice) Local Variety	-	23.24	q/ha	33652 2	.03
Technology option 2: Baydgi	UAS, Bangalore	32.50	q/ha	64375 2	.99
Technology option 3: G4	Gundur local	30.56	q/ha	55375 2	.75

Contd.. OFT 7

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		15	16	17	18
Technology option 1 (Farmer's practice) Conventional method	Farmers	12.1	Lit/day 1	17.2	1.98
Technology option 3 Deworming and supplementation of TANUVAS area specific Mineral mixture	TANUVAS	12.6	Lit/day 1	33.4	2.28

Contd.. OFT 8

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		15	16	17 18	
Technology option 1 (Farmer's practice) No vaccination	Farmers	25/300 birds	Birds (No.)	78500/300 birds	1.69/ 300 birds
Technology option 2 Lasota vaccine eye drops on 7 th and 14 th day RDVK– Subcutaneous on 8 th and 16 th week	TANUVAS	23/1000 birds	Birds (No.)	214940/ 1000 birds	1.79/ 1000 birds
Technology option 3 Oral pellet Ranikhet vaccine on 7 th and 14 th day RDVK – Subcutaneous on 8 th and 16 th week	TANUVAS	0/ 1000 birds	Birds (No.)	220000/ 1000 birds	1.84/ 1000 birds

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: Assessment of rice varieties for productivity and market preference

2) Problem Definition:

- Superfine rice variety BPT 5204 is in vogue due to market preference
- It is prone to blast disease
- Alternative to BPT is required

3) Details of technologies selected for assessment:

Technologies assessed	Details of technologies assessed
Technological option 1: (Farmers Practice)	BPT 5204
Technological option 2:	CO (R) 49
Technological option 3:	CO (R) 48

4) Source of technology: TNAU

5) Production system and thematic area: Market preference / Varietal evaluation

6) Performance of the Technology with performance indicators:

Village Kathalampatti	Farmers practice - BPT 5204				Technological option 1 – CO (R) 49				Technological option 2 – CO (R) 48			
Farmers' Name	No. of productive tillers / m ²	No. of filled grains/ panicle	1000 grain weight (g)	Seed yield (q/ha)	No. of productive tillers / m ²	No. of filled grains / panicle	1000 grain weight (g)	Seed yield (q/ha)	No. of productive tillers / m ²	No. of filled grains/ panicle	1000 grain weight (g)	Seed yield (q/ha)
G.Vellaiyammal	235	89	17.5	2	229	109	20	60	248	120	20	62
S. Valli	240	95	20	54	238	95	22	58	240	110	21	69
G. Mallika	237	88	17	56	240	88	19	56	234	105	19	60
I. Bagyaraj	230	90	19	55	245	120	23	62	253	125	21	64
MEAN	236	91	18.2	54.2	238	103	21.0	59	248	115	20.2	63.8

Economics

Village Kathalampatti	Farmers practice - BPT 5204				Technological option 1 – CO (R) 49				Technological option 2 – CO (R) 48			
Farmers' Name	Gross return (Rs./ha)	Cost of cultivation (Rs/ha)	Net return (Rs./ha)	B:C Ratio	Gross return (Rs./ha)	Cost of cultivation (Rs/ha)	Net return (Rs./ha)	B:C Ratio	Gross return (Rs./ha)	Cost of cultivation (Rs/ha)	Net return (Rs./ha)	B:C Ratio
G.Vellaiyammal	57200	25360	31840	2.26	54000	25250	28750	2.14	62000	25300	36700	2.45
S. Valli	59400	25320	34080	2.35	52200	25300	26900	2.06	69000	25350	43650	2.72
G. Mallika	61600	25350	36250	2.43	50400	25400	25000	1.98	60000	25320	34680	2.37
I. Bagyaraj	60500	25340	35160	2.39	55800	25360	30440	2.20	64000	25330	38670	2.53
MEAN	59675	25342	34333	2.35	53100	25328	27773	2.10	63750	25325	38425	2.52

- 7) **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques**
Market preference for Co (R) 48 is as good as BPT 5204 and sold at the market price of Rs.10 and Rs.11 /kg of seeds respectively.
The keeping quality of cooked food is good. The coefficient of grain expansion is good.
At Virudhunagar, among the three rice varieties assessed for market preference and productivity, Co (R) 48 recorded more number of productive tillers of 248/m².
The test weight was least in BPT 5204 indicating that the variety is relatively slender than other two varieties.
The next better variety was Co (R) 48 with test weight of 20.2.
The grain yield recorded was maximum in Co (R) 48 with 63.8 q/ha which is 18 % higher than BPT 5204 and 8 % over Co (R) 49.
The net return and B: C ratio were higher in Co (R) 48 compared to the other two assessed varieties.
- 8) **Final recommendation for micro level situation**
The yield recorded by CO (R) 48 is better than other two varieties.
CO 48 is better alternative to BPT 5204 in terms of fine variety, high yield and moderately resistant to blast.
- 9) **Constraints identified and feedback for research**
Long slender super fine variety is preferred in the market and consumers.
Hence, fine varieties in short and medium duration groups need be evolved.
Further research to refine the variety CO (R) 49 may be done.
- 10) **Process of farmers participation and their reaction**
They realized that CO (R) 48 is suitable for cooking and better choice of variety in terms of quality and yield.

OFT 2

1) Title of the technology Assessed : Assessment of blackgram varieties for enhancing productivity by floral retention

2) Problem Definition:

- Lower yield due to use of local variety
- Poor crop establishment due to broadcast sowing
- Non adoption of foliar spray of nutrients during flowering stage
- Micro nutrient application is seldom done leading to poor pod setting and reduced seed weight.
- Flower dropping and reduced seed size
- Weed menace

3) Details of technologies selected for assessment / refinement

Technologies Assessed	Details of technologies assessed
Technological Option 1 (Farmer's practice)	VBN (Bg) 4
Technological Option 2	VBN (Bg) 5
Technological Option 3	ADT 5

4) Source of technology : Tamil Nadu Agricultural University

5) Production system and thematic area : Varietal evaluation

6) Performance of the Technology with performance indicators

Technological Option 1 : VBN (Bg) 4

Farmers' and Village Name	Population/m ²	Days to 50 % flowering	No. of flowers/plant	No. of clusters/plant	No.of pods/plant	Test weight (g)	Seed yield (kg/ha)
Th. A.Selvaraj Naarthampatti	33 39	83		10	32	4.5	637
Tmt. P.Selvi Naarthampatti	32 36	84		11	35	4.4	722
Tr. D.Ramu Naarthampatti	31 38	82		10	36	4.7	585
Th.A. Velanganni Naarthampatti	33 38	78		12	33	4.9	618
Tmt.S.Subbulakshmi Muthuramalingapuram	30 40	92		12	41	4.8	689
Mean	32	38	84	11	35	4.7	650

Technological Option 2 : VBN (Bg) 5

Farmers' and Village Name	Population/m ²	Days to 50 % flowering	No. of flowers/plant	No. of clusters/plant	No.of pods/plant	Test weight (g)	Seed yield (kg/ha)
Th. A.Selvaraj Naarthampatti	31 40	84		14	32	4.8	720
Tmt. P.Selvi Naarthampatti	30 37	93		13	36	4.7	816
Tr. D.Ramu Naarthampatti	33 35	92		11	40	4.9	662
Th.A. Velanganni Naarthampatti	33 38	87		15	35	4.8	698
Tmt.S.Subbulakshmi Muthuramalingapuram	31 36	92		12	42	4.7	779
Mean	32	37	90	13	37	4.8	735

Technological Option 3 : ADT 5

Farmers' and Village Name	Population/m ²	Days to 50 % flowering	No. of flowers/plant	No. of clusters/plant	No. of pods/plant	Test weight (g)	Seed yield (kg/ha)
Th. A.Selvaraj Naarthampatti	29 29	68		12	27	3.8	580
Tmt. P.Selvi Naarthampatti	32 33	74		11	30	3.6	657
Tr. D.Ramu Naarthampatti	31 32	82		13	33	3.5	533
Th.A. Velanganni Naarthampatti	33 30	78		14	31	3.6	562
Tmt.S.Subbulakshmi Muthuramalingapuram	30 35	76		12	30	3.7	628
Mean	31	32	76	12	30	3.6	592

Economics

Farmers' and Village Name	Technological Option 1 (Farmer's practice) Vamban (Bg) 4				Technological option 2 Vamban (Bg) 5			
	Cost of cultivation (Rs./ha)	Gross return (Rs/ ha)	Net return (Rs./ha)	BC Ratio	Cost of cultivation (Rs./ha)	Gross return (Rs/ ha)	Net return (Rs./ha)	BC Ratio
Th. A.Selvaraj Naarthampatti	9610 22	295	12685	2.32	9637	25200	15563	2.61
Tmt. P.Selvi Naarthampatti	9252 25	270	16018	2.73	9235	28560	19325	3.09
Tr. D.Ramu Naarthampatti	9264 20	475	11211	2.21	8975	23170	14195	2.58
Th.A. Velanganni Naarthampatti	8482 21	630	13148	2.55	8875	24430	15555	2.75
Tmt.S.Subbulakshmi Muthuramalingapuram	9045 24	115	15070	2.67	9632	27265	17633	2.83
Mean	9131	22757	13626	2.50	9271	25725	16454	2.77

Farmers' and Village Name	Technological option 3 ADT 5			
	Cost of cultivation (Rs./ha)	Gross return (Rs/ ha)	Net return (Rs./ha)	BC Ratio
Th. A.Selvaraj Naarthampatti 86	91	18560	9869	2.14
Tmt. P.Selvi Naarthampatti 9	391	21024	11633	2.24
Tr. D.Ramu Naarthampatti 82	25	17056	8831	2.07
Th.A. Velanganni Naarthampatti 85	37	17984	9447	2.11
Tmt.S.Subbulakshmi Muthuramalingapuram	9168 20	096	10928	2.19
Mean	8802	18944	10142	2.15

7) Feed back, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques

At Virudhunagar, three blackgram varieties were assessed for their productivity and reduced flower drop.

The various observations recorded were as follows :

The plant population was almost the same in all the three varieties indicating good germination and consequently uniform crop stand.

The days to 50% flowering was 38, 37 and 32 in VBN (Bg) 4, VBN (Bg) 5 and ADT 5 respectively.

The flower to pod ratio was higher in variety VBN (Bg) 5

More floral retention was noticed in variety VBN (Bg) 5

The test weight recorded was maximum in VBN (Bg) 5 with 4.8 g followed by VBN (Bg) 4 with 4.7 g indicating bold grains with better filling than ADT 5 with 3.6 g.

Spraying pulse wonder reduced flower drop and increased the number of pods per plant.

The seed yields were 592, 650 and 735 in ADT 5, VBN (Bg) 4 and VBN (Bg) 5 respectively.

8) Final recommendation for micro level situation

Cultivation of blackgram variety VBN (Bg) 5 produced higher seed yield and profitability under rainfed condition and it could be recommended in large scale. The net returns and B:C ratio were higher in blackgram variety VBN (Bg) 5 compared to the other two assessed varieties.

9) Constraints identified and feedback for research

Availability of newly released variety seeds in large quantities is a major constraint.

Yellow mosaic disease problem need to be addressed.

Research for bold seeded rainfed varieties which matures early is the need of the hour as mechanised sowing warrants bold grains for easy sowing

10) Process of farmers participation and their reaction.

Farmers realized the benefit of blackgram variety VBN (Bg) 5 in terms of its higher seed yield over local variety besides tolerant to yellow mosaic virus disease.

Farmers gained knowledge about spraying of pulse wonder at 2.25 kg/ha during flowering stage to reduce the flower drop and increase the seed setting.

Training on seed production in pulses and creating awareness on foliar nutrition are highly essential to improve the pulses production.

OFT- 3

1) Title of technology assessed : Assessment of different establishment techniques in redgram

2) Problem Definition :

Lower yield due to improper planting method

Non adoption of foliar spray during flowering stage

Improper pest management practices

Transplantation in red gram is seldom practiced in Virudhunagar. Since, it is successful in Maharashtra, Karnataka and Andhra Pradesh hence proposed.

To produce healthy seedlings through portray method.

Ensuring optimum plant population through transplanting and crop establishment.

Seed drill sowing ensures proper placement of seeds in proper depth and better root growth.

Foliar spray induces more grain setting and arrest flower dropping.

3) Details of technology assessed/refined

Technologies assessed	Details
Farmers practice	Dibbling
Technological option 1	Seedlings raised in poly bags and transplanted

4) Source of technology: University of Agricultural Sciences, Dharwad

5) Production system/Thematic area: Crop management

6) Performance of technology with performance indicators:

Farmer name and Village	Farmers practice Dibbling					Technological option 1 Transplanted				
	population / m ²	Root length at 20DAS	Shoot length at 20DAS	Days to 50% flowering	Grain yield (kg/ha)	Plant population/ m ²	Root length at 20DAS	Shoot length at 20DAS	Days to 50% flowering	Grain yield (kg/ha)
Raghavaraja, Rajapalayam	10 15.	1	27.2	71	680	11	22.3	33.6	74	720
Ramachandraraja, Rajapalayam	9 14.	3	28.5	69	620	11	23.5	32.9	73	940
N.Srinivasan, Muthuramalingapuram	8 15.	2	27.1	72	740	12	21.9	33.8	76	800
R.Nagaraj, Muthuramalingapuram	8 15.	8	26.9	70	610	10	23.2	33.6	75	840
R.Ramaraj, Muthuramalingapuram	8 15.	4	27.6	68	720	11	22.8	34.1	72	860
Mean 8.	6	15.2	27.46	70	674	11	22.7	33.6	74	832

Spacing 45 x 20 cm

Farmer name and Village	Farmers practice Dibbling				Technological option 1 Transplanted			
	ss return (Rs/ha)	Cost of cultivation (Rs/ha)	Net return (Rs/ha)	B:C Ratio	Gross return (Rs/ha)	Cost of cultivation (Rs/ha)	Net return (Rs/ha)	B:C Ratio
Raghavaraja,Rajapalayam 40	800	10200	30600	4	43200	15600	27600	2.76
Ramachandraraja, Rajapalayam	37200	10500	26700	3.54	56400	17500	38900	3.22
N.Srinivasan,Muthuramalingapuram 44	400	11200	33200	3.96	48000	14300	33700	3.35
R.Nagaraj,Muthuramalingapuram 36	600	10500	26100	3.48	50400	15500	34900	3.25
R.Ramaraj, Muthuramalingapuram	43200	11000	32200	3.92	51600	17600	34000	2.93
Mean 40	440	10680	29760	3.78	49920	16100	34900	3.1

7) Feed back, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques

At Virudhunagar, two crop establishment techniques were assessed for their performance under rainfed condition.

The various observations recorded were as follows :

The plant population was higher with 11 /m² in transplanted crop indicating better crop establishment and consequently uniform crop stand.

The days to 50% flowering was 70 days and 74 days in dibbled crop and transplanted crop respectively.

The root and shoot lengths were better in transplanted crop

8) Final recommendation for micro level situation

The grain yields were 674 kg/ha in dibbled crop and 832 kg/ha in transplanted crop with an yield difference of 23.4%.

The net returns was highest in transplanted crop with higher B:C ratio.

9) Constraints identified and feedback for research

Medium duration redgram which is suited for transplanting need be evolved.

Redgram hybrid suited to dryland conditions will be more beneficial.

Pod borer and webber problems need to be addressed.

10) Process of farmers participation and their reaction.

Production of seedlings in large quantities is a major constraint.

Cost of seedling production and cost of planting increases the production cost.

Transplanting needs care as the root growth is more and adequate care has to be taken while planting.

OFT- 4

- 1) Title of technology assessed :

Assessment of irrigation with minimobile Sprinkler at critical stages of blackgram under dryland conditions

- 2) Problem Definition :

In dryland areas, blackgram yields are low due to lack of moisture in the soil and inadequate rainfall which causes moisture stress. Flowering and pod formation stages are most critical with respect to blackgram
The performance of mini mobile sprinkler in providing supplemental irrigation and its feasibility need be assessed for augmenting moisture in soil and enhancing productivity of blackgram.

- 3) Details of technology assessed/refined

Details of technology assessed/refined

Technologies assessed	Details
Farmers practice	Dry land Blackgram VBN BG 3 without any supplemental irrigation
Technological option 1	Dry land Blackgram VBN BG 3 supplemented with minimobile irrigation at flowering
Technological option 2	Dry land Blackgram VBN BG 3 supplemented with minimobile irrigation at flowering and pod formation stages

- 4) Source of technology : Tamil Nadu Agricultural University

- 5) Production system and thematic area : Varietal evaluation

- 6) Performance of the Technology with performance indicators

Technological Option 1 : Dry land Blackgram VBN BG 3 without any supplemental irrigation

Farmers' and Village Name	Population/m ²	Days to 50 % flowering	No. of clusters/ plant	No.of pods/ plant	Test weight (g)	Seed yield (kg/ha)
K.Muniammal, Aruppukottai	30 32		12	27 3	.8	520
P.Mohandas, Aruppukottai	29 34		12	32 4	.0	580
M.Jayalakshmi, Aruppukottai	30 35		13	34 4	.1	602
V.Ramasamy, Aruppukottai	34 35		11	32 4	.0	580
M.Jayaram, Aruppukottai	32 34		12	24 3	.8	540
Mean	31	34	12	29.8	3.94	564

Technological Option 2 : Dry land Blackgram VBN BG 3 supplemented with minimobile irrigation at flowering

Farmers' and Village Name	Population/m ²	Days to 50 % flowering	No. of clusters/ plant	No.of pods/ plant	Test weight (g)	Seed yield (kg/ha)
K.Muniammal, Aruppukottai	29 37		11	34	4.4	620
P.Mohandas, Aruppukottai	30 34		13	42	4.3	640
M.Jayalakshmi, Aruppukottai	33 35		12	48	4.6	710
V.Ramasamy, Aruppukottai	32 36		14	54	4.2	650
M.Jayaram, Aruppukottai	28 35		12	56	4.1	600
Mean	30.4	35.4	12.4	46.8	4.32	644

Technological Option 3 : Dry land Blackgram VBN BG 3 supplemented with minimobile irrigation at flowering and pod formation stages

Farmers' and Village Name	Population/m ²	Days to 50 % flowering	No. of clusters/plant	No.of pods/plant	Test weight (g)	Seed yield (kg/ha)
K.Muniammal, Aruppukottai	29	35	11 35		4.6	680
P.Mohandas, Aruppukottai	33	34	13 44		4.4	720
M.Jayalakshmi, Aruppukottai	31	36	14 53		4.1	820
V.Ramasamy, Aruppukottai	33	37	14 56		4.6	680
M.Jayaram, Aruppukottai	32	36	12 62		4.2	650
Mean	31.6	35.6	12.8	50	4.38	710

Economics

Farmer name and Village	Farmers practice Dry land Blackgram VBN BG 3 without any supplemental irrigation				Technological option 1 Dry land Blackgram VBN BG 3 supplemented with minimobile irrigation at flowering			
	ss return (Rs/ha)	Cost of cultivation (Rs/ha)	Net return (Rs/ha)	C:B Ratio	Gross return (Rs/ha)	Cost of cultivation (Rs/ha)	Net return (Rs/ha)	C:B Ratio
K.Muniammal, Aruppukottai	23400	12000	11400	1.95	27900	10000	17900	2.79
P.Mohandas, Aruppukottai	26100	12500	13600	2.09	28800	9500	19300	3.03
M.Jayalakshmi, Aruppukottai	27090	13000	14090	2.08	31950	10000	21950	3.20
V.Ramasamy, Aruppukottai	26100	12000	14100	2.18	29250	10000	19250	2.93
M.Jayaram, Aruppukottai	24300	12500	11800	1.94	27000	10000	17000	2.70
Mean 2	5380	12400	12998	2.05	28980	9900	19080	2.93

Farmer name and Village	Technological option 2 Dry land Blackgram VBN BG 3 supplemented with minimobile irrigation at flowering and pod formation stages			
	ss return (Rs/ha)	Cost of cultivation (Rs/ha)	Net return (Rs/ha)	B:C Ratio
K.Muniammal, Aruppukottai	30600	10000	20600	3.06
P.Mohandas, Aruppukottai	32400	10000	22400	3.24
M.Jayalakshmi, Aruppukottai	36900	9500	27400	3.88
V.Ramasamy, Aruppukottai	30600	10000	20600	3.06
M.Jayaram, Aruppukottai	29250	9500	19750	3.08
31	950	9800	22150	3.26

7) Feed back, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques

At Virudhunagar, under dryland condition blackgram variety VBN BG 3 was assessed for its productivity by comparing the efficacy of supplemental irrigation using mini mobile sprinkler at critical crop growth stages viz., flowering alone and flowering and pod formation stages. .

The various observations recorded were as follows :

The plant population was almost the same in all the three technological options indicating good germination and consequently uniform crop stand.

The days to 50% flowering was 34, 35.4 and 35.6 in no irrigation, irrigation at flowering stage alone and irrigation at flowering and pod formation stages..

There was not much difference in number of clusters/plant irrespective of irrigation.

There was distinct difference in test weight which responded to irrigation.

8) Final recommendation for micro level situation

Cultivation of blackgram variety VBN (Bg) 3 produced higher grain yield and profitability under rainfed condition if supplemented with two irrigations at flowering and pod formation stages.

9) Constraints identified and feedback for research

Availability of mini mobile sprinkler.

Varieties that perform well with one or two irrigations need be exploited.

10) Process of farmers participation and their reaction.

In rainfed tracts well water is not available and use of mini mobile sprinkler is not possible.

In tank irrigated areas the length of the suction hose and delivery hose are not sufficient enough to draw water from tank.

The amount of water supply at times of supplemental irrigation is less and time taken to irrigate is also very long.

However, the response of crop to irrigation is good.

OFT 5

1. Title of Technology Assessed: Assessment of mechanized sowing in groundnut

2. Problem Definition

General reduction trend in labour force turning to agricultural work.

Match industries and rural industries offer attractive salary structures.

Increased cost of labour and cultivation expenses.

The initial rains are crucial and if missed plant establishment is affected.

Mechanisation sows deep and ensures better crop stand and cover more area in less time.

This ensures timely sowing before depletion of optimum moisture level in soil.

Mechanisation reduces drudgery and saves time and cost.

3. Details of technologies selected for assessment

Technology option 1 – Dibbling behind country plough (Farmers Practice)

Technology option 2 – Sowing with tractor drawn seed cum fertilizer drill

Technology option 3 – Sowing with tractor drawn seed drill in broad bed furrows

4. Source of technology: ICRISAT

5. Production system and thematic area: Farm Mechanisation

6. Performance of the Technology with performance indicators

Name of the farmer	Technology option 1 Dibbling behind country plough (Farmers Practice)				Technology option 2 Sowing with tractor drawn seed cum fertilizer drill			
	Pod yield q/ha	Germination %	Population /m ²	No.of.filled pods/plant	Pod yield q/ha	Germination %	Population /m ²	No.of.filled pods/plant
R. Sumathi Kariyapatti	11.7	8	28	33	15.92		33	34
K. Vasantha Maraikulam	13.7	5	26	36	14.88		31	36
P. Ramdevar Maraikulam	12.7	4	31	28	16.88		30	38
R. Ramar Maraikulam	12.5	82	28	14	18	89	32	42
M.Murugan Maraikulam 12.	0	84	27	11	17	88	31	40
Mean	12.178	6	28	24.4	16	89	31.4	38

Name of the farmer	Technology option 3 Sowing with tractor drawn seed drill in broad bed furrows			
	Pod yield q/ha	Germination %	Population /m ² No	.of.filled pods/plant
R. Sumathi Kariyapatti	14 75		33	35
K. Vasantha Maraikulam	13 80		31	36
P. Ramdevar Maraikulam	14 81		32	32
R. Ramar Maraikulam	18 88		28	38
M.Murugan Maraikulam	15 82		30	39
Mean	14.8 81.	2	30.8	36

Economics:

Name of the farmer	Technology option 1 – Dibbling behind country plough (Farmers Practice)				Technology option 2 Sowing with tractor drawn seed cum fertilizer drill			
	Gross return (Rs/ha)	Cost of cultivation (Rs/ha)	Net return (Rs/ha)	B:C Ratio	Gross return (Rs/ha)	Cost of cultivation (Rs/ha)	Net return (Rs/ha)	B:C Ratio
R. Sumathi Kariyapatti	49500 22	110	27390	2.24	67500	21610	45890	3.12
K. Vasantha Maraikulam	58500 22	110	36390	2.65	63000	21610	41390	2.92
P. Ramdevar Maraikulam	54000 22	110	31890	2.44	72000	21610	50390	3.33
R. Ramar Maraikulam	54000 22	110	31890	2.44	81000	21610	59390	3.75
M.Murugan Maraikulam	56250 22	110	34140	2.54	76500	21610	54890	3.54
Mean	54450 22	110	32340	2.46	72000	21610	50390	3.33

Name of the farmer	Technology option 3 Sowing with tractor drawn seed drill in broad bed furrows			
	Gross return (Rs/ha)	Cost of cultivation (Rs/ha)	Net return (Rs/ha)	B:C Ratio
R. Sumathi Kariyapatti	51460 2	2610	28850	2.28
K. Vasantha Maraikulam	47785 2	2610	25175	2.11
P. Ramdevar Maraikulam	47785 2	2610	25175	2.11
R. Ramar Maraikulam	40435 2	2610	17825	1.79
M.Murugan Maraikulam	44110 2	2610	21500	1.95
Mean	46315 2	2610	23705	2.05

7) Feed back, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques

At Virudhunagar, dibbling behind country plough, sowing using seed cum fertilizer drill and sowing in broad bed furrow former cum seed drill were compared.

The various observations recorded were as follows:

The crop establishment and growth was good in seed cum fertilizer drill sown plots.

Pod yield seed cum fertilizer drill sown plot was 8 % and 26 % more compared to broad bed furrow and dibbling behind country plough respectively.

The net return was 50390 Rs/ha and B: C ratio was 3.33 in seed cum fertilizer drill sown crop.

8) Final recommendation for micro level situation

Sowing with tractor drawn seed cum fertilizer drill is good. It covers 5 acres in a day of 8 hours. Simultaneous application of seed and fertilisers is an added advantage. The vigour and growth was better than in the farmers practice. More area is covered in less time.

9) Constraints identified and feedback for research

Machinery availability is very limited.

Only 7 farmers have purchased the equipment on their own.

During season, there is a huge demand for the Machinery on hiring.

10) Process of farmers participation and their reaction.

Farmers are comfortable with the machinery operation.

The plant population and the growth was also good when compared to dibbling.

In dibbling an even plant population with excess in some places and inadequate in some places.

Seed cum fertilizer drill is easy to operate and reduces the time of fertilizer application and sowing

It is easy to attach the seed drill with the conventional tractor.

It saves time and labour. The drudgery of labour is reduced

OFT 6

- 1) Title of Technology Assessed: Assessment of chilli varieties for yield and marketability as spice
- 2) Problem Definition:

Farmers are predominantly cultivating local varieties

They are poor yielders

They have less market value

- 3) Details of technologies selected for assessment

Technologies assessed	Details of technologies assessed
Technological option 1: (Farmers Practice)	K 1
Technological option 2:	Baydiki
Technological option 3:	G4

- 4) Source of technology: TNAU
- 5) Production system and thematic area: Varietal evaluation
- 6) Performance of the Technology with performance indicators:

Village Kanjama naikkenpatti	Farmers practice K1				Technological option 1 Baydiki				Technological option 2 G4				
	Farmers' Name	Plant height (cm)	No. of fruits/plant	Fruit length (cm)	Dry fruit yield (q/ha)	Plant height (cm)	No. of fruits/plant	Fruit length (cm)	Dry fruit yield (q/ha)	Plant height (cm)	No. of fruits/plant	Fruit length (cm)	Dry fruit yield (q/ha)
	K. Aandi	90	98	9.5 2	5.2	105	120	9.6 3	2.6	105	98	10.4	28.8
	N. Periyasamy	97	100	8.5	23.5	110 13	7	10.6	35.4	100 11	2	10.8	32.2
	A. Chidambaram	95	94	8.3 2	2.5	100	122	9.6 2	9.8	98	132	10.2	28.6
	S. Seenivasan	98	87	7.7	20.8	105 13	0	10.4	31.2	102 12	4	9.4	30.4
	P. Rajendiran	97	97	8.5	24.2	115 11	8	10.8	33.4	110 10	4	9.8	32.8
	MEAN	95.4	95	8.5	23.2	107	125	10.2	32.5	103	114	10.1	30.6

Economics

Village Kanjama naikkenpatti	Farmers practice - K1				Technological option 1 – Baydiki				Technological option 2 – G4				
	Farmers' Name	Gross return (Rs./ha)	Cost of cultivation (Rs/ha)	Net return (Rs./ha)	B:C Ratio	Gross return (Rs./ha)	Cost of cultivation (Rs/ha)	Net return (Rs./ha)	B:C Ratio	Gross return (Rs./ha)	Cost of cultivation (Rs/ha)	Net return (Rs./ha)	B:C Ratio
	K. Aandi	70560 30	200 40	360	2.34	97800	32500 65	300	3.01	83520 31	1000 52	520	2.69
	N. Periyasamy	65800 32	400 33	400	2.03	106200 31	500 74	700	3.37	93380 31	500 61	880	2.96
	A.Chidambaram	63000 31	000 32	000	2.03	89400	33000 56	400	2.71	82940 32	000 50	940	2.59
	S. Seenivasan	58240 33	500 24	740	1.74	93600	32500 61	100	2.88	88160 32	000 56	160	2.76
	P. Rajendiran	67760 30	000 37	760	2.26	100200 32	500 67	700	3.08	95120 30	500 64	620	3.12
	MEAN	65072 31	420 33	652	2.03	97440	32400 64	375	2.99	88624 31	400 55	375	2.75

7) Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques
Inference

At Virudhunagar, three chilly varieties were assessed for their performance under rainfed condition

The results are as follows:

The plant height recorded were 95.4 cm, 107 cm and 103 cm respectively in K1, Baidyki and G4.

The dry fruit yield was 23.2 q/ha, 32.5 q/ha and 30.6 q/ha in K1, Baidyki and G4 respectively.

The increase in yield was 40 % and 6 % in baidyki over K1 and G4 respectively.

The fruit length was higher in Baidyki followed by G4 and K1

Both G4 and baidyki were preferred over K1

Baidyki is rich in capsin content and colour and has good market value.

As chillies exporters are available in Virudhunagar, market tie up can be easily done with farmers and exporters.

The exporters feel that lot of admixtures in Baidyki causes problem while extraction and affects the quality.

Hence, farmers need be taught on the grading and importance of pure baidyki supply to sustain good pricing and better marketing.

For transport alone a single exporter spends 18 lakhs to mobilise Baidyki from Andhra and Karnataka. If locally produced, it will be much useful.

If sufficient raw material is not available, there is every danger to shift the mills to Andhra as there is short supply of these varieties.

8) Final recommendation for micro level situation

Byadgi was given high yield and better market price when compared to G4 and local variety.

9) Constraints identified and feedback for research

Byadgi is very much useful in extraction of capsaicin.

If the farmers sell the produce to extraction units, they will get higher price than the market.

Development of high capsin content chillies which is drought tolerant too is required.

Varieties with deep red colour are also preferred for extraction of natural dye after extraction of capsaicin and seeds.

10) Process of farmers participation and their reaction

Farmers were helpful in recording biometric observation.

They were satisfied with new varieties assessed. High appealing colour of pod gives better price in the market.

Hence, Byadgi is most preferred in the market.

Varieties with deep red colour is also preferred by the exporters for extraction of natural dye after extraction of capsaicin and seeds

OFT 7

1) Title of the technology Assessed: Management of postpartum anestrus in crossbred cows

2) Problem Definition:

Animals not coming to estrus after parturition leading to prolonged intercalving period
20% of the animal population has prolonged inter calving period in the area of operation
Post partum anestrus in cross bred cows leads to prolonged intercalving period there by increasing the maintenance cost of animals.

3) Details of technologies selected for assessment / refinement

Technology option 1 : Farmers' method : Conventional feeding

Technology option 2 : Deworming and Supplementation of TANUVAS area specific mineral mixture

4) Source of technology: TANUVAS

5) Production system and thematic area: Milch animals improvement

6) Performance of the Technology with performance indicators:

Farmer name and Village	Conventional method		Technological option 1 Deworming and supplementation of area specific mineral mixture	
	Milk yield (litres/day)	Calving cycle interval (months)	Milk yield (litres/day)	Calving cycle interval (months)
Vallimayil, Palayampatti	15	18	15.5	15
V.Shanmugam, Palayampatti	8	18	8.5	15
S.Thamilarasi,Aruppukottai 10		18	10.5	15
M.Velankannan,Maraneri 1	3	18	13.5	15
S.Rajeswari,Aruppukottai 13		18	13.3	15
R.Sandhiveeran, Sokkalingapuram	7	18	7.5	15
P.Ramuthai,Thiruchuli 9		18	9.5	15
YO.Mosa,Aruppukottai 14		18	14.4	15
T.Ramesh, Thiruchuli	9	18	9.5	15
J.Ponnuthai,Thiruchuli 10		18	10.2	15
V.Pachiammal,Virudhunagar 13		18	13.5	15
S.Valli,Thottiankulam 14		18	14.3	15
Salammal,Thiruchuli 10		18	10.5	15
G.Kasturi, Thiruchuli	12	18	12.4	15
S.Alagu,Thiruchuli 15		18	15.5	15
P.Kumarandi,Puthu colony	12	18	12.5	15
R.Senniammal,Thiruchuli 13		18	13.3	15
V.Veeran,Thiruchuli 14		18	14.5	15
Pandiammal,Kovilankulam 1	5	18	15.5	15
Dhanalakshmi,Aruppukottai 12		18	12.5	15

V.Panchavarnam,Sokkalingampatti 12		18	12.5	15
S.Ashokkumar,Sokkalingampatti 12		18	12.4	15
D.Subathira,Virudhunagar 1	2	18	12.3	15
K.Thanam, Virudhunagar	13	18	13.5	15
G.Palaniammal, Sokkalingampatti	15	18	15.5	15
Mean	12.08	18	12.52	15

Economics

Farmer name and Village	Conventional method			
	Gross return (Rs/day)	Cost (Rs/day)	Net return (Rs/day)	C:B Ratio
Vallimayil, Palayampatti	300	200	100	1.5
V.Shanmugam, Palayampatti	160	100	60	1.6
S.Thamilarasi,Aruppukottai 20	0	100	100	2
M.Velankannan,Maraneri 2	60	120	140	2.16
S.Rajeswari,Aruppukottai 26	0	120	140	2.16
R.Sandhiveeran, Sokkalingapuram	140	70	70	2
P.Ramuthai,Thiruchuli 1	80	80	100	2.25
YO.Mosa,Aruppukottai 2	80	100	180	2.8
T.Ramesh, Thiruchuli	180	80	100	2.25
J.Ponnuthai,Thiruchuli 20	0	100	100	2
V.Pachiammal,Virudhunagar 26	0	100	160	2.6
S.Valli,Thottiankulam 28	0	120	160	2.3
Salammal,Thiruchuli 2	00	120	180	1.6
G.Kasturi, Thiruchuli	240	130	110	1.84
S.Alagu,Thiruchuli 3	00	200	100	1.5
P.Kumarandi,Puthu colony	240	120	120	2
R.Senniammal,Thiruchuli 2	60	120	140	2.16
V.Veeran,Thiruchuli 2	80	140	140	2
Pandiammal,Kovilankulam 3	00	200	100	1.5
Dhanalakshmi,Aruppukottai 24	0	150	90	1.6
V.Panchavarnam,Sokkalingampatti 2	40	120	120	2
S.Ashokkumar,Sokkalingampatti 2	40	120	120	2
D.Subathira,Virudhunagar 2	40	120	120	2
K.Thanam, Virudhunagar	260	140	120	1.85
G.Palaniammal, Sokkalingampatti	280	140	140	2
Mean	240.8 12	4.4 1	20.4	1.98

Farmer name and Village	Technological option 1 Deworming and supplementation of area specific mineral mixture			
	Gross return (Rs/day)	Cost (Rs/day)	Net return (Rs/day)	C:B Ratio
Vallimayil, Palayampatti	310	200	110	1.55
V.Shanmugam, Palayampatti	170	100	70	1.7
S.Thamilarasi,Aruppukottai 21	0	100	110	2.1
M.Velankannan,Maraneri 27	0	120	150	2.25
S.Rajeswari,Aruppukottai 1	50	120	30	1.25
R.Sandhiveeran, Sokkalingapuram	190	70	120	2.71
P.Ramuthai, Thiruchuli 29	0	80	210	3.6
YO.Mosa,Aruppukottai 19	0	100	90	1.9
T.Ramesh, Thiruchuli	205	80	125	2.56
J.Ponnuthai, Thiruchuli 27	0	100	170	2.7
V.Pachiammal, Virudhunagar 2	86	100	186	2.86
S.Valli, Thottiankulam 2	10	120	90	1.75
Salammal, Thiruchuli 24	8	120	128	2.06
G.Kasturi, Thiruchuli	310	130	180	2.38
S.Alagu, Thiruchuli 25	0	200	150	1.25
P.Kumarandi, Puthu colony	266	120	146	2.21
R.Senniammal, Thiruchuli 29	0	120	170	2.41
V.Veeran, Thiruchuli 31	0	140	170	2.21
Pandiammal, Kovilankulam 25	0	200	150	1.25
Dhanalakshmi, Aruppukottai 25	0	150	100	1.66
V.Panchavarnam, Sokkalingampatti 24	8	120	128	1.93
S.Ashokkumar, Sokkalingampatti 24	6	120	126	2.05
D.Subathira, Virudhunagar 24	6	120	126	2.05
K.Thanam, Virudhunagar	270	140	130	2.0
G.Palanimmal, Sokkalingampatti	310	140	170	2.21
Mean	249.8 1	24.4	133.4	2.104

7) Feed back, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques

The area specific mineral mixture increases the milk yield and reduced the calving cycle from 18 months to 15 months.

The continuous feeding of mineral mixture may increase the milk yield up to 10%.

8) Final recommendation for micro level situation:

The continuous use of area specific mineral mixture in conjunction with regular deworming improves the health and fertility status of animals and reduces the inter calving period. There is increase the milk yield and reduced dry periods.

9) Constraints identified and feedback for research

Farmers are not having awareness about area specific mineral mixture.

They are reluctant to use these mineral mixtures.

10) Process of farmers participation and their reaction.

Farmers realized the benefit of mineral mixture in terms of its higher milk yield over conventional practices

Farmers gained knowledge about area specific mineral mixture.

Training on creating awareness on the usage of mineral mixture are highly essential to improve the milk production.

OFT 8

1) Title of the technology Assessed: Control of Ranikhet disease in desi chicken

2) Problem Definition:

- Ranikhet disease is disastrous in poultry
- Mortality due to Ranikhet disease

3) Details of technologies selected for assessment / refinement

Technologies Assessed	Details of technologies assessed
Technological Option 1 (Farmer's practice)	No vaccination
Technological Option 2	Lasota vaccine eye drops on 7 th and 14 th day RDVK– Subcutaneous on 8 th and 16 th week
Technological Option 3	Oral pellet Ranikhet vaccine on 7 th and 14 th day RDVK – Subcutaneous on 8 th and 16 th week

4) Source of technology : TANUVAS

5) Production system and thematic area : Poultry disease management (Animal Science)

6) Performance of the Technology with performance indicators

Village Name	Technological option 1 (Farmers practice) No vaccination			Technological option 2 Lasota vaccine eye drops on 7 th and 14 th day RDVK– Subcutaneous on 8 th and 16 th week			Technological option 3 Oral pellet Ranikhet vaccine on 7 th and 14 th day RDVK – Subcutaneous on 8 th and 16 th week		
	No. of birds	Mortality of birds (No.)	Mortality pattern (%)	No. of birds	Mortality of birds (No.)	Mortality pattern (%)	No. of birds	Mortality of birds (No.)	Mortality pattern (%)
Kuppambatti 8	0	35	43.8	247	12	4.9	353	0	0
Ondipuli Naickanur	94	23	31.1	303	25	8.3	235	0	0
Sangaralingapuram 6	0	28	46.7	250	35	14.0	187	0	0
Mudukkangulam 6	6	14	21.2	200	21	10.5	225	0	0
Mean -		25	35.7	-	23	9.4	-	0	0

7. Feed back, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques

In non vaccinated lot the mortality was upto 35%. In Lasoto eye drop vaccinated lot the mortality was 9.4%.

No mortality noticed in oral pellet vaccinated chicks.

Farmers felt easy to adopt oral pellet vaccination.

The mortality was not noticed in any farm / farmer holding.

Birds consumed the vaccine pellets without any inhibition.

8. Final recommendation for micro level situation

Controlling of ranikhet disease in poultry either through Lasota vaccine eye drops on 7th and 14th day or RDVK– Subcutaneous on 8th and 16th week or oral pellet Ranikhet vaccine on 7th and 14th day is found to reduce the mortality of poultry.

Oral pellet vaccination is easy to adopt and has good effect in poultry.

No mortality was observed in oral pellet vaccinated fowls.

9. Constraints identified and feedback for research

Application of Lasota vaccine eye drops on 7th and 14th day or

RDVK– Subcutaneous on 8th and 16th week are found difficult to practice by the farmers themselves.

Oral pellet is easy to adopt. If this can be fortified with multi vitamine mixture, then both nutrition and vaccination will be taken care at one stroke.

10. Process of farmers participation and their reaction.

Management of ranikhet disease in poultry by Lasota vaccine eye drops on 7th and 14th day or

RDVK– Subcutaneous on 8th and 16th week or oral pellet Ranikhet vaccine on 7th and 14th day is highly helpful to the poultry farmers to reduce the mortality completely.

Farmers felt that oral pellet Ranikhet vaccine on 7th and 14th day is highly practical to adopt themselves in controlling the disease.

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
12		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

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

PART V - FRONTLINE DEMONSTRATIONS

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

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
									Proposed	Actual	SC/ST	Others	Total	
Oi	Iseeds	Irrigated	Rabi 2010-11	Sesame T	MV 7		ICM	Integrated Crop Managemnt in Sesamum	5	6.8	3	14	17	
		Rainfed	Rabi 2010-11	Groundnut			Mechanised sowing	Mechanised sowing in Groundnut	5	5	1	9	10	
		Rainfed	Rabi 2010-11	Castor		YRCH 1	ICM	Introduction of castor hybrid YRCH 1	5	5	2	10	12	
		Rainfed	Rabi 2010-11	Sunflower		KBSH 41	ICM	Popularisaton of Sunflower hybrid KBSH 1	5	5	10	2	12	
P	ulses	Rainfed	Rabi 2010-11	Blackgram Va	mban (Bg) 3		Production technology	Popularisation of Vamban 3 Blackgram	5	5	2	8	10	
		Rainfed	Rabi 2010-11	Greengram Va	mban (gg) 3		Production technology	Popularisation o f Vamban 3 greengram	5	5	1	11	12	
	Cereals	Irrigated Kha	rifi 2010	Rice Co	(R)H 3		Hybrid introduction	Introduction of Co(R)H 3 rice hybrid uner SRI	5	5	6	6	12	
		Rainfed K	harif 2010	Rice	Anna		Drought tolerant rice variety introduction	Introduction of Semi dry rice variety Anna	5	2	3	7	10	Seed availability i s only for 2 ha hence, proposed to continue
		Irrigated Kha	rifi 2010	Rice Co	49		Farm machanisation in rice	Popularisation of fully mechanized cultivation of rice	2	2	1	6	7	
	Millets	Rainfed R	abi 2010-11	Bajra Co	(Cu) 9		Variety introduction	Introduction of bajra variety Co(Cu) 9	5	5.2	2	11	13	
		Rainfed R	abi 2010-11	Kudiraivali Co	2		Variety introduction	Popularisation Kudiraivali variety Co 2	5	5.6	2	12	14	
	Vegetable													
	Flowers													
	Ornamental													
	Fruit	Irrigated		Mango	Alfanzo		Horticulture	High d ensity planting in Mango	2	2	1	9	10	

5.B. Results of Frontline Demonstrations

5.B.1. Crops

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo.	Area (ha)	Yield (q/ha)			% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)				
							Demo				Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
							H	L	A										
Oilseeds Sesame (Rabi 2010-11)	Integrated Crop Management in Sesamum	TMV 7	Irrigated		10.5		7.3	5.3	6.3	4.23	3	490	25200	20300	5.1	4200	21000	16800	5
Groundnut (Rabi 2010-11)	Mechanised sowing in Groundnut	TMV 7	Rainfed		10.5		10.3	8.7	9.5	6.13	8	20580	61800	41200	3.0	19300	36600	17300	1.89
Castor (Rabi 2010-11)	Introduction of castor hybrid YRCH 1		YRCH 1	Irrigated	12.5		11.5	11.5	11.5	10.5	43	8970	55750	46780	6.21	9500	42300	32800	4.45
Sunflower (Rabi 2010-11)	Popularisation of Sunflower hybrid KBSH 1		KB SH 41	Rainfed	12.5		11.5	11.5	11.1	14.82	9.0	7226	19320	12094	2.67	7192	17780	10588	2.47
Pulses Blackgram ()	Popularisation of Vamban 3 Blackgram	Vam ban (Bg) 3	Rainfed		5.10		7.9	6.2	7.05	5.82	1.6	9422	25207	15785	2.68	8697	18429	9732	2.11
Greengram (Rabi 2010-11)	Popularisation of Vam ban 3 green gram	Vam ban (Gg) 3	Rainfed		5.12		7.4	6.8	7.1	6.11	17.0	9851	27107	17255	2.75	9804	23256	13452	2.37

Others (pl.spec ify)																				
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* 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
1. Sesame		
Plant height (cm)	99.1	73.6
No.of pods/plant	33	24
Pod length (cm)	2.89	2.2
1000 grain weight	3.96	2.78
2. Groundnut		
Germination (%)	89	73
Population/m ² 33		26
No.of filled pods/plant	18	12
3. Castor		
No of capsules per plant	749	615
100 seed weight	26.5	18.4
Plant height (cm)	151	135
4. Sunflower		
Plant height (cm)	140	135.8
Head diameter(cm)	16.5	14.3
Test weight (g)	5.72	5.6
5. Blackgram		
Population/m ²	31 29	
No.of pods/plant	32	28
No. of seeds/pod	8	7
Test weight (g)	4.4	3.9
6. Green gram		
Plant height (cm)	62	67
No. of clusters / plant	12	10
Test weight (g)	3.4	3.2
7. Rice (Co(R)H 3)		
No.of productive tillers/m ²	47 36	
Panicle / m ²	236 2	02
1000 grain weight (g)	22.7	19
8. Rice (Anna)		
Total tillers/m ²	277 2	56
Productive tillers/m ² 25	3	224
No. of grains/panicle	121	102
Test weight (g) 23.	4	26.3
9. Rice (Co 49)		
Total tillers/m ²	233 2	12
Productive tillers/m ² 22	0	197
No. of grains/panicle 10	8	92.6

Test weight (g)	25.6	21.3
10. Bajra		
Plant height (cm)	189	133
No.of tillers	6	4
Length of earhead (cm)	33	16.4
Breadth of earhead (cm)	8.1	4.3
1000 grain weight (g) 8.	9	5.3
11. Kudiraivali		
No.of earheads/m ² 36		17.8
Panicle length (cm)	22	18.3
Test weight (g)	3	2.1
12. Mango		
Plant height (cm)	35	24
13. Onion (Co 5)		
Plant height (cm)	30	26
No of tillers per plant	9.0	6.0
No of bulbs per plant	7.6	5.0
14. Onion (Nasik red)		
Plant height (cm)	35	22
No of tillers per plant	2.2	1.5
No of bulbs per plant	1.4	1.0
15. Cumbu napier hybrid grass + Desmanthus		
Plant height (cm)	185.3	168.5
No. of tillers/clump	27	20

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 (2010-11)	Popularisation of ackyard poultry	CARI Aseleb	404	0	76 (Total eggs laid)	62 (Total eggs laid)	70 (Total eggs laid)	39 Total eggs laid)	51	1320	3500	1980	3.02	1950	690	1260	2.84
Rabbitry																	
Pigery																	
Goat (2010-11)	Popularisation of Mineral salt lick cake in Goat nutrition		250 Goats	250 Goats	400 ml/day	300 ml/day	350 ml/day	200 ml/day	43	4800	16000	11200	3.33	5000	11000	6000	2.20
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
Poultry		
Weight gain	3.330 kg after 6 months	2.54 kg after 6 months
Total eggs laid	70	39
Goat		
Inter calving period (months)		
Before treatment	6.4	7.5
After treatment	5.4	
No. of calves/calving		
Before treatment	1.8	1.0
After treatment	2.8	
Initial weight (kg) 10.	5	10.0
Final Weight (Kg)	12.5	

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	Check if any			Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR		
					H	L	A											
Common carps																		
Mussels																		
Ornamental fishes																		
Others (pl. specific)																		

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

** BCR= GROSS RETURN/GROSS COST

H-High L-Low, A-Average

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

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

5.B.4. Other enterprises

Enterprise	Name of the technology demonstrated	Variety/species	No. of Demo	Unit s/ 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											
Oyster mushroom																		
Button mushroom																		
Vermicompost																		
Sericulture																		
Apiculture																		
Others (pl.specify)																		

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

** BCR= GROSS RETURN/GROSS COST

H-High L-Low, A-Average

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

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

5.B.5. Farm implements and machinery

Name of the implement	Cost of the implement in Rs.	Name of the technology demonstrated	No. of Demo	Area covered\ under demo in ha	Labour requirement in Mandays		% save	Savings in labour (Rs./ha)	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
					Demo	Check			Gross cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Chaff cutter	12580	Popularisation of Chaff cutter	3		70	105	50	3500	750 24	2625 00	1874 76	3.5 0	624 44	1750 00	1125 56	2.8 0
Homestead incubator	30000	Homestead incubator for desi egg hatching	1		1	1	-	-	500 24	50	1950	4.9	500 18	75	1375	3.7 5

The hatching percentage is 75% in normal method and 98% in incubator

HXB Hybrids																		
HXH Hybrids																		
Herbaci um Varieties																		
Hirsutu m Varieties																		
Arbore um Varieties																		

5.B.6.3 Integrated pest management demonstrations : Nil

Farming situation	Variety	Hybrid	No. of blocks	Total No. of Demo.	Area (ha)	Incidence of pest and diseases (%)			Seed Cotton Yield (g/ha)			Economics of demonstration (Rs./ha)				Economics of local check (Rs./ha)				
						IP M	N on IP M	% Change	IP M	N on IP M	% Change	Gross Cost	Gross Return	Net Return	BC R	Gross Cost	Gross Return	Net Return	BC R	

5.B.6.4 Demonstrations on farm implements: Nil but taken as a component in ICM

Name of the implement	Area (Ha)	No. of Demo.	Name of the technology demonstrated	Labour requirement for operation (mandays./ha)		
				Demo	Local check	% change
Broad bed furrow former cum seed drill	6 15		ICM	3	20	85
Total	6	15	ICM	3	20	85

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 5		20	16	36	5	9	14
Diagnostic surveys	1						
Exhibition							
Farmer study tours							
Farmers Field school							
Field Days	3	95	55	150	-	-	-
Field visits	12						
Gram sabha							
Group discussions	3	45	25	70	-	-	-
Kisan Gosthi							
Kisan Mela							
Training for Extension Functionaries							
Training for farmers	3	40	20	60	12	5	17
Viedo show							
Newspaper coverage	2						
Popular articles	2						
Publication	2						
Radio talks	1						
T.V. Programme							
Others (Pl.specify)							
TOTAL	40	200	116	316	17	14	31

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 Se	samum	Integrated Crop Management in Sesamum	Variety TMV 7 performed better than local check.
2 Grou	ndnut	Mechanised sowing in Groundnut	Groundnut sowing with broad bed furrow former cum seed drill recorded net income of Rs 54,890/ha and B:C ratio of 3.54. Sowing with tractor drawn seed drill ensures proper depth of sowing, good crop establishment. More area could be covered in less time before the soil moisture gets depleted. The demo plot recorded groundnut pod yield of 17 q/ha compared to 11 q/ha in conventional sowing. The yield increase was 54%. The number of filled pods were 25 in demo compared to 11 in conventional method which caused the difference
3 Ca	stor	Introduction of castor hybrid YRCH 1	YRCH 1 performed better than other castor varieties grown locally. The constraint is farmers are reluctant to grow castor as a pure crop, rather they prefer as border or alley crop.
4 Sun	flower	Popularisaton of Sunflower hybrid KBSH 1	Sunflower hybrid KBSH41 performed better than the check. The seed setting was good and the capitulum size was big. Availability of KBSH 41 is a constraint for large scale adoption.

5 Blak	gram	Popularisation of VBN (Bg) 3 Blackgram	The seeds are bold and yields are higher. Performed better than T9 The crop growth is vry good and suited to rainfed situation.
6 Gree	ngram	Popularisation of VBN (Gg) 3 greengram	The variety was photo-insensitive and tolerant to Yellow Mosaic Virus (YMV) disease. Pods were comparatively bigger in size and seeds were well filled. Good pod setting and yield
7 Ri	ce	Introduction of Co(R)H 3 rice hybrid uner SRI	The yield recorded was high
8 Ri	ce	Introduction of Semi dry rice variety Anna	The variety is suited for semi dry system of rice cultivation. Non-lodging type. The seed availability is a constraint
9 Ri	ce	Popularisation of fully mechanized cultivation of rice	Transplanter is good for planting. The no. of seedlings planted per hill is more hence, seed rate is more compared to SRI. The land preparation and condition for planting needs much care for planter. The tillering is good. Harvestor saves time and energy.
10 Ba	jra	Introduction of bajra variety Co(Cu) 9	Co(Cu) 9 had longer ear heads than check. The number of tillers is also very high. The ratio of productive tillers to total tillers is less.
11	Kudiraivali – Barnyard millet	Popularisation Kudiraivali variety Co 2	Co2 recorded good yield Easy to maintain the crop. Good market price of Rs 1400-1800/q.
12 Ma	ngo	High density planting in Mango	High density planting accommodates more plant population. The performance is yet to be assessed.
13 On	ion	Popularisation of Co(5) Onion	Seed propagated onion is easy to adopt Saves cost on seed bulb The size of the bulbs are large
14 On	ion	Populaisation of Nasik Red Bellary Onion	Good crop establishment Larger bulb size
15 Fo	dder grass	Popularisation of Co(CN) 4 Cumbu Napier hybrid grass + legume fodder desmanthus	Leaf-stem ratio is high than the check hybrid and feed is nourished with protein by Desmanthus.
16 Gu	inea grass	Introduction of Co(GG) 3 Guinea grass	It is an alternate source for feeding the cattle during summer. It is shade tolerant and has quick regeneration capacity and highly palatable.
17 Ase	el poultry	Popularisation of CARI Aseel backyard poultry	Easily adopted to the new environment
18 G	oat – Nutrition	Popularisation of Mineral salt lick cake	Lactating ability is high.
19	Chaff cutter	Popularisation of Chaff cutter	Reduction in labour cost. Feeding capacity of cattle is increased due to small pieces of chaff.
20	Homestead incubator	Homestead incubator for desi egg hatching	Handling is easy.

5.B.6.7 Farmers' reactions on specific technologies

S. No	Crop / Enterprise	Name of the technology demonstrated	Feed Back
1	Sesamum	Integrated Crop Management in Sesamum	High seed yield due to proper adoption of modern techniques. Shattering is not much.
2	Groundnut	Mechanised sowing in Groundnut	Labour and drudgery reduction. Very

			good pod yield due to maintenance of plant population by proper depth of sowing and good establishment of the crop.
	Castor	Introduction of castor hybrid YRCH 1	High yield due to this hybrid when compared to check hybrid. Damage due to capsule borer is very less.
	Sunflower	Popularisation of Sunflower hybrid KBSH 1	Expected huge yield was not obtained due to continuous rain during establishment of the crop.
	Blackgram	Popularisation of VBN (Bg) 3 Blackgram	The variety was performed well when compared to the local varieties. The no. of pods/plants is high. Grains are bold and weigh more.
	Greengram	Popularisation of V BN (Gg) 3 greengram	While threshing the harvested pods, the grains were detached easily and spillage loss is very less.
	Rice	Introduction of Co(R)H 3 rice hybrid under SRI	The cost of hybrid seed was much reduced and yield was high due to cultivation of hybrid rice under SRI.
	Rice	Introduction of Semi dry rice variety Anna	Better yield than the check variety in rainfed situation
Ri	ce	Popularisation of fully mechanized cultivation of rice	Labour saving and drudgery reduction Cost of the equipment is high
	Bajra	Introduction of bajra variety Co(Cu) 9	The yield is high due to earhead length. The total tiller production is high but the productive tillers is relatively lesser. The culm thickness is more and animals are reluctant to feed the stalk unless it is chopped well. If combined with chaff cutter it is good.
	Kudiraivali – Barnyard millet	Popularisation Kudiraivali variety Co 2	Drought tolerant and given better yield than the local variety. Maximum return due to high market price.
	Mango	High density planting in Mango	More plants are accommodated due to high plant density.
Onio	n	Popularisation of Co(5) Onion	Reduction in cost of planting material as seeds are cheaper than bulbs. Size of the bulbs are large. Marketability is easier.
	Onion	Popularisation of Nasik Red Bellary Onion	High yield due to big sized bulbs.
	Fodder grass	Popularisation of Co(CN) 4 Cumbu Napier hybrid grass + legume fodder desmanthus	Spineless grass type and easy to handle during cutting and feeding. Feeding is more when mixed with legume fodder.
	Guinea grass	Introduction of Co(GG) 3 Guinea grass	It creates an opportunity to rear cattle in a more efficient manner and income is also realized through sale of milk from cattle. Comes well under shade too. Fit to be raised under coconut.
	Aseel poultry	Popularisation of CARI Aseel backyard poultry	Family income is considerably raised due to rearing the poultry Body weight increases rapidly.
	Goat – Nutrition	Popularisation of Mineral salt lick cake	Milk yield is high when fed with the cake
	Chaff cutter	Popularisation of Chaff cutter	Time saving and drudgery reduction. Spillage loss was reduced.
	Homestead incubator	Homestead incubator for desi egg hatching	More number of egg hatching with lesser duration of time. More successful hatches. Continuous current availability is a constraint.

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	8	411	
2 F	farmers Training	70	2087	
3 Me	media coverage	-	-	
4	Training for extension functionaries	1	19	

Capsicum																	
Others (pl.specify)																	
Total																	
Cucumber																	
Tomato																	
Brinjal																	
Okra																	
Onion																	
Potato																	
Field bean																	
Others (pl.specify)																	
Total																	
Commercial crops																	
Sugarcane																	
Coconut																	
Others (pl.specify)																	
Total																	
Fodder crops	Hybrid popularisation	Co(CN) 4 + Co 1	20 20	units of 10 cents each	30 02	20 88	25 45	213 1	19.4 6	24 44	1435 53	811 09	2.3 0	509 78	958 88	449 10	1.8 8
Maize (Fodder)																	
Sorghum (Fodder)																	
Others (pl.specify)																	
Total																	

H-High L-Low, A-Average

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

Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl.specify)										
Production of Inputs at site										
Seed Production										
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	1	50	-	50	-	-	-	50	-	50
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production	1	43	2	45	-	-	- 43		2	45
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development										
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	29	459 2	84	743	67	66	133	526 35	0	876

Fish processing and value addition										
Others (pl.specify)										
Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production	1	28 24		52	5	7	12	33 3	1	64
Organic manures production	1	22	13	35 -		-	- 2	2	13	35
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	3	39	50	89 1		-	1 40		50	90
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development										
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	36	415	676	1091 64		59	123 4	79	735	1214

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	68	6	74	12	18	30	80	24	104
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	2	21	16	37	-	-	-	21	16	37
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) Seed production	238		15	53	3	4	7	41	19	60
Total	812	7	37	164	15	22	37	142	59	201

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	7	12	2	99	221	6	19	25	127	118	246
1.b.	Commercial production of vegetables											
2	Production and value addition											
2.a.	Fruit Plants											
2.b.	Ornamental plants											
2.c.	Spices crops											
3.	Soil health and fertility management											
4	Production of Inputs at site	1		22	13	35	-	-	-	22	13	35
5	Methods of protective cultivation											
6	Others (pl.specify)											
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											
11.c.	Drudgery reduction of women											
11.d.	Others (pl.specify)											
12	Agricultural Extension											
12.a.	Capacity Building and Group Dynamics											
12.b.	Others (pl.specify) Gender Sensitization Module Programme	2		21	16	37	-	-	-	21	16	37
	Total	10		165	128	293	6	19	25	170	147	318

Details of sponsoring agencies involved

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs. in lakhs)
ATMA	March, 2011	GOI & State Department of Agriculture	0.70
NADP-PF	April 2010	GOI and GOTN	33.00
TN -IAMWARM	April 2010	World Bank	6.70
NADP- QSP Training	April 2010	GOI and GOTN	1.495

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.b.	Commercial fruit production										
1.c.	Commercial vegetable production										
1.d.	Integrated crop management	2	27	8 35		4	7 1	1	31	15	46
1.e.	Organic farming										
1.f.	Others (pl.specify)										
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	23	-	23	-	2	2	23	2	25
4.b.	Production of bio-agents, bio-pesticides, bio-fertilizers etc.										
4.c.	Repair and maintenance of farm machinery and implements										
4.d.	Rural Crafts										
4.e.	Seed production										
4.f.	Sericulture										
4.g.	Mushroom cultivation										
4.h.	Nursery, grafting etc.										
4.i.	Tailoring, stitching, embroidery, dying etc.										
4.j.	Agri. para-workers, para-vet training										
4.k.	Others (pl.specify) Bee keeping	1	20	4	25	-	1	1	20	5	25
5.	Agricultural Extension										
5.a.	Capacity building and group dynamics										
5.b.	Others (pl.specify)										
	Grand Total	4	70	12 83		4	10 1	4	74	22	96

PART VIII - EXTENSION ACTIVITIES

Extension Programmes (including activities of FLD programmes)

Nature of Extension Programme	No. of Programmes	No. of Participants (General)			No. of Participants SC / ST			No. of extension personnel		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	9 1	75	170	345	37	29	66	-	-	-
Kisan Mela										
Kisan Ghosthi										
Exhibition 5		1175	925	2100	-	-	-	12	9	21
Film Show	2	42	54 96		-	-	-			
Method Demonstrations	10	135 9	5	230	15	25 3	5			
Farmers Seminar										
Workshop										
Group meetings 3		88	62	150						
Lectures delivered as resource persons	28 4	98	242	740						
Newspaper coverage	15			1150						
Radio talks	10			1000						
TV talks										
Popular articles										
Extension Literature	20			1020						
Advisory Services	124			1040						
Scientific visit to farmers field	43			43						
Farmers visit to KVK				2125						
Diagnostic visits	8			38						
Exposure visits	6	195 50		245	43	12 55				
Ex-trainees Sammelan										
Soil health Camp	2	40	35	75	10	15	25			
Animal Health Camp	2	31	16	37	7	3	10			
Agri mobile clinic										
Soil test campaigns										
Farm Science Club Conveners meet										
Self Help Group Conveners meetings	5		125	125						
Mahila Mandals Conveners meetings										
Celebration of important days (specify)										
Any Other (Specify)										
Total	292	2379	1774	10559	112	84	191	12	9	21

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)						
Oilseeds						
Pulses						
Commercial crops						
Vegetables						
Flower crops						
Spices						
Fodder crop seeds						
Fiber crops						
Forest Species						
Others (specify)						
Total						

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	Amla Ka	nchan, NA7		2300 57	500	1
	Wood apple			654 3	274	1
Spices						
Tuber						
Fodder crop saplings						
Forest Species	Pungam			4 2	4	1
Others(specify)	Vermi Unit			20 34	000	2
Total						

9.C. Production of Bio-Products

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	Number of farmers to whom provided
Bio Fertilizers				
Bio-pesticide				
Bio-fungicide				
Bio Agents				
Others (specify)	Portable vermi unit	20 Nos	34000	20
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				
Duals (broiler and layer)				
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				
Piggery				
Piglet				
Others (Pl. specify)				
Fisheries				
Fingerlings				
	Black moli	28	210	1
	Orange moli	26	195	1
	Gold 10		100	1
	Red moli	28	70	1
	Shark 20		200	1
	White 20		150	1
Others (Pl. specify)				
Total		132	925	7

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

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

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

(B) Literature developed/published

Item	Title	Authors name	Number
Research papers			
Technical reports	Report on FLD on Cotton 2010-11	S. Murali Krishnasamy M.Rajendiran	
	Report on FLD on Pulses 2010-11	S. Murali Krishnasamy S.Muthuramu S. Rathika	
	Medicinal Plants Scheme Report	S. Murali Krishnasamy	
	IAMWARM Senkottaiyar sub basin Report	S. Murali Krishnasamy S.Rathika	
	IAMWARM Vembar sub basin Report	S. Murali Krishnasamy S.Rathika	
	NADP Precision farming Report	S. Murali Krishnasamy R. Jayashree S. Muthuramu	
	Report on high level committee	S. Murali Krishnasamy	
News letters			
Technical bulletins			
Popular articles			
Extension literature	Honeybee rearing	S. Murali Krishnasamy and M.Rajendiran	100
Ra	t control	S. Rathika S. Murali Krishnasamy S. Muthuramu	200
	Insitu soil moisture conservation practices	S. Rathika S. Murali Krishnasamy R. Jayashree	100
	Vermicompost production techniques	S. Murali Krishnasamy R. Jayashree S. Rathika	100
	Improved production techniques for rainfed crops	S. Rathika S. Murali Krishnasamy s. Muthuramu	50
Mus	hroom production	S. Rathika S. Murali Krishnasamy	50
	Green manuring	S. Rathika S. Murali Krishnasamy	50
	<i>Parthenium</i> weed control	S. Murali Krishnasamy S. Rathika	50
	About Vembar sub basin details and activities	S. Murali Krishnasamy S. Rathika	500
	Semi dry rice cultivation techniques	S. Murali Krishnasamy S. Rathika	250
	Seed treatment in rice	S. Murali Krishnasamy S. Rathika	250
	Good quality seed selection in rice with salt water treatment	S. Murali Krishnasamy S. Rathika	250
	Foliar nutrition in pulses	S. Murali Krishnasamy S. Rathika	250

	Biofertilizer seed treatment in pulses and rice	S. Murali Krishnasamy S. Rathika	100
	Seed hardening techniques in rainfed crops	S. Murali Krishnasamy S. Rathika	100
	Vermicompost production techniques	S. Murali Krishnasamy S. Rathika	250
	Soil testing	S. Murali Krishnasamy S. Rathika	250
	Soil testing and soil health maintenance	S. Murali Krishnasamy S. Rathika	250
	SRI cultivation techniques	S. Murali Krishnasamy S. Rathika	450
	IPM practices	S. Murali Krishnasamy S. Rathika	250
	Others (Pl. specify)		
	TOTAL		

10.B. Details of Electronic Media Produced

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

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

Period 2010-11

1. Mechanised sowing in rainfed groundnut

a. Background:

Groundnut was sown behind country plough under rainfed situation.

This took longer time to sow and the soil moisture depleted drastically and more area could not be covered in lesser time.

Tractor drawn seed drill was introduced and sowing was taken up in broad bed and furrows at Maraikulam village.

b. Interventions:

Tractor drawn seed drill was introduced and sowing was taken up in broad bed and furrows at Maraikulam village.

Gypsum application as basal and top dressing was emphasized and farmers adopted the technology.

Groundnut rich a growth regulator cum micro nutrient spray recommended by TNAU was demonstrated.

c. Process:

Field was ploughed twice with tractor drawn cultivator.

FYM was applied at 12.5 t/ha.

Gypsum was applied @ 200 kg/ha as basal and 200 kg/ha as top dressing prior to earthing up at pegging stage.

Tractor drawn broad bed furrow former cum seed drill was used for sowing groundnut.

Groundnut rich a micronutrient mixture was sprayed to enhance crop growth and productivity.

Groundnut stripper was used to strip the pods after harvest.

d. **Technology:**

Tractor drawn broad bed furrow former cum seed drill was used for sowing groundnut.

Sowing with tractor drawn seed drill ensures proper depth of sowing, good crop establishment.

More area could be covered in less time before the soil moisture gets depleted.

The demo plot recorded groundnut pod yield of 17 q/ha compared to 11 q/ha in conventional sowing. The yield increase was 54%.

The number of filled pods were 25 in demo compared to 11 in conventional method which caused the difference.

e. **Impact:**

i. **Horizontal spread:**

Tractor drawn broad bed furrow cum seed drill was used for sowing groundnut.

The adjacent farmers who were witnessing also adopted the technology and in a contiguous block 60 acres (25 ha) were taken up in the Maraikulam village with the assistance of Thiru. Raman.

Seed drill sowing has spread from maraikulam to Kanjamanaicken patti and to Narikudi and now three blocks are using the seed drill for sowing.

ii. **Economic gains:**

The demo plot recorded a net income of Rs 54,890/ha compared to Rs.56,250 in the conventional system.

The B:C ratio was 3.54 in demo and 2.5 in conventional sowing.

iii. **Employment generation:**

As the productivity increased additional employment of 6 mandays/ha was generated to harvest the additional produce.

The indirect employment is still more.

2. Hybrid Maize Cultivation (Hy. NK 6240)

f. **Background:**

Farmers traditionally use local varieties which are low yielders. Hence, Maize hybrid seeds of NK 6240 were given and demonstrated in selected farmers' fields in Virudhunagar district under ISOPOM – Maize Programme of Directorate of Maize, New Delhi by KVK, Virudhunagar during 2010-11.

g. **Interventions:**

Popularisation of ICM in maize with emphasis to hybrids was conducted at Virudhunagar. Out of 25 farmers Th.I.Bagyaraj of kathalampatti recorded the highest yield of 41.8 q/ha in hybrid maize NK 6240 by adopting scientific management practices under rainfed situation.

h. **Process:**

Introduction of high yielding hybrid NK 6240 was done in villages Aladipatti, Kathalampatti, Kanjanaickenpatti and Chinnachettikurichi of Aruppukottai Taluk, Thottiyangulam of Thiruchuli Taluk, Melathulukkangulam of Kariyapatti Taluk and Thiruvengadapuram and Subramaniapuram of Sivakasi Taluk.

i. **Technology:**

NK 6240 with 110 days duration and yielding capacity of 4300 kg of seeds per ha in rainfed situation and 5200 kg of seeds per ha in irrigated situation was introduced.

Seed treatment, irrigation at critical crop growth stages, weeding in the initial crop stages and balanced fertilizer application was done. Micro nutrient and growth promoter rich Maize max was advocated for better crop growth.

j. **Impact:**

iv. **Horizontal spread:**

Hybrid Maize cultivation technologies were explained in the above mentioned villages of different taluks of Virudhunagar district by conducting demonstrations in twenty five farmers' field, trainings and field day. Awareness was created among the farmers. The variety is now popular among the farmers of the operational area. As maize is grown in single season the impact can be studied during the ensuing season.

v. **Economic gains:**

At Virudhunagar, Maize hybrid, NK 6240 yielded at a maximum of 41.8 q/ha in the field of Th.I.Bagyaraj of katalampatti which is 28% increased yield over the check hybrid Cauvery which recorded 32.6 q/ha in rainfed situation. The gross return was Rs. 32,960/- per ha and net return was Rs. 17,420/- per ha with a B:C ratio of 2.12.

vi. **Employment generation:**

NK 6240 is tolerant to drought during flowering period and seed setting in cob and it fetches 25% more grain yield than the local varieties. As the productivity increases by 25%, the labour required to harvest, threshing, winnowing, bagging, handling and marketing increases directly increases the labour requirement by 20-25%. Indirectly the labour required for transporting, feeding to poultry or value addition food chain generates more employment opportunities which contribute to increased GDP.

3. Popularization of Blackgram variety VBN (Bg) 3

a. **Background:**

Farmers were using low yielding varieties like T9. Hence, the recently released blackgram variety VBN(Bg)3 was demonstrated in selected farmers' fields in Virudhunagar district under "Special Technology Demonstration for Harnessing Pulses Productivity" by KVK, Virudhunagar during 2010-11. This programme envisages demonstrating production potential of newly developed technologies and varieties of pulses at farmer's 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.

b. **Interventions:**

Pulse productivity has to be enhanced by improved package of practices and by overcoming the various production constraints such as allocation of marginal lands, non adoption of High Yielding Varieties, inadequate plant population, imbalanced fertilizer application, not adopting micronutrient application and plant protection measures etc. The ICM technology which not only augments pulse production by training and issue of inputs, but also, in making the farmer adopt the full package without omission for sustained production and productivity. On demonstrating the full package the farmers not only get convinced of the technologies but also, act as source of propaganda for the neighbouring farmers to follow the protocol. Ten farmers were selected in the Vadakkunatham village of Aruppukottai taluk and frontline demonstrations were conducted in their fields during Rabi 2010-11. Black gram variety VBN (Bg) 3 was used for demonstration in comparison with local check T9 in blackgram.

c. **Process:**

FLD on pulses – blackgram was conducted in Thiru S. S. Subburaj field at Vadakkunatham village of Aruppukkottai block.

Black gram variety VBN (Bg) 3 was used for demonstration in comparison with local check T9 in blackgram.

The land was ploughed twice using tractor drawn tiller to get optimum tilth for better root and shoot growth.

Sowing was taken up at right time with a spacing of 30 cm x 10 cm and care was taken to ensure optimum plant population by gap filling on 7th DAS.

Weeding was done using hand hoe.

To enhance flower retention and better pod set, Pulse wonder @ 2 kg/ha was sprayed at the time of flowering and pod formation.

Need based plant protection measures were taken up to keep the pest population under check.

Harvesting was done at correct maturity to avoid field losses by dehiscence.

Technology:

VBN(Bg)3 with 65-70 days duration and yielding capacity of 790 kg of seeds per ha in rainfed situation and 900 kg of seeds per ha in irrigated situation were introduced.

The variety is photo-insensitive and tolerant to Yellow Mosaic Virus (YMV) disease. Pods were comparatively bigger in size and seeds were well filled. While threshing the harvested pods, the grains were detached easily and spillage loss is very less. The farmers of vadakkunatham village are major seed distributors to the nearby villages during sowing period and they have got higher price value for their produce during that period.

ICM was fully demonstrated.

d. **Impact:**

i. **Horizontal spread:**

Improved pulse production technologies were explained in the Vadakkunatham village of Aruppukkottai taluk by conducting demonstrations in selected farmers' field and by couple of trainings. Awareness was created among the farmers.

Now the variety is grown in Srivilliputhur block, Rajapalayam block and Watrap block which have more than 60% of the blackgram area under VBN (Bg) 3 in the above blocks.

The State Department of Agriculture also, has taken this variety for popularisation and nearly 45% of the area under pulses in the district is covered by VBN (Bg) 3.

ii. **Economic gains:**

FLD on pulses – blackgram was conducted in Thiru S. S. Subburaj field at Vadakkunatham village of Aruppukkottai block. Th. S. Subburaj recorded an yield of 785 kg/ha of blackgram VBN (Bg) 3 grains compared to 602 kg/ha in check variety T9 with an increase of 30.4% over the check. The farmer recorded a gross return of Rs.27475/ha and net return of Rs.18,150/ha with a B:C ratio of 2.95 under rainfed ecosystem. The check variety recorded a net return of Rs. 10664/ha and B:C ratio of 2.24 only.

iii. **Employment generation:**

The marginal increase in labour is 7 man days/ha. The reason is due to increased yield and production factors. The indirect employment generation will also increase by 25-30% as blackgram processing marketing, transport etc involves extra labour proportionate to productivity and production.

4. Popularization of Greengram variety VBN (Gg) 3

e. Background:

Farmers were using varieties like A DT 3 and V BN (Gg) 2. Hence, the recently released blackgram variety V BN(Gg)3 was demonstrated in selected farmers' fields in Virudhunagar district under "Special Technology Demonstration for Harnessing Pulses Productivity" by K VK, Virudhunagar during 2010-11. This programme envisaged demonstrating production potential of newly developed technologies and varieties of pulses at farmer's 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.

f. Interventions:

Pulse productivity has to be enhanced by improved package of practices and by overcoming the various production constraints such as allocation of marginal lands, non adoption of High Yielding Varieties, inadequate plant population, imbalanced fertilizer application, not adopting micronutrient application and plant protection measures etc. The ICM technology which not only augments pulse production by training and issue of inputs, but also, in making the farmer adopt the full package without omission for sustained production and productivity. On demonstrating the full package the farmers not only get convinced of the technologies but also, act as source of propaganda for the neighbouring farmers to follow the protocol. Ten farmers were selected in the Vadakkunatham village of Aruppukottai taluk and frontline demonstrations were conducted in their fields during Rabi 2010-11. Greengram variety VBN (Gg) 3 was used for demonstration in comparison with Co 1.

g. Process:

FLD on pulses – greengram was conducted in Thiru S. Ramasubramaniam field at Vadakkunatham village of Aruppukottai block.

Greengram variety VBN (Gg) 3 was used for demonstration in comparison with local check Co 1.

The land was ploughed twice using tractor drawn tiller to get optimum tilth for better root and shoot growth.

Sowing was taken up at right time with a spacing of 30 cm x 10 cm and care was taken to ensure optimum plant population by gap filling on 7th DAS.

Weeding was done using hand hoe.

To enhance flower retention and better pod set, Pulse wonder @ 2 kg/ha was sprayed at the time of flowering and pod formation.

Need based plant protection measures were taken up to keep the pest population under check.

Harvesting was done at correct maturity to avoid field losses by dehiscence.

Technology:

VBN(Gg)3 with 65-70 days duration was introduced.

The farmers of vadakkunatham village are major seed distributors to the nearby villages during sowing period and they have got higher price value for their produce during that period.

ICM was fully demonstrated.

h. Impact:

iv. Horizontal spread:

Improved pulse production technologies were explained in the Vadakkunatham village of Aruppukottai taluk by conducting demonstrations in selected farmers' field and by couple of trainings. Awareness was created among the farmers.

Now the variety is grown in Srivilliputhur block, Rajapalayam block and Watrap block which have more than 80% of the greengram area under VBN (Gg) 3 in the above blocks.

The State Department of Agriculture also, has taken this variety for popularisation and nearly 60% of the area under pulses in the district is covered by VBN (Gg) 3.

v. Economic gains:

FLD on pulses – greengram was conducted in Thiru S. Ramasubramaniam field at Vadakkunatham village of Aruppukottai block. Thiru S. Ramasubramaniam recorded an yield of 7.4 q/ha of greengram VBN (Bg) 3 grains compared to 6.3 q/ha in check variety Co 1 with an increase of 17% over the check Co 1. The farmer recorded a gross return of Rs.28,120/ha and net return of Rs. 18,820/ha with a B:C ratio of 2.84 under rainfed ecosystem. The check variety Co 1 recorded a net return of Rs. 14190/ha and B:C ratio of 2.46 only.

vi. Employment generation:

The marginal increase in labour is 4 man days/ha. The reason is due to increased yield and production factors. The indirect employment generation will also increase by 15-17% as greengram processing marketing, transport etc involves extra labour proportionate to productivity and production.

5. Front line demonstration in Bunny BT Cotton

a. Background:

Now a days hybrid BT Cotton are gaining importance which are high yielders than the local varieties.

Bunny bt was tested at Regional Research station, Aruppukottai under ERDF scheme and performed well.

Hence, In order to get maximum net income, Bunny BT Cotton was demonstrated in selected farmers fields of Virudhunagar districts under FLD Cotton programme.

b. Interventions:

Cotton varieties are prone to boll worm attack. Bt cotton are the only panacea to combat the boll worms the organic way. Bunny bt hybrid cotton performed well under rainfed and irrigated situation and has the character of synchronized boll bursting at maturity. This saves much on labour while picking as the number of picking is reduced.

Process:

Bunny BT Cotton was introduced in the farmers holdings of G.Ashokkumar of Kovilankulam village of Aruppukottai block.

Integrated Crop Management in cotton was demonstrated with Bunny bt hybrid cotton in comparison with MRC Bt 6918.

During the summer season, when the land was fallow summer ploughing was done. Field was prepared by tractor drawn tiller ploughed twice. Seeds were dibbled at 60 cm x 20 cm spacing.

Weeding and earthingup done.

Recommended fertilizer schedule based on soil test values were followed.

Pheromone traps were set to monitor the pest incidence.

IPM practices recommended for cotton was adopted.

Technology :

Thiru. G. Ashok kumar recorded 33.75 q/ha of cotton yield in Bunny bt under rainfed condition.

The check MRC recorded 28 bolls/plant and yield was 25 q/ha.

The rainfall and other weather conditions were conducive to cotton this year and hence, high yields were recorded.

The number of sympodia were 13/plant.

The crop attained 50% flowering at 53 days.

The per boll weight of cotton was 3.6 grams.

The number of bolls per plant was 42 with boll weight of 166 g/plant.

c. Impacts

Horizontal spread:

Bunny BT Cotton cultivation technologies were explained to the farmers in all the demo villages of different taluks of Virudhunagar districts by conducting demonstrations in fifteen farmers field, training and field day. Awareness was created among the farmers.

The area under Bunny bt in the district is the highest among all the bt hybrids grown. It recorded

Economic gains:

Th.G.Ashokkumar a leading farmer of kovilankulam village of Aruppukottai taluk of Virudhunagar district obtained a gross income of Rs 1,68,750/ha and a net income of Rs. 1,43,000/ha by cultivating Bunny BT with a B:C ratio of 6.55. The reason for high returns the cost of cotton which was procured for Rs.5000/q.

Employment Generations:

Number of bolls and weight of bolls are high in Bunny BT Cotton compared to other varieties and also bollworm resistant hybrid and fetches 35% increased yield over the check.

The crop employed directly 8 days more than check variety and the same was compensated in the yield.

Period prior to 2010-11

4. Cumbu Napier Hybrid grass

Background

Cumbu napier grass slips hybrid CO(CN) 4 were given and demonstrated in selected farmers fields in Virudhunagar district by Krishi Viygan Kendra, Virudhunagar during 2007 – 08.

Interventions

Since Virudhunagar is a dry district, availability for green fodder is a problem through out the year and hence farmers seek alternate sources for feeding their cattle

Impact

The FLD during 2007-08 and the trainings given to the farmers in collaboration with cooperatives like aavin made an impact among farmers of this district to adopt this technology.

Horizontal spread

The selected 25 farmers given with the slips cultivated the grass in a large scale and apart from their own use they have distributed the slips to various farmers. Each farmer have distributed to at least 10 farmers in their own village or in nearby villages. The area has spread from 10 ha to 100 ha in the district with this grass.

Economic gains

Three farmers namely - P othiraj , Gurunathan and Karalam in Kariapatti block had raised slips in ten cents during 2007 and subsequently multiplied and planted in an acre. With this they were to sell slips to many farmers apart from selling the grass as feed for cattle. Approximately they sell 50 kgs of fodder per day to different farmers. They sell the slips at the rate of Rs.0.25 per slip and upto Rs. 1.00 per kg of green fodder. The average economic gain of the three farmers is as follows.

Produ	ction per ha (q)	Cost of production (Rs.)	Gross income (Rs.)	Net in come (Rs.)
Slips (numbers)	20000 per month (Based on the indent)			5000 per month
Green fodder (Rs. /kg)	380	45000	150000	105000 per year

Employment generation

Cultivation of this grass has created an employment for the whole year and also gives an opportunity to rear cattle in a more efficient manner and income is also realized through sale of milk from cattle..

5. System of Rice Intensification in Rice (SRI)

Background

Senkottaiyar sub basin comes under Vaippar Basin Division covering Sattur, Aruppukottai and Virudhunagar blocks of Virudhunagar district and Pudur and Vilathikulam blocks of Thoothukudi District. The sub basin has a total registered ayacut area of 2,159 ha and has 25 non-system tanks. Out of this 25 non system tanks, 14 tanks are wet ayacut tanks and 11 are dry ayacut tanks. The cultivable area of wet ayacut tanks and dry ayacut tanks are 1,414 ha and 745 ha respectively. The soils of the sub basin are mostly deep vertisols.

Most of the area in Virudhunagar and Thoothukudi districts comes under rain fed agriculture. The success of crop cultivation depends on the amount of rainfall and its distribution. The annual average rain fall of the basin region is 766.0 mm. The average rainfall during South West Monsoon, North East monsoon, Winter and Summer are 199.6 mm, 407.5 mm 29.6 mm and 129.3 mm respectively. The cropping pattern followed in the sub basin is Rice – Pulse / Cotton / Vegetables and Maize / Chillies – Pulses. The cultivation of second crop depends on the availability of water in the tanks. The major constraints for successful crop production are lack of awareness about the latest technologies in agriculture, non availability of quality seed material, poor soil health and non availability of labour in time to carryout timely in ter cultural operations.

Status of the rice crop before implementing SRI

Rice crop is grown in an area of 160 ha in the entire sub basin area during October to January after the onset of North East Monsoon and the receipt of water in the tanks. As all the tanks in the sub basin are non system tanks, only after the availability of water in the tanks, land preparation and nursery sowing will be taken up on a large scale in the basin. Rice is cultivated by conventional method i.e. transplanting of seedlings raised in the conventional nursery. The average yield paddy in the sub basin will be around 4 – 5 t/ha. Usually as paddy is cultivated during the North- East Monsoon (October – December) which accounts for more than 50% of the total rainfall, the crop suffers from inundation / submergence for a long time due to heavy downpour. As the entire ayacut area of the tanks in the sub basin is liable for submergence, paddy is being cultivated on large scale.

Implementation process-2008-09

Period of activity (season) : October – January

Number of beneficiaries

Physical – 16 beneficiaries

Impact - 1 farmer (0.4 ha)

Total - 17 beneficiaries

SC/ ST farmers benefitted – 12.5%

Total area covered – physical and impact (in ha)

Name of the Tank/Block/Village	Target (2008-09)		Achievement (2008-09)		Total
	Physical	Impact	Physical	Impact	
Aruppukottai Big tank/ Arupukottai / Aruppukottai			2.0	-	2.0
Chettikurchi tank/ Aruppukottai / Chidambarapuram			5.6	-	5.6
Melakaranthai tank / Pudur / Melakaranthai			1.0	-	1.0
Vadhuvarpatti tank / Aruppukottai / Vadhuvarpatti			1.4	0.4	1.8
SUB BASIN	10	70	10	0.4	10.4

The soil fertility status in all the beneficiaries fields in the 4 villages covering both Virudhunagar and Thoothukudi districts where SRI demonstrations were being held clearly showed that the soils are low in available nitrogen, medium in available phosphorus (except in one beneficiary field in Vadhuvarpatti) and high in available potassium. The soils are also having a high pH (alkaline range).

The climatic condition during the cropping period is generally good for the paddy crop. As the season coincides with North East Monsoon period (October – December), the young transplanted seedlings were subjected to submergence for more than 10 days immediately after transplanting and it affects the crop establishment in the early stages. Similarly water shortage in the later part of the crop period (ie during Milky stage onwards) which occurred in the Chettikurchi tank affects the grain set to some extent in all the demonstrations laid out in Chidambarapuram village. The farmers felt that these two incidences (submergence in early stage of crop growth and water shortage in later stages of the crop) had reduced the yield up to 15- 20%.

Pooled analysis of the yield data in the physical area (Tank/Block/village wise) with critical, scientific and descriptive reasoning for the probable increase/decrease in yield.

Name of the village/block	SRI (kg/ha)			Conventional (kg/ha)			Per cent increase over conventional
	Max	Min	Ave	Max	Min	Ave	
Aruppukottai Big tank/ Arupukottai / Aruppukottai	7000	4300	5650	6000	4000	5000	13.00
Chettikurchi tank/ Aruppukottai / Chidambarapuram	7900	5300	6600	6000	4500	5200	16.92
Melakaranthai tank / Pudur / Melakaranthai	7000	-	7000	6500	5000	5750	21.74
Vadhuvarpatti tank / Aruppukottai / Vadhuvarpatti	5300	4600	4950	4500	3500	4000	23.75

Status of the crop after the implementation of the technology in terms of enhancement in area, production and productivity

With the demonstrations laid out in SRI in identified beneficiaries fields, IEC activities & field days carried out under this project and through formal and informal interactions with the farmers in the sub basin area, they are now well aware of the SRI techniques. The farmers in the sub basin have also visualized the impact in terms of increase in crop yield obtained in the SRI demonstrations. The farmers in the sub basin could adopt the technologies in the coming cropping season.

All SRI beneficiaries have recorded higher yields than their conventional method of cultivation. The increased yield in the SRI demonstrations carried out in 16 farmers land holdings ranges from 6.0% to 32.5% (% increase in yield for each farmer given below). 7% of the farmers recorded more than 7t/ha, 47% of the farmers recorded yield between 6 – 7 t/ha and 46% of farmers recorded yield in the range of 4- 6 t/ha. As most of the farmers felt that SRI requires more labourers and cost for transplanting, the increase in final yield has enabled the farmers to achieve more net income from their land holdings.

S. No.	Name of the farmer	Tank/ Block/ Village / District	Area (ha)	Yield (kg/ha)		Per cent increase over control	
				Conventional	SRI		
1.	Tmt.T.Nirmala	Aruppukottai Big tank/ Aruppukottai /	1.0	6.0	7.0	16.7	
2.	Mr.Varatharajan	Aruppukottai/ Virudhunagar	1.0	4.0	4.3	7.5	
3.	Mr. K Bharatharajan	Vadhuvarpatti tank / Aruppukottai /	1.0	4.0	4.6	15.0	
4.	Tmt.Vanathiammal	Vadhuvarpatti/ Virudhunagar	0.4	4.0	5.3	32.5	
5	Mr. P.Thirumoorthy	Chettikurchi tank/ Aruppukottai / Chidambarapuram/ Virudhunagar	0.6	5.0	5.3	0	
6	Mr.M. Sinivasagan		0.4	5.0	6.1	22.0	
7	Mr. Rajesh kannan		0.8	6.0	7.9	31.7	
8	Mr. R. Subbaraj		0.2	5.0	5.9	18.0	
9	Mr.S. Viswanathan		0.6	5.0	5.3	6.0	
10	Tmt. M.Rajalakshmi		0.4	5.0	6.1	22.0	
11	Tmt. R. Padmavathi		0.4	6.0	7.0	16.7	
12	Tmt. P.Sukkubai		0.4	5.0	6.0	20.0	
13	Tmt. B.Ruba		0.2	5.0	6.2	24.0	
14	Mr.S. B.Ramachandran		0.4	5.0	5.8	16.0	
15	Mr. R. Ramachandran		1.2	5.0	5.3	6.0	
16	Mr.G.Ramasamy		Melakaranthai tank / Pudur / Melakaranthai/ Thoothukudi	1.0	7.5	7.0	21.7

6 .Precision farming technologies

Background

Krishi Viyan Kendra, Virudhunagar demonstrated Precision farming technology full package with funds from TN State Govt. funds under part II plan scheme during 2007 – 08. Fertigation systems were installed in 20 ha @ 1 ha per farmer. Shri. R.Srinivasan of Melathulakkankulam village was one among the beneficiaries. He cultivated vegetables viz. Chillies, tomato and Brinjal under precision farming using water soluble fertilizers as fertigation. The hybrid vegetable seeds supplied through KVK to a cost of Rs. 10,000/-. He raised the seedlings in shadenet using protrays and cocopeat. Water soluble fertilizers to a cost of Rs. 30,000/- and pesticides to a cost of Rs. 5,000/- were also supplied to him as subsidy.

Interventions

In Precision farming, land was thoroughly prepared by disc plough and chisel plough was operated at 3 m interval. Cultivator was used to bring to fine tilth. Seedlings were raised in protrays to ensure good germination of seeds and good establishment of seedlings in main field. Water soluble fertilizers were applied as fertigation.

Impact

Horizontal spread

Precision farming technologies were explained in Melathulakkankulam village by conducting demonstrations in five farmers field, trainings and field day. Awareness was created among the farmers.

Economic gains

The farmer obtained yield of 13 tonnes in chillies, 15 tonnes in tomato and 8 tonnes in brinjal in an area 70 cents, 13 cents and 50 cents, respectively. Expenditure for cultivation of chillies was Rs.8200, tomato Rs.4,500 and brinjal Rs.3000. Net income of Rs. 1,09,300, Rs.1,50,500 and Rs.1,04,500 were obtained from chillies, tomato and brinjal respectively.

Crop	Area (Acres)	Yield (t)	Net income (Rs)
Chillies 0.	70	13	109300
Tomato 0.	13	15	150500
Brinjal 0.	50	8	104500

Employment generation

Rural youth in Melathulakkankulam village were trained to do farming with the new technologies like fertigation and raising nursery in protrays. Their skill in handling pro trays and fertigation units were improved. Their attitude towards micro irrigation was changed positively. If the labourers were further improved on their skills, they will be able to handle hi tech agriculture with ease.

7. Raising vegetable nursery in protrays

Background

Precision farming technologies were demonstrated in Virudhunagar district by Krishi Viygan Kendra, Aruppukottai, Virudhunagar during 2007 – 08. The farmers were taken to Krishnagiri and Dharmapuri district on exposure visit and were explained about importance of drip irrigation, methods of raising nursery in protrays and maintenance in shade net. After seeing the shadenet at Paiyur, a farmer Shri. N.Srinivasan, residing at Melathulakkankulam village had erected a shadenet in his farm with local materials at a cost of Rs. 15,000/-.

Interventions

Chillies, tomato and brinjal seeds were sown in protrays with cocopeat. The protrays and cocopeat was purchased from Dharmapuri. While sowing, the protrays were filled with cocopeat and seeds were sown. Ten protrays were arranged one on the other and covered by a polythene sheet and kept as such for four days. On 5th day the polythene cover was taken out and water was sprinkled by rose cane. Afterwards the seedlings were maintained in the shade net.

Impact

Horizontal spread

Farmers had accepted the benefit of raising nursery in protrays rather than in nursery bed. Because of better establishment of seedlings in main field, farmers feel that gap filling is much minimized as pro tray seedlings established well.

Economic gains

The farmer had raised 55,000 seedlings (Tomato Seedlings: 20,000, Brinjal seedlings: 15,000 and Chilli seedlings : 20,000) during last year using protrays with cocopeat. He sold the seedlings to farmers of his own village at a cost of 55 paise/seedling. By which he earned about Rs. 30,250/-. The expenditure for producing the seedlings was Rs.10,600/- and he had got a net income of Rs.19,650/-.

Crop No	. of seedlings produced	Cost of production (Rs.)	Gross income (Rs.)	Net income (Rs.)
Tomato 20	000	10600	30250	19650
Brinjal 15	000			
Chillies 20	000			

Employment generation

The seedlings are raised in shade net and sold to other farmers at a reasonable price. His labourers were skill trained in handling pro trays and nursery techniques. Many landless labourers have got employment opportunities.

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

- ✓ The Video Diagnostic Kit (VDK) software for diagnosing major, secondary and micro nutrient disorders in agricultural and horticultural crops were demonstrated to the extension officials.
- ✓ The latest (2011) version DESSIFER software for soil testing has been installed and explained to extension officials and is being put to use for farmers benefit.
- ✓ The web site on Agri portal Indg.in was made use of to the farmers in knowing the market details.
- ✓ Agro advisory services were given to the farmers through SMS facilitated through net core
- ✓ Knowledge on weather forecasting is done in all trainings and Accuweather.com was popularized for accessing weather based information as it is vital in the rainfed areas.
- ✓ The Precision farming was demonstrated in 100 ha in 100 farmers holdings with micro irrigation and fertigation.
- ✓ SMS message service through mobile phones introduced and market information on two market and one commodity of farmers choice is sent through SMS.
- ✓ E velanmai popularized among farmers.
- ✓ Exposure visits to Coimbatore were arranged.
- ✓ Under IAM WARM project IAMWARM on wheels rally was conducted and the District collector flagged off the function.
- ✓ Wall Paintings were done to create awareness in villages
- ✓ Under IAM WARM project video conferencing was used to communicate with the Project Director while appraising the technologies followed.
- ✓ Under IAMWARM project final year B.Sc (Agri) students of AC&RI, Killikulam and KVK jointly involved under RAWI programme to popularize the semi dry rice cultivation techniques, SRI, pulse production technology and vermicompost production techniques.

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
1.	Banana	Panchgavya spray on bunches	Improves bunch weight
2.	Pulse	Seed treatment with red earth	Protection against pests

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

Identification of courses for farmers/farm women

- Village meetings
- Collectors grievances day questions
- Farmers' Scientists interaction meetings
- Farmers association – requests
- SAC meeting
- Major crops and important pests
- Season based technology
- New technologies to be imparted
- Suitable dry farming practices which are not much use in the district and which need popularization
- PRA techniques.
- Night meetings
- Discussion with extension officials
- Discussion with SHG groups, Farmers Discussion Group convenors
- Discussion with local NGOs
- Monthly Meetings with KVK, SMS

Rural Youth

- Discussion with Nehru Yuvak Kendra members
- Rural Youth Club meetings
- Feed back sessions of Field days and on campus trainings
- Agri Expo
- Symposiums
- Through NGOs – Based on their requests

Inservice personnel

- Discussion with JDA / JDH
- SAC meeting
- Based on the requirements of sponsoring agencies
- Mandates of schemes in operation
- Review meetings of Special Secretary and Commissioner of Horticulture

10.G. Field activities

- i. Number of villages adopted
 - Chidambarapuram
 - Muthuramalingapuram
 - Vadakkunatham
 - Kattankudi
 - Kanchanaickenpatti

- ii. No. of farm families selected
- iii. No. of survey/PRA conducted

Conducted one PRA survey on 7.12.2010 in collaboration with Regional Research Station, Aruppukotai at Vadakkunatham village in which 75 farmers and 19 extension officials and all staff of KVK participated.

10.H. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab :

1. Year of establishment : 2007
2. List of equipments purchased with amount :

Sl. No	Name of the Equipment	Qty.	Cost
1 Di	igital pH Meter	1	7946
2 Di	igital Conductivity Meter	1	8300
3 Spe	ctrophotometer	1	89,454
4 Fl	ame photometer	1	33,300
5 Automati	c KJEL PLUS Block digestion and Distillation system	1	1,76,432
6	ANAMED Electronic balance -6000 g Capacity	1	28,567
7	ANAMED Electronic balance -200 g capacity	1	92,007
8 Ho	t plate	1	1919
9 Ho	t air oven	1	7070
10 Grin	der	1	12,428
11 Re	frigerator	1	9950
12	Spring type projection screen	1	2100
13 El	ectrical water bath	1	3400
14 W	ater still	1	28,418
15 Me	chanical shaker	2	44,494
	Total 16		545785

Sl. No.	Name of Equipments	Qty.	Cost (Rs.in lakh)
	LAB SETUP		
1	Laboratory Island work table	1	0.60
2	Wall side work table	1	0.29
3	Instrument table	1	0.40
4	Chemical storage cabinet	1	0.43
5	storage cabinet – TSC H 925	1	0.20
6	storage cabinet – TSC-H 950	1	0.18
7	Wall mounded cupboard – TSC – 900 X30X600 mm	1	0.07
8	Wall mounded cupboard TSC 1000X300X600 mm	1	0.07
9	Observation stool – steel type	6	0.02
10	Observation stool – Cushion type – 350X350	2	0.02
11	Observation stool – Cushion type 450X450	5	0.03
12	Door arrangements for existing cupboards	1	0.25
13	Specimen observatory table	1	0.03
14	Perching board	1	0.07

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	995 7	51	105	24875
Water Samples	550 3	46	81 55	00
Plant samples				
Manure samples				
Others (specify)				
Total	1545 1	097	186	30375

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	235 1	76	25 58	75
Water Samples	215 2	15	23 21	50
Plant samples				
Manure samples				
Others (specify)				
Total	450 3	91	48 80	25

10.I. Technology Week celebration

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

Other Details

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

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

A. Introduction of alternate crops/varieties

State	Crops/cultivars	Area (ha)	Number of beneficiaries

B. Major area coverage under alternate crops/varieties

Crops	Area (ha)	Number of beneficiaries
Oilseeds		
Pulses		
Cereals		
Vegetable crops		
Tuber crops		
Total		

PART XI. IMPACT

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

1. SRI in rice was popularized and presently more than 70% of the rice area in the district is under SRI which works to 21000 ha.
2. Maize thresher is popular among the farmers and almost 80% of the farmers thresh only using tractor driven thresher for maize harvest amounting to 13000 ha.
3. Mechanised seed drill sowing of maize, groundnut and cotton were demonstrated and so far 400 farmers have taken up sowing using the equipments from KVK.
4. Broad bed furrow former cum seed drill was demonstrated at Maraikulam village and in one season 60 acres in a contiguous block farmers adopted the technology.
5. Precision farming is being adopted in 220 ha through NADP scheme horticulture department and 120 ha by KVK
6. Aseel chicks were popularized for backyard poultry and the 10 farm families in the whole hamlet in Kanjamanaiickenpatti purchased 120 birds and are maintaining it.
7. Homestead incubator was demonstrated and one farmer has purchased the equipment in Kariappatti village.
8. Mechanised seed drill sowing of maize was demonstrated and 60 farmers utilized the seed drill available at KVK and sowed their crop. Five farmers purchased the equipment from TNAU, Coimbatore based on the letter from KVK.
9. During exposure visit shade net nursery was shown to the farmers. Three farmers have installed a shade net in his land out of his own money and interest.
10. Nursery raising with protray was demonstrated under FLD – One farmer has purchased the pro trays and started raising seedlings with cocopeat and selling to neighbouring farmers.
11. Maize hybrid Co(M)H 5 was demonstrated – 200 farmers have raised the crop in the district.
12. Groundnut stripper was demonstrated and 4 farmers have purchased the unit from Coimbatore.
13. Bt cotton hybrid RCH2 Bt was demonstrated and so far 350 farmers in the district have raised the crop.
14. KBSH 41 sunflower hybrid was demonstrated by FLD and 100 farmers have raised the crop in the district.
15. Vermicomposting technology was demonstrated through training as well as by FLD and 250 farmers has purchased the poly silpaulin vermi bags own. They are producing the composts and selling to the farmers in adjoining hamlets.
16. Mushroom production technology was demonstrated through training and 25 farmers have erected the unit on their own and they are producing the mushroom and selling to the nearby petty shops.

11.B. Cases of large scale adoption

(Please furnish detailed information for each case)

1. Cotton SVPR 3 was demonstrated and now the district has more than 20% of cotton area under SVPR 2 with the combined efforts of the Department of Agriculture, Cotton Research Station, Srivilliputhur and KVK.
2. Cotton SVPR 2 was demonstrated and now the district has more than 60% of cotton area under SVPR 2 with the combined efforts of the Department of Agriculture, Cotton Research Station, Srivilliputhur and KVK.
3. Paddy SRI techniques was demonstrated and farmers were trained. Now, the area covered under SRI is more than 21000 ha.
4. Pulse DAP 2% spraying was demonstrated and more than 40% of the farmers are following the practice with the combined efforts of the Department of Agriculture, Cotton Research Station, Srivilliputhur and KVK.
5. Vamban Blackgram variety VBN (Bg)4 has spread in an area of more than 1500 ha.

Details of farm machineries purchased by farmers on cost through the Department during 2010-11

Sl.No.	Name of the machinery/implement	Quantity
1 T	tractor	04
2 Po	power tiller	42
3 Ro	rotovator	09
4 Pa	power combine harvester	02
5 Po	power weeder (< 8 HP)	07
6	Power weeder (< 10 HP)	33
7	Power weeder (< 20 HP)	07
8 Pa	power drum seeder	06
9 Co	conut climber	12
10 Co	chain weeder	15
11	Multi crop thresher	02
12 M	maize thresher cum husk sheller	01
13	Power operated sprayer	15
14 Fu	furrow disc plough	02
15 M	wood plough	16
16	Duck foot cultivator	06
17 Ni	new tyne cultivator	10

Source : Dept. of Agricultural Engineering, Virudhunagar

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

1. SRI in rice was popularized and presently more than 70% of the rice area in the district is under SRI which works to 21000 ha.
2. Maize thresher is popular among the farmers and almost 80% of the farmers thresh only using tractor driven thresher for maize harvest amounting to 13000 ha.
3. Cumbu Napier fodder grass Co 4 given for 1 ha under FLD through KVK has spread in an area of 50 ha.
4. Vamban Blackgram variety VBN (Bg) 3 has spread in an area of more than 3000 ha.
5. Micro irrigation demonstrated through NADP Part II plan scheme has been increased to more than 1500 ha.
6. Inland fish culture in farms is being done in 12 farms.

PART XII - LINKAGES

12.A. Functional linkage with different organizations

Name of organization	Nature of linkage
District Colletorate, Virudhunagar	Member of District Agricultural Productivity Council Grievances day meeting participation. Monthly review meetings for ATMA, NADP and IAMWARM Schemes. PC is Micro irrigation committee member PC is National Food Security Mission committee Executive member. ATMA Programmes, Trainings Exposure Visits, Farmer Scientist interaction meetings are funded to KVK Rs 1.30 lakhs sanctioned in 2006-07 Rs 1.50 lakhs sanctioned in 2007-08 Rs 3.675 lakhs sanctioned in 2008-09 Rs.0.70 lakhs sanctioned in 2009-10
National Medicinal Plants Board – GOI, Ayush, New Delhi	Scheme on Establishment of Medicinal Trees in Southern districts for Rs 6.6 lakhs.
Regional Research Station, Kovilangulam	Infra structure such as admin building, Training hall, farm, demo units and computers shared. Machineries and implements used. Resource persons for technical meetings are shared Course teachers for the Diploma Agri Programme
Cotton Research Station, Srivilliputhur	Input purchase ,Resource persons for technical meetings Arranging meetings for the farmers of Srivilliputhur and Vatrapp areas.
KVK, Madurai, Ramnad, Nammakal, Tuticorin,Kundrakudi	Input purchase. Sharing of resource persons for Training and exhibitions, interaction meetings. Exposure visits to Madurai and Ramnad.
Department of Agriculture, Virudhunagar	Participation in field days. Extension officials trainings Farmer Scientists interactions ATMA meetings Joint participation in IAM WARM project Joint field inspection at times of pest and disease out breaks. Resource persons for technical sessions
PWD, Virudhunagar	Resource persons IAMWARM meetings
Regulated Markets (Virudhunagar, Sattur, Aruppukottai, Srivilliputhur, Rajapalayam)	Collaborative trainings conducted on Agrl. Marketing in Virudhunagar district. Resource persons for technical meetings
UT&RC, Rajapalayam	Resource persons for technical meetings in KVK Conducting veterinary camps.
Fisheries department	Resource persons for technical meetings in KVK
Aavin, Virudhunagar	Resource persons for technical meetings related to fodder cultivation Farmers are identified for conducting FLD on Co 4 fodder cultivation
DHAN Foundation	Resource persons for technical meetings
Development Promotion Group (NGO)	Conducting training programmes
TANFED, Virudhunagar	For input purchase
Fertilisers and Pesticide Associations	for input purchase and Resource persons for technical meetings
Banks (Nationalized and other banks)	Arrangements are being made for availing loans related to Agriculture
NABARD, Virudhunagar	Resource persons for technical meetings One of the member in Farmers association formation Committee
World Bank	Implementing IAMWARM Scheme – Shenkottaiyar basin
All India Radio, Madurai	Programmes on Farm Radio sector broadcasting News related to KVK
Doordharshan, Chennai	Telecasting News related to KVK trainings

NB The nature of linkage should be indicated in terms of joint diagnostic survey, joint implementation, participation in meeting, contribution received for infrastructural development, conducting training programmes and demonstration or any other

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

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs. in lakhs)
ATMA	March, 2011	GOI & State Department of Agriculture	0.70
NADP-PF	April 2010	GOI and GOTN	33.00
TN –IAMWARM	April 2010	World Bank	6.70
NADP-QSP Training	April 2010	GOI and GOTN	1.495

12.C. Details of linkage with ATMA

a) Is ATMA implemented in your district Yes/ No

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

Coordination activities between KVK and ATMA during 2010-11

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

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

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

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

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

12.F. Details of linkage with RKVY : Nil

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

12. 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	40 25	0	
November	34 26	0	
December	30 26	0	
January 2011	20 27	0	
February	--		
March	--		
Total	124 1	040	

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	SBI	Aruppukottai	809	The Training Organiser, KVK, Virudhunagar HQ, Aruppukottai	30043975984		
With KVK					3043975688(RF)	-	SBIN 0000809

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

S. No	Items / Head	Opening balance if any	Remittance ZPD Bangalore	by VIII	Actual expenditure debitable to Council A/C	Closing balance if any	Remarks
1	Production Technology						
	a. Essential inputs				69935		
	b. POL, hiring vehicle, Kisan melas, printed materials, reports, demonstration boards				30000		
	Total	+336			99935	(-)99599	
2.	Farm Implements – 75 ha						
	a. New equipments		-		-	-	
	b. Contingencies	-	-		-	-	
	Total						

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

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	4500000		6595812
2	Traveling allowances	125000		124999
3	Contingencies			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	300000		300016
B	POL, repair of vehicles, tractor and equipments	146000		145738
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	106000		105610
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	50000		49565
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	202000		201514
F	FLD on special pulses programme	44000		43631
G	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	83000		79953
H	Training of extension functionaries	9000		9000
I	Maintenance of buildings	-		-
J	Extension Activities	30000		29990
K	Farmer's Field School	25000		24833
L	Library (Purchase of assets like books & journals)	5000		4835
TOTAL (A)		5625000		7715496
B. Non-Recurring Contingencies				
1	Equipments including SWTL & Furniture			
a. F	urniture and furnishing	700000		699694
b. L	aser guider and leveller	500000		340000
c. Ge	enerator	100000		211220
d. E	PABX System	50000		49820
e.	Computer and accessories	75000		123960
2	Works			
a.	Administrative building (II and final installment)	3700000		3700000
b.	Farmers hostel (II and final installment)	2000000		2000000
3	Library (Purchase of assets like books & journals)	10000		9912
4	Vehicle (Four wheeler/Two wheeler, please specify)	-		-
TOTAL (B)		7135000		7134606
C. REVOLVING FUND		-		-
GRAND TOTAL (A+B+C)		1,27,60,000	1,25,95,888	1,48,50,102

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	52074 65	006	13150	103930
April 2009 to March 2010	103930 89	399	9408	183921
April 2010 to March 2011	183921 93	734	100187	177468

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

Name of the staff	Designation	Title of the training/Seminar/Conference programme	Institute where attended	Dates
Mr.M.Rajendran S	MS(Plant protection)	Papaya Mealybug	National Bureau of Agricultural Important Insects, Bangalore	30.10.10 to 31.10.10
		IPDM strategies for high value crops	DOEE, TNAU, Coimbatore	24.03.11 to 25.03.11
Dr. D. Jegadeeswari	SMS (Soil Science)	Scientific Tamil in Agriculture	AC& RI, Madurai	7.10.10 to 8.10.10
		Processing of millet based convenience foods	V.V. Vanniaperumal College for Women, Virudhunagar	30.08.10
		Strengthening gender perspective in Agriculture and Extension	TANUVAS chennai	24.01.11 to 25.01.11
		Soil health improvement for enhancing crop productivity	TNAU, Coimbatore	17.03.11 to 18.03.11
Dr.R.Jayashree S	MS (ENS)	Team work and building alliances for development	KKID, Manikarai, Coimbatore	29.03.10 to 31.03.10
		Scientific Tamil in Agriculture	AC& RI, Madurai	7.10.10 to 8.10.10
		Renewable energy	Gandhigram Rural Institute, Gandhigram	1.12.10 to 22.12.10
Dr.S.Rathika SM	S (Agronomy)	Financial management	Anna Institute of Management, Chennai	18.03.10
		Team work and building alliances for development	KKID, Mankarai, Coimbatore	29.03.10 to 31.03.10
		Special Procurement training	Seminar Hall, Hotel North Gate, Madurai-2	4.05.10
		Upscaling of e-Velanmai	CARDS, TNAU, Coimbatore	17.05.10
		Technology demonstration for harnessing pulses productivity	MPKV, Rahuri, Maharashtra	4.06.10 to 5.06.10
		Scientific Tamil in Agriculture	AC& RI, Madurai	7.10.10 to 8.10.10

		Roundup ready flex cotton technology	TNAU, Coimbatore	28.10.10
		Micro irrigation	M/s. Jain Irrigation, Udumalpet	19.11.10 to 20.11.10
		Weather based agro advisory services	DOEE, TNAU, Coimbatore	30.03.11 to 31.03.11
Dr.S.Muthuramu S	MS (Plant Breeder)	Team work and building alliances for development	KKID, Mankarai, Coimbatore	29.03.10 to 31.03.10
		Third National Congress on "Plant Breeding and Genetics"	CPBG, TNAU, Coimbatore	7.07.10 to 9.07.10
		Scientific Tamil in Agriculture	AC& RI, Madurai	7.10.10 to 8.10.10

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	Rice	Assessment of rice varieties for productivity and market preference	5
Varietal /Hybrid Evaluation	Blackgram	Assessment of blackgram varieties for enhancing productivity by floral retention	5
	Redgram	Assessment crop establishment technique in red gram	5
	Chilli	Assessment of chillie varieties for yield and marketability as spice	5
Integrated Pest Management			
Integrated Crop Management	Redgram	Assessment of different crop establishment techniques in Redgram	3
	blackgram	Mini mobile sprinkler irrigation in blackgram	2
Integrated Disease Management			
Small Scale Income Generation Enterprises			
Weed Management			
Resource Conservation Technology			
Farm Machineries	Groundnut	Assessment of mechanised sowing in groundnut	5
Integrated Farming System			
Seed / Plant production			
Value addition			
Drudgery Reduction			
Storage Technique			
Others (Pl. specify)			
Total			30

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	1000 birds
Evaluation of Breeds			
Feed and Fodder management			
Nutrition Management	Cattle	Mangement of post partum anestrus in crossbred cows	50 animals
Production and Management			
Others (Pl. specify)			
Total			1050

II. TECHNOLOGY REFINEMENT

Summary of technologies refined under various crops : Nil

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 Nil

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	
Cotton																	
Rainfed I	CM	SVPR-4	1	12	5	10.92	8.35	31.0	20500	54608	34108	2.66	21000	41715	20715	1.98	
Irrigated I	CM	SVPR-4	1	13	5	12.55	9.25	35.6	29100	62750	41650	2.97	22500	46250	23750	2.05	
Rainfed ICM		KC 3	1	5	2	10.52	8.25	32.7	19400	54750	35350	2.82	20100	41250	21150	2.05	
Irrigated I	CM	KC 3	1	5	2	12.87	9.50	35.4	21000	64350	43350	3.06	21000	47500	26500	2.26	
Rain fed	ICM	Bunny BT	1	5	2	30.00	27.00	28.0 20	400	150500	130100	7.37	19200	135000	115800	7.00	
Irrigated I	CM	Bunny BT	1	10	4	34.00	31.50	39.6	21700	176000	148300	7.83	20600	157500	136900	7.60	
Total				50	20	18.48	15.64	33.72	22017	93826	72143	4.45	20733	78203	57469	3.82	

* 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	Hybrid introduction	Introduction of Co(R)H 3 rice hybrid uner SRI		12 5		6.94	5.4	32	No.of productive tillers/m ² – 47, Panicle / m ² – 236, 1000 grain weight (g) – 22.7	No.of productive tillers/m ² – 36, Panicle / m ² – 202, 1000 grain weight (g) – 19	20000 69	400 5	5200	3.47	20000	54000	34000	2.84

	Drought tolerant rice variety introduction	Introduction of Semi dry rice variety Anna		10.2		39.2	33.6	16.7	Total tillers/m ² – 277, Productive tillers/m ² – 253, No. of grains/panicle – 121, Test weight (g) – 23.4	Total tillers/m ² – 256, Productive tillers/m ² – 224, No. of grains/panicle – 102, Test weight (g) – 26.3	19820	40	867	2	1047	2.06	19521	33582	14061	1.72
	Farm mechanisation in rice	Popularisation of fully mechanized cultivation of rice		7.2		33	16.2	50.9	Total tillers/m ² – 233, Productive tillers/m ² – 220, No. of grains/panicle – 108, Test weight (g) – 25.6	Total tillers/m ² – 212, Productive tillers/m ² – 197, No. of grains/panicle – 92.6, Test weight (g) – 21.3	19000	50	000	3	1000	2.61	15000	30000	15000	2.00
Millets	Variety introduction	Introduction of bajra variety Co(Cu) 9		13.5	.2	23.5	15.3	34.8	Plant height (cm) – 189, No. of tillers – 6, Length of earhead (cm) – 33, Breadth of earhead (cm) – 8.9, 1000 grain weight (g) – 8.9	Plant height (cm) – 133, No. of tillers – 4, Length of earhead (cm) – 16.4, Breadth of earhead (cm) – 4.3, 1000 grain weight (g) – 5.3	4500	2	3500		19000	5.20	4000	15300	11300	3.82
	Variety introduction	Popularisation Kudiraivali variety Co 2		14	5.6	17.	7	9.8	44.6	No. of earheads/m ² – 36, Panicle length (cm) – 22, Test weight (g) – 3	No. of earheads/m ² – 18, Panicle length (cm) – 18.3, Test weight (g) – 2.1	3000	17	700	14700	5.90	3000	9800	6800	3.20

Oilseeds	ICM I	Integrated Crop Management in Sesamum		6.8	17	6.3 4.	2	33.3	Plant height (cm) – 99.1, No.of pods/plant - 33, Pod length (cm) - 2.89, 1000 grain weight – 3.96	Plant height (cm) – 73.6, No.of pods/plant - 24, Pod length (cm) - 2.2, 1000 grain weight – 2.78	4900 2	5200	20300	5.1	4200	21000	16800	5
	Mechanised sowing	Mechanised sowing in Groundnut		5	10	9.5 6.	1	35.8	Germination (%) – 89, Population/m ² – 33, No.of filled pods / plant - 18	Germination (%) – 73, Population/m ² – 26, No.of filled pods / plant - 12	20580 61	800 4	1200	3.0	19300	36600	17300	1.89
	ICM In	Introduction of castor hybrid YRCH 1		5	12	18.5 1	0.5	43	No of capsules per plant – 749, 100 seed weight – 26.5, Plant height (cm)- 151	No of capsules per plant – 615, 100 seed weight – 14.3, Plant height (cm)- 135	8970 55	750	46780	6.21 9	500	42300	32800	4.45
	ICM P	Popularisation of Sunflower hybrid KBSH 1		5	12	16.1 1	4.82	9.0	Plant height (cm) – 140, Head diameter(cm) – 16.5, Test weight (g) – 5.72	Plant height (cm) – 135.8, Head diameter(cm) – 14.3, Test weight (g) – 5.6	7226 1	9320	12094	2.67	7192	17780	10588	2.47
Pulses	Production technology	Popularisation of VBN 3 Blackgram		5 10		7.05 5	.8	21.6	Population/m ² – 31, No.of pods/plant – 32, No. of seeds/pod – 8, Test weight (g) – 4.4	Population/m ² – 29, No.of pods/plant – 28, No. of seeds/pod – 7, Test weight (g) – 3.9	9422 2	5207	15785	2.68	8697	18429	9732	2.11

Medicinal and aromatic																			
Fodder	Hybrid popularisation	Popularisation of Co(CN) 4 Cumbu Napier hybrid grass + egume fodder desmanthus	20 cents	20	2545 21	31	19.4	Plant height (cm) – 185.3, No. of tillers/clump - 27	Plant height (cm) – 168.5, No. of tillers/clump - 20	62444	143553	81109	2.30	50978 95	888 44	910	1.88		
	Variety introduction	Introduction of Co(GG) 3 Guinea grass	10 cents	12	3180 21	30	49	Plant height (cm) – 222.9, No. of tillers/clump - 23	Plant height (cm) – 197.7, No. of tillers/clump - 18	152520	397500	244980 2.	61 1	50800	266250	115450	1.77		
Plantation																			
Fibre																			
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

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

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																		
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

Women empowerment

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

Farm implements and machinery

Name of the implement	Crop	Name of the technology demonstrated	No. of Demo	No. of Farmer	Area (ha)	Labour requirement in Mandays		% change in major parameter	Labor reduction (man days)	Cost reduction (Rs./ha or Rs./Unit ect.)
						Demonstration	Check			
Chaff cutter	Cumbu Napier	Popularisation of Chaff cutter	3 13	5	-	70 10	5	50	35 99	976
Homestead incubator	Poultry	Homestead incubator for desi egg hatching	1 2	5	-	1 1		-	--	

Additional information

Name of the implement	Cost of the implement in Rs.	Name of the technology demonstrated	No. of Demo	Area covered\ under demo in ha	Labour requirement in Mandays		% save	Savings in labour (Rs./ha)	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
					De mo	Ch eck			Gro ss cost	Gros s Return	Net Return	** BCR	Gro ss Cost	Gros s Return	Net Return	** BCR
Chaff cutter	12580	Popularisation of Chaff cutter	3		70	105	50	3500	750 24	2625 00	1874 76	3.5 0	624 44	1750 00	1125 56	2.8 0
Homestead incubator	30000	Homestead incubator for desi egg hatching	1		1	1	-	-	500 24	50	1950	4.9	500 18	75	1375	3.7 5

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

** BCR= GROSS RETURN/GROSS COST

Others (pl.specify)										
Total										
Commercial crops										
Sugarcane										
Coconut										
Others (pl.specify)										
Total										
Fodder crops	Co(CN)4	20 0.	08	2545	2131	19.4	62444	143553	81109	2.30
Maize (Fodder)										
Sorghum (Fodder)										
Others (pl.specify)										
Total		56	15.08							

Fish processing and value addition										
Others (pl.specify)										
Production of Inputs at site										
Seed Production										
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	1	14	5	19 2		4	6 1	6	9	25
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production	1	11	2	13 8		-	8 1	9	2	21
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development										
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	29	459 2	84	743	67	66	133	526 35	0	876

Fish processing and value addition										
Others (pl.specify)										
Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production	1	28 24		52	5	7	12	33 3	1	64
Organic manures production	1	22	13	35 -		-	- 2	2	13	35
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	3	39	50	89 1		-	1 4	0	50	90
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development										
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	36	415	676	1091 64		59	123 4	79	735	1214

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	46	8	6	74	12	18	30	80	24	104
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	22	1	16	37	-	--		21	16	37
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) Seed production	23	8	15	53	3	4	7	41	19	60
Total	81	27	37	164	15	22	37	142	59	201

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	7	2	99	221	6	19	25	127	118	246	
1.b.	Commercial production of vegetables											
2	Production and value addition											
2.a.	Fruit Plants											
2.b.	Ornamental plants											
2.c.	Spices crops											
3.	Soil health and fertility management											
4	Production of Inputs at site	1	22	13	35	-	-	-	22	13	35	
5	Methods of protective cultivation											
6	Others (pl.specify)											
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											
11.c.	Drudgery reduction of women											
11.d.	Others (pl.specify)											
12	Agricultural Extension											
12.a.	Capacity Building and Group Dynamics											
12.b.	Others (pl.specify) Gender Sensitization Module Programme	2	21	16	37	-	-	-	21	16	37	
	Total	10	165	128	293	6	19	25	170	147	318	

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.	Commercial floriculture										
1.b.	Commercial fruit production										
1.c.	Commercial vegetable production										
1.d.	Integrated crop management	2	27	8	35	4	7	1	31	15	46
1.e.	Organic farming										
1.f.	Others (pl.specify)										
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	23	-	23	-	2	2	23	2	25
4.b.	Production of bio-agents, bio-pesticides, bio-fertilizers etc.										
4.c.	Repair and maintenance of farm machinery and implements										
4.d.	Rural Crafts										
4.e.	Seed production										
4.f.	Sericulture										
4.g.	Mushroom cultivation										
4.h.	Nursery, grafting etc.										
4.i.	Tailoring, stitching, embroidery, dyeing etc.										
4.j.	Agril. para-workers, para-vet training										
4.k.	Others (pl.specify) Bee Keeping	1	20	4	25	-	1	1	20	5	25
5	Agricultural Extension										
5.a.	Capacity building and group dynamics										
5.b.	Others (pl.specify)										
	Grand Total	4	70	12	83	4	10	4	74	22	96

V. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	124 1	040		1040
Diagnostic visits	8	38		38
Field Day	9	411		411
Group discussions				
Kisan Ghosthi				
Film Show	2	96		96
Self -help groups	5	125		125
Kisan Mela				
Exhibition	5	2100	21 21	21
Scientists' visit to farmers field	43	43		43
Plant/animal health camps	2	47		47
Farm Science Club				
Ex-trainees Sammelan				
Farmers' seminar/workshop				
Method Demonstrations	10	265		265
Celebration of important days				
Special day celebration				
Exposure visits	6	300		300
Others (pl.specify)				
Total	214	4465	21	4486

Details of other extension programmes

Particulars	Number
Electronic Media	
Extension Literature	20
News Letter	
News paper coverage	15
Technical Articles	20
Technical Bulletins	
Technical Reports	7
Radio Talks	10
TV Talks	
Animal health camps (Number of animals treated)	1050
Others (pl.specify)	
Total	1102

VI. PRODUCTION OF SEED/PLANTING MATERIAL

Production of seeds by the KVKs

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

Production of planting materials by the KVKs

Crop category	Name of the crop	Name of the variety (if hybrid pl. specify)	Number	Value (Rs.)	Number of farmers
Commercial					
Vegetable seedlings					
Fruits					
Ornamental plants					
Medicinal and Aromatic	Amla Ka	nchan, NA7	2300 57	500	1
Plantation	Wood apple		654	3274 1	
Spices					
Tuber					
Fodder crop saplings					
Forest Species	Pungam		4 24		1
Others					
Total					

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity	Value (Rs.)	No. of Farmers
		Kg		
Bio Fertilizers				
Bio-pesticide				
Bio-fungicide				
Bio Agents				
Others	Portable vermi unit	20 Nos	34000	20
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				
Duals (broiler and layer)				
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				
Piggery				
Piglet				
Others (Pl. specify)				
Fisheries				
Fingerlings				
Bl	ack moli	28	210	1
Ora	nge moli	26	195	1
Gol	d	10	100	1
Red	moli	28	70	1
S	hark	20	200	1
W	hite	20	150	1
	Total	132	925	7
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	235	176	25	5875
Water	215	215	23	2150
Plant				
Manure				
Others (pl. specify)				
Total	450 39	1	48	8025

VIII. SCIENTIFIC ADVISORY COMMITTEE

Number of SACs conducted
One

IX. NEWSLETTER

Number of issues of newsletter published

X. RESEARCH PAPER PUBLISHED

Number of research paper published : Nil

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

Nil - Yet to be sanctioned

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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