ANNUAL REPORT
2010-11





ICAR

Krishi Vigyan Kendra

Indian Institute of Spices Research

(*Indian Council of Agricultural Research*)

Peruvannamuzhi, Calicut - 673528, Kerala

PART I

GENERAL INFORMATION ABOUT THE KVK

1. GENERAL INFORMATION ABOUT THE KVK

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

Address	Telephone		E mail	Web Address
	Office	FAX		
Krishi Vigyan Kendra, Peruvannamuzhi (P.O), Pin-673 528 Calicut, Kerala	0496-2662372	0091-496-2662372	kvk@spices.res.in kvkcalicut@gmail.com kvk_calicut@bsnl.in	www.kvkcalicut.gov.in www.spices.res.in/kvkcalicut/

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

Address	Telephone		E mail	Web Address
	Office	FAX		
Indian Institute of Spices Research, Post Bag No.1701, Marikunnu (P.O.) Calicut-673 012, Kerala.	0495-2731410	0091-495-2730294	mail@spices.res.in	www.spices.res.in

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

Name	Telephone / Contact		
	Residence	Mobile	Email
P.A. Mathew (Up to 12-10-2009)	0496-2249099	9400124095	mathew@spices.res.in
P S Manoj (from 13-10-2010)		9447565549	manoj@spices.res.in

1.4. Year of sanction: 1992

1.5. Staff Position (as 31st March 2011)

Sl. No.	Sanctioned post	Name of the incumbent	Designation	M/ F	Discipline	Highest Quln. (for PC, SMS and Prog. Asst.)	Pay scale	Basic Pay	Date of joining KVK	Per. / Temp.	Category (SC/ST/ Others)
1.	Programme Coordinator*	Vacant *	Programme Coordinator	-	-	Ph.D.	15600-39100 +8000	22320	-	-	
2.	Subject Matter Specialist	P.S. Manoj	Subject Matter Specialist	M	Horticulture	PG in Horticulture	15600-39100 +7600	35580	30.5.94	Per.	OBC
3.	Subject Matter Specialist	K.M. Prakash	Subject Matter Specialist	M	Agronomy	PG in Agrl. Science	15600-39100 +7600	32040	10.12.96	Per.	Others
4.	Subject Matter Specialist	S. Shanmugavel	Subject Matter Specialist	M	Animal Husbandry	PG in Vet. Science	15600-39100 +7600	36170	3.8.95	Per.	SC
5	Subject Matter Specialist	A. Deepthi	Subject Matter Specialist	F	Home Science	PG in Home Science	15600-39100+ 5400	21000	08/03/2010	Per.	SC
6	Subject Matter Specialist	B. Pradeep	Subject Matter Specialist	M	Fisheries	PhD in Fisheries	15600-39100+ 5400	21000	03/03/2010	Per.	Others
7	Subject Matter Specialist	Aiswariya K.K.	Subject Matter Specialist	F	Plant Protection	PG in Agrl. Science	15600-39100+ 5400	21000	28.4.2010	Per.	OBC

8.	Programme Assistant (Lab Technician)	Nazia Sherif	Programme Assistant (Lab Technician)	F	Agrl. Science.	Graduation in Science	5200-20200 + 2800	11360	29/01/2010	Per.	OBC
9	Computer Programmer	Jayakumar C K	Computer Programmer	M	Computer Science	Graduation in Comp. Applications	5200-20200+ 2800	11360	01/02/2010	Per.	Others
10	Farm Manager	Kannan S.	Farm Manager	M	Forestry	Graduation in Agrl. Science	5200-202000 + 2800	11360	08/02/2010	Per.	ST
11	Accountant/Superintendent (Assistant)	K.G. Jegadeesan	Accountant/ Superintendent (Assistant)	M			9300-34800+ 4200	20800	3.10.08	Per.	Others
12	Stenographer	K. Faisal	Stenographer Gr. III	M			9300-34800+ 4200	15580	1.4.02	Per.	OBC
13	Driver	T.C.Prasad	Driver-cum-Mechanic	M			5200-20200+ 2800	13110	17.5.93	Per.	Others
14	Driver	P. Prakash	Driver	M			5200-20200+ 2800	10520	27.6.02	Per.	Others
15	Supporting staff	C.V. Ravindran	Supporting staff	M			4440-7440 +1400	9860	1.7.93	Per.	SC
16	Supporting staff	C. Ravindran	Supporting staff	M			4440-7440 +1400	9510	10.11.94	Per.	SC

* Programme Coordinator post is vacant and Sri. P S Manoj is in charge from 13-10-2010 onwards.

1.6. Total land with KVK (in ha) : 20.3

S. No.	Item	Area (ha)
1	Under Buildings	0.60
2.	Under Demonstration Units	1.90
3.	Under Crops	6.75
4.	Orchard/Agro-forestry	3.25
5.	Others	7.80

1.7. Infrastructural Development:

A) Buildings

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1	Administrative Building	ICAR	4.12.98	552	46.44	-	-	-
2	Farmers Hostel	ICAR	4.12.98	466	39.44	-	-	-
3	Staff Quarters	-	-	-	-	-	-	-
4	Old KVK office building (Farm office)	ICAR	16.1.96	360 sq. ft.	1.83	-	-	-
5	Demonstration Units					-	-	-
6	1. (Old Animal Clinic) – Mushroom unit *	ICAR SHM	16.1.96 (7.3.09)	358.31 358.31	1.00 0.84	-	-	-
7	2.Poultry	ICAR	20.9.03	43.8	0.84	-	-	-
8	3.Dairy	ICAR	25.10.06	39.32	1.83	-	-	-
9	4.Vermiculture	ICAR	3.1.08	9.00	0.11	-	-	-
10	Nursery with shed and fencing	ICAR	16.1.96	500.0	0.50	-	-	-
11	Shade house-Anthurium	ICAR	25.3.09	144.0	1.21	-	-	-
12	Goatary	ICAR	31.3.09	64.0	2.78	-	-	-

13	Training shed	SHM	25.11.08	90.0	2.69	-	-	-
14	Temporary vehicle shelter	ICAR	18.6.04	35.0	0.48	-	-	-
15	Water tank	ICAR	2.2.99	10,000	0.22	-	-	-
16	Pond with pump, storage tank etc.	ICAR	31.3.08	15X13M	8.44	-	-	-

*The original Animal clinic was modified as Mushroom unit with the help of SHM funds (Rs.84,000/-) (7.3.09)

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Motor cycle Suzuki	2009	49,980	8923 (4341kms during 10-11)	Very good
Mini bus DCM Toyota	1995	5,22,670	156655 (5034 kms during 10-11)	Good
TATA Sumo Jeep	2004	4,98,642	160557(14424 kms during 10-11)	Good

C) Equipments & AV aids

Nature of the equipment	**Year of purchase**	**Cost (Rs.)**	**Present Status**
Electronic stencil cutting machine	1993	34641	Good
Slide projector	1994	17649	“
Overhead projector	1995	9500	“
25” TV	1996	25800	“
VCP	1996	10850	“
Mixie	1996	2150	“
Juicer	1996	1505	“
Kettle	1996	1375	“
Sewing machine (2 nos.)	1996	4800	“
1.5 HP pump	1997	8100	“
Grafting machine	1998	4950	“
Public address system	1999	30656	“

Water cooler	1999	13000	“
Water purifier	1999	2745	“
3.5 Hand compression sprayer	1999	1200	“
Computer with accessories	2001	28,400	“
Computer with accessories	2001	44,700	Upgraded in 2003
UPS (1 KVA)	2002	17250	Good
Refrigerator	2002	21308	“
Digital camera	2003	29500	Not Working
7.5 KVA Generator	2003	56,950	Good
Computer with accessories	2003	61,175	“
Scanner	2003	13,400	“
Slide projector	2004	17,895	“
Overhead projector	2004	32,095	“
Pressure cooker (22 l)	2004	3,047	“
LCD Projector	2004	73,210	“
Electronic physical balance	2005	6160	“
Chemical balance	2005	42162	“
PH meter	2005	14388	“
Video camera	2005	19,000	“
Oven	2005	15476	“
Water distillation still	2005	41340	“
Digestion and distillation system	2005	1,30,802	“
Hot plate	2005	4,120	“
Spectrophotometer	2005	55,230	“
Shaker	2005	48,038	“
Conductivity meter	2005	14,960	“
Flame photometer	2005	37,026	“
Refrigerator	2005	16,890	“

Grinder	2005	1,950	“
Photocopier	2005	67,704	“
Fax machine	2006	7,500	“
PABX	2006	31,985	“
Digital Camera	2007	10,580	“
DLP Projector	2007	54,563	“
Computer	2007	37,600	“
DTH System with accessories	2007	4,165	“
Iron Box	2007	830	“
UPS	2008	27060	“
Stabilizer	2008	10920	“
Laser fax	2009	14378	“
Printer*	2009	5386	“
Computer*	2009	3770	“
Digital camera*	2009	14890	“
UPS*	2009	6500	“
Weed Cutter	2010	34930	“
Chaff Cutter	2010	23800	“
Generator	2010	100000	“
Chaff cutter	2010	23800	“
Air conditioner 2 ton	2011	34000	“
Stabilizer 5 KVA	2011	2900	“

* Procured with State Horticulture funds.

1.8. Details SAC meeting conducted in 2010-11

Sl.No.	Date	Number of Participants	No. of absentees	Salient Recommendations	Action taken
1.	25.6.2010	24	8	As KVK is working under Indian Institute of Spices Research, more programmes may be taken up on spices.	KVK is regularly conducting training programmes in spices production technology as well as in specific titles

					such as pest and disease management, organic spice cultivation, intercropping using spices, value addition of spices. In addition, the Kendra is also conducting OFT programmes in black pepper and nutmeg and FLD programmes in black pepper, turmeric and nutmeg. Further, farmer participatory seed production progrmames of HYVs of ginger and turmeric was also taken up in 20 farmers' fields.
				Revolving fund may be strengthened further by diversified activities like planting material and seed production, production of biocontrol agents and bioproducts, sale of livestock and poultry etc.	RF of KVK was strengthened with the production and sale of planting materials, bioproducts, bioagents, live stock and poultry and a total income of Rs.9.76 lakh were realized in KVK RF during 2010-11.
				A visit of KVK staff may be arranged to KVKs, especially Kannur and Thrissur to learn the activities undertaken by them for empowerment of women, formation of SHGs and marketing of farmers' produce. Farmers who are members of SAC can also be invited for the tour.	One study tour each to KVK, Kannur as well as KVK, Thrissur was undertaken during the period to familiarize with the various activities taken up by these two Kendras.
				Validation of ITKs needs to be taken up by KVK. However, ITKs already validated by other Institutes need not be validated again.	This is being followed.
				As new staffs have joined at KVK, proposal for higher allocation of funds under training should be submitted to the Zonal Project Directorate.	Submitted
				A few farmers who have become successful in	This will be followed in the next

				agriculture and allied fields through KVK intervention may be invited to SAC meeting to share their experience.	SAC.
				KVK Bangalore Rural may be contacted to get more details about value addition in jack fruit.	Information in value addition of Jack was collected form KVK, Bangalore. Rural and 4 training programmes on the subject were conducted at KVK during the period.
				Farmers' study tour may be arranged in collaboration with line departments. Funds available under KAU can also be utilized for this purpose.	As funds were not available from other departments and KAU, KVK conducted Study tour to KAU, Trichur, KVK. Kannur and Thrissur and progressive farmers' fields utilizing own funds.
				Soil health cards should be issued to all the beneficiary farmers of FLD and OFT programmes.	Soil analysis was taken up in all FLD and OFT plots and soil health cards issued to beneficiary farmers.
				Associate with CMFRI, Cochin/ KVK Narakkal for conducting training programmes in crab culture.	SMS (Fisheries) has visited KVK Narakkal to familiarize with crab culture technology. Even though applications were invited for training on crab culture, the response was poor and hence the training programme was not conducted.
				Explore the possibility of arranging marketing of farmers' produce especially cut flowers and value added products.	KVK, Thrissur was visited and it was decided that once the Society registered with the technical support of KVK, Thrissur for procurement and marketing of cut flowers is functional, interested farmers of Calicut will also be linked to this Society for marketing of their

					produce.
				Bush pepper should be popularised in urban and semi urban areas by providing need based training on bush pepper culture. Trainings may also be organized at Calicut for the benefit of urban population.	4 training programmes on bush pepper production technology was organized during the period. 2 training progrmme was also conducted at Calicut for the benefit of urban population.
				For the procurement of day old chicks from Veterinary College, KAU, Mannuthy, assistance of Director of Extension, KAU may be sought.	DE, KAU has been contacted and day old chicks were procured from Veterinary College, Mannuthy.
				A small incubator may be procured at KVK to meet the growing demand of layer chicks. Proposal may be submitted to NABARD for funding.	An incubator developed by a KVK supported farmer has been procured and its efficiency is being tested. Proposal submitted to NABARD for funding of hatchery unit has already been approved.
				Training may be conducted on mango fruit fly management using eugenol traps developed by KAU.	One on campus training programmes on fruit fly management in mango has been conducted at Aroor. Method demonstration on use of traps was also conducted.
				Proposal may be submitted to NABARD for getting funds for the publication of "Inventory of Agriculture of Calicut district".	Proposal submitted under "Farmers' Technology Transfer Fund" scheme of NABARD. Approval is awaited.
				Details of ITK documented in rice are to be given to RARS, Pattambi for validation.	Already given.
				KVK should conduct more training programmes in value added products, especially in coconut.	One training programme on value addition of coconut was conducted in association with Subhiksha, Perambra, Calicut.
				Soil health cards may be issued to farmers of	Soil health campaign was completed in Chakkittapara panchayat and soil

				other panchayats as per demand.	analysis is being done as per the demand of farmers for other panchayat also. A total of 42 soil health cards have been issued to farmers including those from other panchayat also.

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	Homestead based farming system with coconut as the main crop. Intercrops cultivated are spices, fruits, vegetables and other plantation crops. Most homesteads also have other enterprises like poultry and dairy in small scales. Many farmers also practice goat rearing, pisciculture, piggery etc.

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

S. No	Agro-climatic Zone	Characteristics
1	West coast Plains & Ghats Zone (12)	
(Based on Planning Commission classification of the country into 15 zones.)		
1.	Northern Mid lands V	Altitude: upto 500 m above MSL-hot humid tropical Rainfall: Poorly distributed rainfall; south west monsoon with peak in July and spread over to 3-4 months. North-east monsoon relatively weak. Topography model: Valleys less extensive hills with moderate gradients and top with egg shaped hump, steep slopes.
(Based on NARP zoning by KAU)		

S. No	Agro ecological situation	Characteristics
1.	Northern Mid lands V	Altitude: upto 500 m above (Low altitude zone-hot humid tropics, spread over the entire state) Rainfall: Poorly distributed rainfall; south west monsoon with July maximum and concentrated in 3-4 months. Northeast monsoon relatively weak (North of 11^0 N Latitude). Soil type: Laterite soil with well defined B horizon (Natural midlands) Topography: Valleys less extensive hills with moderate gradients and top with egg shaped hump, steep slopes.

2.3 Soil type/s

S. No	Soil type	Characteristics	Area in ha

1.	Laterite	All these soils are acidic with low water holding capacity and are poor in NPK and organic matter content. The laterite soil is generally suitable for most of the dry land crops. It is mainly cultivated with coconut, arecanut, banana, tapioca, pepper, vegetables, fruit crops etc. Liming is required for correcting soil acidity.	2,09,996

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

S. No	Crop	Area (ha)	Production (Qtl)	Productivity (/ha)
1.	Coconut	129401	824 million nuts	6368/no.
2.	Palmyra	169		
3.	Rubber	18880	31725(T)	1680 (kg)
4.	Arecanut	12340	12020(T)	974(kg)
5.	Cocoa	828	359(%)	434kg
6.	Cashew	2948	1478(T)	501(Kg)
7.	Paddy	4295	6092(T)	1465(Kg)
8.	Pulses	102	77(T)	755(Kg)
9.	Jack	9896	30 million	3032 no.
10.	Mango	9394	28088(T)	2990(Kg)
11.	Banana	4691	31921(T)	7036(Kg)
12.	Pineapple	230	1443(T)	6274(Kg)
13	Papaya	1935	2786(T)	1440(Kg)
14.	Other fruits	646	-	-
15.	Tapioca	1963	45263(T)	23058(kg)
16	Elephant foot yam	319		
17	Colocasia	706		
18	Yam	63		
19	Sweet potato	26	297(T)	11423(kg)
20	Other tubers	107	-	-
21.	Drumstick	2948	862(T)	292.4kg
22.	Amaranthus	81		
23.	Bitter gourd	64	-	-
24.	Snake gourd	16	-	-
25	Bhendi	35	-	-

26.	Brinjal	11	-	-
27.	Ivy gourd	11		
28.	Ash gourd	43		
29.	Pumpkin	49		
30	Cucumber	94		
31	Chillies green	68	68(T)	1000 kg
32	Other vegetables	360	-	-
33.	Pepper	10652	1313(T)	123(kg)dry
34	Betel	18	2185T	
35	Ginger	160	536(T) Cured	3350(kg) dry
36	Turmeric	407	1046(T)cured	2570(kg)
37	Cardamom	220	1(T)	4.5(Kg)
38	Tamarind	843	1880(T)	2230(Kg)
39	Vanilla	196	-	-
40	Cloves	61	3T	49kg
41	Nutmeg	528	88(T)	166kg
42	Cinnamon	55	-	-
43	Fodder	76	-	-
44	Lemon grass	9		
45	Medicinal plants	30		

Source: Farm Information Bureau, Dept. of Agriculture, Govt. of Kerala, 2009

2.5. Weather data

Month	**Rainfall (mm)**	**Temperature ^{0} C**		**Relative Humidity (%)**
		Maximum	**Minimum**	
April 2010	128.8	35.0	24.13	72.955
May	179.6	33.7	24.29	75.81
June	909	29.10	23.20	88.8
July	913.4	27.75	22.70	89.86
August	552.6	27.09	22.80	91.83
September	451	29.78	22.90	86.93

October	363.6	30.19	22.58	86.17
November	575.0	30.60	22.23	86.58
December	9mm	32.77	20.30	75.43
January 2011	17mm	33.70	18.61	70.72
February	12mm	34.96	18.35	66.49
March	16.2mm	35.32	22.09	68.37

Source: IISR, Expl. Farm, P.Muzhi.

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

Category	Population	Production	Productivity
Cattle			
Crossbred	100573	217ML	13 litre
Indigenous	62831	41.6ML	4 litre
Buffalo	1185	2.26ML	11 litre
Sheep			
Crossbred			
Indigenous			
Goats	51824	1036 tons	25 kg
Pigs			
Crossbred	2318	289.7 ton	125 kg
Indigenous			
Rabbits	5278	13.2 ton	2.5 kg
Poultry			
Hens	566103		
Desi	169831	11.88 M eggs.	70
Improved	396272	103 M Eggs	260
Ducks	12057	0.96 M eggs	80
Turkey and others	30925	278 tons kg	9 kg.

Source: Department of Animal Husbandry, Kerala, 2003.

Category	Area	Production	Productivity
Marine	71 Kms coast line	92221 tones *	
Inland		2210 tones*	
Prawn	8.428 ha	6.321 tons	1.0 ton/ha
Shrimp	46.46 ha*	50.37 tones**	1 ton/ha
Fish	60.28 ha**	174.49 tones**	2.5 tones/ha**

* Success story of Matsyakeralam Department of Fisheries Kerala

** Kerala State Fisheries- District profile 2005- Statistical cell Department of Fisheries Kerala

2.7 District profile has been prepared and submitted Yes

2.8 Details of Operational area / villages

Sl. No.	Taluk	Name of the Block	Name of the villages	How long the village is covered under operational area of the KVK (specify the years)	Major crops & enterprises being practiced	Major problems identified	Identified thrust areas
1.	Koyilandy	Perambra	Perambra, Chakkittapara, Koorachundu, Chembanoda	16 years	Coconut Arecanut Rice, Banana, Black Pepper, Rubber	Low yield and production of Black Pepper due to non availability of land in semi-urban areas for commercial cultivation, lack of good standards, unavailability of labour and high incidence of foot rot disease etc.	Popularisation of HYVs of crops Popularisation of new production techniques (Bush Pepper)
						Black Pepper-Low income due to lack of value addition of produce	Value addition of spices.

						Coconut-Low income of pure coconut garden	Intercropping of coconut gardens with spices/banana
			Perambra, Chakkittapara, Changaroth, Muthukadu, Koorachundu, Naduvannur Koothali Nochad	16 years	Vegetables	Lack of self sufficiency in vegetable production, pests and diseases, high residue of pesticides in the produce	Promotion of nutrition garden, off season production of vegetables, organic farming
					Spices	Unavailability of quality planting materials, lack of knowledge about scientific cultivation practises, low price for the produce	Popularisation of HYVs of spices
					Floriculture	Inferior cultivars, improper marketing and exploitation by middlemen, lack of scientific knowledge about cultivation practises	Promotion of floriculture
					Fruits	Lack of availability of planting materials of elite varieties, unscientific cultivation practises	Promotion of fruit culture
			Balussery	14 years	Dairy, Goatary, Poultry	Anoestrum, infertility, low productivity, low growth rate and repeat breeding in milch cows, Inbreeding, poor kidding performance, slow growth in goats. Lack of sound disease control measures, chick mortality, poor growth rate in broiler chicken	1.Feeding and breeding management in dairy, goatary and poultry. 2.Proper disease control measures. 3.Clean milk production
			Perambra	16 years	Dairy, goatary, poultry, piggery	Anoestrum, Repeat breeding, slow growth rate in calves, late maturity, poor breeding efficiency	1.Sound hygienic management 2.Propoer disease control measures 3. Feeding and breeding

							management.
			Chengottukavu, Chemencherry Balussery, Atholy, Ulliyeri, Kottur, Unnikulam Maniyoor, Thikkodi, Ayencheri Kattiparra, Kuttiyadi, Kavilumparra, Chakkattipara, Changaroth	12 years 10 years 16 years	Fresh water and brackish water aquaculture	Low yield due to non-scientific fish culture practice	Training and demonstration of scientific fish culture
						Low profit due to increase in cost of feed	Training and demonstration on mixed feeding schedule
						Disease outbreaks: Poor water quality management	Training on water quality and disease management
						Lack of knowledge on other alternative fishes suitable for aquaculture	Training on candidate species for aquaculture
						Non-availability of fingerlings of indigenous high value fishes for aquaculture like pearl spot (Karimeen) and air breathing fishes like murrels (Varral) and catfishes (Kadu, Mushi)	Training and Demonstration on breeding on indigenous fishes
						Lack of knowledge on	Training on pen and cage

						other culture techniques which can be practiced in large water bodies like pen culture, and cage culture	culture of fishes
						Lack of knowledge on diversification in brackish water aquaculture	Training on mussel, and crab culture
			Perambra Chakkittapara	16 years	Ornamental fish culture	Lack of knowledge on breeding of egg laying ornamental fishes Disease out breaks, poor water quality	Training on Breeding and culture of ornamental fishes
					Fish processing technology	Lack of knowledge on value added products	Training on Value addition of fishery products
					Nutmeg	Under utilization of nutmeg rind	Product diversification
					Pepper	Low market price during the harvesting period	Value added product development
					Ginger	High perishability of the product	Value addition and product diversification of ginger
2.	Vadakara	Meppayyur	Meppayyur, Muyipoth, Thiruvallur, Vadakara, Onchiyam Edachery, Purameri	10 years	Coconut Pepper, Ginger	Bud rot, disease/Lack of availability of planting materials of HYV. a)*Phytophthora* Foot rot Disease b) Lack of adoption of HYV.	a)Training on disease management to farmers & SHGs. Supply of planting materials. b) Training on vermicomposting . Supply of earth worms to framers & SHGs.

						Soft rot & Bacterial wilt, unscientific management. Lack of knowledge on vermicomposting/ waste recycling.	
					Mushroom	a)Low yield b)Pest and diseases due to unscientific maintenance	Training in scientific mushroom production to SHGs and Farmers, RYs & Extension Functionaries.
					Organic cultivation	Lack of sufficient organic inputs for sustainable maintenance of soil fertility	Training in vermicomposting and supply of earth worms to farmers.
			Eranmala, Meppayoor, Muyipoth, Thiruvallur, Vadakara, Onchiyam Edachery, Purameri	10 years	Vegetables	Lack of self sufficiency in vegetable production, pests and diseases, high residue of pesticides in the produce	Promotion of nutrition garden, off season production of vegetables, organic farming
					Spices	Unavailability of quality planting materials, lack of knowledge about scientific cultivation practises, low price for the produce	Popularisation of HYVs of crops
					Fruits	Lack of availability of planting materials of elite varieties, unscientific cultivation practises	Promotion of fruit culture
			Aroor	8 years	Mango	Irregular bearing, improper plant protection measures	Promotion of fruit culture
			Thiruvallur		Dairy, goatary, piggery, Poultry	Infertility, repeat breeding, more no. of AI per conception, lack of fodder crops, drastic reduction in milk yield during summer. Lack of availability of improved layer chicks.	1.Proper planning of breeding. 2.Feeding management during summer. 3.Clean milk production. 4.Scientific management practices.

						Lack of scientific management. Lack of disease control measures.	5.Proper disease control measures.
			Melady	10 years	Dairy, goatary, poultry	Repeat breeding, Feeding problem during summer, anoestrum, low milk yield, lack of availability of improved variety of chicks.	1.Feeding and breeding management. 2.Breeding by using exotic frozen semen. 3.Proper disease control measures.
			Chorode, Eramala, Onchium, Villiappally Thiruvallur Maniyoor, Thikkodi, Ayencheri	8 years	Fresh water and brackish water aquaculture	Low yield due to non-scientific fish culture practice	Training and demonstration of scientific fish culture
						Low profit due to increase in cost of feed	Training and demonstration on mixed feeding schedule
						Disease outbreaks: Poor water quality management	Training on water quality and disease management
						Lack of knowledge on other alternative fishes suitable for aquaculture	Training on candidate species for aquaculture
						Non-availability of fingerlings of indigenous high value fishes for aquaculture like pearl spot (Karimeen) and air breathing fishes like murrels (Varral) and catfishes (Kadu, Mushi)	Training and Demonstration on breeding on indigenous fishes
						Lack of knowledge on	Training on pen and cage

						other culture techniques which can be practiced in large water bodies like pen culture, and cage culture	culture of fishes
						Lack of knowledge on diversification in brackish water aquaculture	Training on mussel, and crab culture
					Ornamental fish culture	Lack of knowledge on breeding of egg laying ornamental fishes Disease out breaks, poor water quality	Training on Breeding and culture of ornamental fishes
					Fish processing technology	Lack of knowledge on value added products	Training on Value addition of fishery products
3.	Kozhikode	Kozhikode	Mavoor, Nanmanda, Eramangalam, Anakkampoyil, Thamarassery, Calicut corporation area, Mukkom	8 years	Coconut Arecanut Pepper, Ginger, Banana	Bud rot, Yellow leaf Disease. Lack of availability of planting materials of HYV. a)*Phytophthora* Foot rot Disease b) Lack of adoption of HYV. Soft rot & Bacterial wilt, unscientific management. Lack of knowledge on vermicomposting/ waste recycling.	Training on scientific disease management. Production & supply of planting materials + training on spices production technology. Training on Biocontrol practices to farmers, SHGs & Extension Functionaries. Training on vermicomposting & supply of earthworms to farmers, SHGs & Extension Functionaries.
					Mushroom	a)Low yield b)Pest and diseases due to	Training in scientific mushroom production to

						unscientific maintenance	SHGs and Farmers, RYs & Extension Functionaries.
					Organic cultivation	Lack of sufficient organic inputs for sustainable maintenance of soil fertility	Training in vermicomposting and supply of earth worms to farmers, SHGs & Extension Functionaries.
			Mavoor, Nanmanda, Anakkampoyil, Thamarassery, Calicut corporation area, Mukkom	13 years	Commercial flowers	Lack of know-how on scientific cultivation and unavailability of planting materials.	Promotion of floriculture
					Vegetables	Lack of self sufficiency in vegetable production, pests and diseases, high residue of pesticides in the produce	Promotion of nutrition garden and terrace gardening
					Fruits	Lack of availability of planting materials of elite varieties, unscientific cultivation practises	Promotion of fruit culture
4	Kozhikode	Kozhikode corporation	Atholi Chelanoor, Panangad Kodencherry	2010-11	Ornamental fish culture Fresh water fish culture	Low survival of fry to fingerling stage High cost of feed for fresh water aquaculture Poor production from small water bodies	Culture of ornamental fishes using live feed. Culture of fish using low cost feed Popularization of freshwater fishes like Pangassius for culture in small water bodies

						lack of knowledge in induced breeding	Induced breeding of fresh water fishes
5	Quilandy		Chakittapara, Changaroth, Chengotukavu Nochath	2010-11	Ornamental fish culture Fresh water fish culture	Low survival of fry to fingerling stage High cost of feed for fresh water aquaculture Poor production from small water bodies lack of knowledge in induced breeding	Culture of ornamental fishes using live feed. Culture of fish using low cost feed Popularization of freshwater fishes like Pangassius for culture in small water bodies Induced breeding of fresh water fishes

2.9 PRIORITY THRUST AREAS FOR THE KVK FOR 2010-11

1.	Management of anoestrus problem in dairy cattle.
2.	Promotion of fresh water fish culture
3.	Integrated fish farming
4.	IPM and IDM in vegetables
5.	Disease and pest management in plantation crops
6.	Integrated pest management
7.	Designing and development for high nutrient efficiency diet
8.	Breeding and culture of ornamental fishes
9.	Gender mainstreaming through SHGs
10.	Promotion of intercropping coconut with tree spices
11.	Popularisation of new production technique of spices
12.	Popularisation of inter cropping/mixed cropping in coconut garden
13.	Soil fertility evaluation based fertilizer application
14.	Popularisation of organic farming practices
15.	Popularisation of mushroom production technology
16.	Popularisation of protected cultivation of vegetables
17.	Popularisation of integrated farming system.
18.	Popularization of fresh and brackish water aquaculture practices
19.	Popularization of ornamental fish breeding and culture
20.	Value addition of fishery products
21.	Promotion of value addition in ginger and nutmeg.
22.	Promotion of self employment among farm women
23.	Nutritional management among farmers
24.	Integrated management of diseases of black pepper and nutmeg
25.	Management of pests and diseases of ginger and turmeric
26.	Control of fruit flies in bitter gourd
27.	Management of pests and diseases of coconut
28.	Integrated approach for the management of pests and diseases of banana
29.	Familiarisation with plant protection equipments
30.	Promotion of bio control agents in plant protection
31.	Familiarisation of botanicals as a component of IPM in vegetables
32.	Popularisation of pheromone traps in fruit fly control
33.	Popularisation of bee keeping

Sl. No	Thrust area
	Demonstration of HYVs of black pepper and turmeric
34.	Testing the effectiveness of Biocontrol agents against major diseases of black pepper
35.	Training of farmers, rural youth and extension personnel on vermiculture, mushroom, nutrition garden, bush pepper, IDM and IPM of various crops, integrated fish farming, farm mechanisation, drudgery reduction
36.	Production and supply of quality planting materials of elite varieties of arecanut, fruit plants, Bush pepper, spices and ornamentals.
37.	Sustainable soil fertility maintenance through production of vermicompost and supply of earthworms.
38.	Creation of skilled labour in plant propagation
39.	Promotion of value addition in fruits, spices and its utilization
40.	Promotion of self employment oriented enterprises like mushrooms, nursery management, ornamental fish culture for RY and SHGs.
41.	Promotion of nutrition garden in homesteads and schools
42.	Scientific management of goats
43.	Animal health care and disease control measures
44.	Cultivation and preservation of green fodder
45.	Feeding management during summer to maintain milk yield in dairy cattle.
46.	Scientific calf rearing
47.	Oestrus synchronization in milch cows and goats following Artificial insemination to enhance conception.
48.	Culture of ornamental fishes using live feed.
49.	Culture of fish using low cost feed
50.	Induced breeding of fresh water fishes
51.	Popularization of freshwater fishes like Pangassius for culture in small water bodies

PART III - TECHNICAL ACHIEVEMENTS

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

OFT				FLD			
1				2			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
9	9	55	60	10	10	195	195

Training				Extension Programmes			
3				4			
Number of Courses		Number of Participants		Number of Programmes		Number of participants	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
136	162	3600	5059	145	1235	13450	7207

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
6 tonnes	7.1 t	4000	5082

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
		(Vermicompost-2000 kg	2122 kg
Layer chicks 7087	7087 chicks	FYM 1200 cft	1200 cft
Broiler chicken 2255 kg	2255 kg	Vermicompost 1450 kgs	1450 kgs
Pregnant heifer, goat and goat kids	5 animals 11 animal kids	*Trichoderma* - 300 kg	436 kg
		Pseudomonas - 200 kg	366 kg

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

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions										
				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.	Popularisation of HYV	Black pepper	Low productivity and yield of pepper due to cultivation of local varieties	-	Demn. Of HYV of Black pepper	4	3	1	12	-	16541 saplings (through IISR Farm)	-	-	-
2.	Demn. Of new prodn. Technology of crops	Black pepper	Lack of field/labour in semiurban areas and lack of year round availability of green berries	-	Bush pepper production technique in pots	3	4	2	20	-	1053	-	-	-
3.	Developing suitable inter/mixed cropping models	Coconut	Low income from monocropping of coconut	-	Performance evaluation of *Viswasree* nutmeg grafts in coconut garden	3	-	-	5	-	5388 grafts (through IISR Farm)	-	-	-
4.	Value addition in spices	Black pepper	Low price for Black pepper due to lack of value addition	-	Bacterial fermentation technique for making white pepper	1	1	1	4	-	-	-	-	-
5.	Production and supply of quality seed materials of spices	Ginger and turmeric	Low availability of quality seed materials of HYVs of ginger and turmeric	-	Seed production in turmeric	1	-	-	4	71	-	-	-	-
6.	Promotion of INM based on soil fertility evaluation	Homesteads	Unscientific manuring for different crops	-	-	6	-	-	3	-	-	-	-	-
7.	Promotion of organic farming	Pepper	Lack of availability of good quality organic manures	-	-	3	2	1	15	-	-	-	2122 kg (vermicom post)	-

8.	Promotion of small scale mechanization	Coconut	Lack of climbers	-	-	-	1	-	2	-	-	-	-	-
9.	Promotion of low cost enterprise	Mushroom	Lack of potential enterprises for utilization of crop residues	-		6	-	-	6	-	-	-	-	-
10.	Integrated management of disease of spices	Black Pepper	Quick wilt disease of black pepper		Integrated Disease Management of *Phytophthora* Foot Rot of Black Pepper	1		1					7	7
11.	Integrated management of pests and diseases of black pepper and nutmeg	Black Pepper and nutmeg	Foot rot, pollu, mealy bug of black pepper, leaf blight, scales in nutmeg,			1							7	7
12.	Management of pests and diseases of ginger and turmeric	Ginger and turmeric	Soft rot of ginger and turmeric, bacterial wilt of ginger, shoot borer in ginger and turmeric			2							5	5
13.	Pest and disease management in vegetables	Vegetables				2	1							
14.	Management of pests and diseases of coconut	Coconut	Yield loss due to severe incidence of pests and diseases			1								

15.	Integrated approach for the management of pests and diseases of banana and coconut	Banana	Yield loss due to severe incidence of pests and diseases in banana			1	1							
16.	Familiarisation with plant protection equipments	Plant protection equipments	Lack of knowledge on use and maintenance of plant protection equipments				1							
17.	Promotion of bio control agents in plant protection		Lack of knowledge of bio control agents and their application			1								
18.	Popularisation of bee keeping	Bee keeping	Lack of knowledge on enterprises for self employment			1	1							
19.	Integrated approach for the management of pests and diseases of banana	Banana	Yield loss due to severe incidence of pseudo stem weevil and Sigatoka in banana			3								
20.	Familiarisation of botanicals as a component of IPM in vegetables	Vegetables	Residual effect of chemical pesticides on fruits and vegetables			2								

21.	Popularisation of pheromone traps in fruit fly control	Bitter gourd	Fruit fly attack in bitter gourd			1								
22.	Integrated pest management in vegetables					2			Farmers' Field School:1					
23	Promotion of fruit culture	Mango	Irregular/Alternate bearing	Induction of flowering in Olour mango through paclobutrazol application combined with INM and IPM	-	1	-	-	1	-	-	-	-	-
24	Promotion of spices	Turmeric	Low yield	-	Demonstration of seed production of HYVs of turmeric	1	-	-	1	1	-	-	-	-
23	Value addition	nutmeg	Under utilization	Product diversification and value addition of nutmeg pericarp	Value addition of green pepper-Pepper in brine	17	15	6	11				No.	Kg
10.	Breeding management	Anoestrus	Fertility in anoestrus cows following CIDR treatment	-	7	-	-	2	-	-		Supply of CIDR	-	
11.	Breeding management	Repeat breeding	GnRH treatment and double AI for management of Repeat breeding cows	-	8	-	-	2	-	-	-	Inj. GnRH frozen semen	-	

12.	Pregnancy diagnosis in cows	Non availability of skilled technician not possible early pregnancy identification	Biofeed assay for pregnancy testing in dairy cattle	-	14	-	-	3	-	-	-	Paddy seed glass vessel	-	
13.	Breeding management	Repeat breeding poor conception rate	-	Popularizatio n of hormone treatment for fertility management in cows	9	-	-	2	-	-	-	Inj. PGF2 alpha Frozen semen		
14.	Breeding management	Poor conception , inbreeding , poor quality kids	-	Popualrisation of hormone treatment for fertility management in goats	4	-	1	2	-	-	Inj. PGF2 alpha frozen semen			
15.	Breeding management	Repeat breeding low conception rate, long inter calving period		Post AI administration of sterilie ceftriaxone sodium on conception rate in milch cows	6	-	-	2	-	-	Inj. Ceftriaxon e sodium frozen semen			
16.	Popularisation of *Pangassius* for freshwater aquaculture	Freshwater aquaculture	Higher management required for Indian Major carps and lower returns from small water bodies		Popularisation of Pangasius *spp.* as an alternative spp. for freshwater aquaculture	2	3	1	3					

17	Freshwater fish culture	Freshwater aquaculture	Lack of knowledge in induced breeding of fishes		Induced breeding of fresh water fishes	1	2	1	2					
18	Ornamental fish culture	Ornamental fishes	Low survival of fry and poor water quality	Use of live feed in rearing of ornamental fishes		3	5	1	7					
19	Popularization of fresh water fish culture	Freshwater aquaculture	Increase in cost of feed and non scientific fish culture practice	Culture of fresh water fishes using low cost feed		2	3		2					

3.B2. Details of technology used during reporting period

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others (Specify)
1	2	3	4	5	6	7	8
1.	High production Technology of Pepper	IISR	Black Pepper	-	10	8	29 Field Day-5 Seminar-1 Constultation-20 Method Demn-2 ATMA project for Demn-1
2.	Bush pepper production Technology	IISR	Black Pepper	-	20	6	42 Farmers convension-2 Radio talk-1 Popular article-1 Field day-25 Consultation-10 Exhibition-3

3.	Bacterial fermentation technology for production of white pepper	IISR	Black Pepper	5	-	1	10 Method Demn-5 Consultation-3 Exhibition-1 Field day-1
4.	Performance evaluation of *Viswasree* nutmeg graft in coconut garden	IISR	Coconut	5	-	7	8 Field day-5 Consultation-3
5.	Inorganic coirpith composting using pleurotus and urea	CCRI, Alleppey	Coconut	-	-	1	15 Method Demn-1 Consultation-14
6.	Integrated Disease Management of *Phytophthora* Foot Rot of Black Pepper	IISR, Calicut	Black Pepper	-	1	-	-
7.	Integrated Management of fruit fly in bitter gourd-pheromone trap technology	Kerala Agricultural University	Bitter gourd			2	
8.	Integrated Pest Management in Vegetables	Kerala Agricultural University	Bitter gourd, Ridge gourd, Ash gourd, Cow pea, Amaranthus				1
9	Induction of flowering in mango through hormone application	TNAU Coimbatore	Mango	1	-	1	Method demonstration
10	HPT of turmeric	IISR,Calicut	Turmeric	-	1	1	Field day
11	Laying out of nutrition garden	KAU	Nutrition garden	-	-	1	Method demonstration
12	Cultivation of anthurium and flower arrangement	KAU	Anthurium	-	-	1	“
13	Product diversification of nutmeg pericarp	KAU	Nutmeg	1		4	-
14	Pepper in brine	KAU	Pepper		1	4	
	Animal Science						

15	Fertility in anoestrus cows following CIDR treatment	TANUVAS	Dairy	2	-	7	-
16.	GnRH treatment and double AI for management of repeat breeding cows	TANUVAS	Dairy	2	-	8	-
17.	Bio seed Assay for pregnancy testing in dairy cattle	TANUVAS	Dairy	3	-	14	-
18.	Popularisation of hormone treatment for fertility management in cows	TANUVAS	Dairy	-	2	9	-
19.	Popularisation of hormone treatment for fertility management in goats	TANUVAS	Goatary	-	2	4	-
20.	Post AI administration of sterile Ceftriaxone sodium on conception rate in milch cows	Birsa Agrl. University, Ranchi	Dairy	-	2	6	-
21	Induced breeding of freshwater fishes using	Central Institute of Fisheries education	Freshwater fish culture		10	1	
22	Popularisation of *Pangassius* for freshwater aquaculture	FAO	Freshwater fish culture		5		
23	Use of live feed (Artemia nauplii) in rearing of ornamental fishes	Central Institute of Fisheries education	ornamental fish culture	3			
24	Use of live feed (micro worms -*Panagrellus spp*) in rearing of ornamental fishes	University of Florida	ornamental fish culture	3			

25	Culture of freshwater fishes using low cost feed (mixed feeding schedule Groundnut Oil Cake+ rice bran & kitchen refuse	Network of Aquaculture Centres in Asia Pacific, Thailand	Freshwater fish culture		2		
26	Culture of freshwater fishes using low cost feed (Groundnut Oil Cake+ rice bran)	College of Fisheries Panangad	Freshwater fish culture		2		

3.B2 contd..

No. of farmers covered																
S.N.	**OFT**				**FLD**				**Training**				**Others (Specify)**			
	General		**SC/ST**		**General**		**SC/ST**		**General**		**SC/ST**		**General**		**SC/ST**	
	M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
	9	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
	Crop production															
1	**-**	**-**	**-**	**-**	**9**	**-**	**1**	**-**	**98**	**45**	**5**	**2**	**260**	**55**	**2**	**3**
2	**-**	**-**	**-**	**-**	**9**	**11**	**-**	**-**	**72**	**45**	**3**	**2**	**20**	**49**	**5**	**2**
3	**5**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**15**	**4**	**-**	**1**	**25**	**3**	**2**	**1**
4	**5**	**--**	**-**	**-**	**-**	**-**	**-**	**-**	**18**	**5**	**1**	**1**	**125**	**28**	**5**	**2**
5	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**18**	**--**	**-**	**-**	**25**	**15**	**4**	**1**
	Plant Protection															
6					**10**	**-**	**-**	**-**								
7									**57**	**6**	**5**	**2**				
8													**10**	**2**	**2**	**1**
	Horticulture															

9	**10**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**10**	**-**	**-**	**-**	**10**	**-**	**-**	**-**
10	**-**	**-**	**-**	**-**	**7**	**3**	**-**	**-**	**11**	**4**	**-**	**-**	**14**	**7**	**-**	**-**
11	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**4**	**-**	**-**	**2**	**4**	**-**	**-**
12	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4**	**8**	**-**	**-**	**4**	**8**	**-**	**-**
	Home Science															
13	**4**	**63**	**-**	**7**												
14					**-**	**22**	**-**	**4**	**78**	**555**	**13**	**139**				
	Animal science															
15	**9**	**8**	**5**	**3**	**-**	**-**	**-**	**-**	**180**	**42**	**34**	**22**	**-**	**-**	**-**	**-**
16	**12**	**6**	**4**	**3**					**102**	**34**	**41**	**27**	**-**	**-**	**-**	**-**
17	**4**	**15**	**2**	**4**					**44**	**114**	**16**	**34**				
18	**-**	**-**	**-**	**-**	**28**	**14**	**5**	**3**	**119**	**53**	**11**	**19**	**-**	**-**	**-**	**-**
19	**-**	**-**	**-**	**-**	**2**	**12**	**1**	**5**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
20					**14**	**8**	**14**	**4**	**64**	**21**	**14**	**12**	**-**	**-**	**-**	**-**
	Fisheries															
21					**9**	**1**			**9**	**1**						
22					**5**	**-**			**5**							
23	**2**	**1**							**2**	**16**						
24																
25	**1**	**1**							**1**	**1**						
26																

PART IV - On Farm Trial

4.A1. Abstract on the number of technologies assessed in respect of crops

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management										
Varietal Evaluation										
Integrated Pest Management										
Integrated Crop Management						1				1
Integrated Disease Management										
Small Scale Income Generation Enterprises										
Weed Management										
Resource Conservation Technology										
Farm Machineries										
Integrated Farming System								5		5

Seed / Plant production										
Value addition				5						5
Drudgery Reduction										
Storage Technique										
Mushroom cultivation										
Total				5		1		5		11

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

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	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						
Disease of Management						
Value Addition						
Production and Management						
Feed and Fodder						
Small Scale income generating enterprises						
Breeding management	3	-	-	-	-	3
Total	3	-	-	-	-	3

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

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					
Varietal Evaluation					
Integrated Pest Management					
Integrated Crop Management	Mango	Induction of flowering using hormone combined with INM and IPM	10	10	150 trees
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries					
Integrated Farming System	Coconut	Performance evaluation of nutmeg variety Viswasree grafts in coconut garden	5	5	1.5 ha
Seed / Plant production					
Value addition	Black Pepper	Assessment of bacterial fermentation technique for white pepper production.	5	5	1.5ha
	Nutmeg	Value addition and product diversification of nutmeg pericarp	4	40	-

Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total			24	60	-

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				
Disease management				
Value addition				
Production and management				
Feed and fodder				
Small scale income generating enterprises				
Breeding management	Dairy	Fertility in anoestrus cows following CIDRD treatment	25	25
Breeding management	Dairy	GnRH treatment and double AI for management of Repeat breeding cows	25	25
Pregnancy diagnosis in cows	Dairy	Bioseed assay for pregnancy testing in dairy cattle	25	25

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

OFT 1

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Coconut	Irrigated coconut garden	Low income due to monocrop of coconut and lack of convincing data on suitability of inter cropping with Njalipoovan banana or mixed cropping with *Viswasree* nutmeg grafts in the district.	Performance evaluation of mixed cropping of *Viswasree* nutmeg grafts in irrigated coconut garden	5	Coconut monocop (T0-1)	Growth Avg. No. of leaves/crown	25 leaves/crown	Intercropping of coconut with *Njalipoovan* variety of banana was found to be more profitable than monocropping of coconut. There was 3 fold increase in net income of farmer in the intercropped situation compared to monocrop of coconut. The trial is progressing with the first ratoon crop nearing the bunching stage. Trial is progressing in the third year.	Farmers expressed good opinion on intercropping with *Njalipoovan. Njalipoovan* has shown more shade tolerance in the coconut garden that Nendran in the farmer's field.	A spacing of 2.5m x 2.5m may be more ideal for intercropping Njalipoovan variety of banana to get a bigger bunch and resistance to wind damage.	In the spacing of 2.1m x 2.1 m the banana plants were taller than normal and chance of wind damage is more. Wider spacing will help to capture more solar light and better yield

						Time taken for yield	12 months				
						Yield nuts, B:C Net income/ha:	9520 nuts 2.01 Rs. 34544				
					Coconut + Banana (Njalipoovan) T0-2	**Coconut** Growth Avg. no. of leaves/crown	 28 leaves/crown				
						Time taken for yield	12 months				
						Yield	10030 nuts/ha				
						B:C	2.21				
						Banana Growth Avg. girth at 1 m above the ground:	 73 cm				
						Time taken for yield	14 months				
						Yield	10373 kg				
						B:C	1.58				

					Coconut+ Nutmeg graft (T03)	**Coconut** Growth Avg, Ni. Leaves/ Crown Time taken for bearing Yield Income Net income B:C	28 12 months 10045 Rs: 75338 41338 2.22				
							Trial progressing. Plants established well with 3-4 branches				

Contd..

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-Mono crop of coconut)	-	9520	Nuts/ha	34544	2.016
Technology option 2 (Coconut+Njalipoovan Banana)	KAU	Coconut-10030 Banana-10373	Nuts/ha Kg/ha	41225 62913 ---------- 104138	2.21
Technology option 3 (Coconut+*Viswasree* nutmeg graft)	IISR	Coconut-10045 Progressing in the 3rd year-	Nuts/ha	41338	2.221

		component crop nutmeg has not started yielding.			

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

1 Title of Technology Assessed

Performance evaluation of mixed cropping of *Viswasree* nutmeg grafts in irrigated coconut garden

2 Problem Definition

Coconut is the major crop of the district occupying 87.6% of total cropped area: Since most of the farmers have unutilized or underutilized interspaces in their garden due to prevailing mono cropping farmers are unable to get economic return from coconut holdings. Even though many intercrops are recommended farmers are not regularly practicing intercropping due to shortage of labour and uneconomic yield/market or poor shade tolerance of vegetable crops.

3 Details of technologies selected for assessment

T01: Farmers practice: Monocropping of coconut

T02: Recommended practice (KAU): Growing of banana as intercrop

T03:Mixed cropping of 40 year irrigated coconut garden with grafts of nutmeg variety Viswasree (IISR)

4 Source of technology: IISR, Calicut

5 Production system and thematic area

As a mixed crop in irrigated coconut garden. Promotion of crop intensification/development of suitable cropping models for the district.

6 Performance of the Technology with performance indicators

The data on parameters shows that growth and B:C was more for T0-(2) compared to T0-1 monocrop of coconut. The data on T0-3 could not be obtained as the nutmeg grafts have not started bearing. The assessment is in progress.

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

techniques

Intercropping of coconut with *Njalipoovan* variety of Banana (T02) was selected as the best option. The T03 where in Nutmeg was used for mixed cropping has not started bearing.

8 Final recommendation for micro level situation

Intercropping of coconut garden of >40 years of age can be done with banana variety *Njalipoovan* in irrigated conditions resulting in 6 fold increase in net income compared to the monocrop of coconut. Intercropping/Mixed cropping leads to increase in growth and productivity of coconut and income of plot.

9 Constraints identified and feedback for research

In few gardens where the spacing of coconut is lesser the banana was lanky and easily breakable under wind. So a wider spacing may be beneficial in such situation.

10 Process of farmers participation and their reaction

Farmers were very cooperative and born expenses for FYM and labour and were selected based on their request to select their plot and inspection at their field prior to the trial by KVK official.

OFT 2

Results of On Farm Trial

Crop/ enterprise	Farming situation	**Problem definition**	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Black Pepper	Rainfed homestead	Low income for black pepper produce due to	Bacterial fermentation technique for white pepper production	5	Production of black pepper by sun drying of mature berries for 3-7 days	Price	Rs. 225 /kg	The technology option 2 was found to be most ideal for white	Farmers opined that the method is very time consuming and more	Refinement of T0-3 is required as there is off odour in the product	The retting process took more time than anticipated. The thick mat of

		lack of value addition			(T0-1)			pepper production as there is more quality (colour and aroma) and price for the product. There was significant increase in net income by 2.1 folds pepper by making white pepper i.e. by T0-2 and 1.65 fold income by T0-3. The highest B:C of 1.9 was observed for T)(2) followed by 1.72 of	labour is required for making white pepper. Farmers demanded for a quick method for making white pepper.	and lack of uniformity of white colour in the finished.	bacterial growth floating on the surface of the retting vessel must have caused off odour.

								TO (3)			
						Appearance/colour	Black				
						Time taken for drying	3 days				
						B:C	1.48				
					T0-2: White pepper production using ripe berries and retting in water for 8 days followed by 3-5 days sun drying	Price	Rs. 400/ kg				
						Colour	Creamy white				
						Aroma	Good				
						Time taken for getting final product.	15 days				
						B:C	1.9				
					T0-3: mature berries immersed	Price	Rs. 350/kg				

					in sterilized water containing bacterial culture for 5 days in ordinary room temperature and stirred twice daily followed by sun drying for 3-4 days						
						Colour	Dull white				
						Aroma	Slight off flavour				
						Time	18 days				
						B:C	1.9				

Contd..

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	KAU	600	kg/ha (Black	44072	1.44

practice) T0-1 Sun drying mature berries for 3 days on silpaulin/drying floor.			pepper)		
Technology option 2 T0-2: White pepper production using ripe berries and retting in water for 8 days followed by 3-5 days sun drying	KAU	500	Kg/ha (White pepper)	94480	1.9
Technology option 3 T0-3: mature berries immersed in sterilized water containing bacterial culture for 5 days in ordinary room temperature and stirred twice daily followed by sun drying for 3-4 days	IISR	500	kg/ha (White pepper)	73040	1.72

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

1 Title of Technology Assessed

Assessment of bacterial fermentation technique for white pepper production.

2 Problem Definition

Low income of black pepper due to lack of value addition by farmers. They sell their produce by following the conventional method of sun drying for producing black pepper . The recommended technology of white pepper production is cumbersome and laborious. A new technology in the pipeline at IISR in which mature berries can be used for making white pepper was taken as the intervention.

3 Details of technologies selected for assessment

T01: Drying of mature berries for 3 days on silpaulin/concrete drying floor.

T02: Recommended practice (KAU): Retting of ripe berries in ordinary water for 8 days followed by sun drying for 3-4 days.

T03: (IISR) Bacterial fermentation of mature berries in sterile water with stirring twice in a day for 5 days followed by sun drying for 3-4 days.

4 Source of technology: IISR, Calicut

5 Production system and thematic area

Rainfed homestead. Value addition in spices.

6 Performance of the Technology with performance indicators

The T0-2 was found to be most ideal for white pepper production with better performance indicators as below:

a. Appearance/colour of produce: Creamy white
b. Time taken for retting: 11 days
c. Aroma : Good
d. B:C : 1.96
e. Price: Rs. 400/kg

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

Farmers opined that the method is very time consuming and more labour is required for making white pepper. They want a quick method without much labour for white pepper. There is also no ready retail market for white pepper as is available for black pepper. However there are specialized people engaged in export offering more than Rupees four hundred per kilogram for white pepper.

8 Final recommendation for micro level situation

The retting method using ripe berries can be practiced by farmers for getting good quality white pepper with high price. But the bacterial fermentation technique is taking more time and the produce is not uniform in colour and there is some off odour in the produce. This suggests that this technology option (T0-3) needs refinement.

9 Constraints identified and feedback for research

1. The technology option T0-2 and T0-3 took more time for initiation of retting of berries.
2. There was no uniformity in colour of the produce.
3. There is no ready market for retail sales of white pepper as seen for black pepper
4. The process of white pepper production is lengthy and laborious.

10 Process of farmers participation and their reaction

The farmers were selected from a pepper belt who are willing to spare their produce for the trial. The farmers opined to obtain a quick and better method for white pepper production.

OFT 3

Results of Technologies Assessed

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Mango	Rainfed	Irregular/Alternate bearing	Induction of flowering in *Olou*r mango through paclobutrozol application combined with INM and IPM	10	Induction of flowering in mango through hormone application along with INM and IPM	Induction of flowering, Yield	All trees flowered not harvested till now	Trial continuing	Farmers are satisfied with induction and intensity of flowering	Perennial crop- Trial continuing – final conclusion has to be made	-

Contd..

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
TO1-Smoking the field TO2-Spraying KNO3 1% during Nov. to Dec. to induce flowering TO3- Soil drenching of placobutrazol @ 1.5 ai per 1 m diameter of crop canopy+ INM and IPM	TNAU Coimbatore CISH Lucknow	Harvesting not started	-	Harvesting not started	Trial continuing

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

1 Title of Technology Assessed: Induction of flowering in *Olour* mango through paclobutrazol application combined with INM and IPM

2 Problem Definition :- Irregular bearing in mango variety Olour

3 Details of technologies selected for assessment :-

TO1: To induce regular bearing in mango, some of the farmers use smudging/ smoking the field. But consistent results are not obtained by these treatments. So irregular/alternative bearing cannot be overcome by this method

TO2: Spraying of potassium nitrate 1% (10g/l) during November-December to induce flowering

TO3: Application (soil drenching) of paclobutrazol @ 1.5 g active ingredient per one metre diameter of crop canopy.

4 Source of technology :-TO2- TNAU Coimbatore, TO3- CISH Lucknow

5 Production system and thematic area : Mango as a component of homestead cropping system
Improving production of fruit crops

6 Performance of the Technology with performance indicators.-

In the case of trees treated with paclobutrazol combined with INM and IPM all the trees flowered indicating that the treatment is effective in inducing flowering in mango. Since harvesting of the crop is not started, yield could not be compared with other treatments.

In the case of TO2 also treated trees flowered in all the plots.

The trial has to be continues for 3 more years to confirm the effect of treatments in inducing regularity of flowering.

Farmers practice (smoking) could induce only erratic flowering in the plots.

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

All the treated trees flowered during first year but trial has to be continued to know its effect in inducing regularity of flowering. High cost of the chemical is a constraint.

8 Final recommendation for micro level situation – Since it is a perennial crop , trial is continuing and final conclusion can be drawn only after continuing the study for 3 more years.

9 Constraints identified and feedback for research – i. Shortage of labourers for carrying out spraying and application of hormones

ii. High cost of the hormone.

10 Process of farmers' participation and their reaction – As the crop fetches a premium price in the market and is having high demand locally as well as in Gulf countries, farmers actively participated in the programme.

OFT 4

Results of On Farm Trial

Crop/ enterprise	Farming situation	**Problem definition**	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Nutmeg	Inter cropping	Under utilization of nutmeg pericarp	Value addition and product diversification of nutmeg pericarp	4	Value added products-squash, Pickle, chutney	(a)Shelf life period (b) Cost effectiveness of the products	(a) shelf life period:- 1. Squash- *a.On room temperature*-**one week.** *b.On refrigeration*-**more than 6 months.**	The products of nutmeg pericarp except nutmeg squash had good quality.	The products gives a positive feed back since the products have a long shelf life period and possess a new taste	Yes,refinement needed only for squash.	Squash had a fermented taste when it is kept at room temperature

Contd..

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 on making chutney and pickle.)	ITK	Nutmeg pickle	10 kg	1600	4:1
Technology option 2(technology for making fresh fruit squash)	KAU	Fruit Squash	1 lit	80	5:2
Technology option 3	KAU	Nutmeg rind squash	1 lit.	Under refinement	-

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

1 Title of Technology Assessed: Value addition and product diversification of Nutmeg pericarp.

2 Problem Definition :-Under utilization of nutmeg pericarp.

3 Details of technologies selected for assessment :-

T1- farmer's practice on making chutney and pickle.

T2- technology developed for making fresh fruit squash

T3- Novel technique used for preparing nutmeg squash.(nutmeg rind juice is mixed with sugar for making nutmeg squash)

4 Source of technology :-KAU

5 Production system and thematic area :-homestead system

6 Performance of the Technology with performance indicators.- Through demonstration and training.

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

Feedback was gained through score cards which indicated that all the products had good quality, but the shelf-life period of squash was poor because of fermentation. Farmers gained handsome income from the products except squash.

8 Final recommendation for micro level situation –

Developed products can be commercialized and the unmarketable products must undergo refinement.

9 Constraints identified and feedback for research –

Squash was fermented in short period of time hence it could not be marketed.

10 Process of farmers participation and their reaction –

10 interested farmers were participated in the OFT. They formed a SHG and produced better quality products(fresh pickle, dry pickle, chutney, jam) of nutmeg in large scale and successfully marketed.

OFT 5

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Dairy	Semi intensive	Anoesrus in dairy cattle resulting in huge economic loss to the farmer	Fertility in anoestrus cows following CIDR treatment	25	Fertility in anoeastrus cows following CIDR treatment	1.Oestrus response 2.Conception rate	1.Oestrus response 100% 2.Conception rate 56%	Even though all the treated animals show 100% oestrus response but conception rate is only 56%	It is highly suitable technology in high yielding dairy cattle as it will reduce unnecessary disposal of valuable milch cows		

Contd..

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm,	Net Return (Profit) in Rs. / unit	BC Ratio

			nuts/palm/year)		
13	14	15	16	17	18
CIDR Technology option 1 (Farmer's practice) Feeding mineral mixture @ 30 g/day per animal	-	Animals are reared semi intensively in homesteads along with other crops	30% of treated cows shows oestrus response but but conception rate was 30%	Rs.8,000/- to Rs.10,000/animal	7:1
Technology option 2 Feeding mineral mixture along with deworming and parenteral administration of Vit. A and phosphorus	KAU	Farmers are rearing cattle semi intensively in their farm premises along with other crops	60% of treated cows showed oestrus response but conception rate was 52%	Rs.15000 to Rs.18000/cow	8:3
Technology option 3 Intra-vaginal insertion of CIDR device for 7 days and fixed time breeding at 72 and 96 hrs.	TANUVAS	Semi intensive production of cattle rearing in their homesteads	100% treated cows showed oestrus response but conception rate was 56%	Rs.22000/cow	2:1

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

1 Title of Technology Assessed

Fertility in anoeastrus cows following CIDR treatment

2 Problem Definition

Anoestrus is a major problem in dairy cattle under field conditions resulting in infertility, increased inter calving interval, production and economic loss to the farmers.

3 Details of technologies selected for assessment

T01: Feeding mineral mixture @ 30 g /day/animals

T02: Recommended practice : Feeding mineral mixture along with deworming and parenteral administration of Vit. A and phosphorus.

T03: Intra-vaginal insertion of CIDR device for 7 days and fixed time breeding at 72 and 96 hrs.

4 Source of technology: TANUVAS

5 Production system and thematic area

Dairy cattle are reared semi intensively along with other livestock and agricultural crops in homesteads. The milch cows reared under such condition resulted in huge economic loss to the farmers.

6 Performance of the Technology with performance indicators

All CIDR treated cows showed oestrus response (100%) but the conception rate was only 56%.

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

it was highly impressed by the farmers and is highly useful technology in cows suffering from anoestrus. Even though the treatment cost was higher it was very useful technology.

8 Final recommendation for micro level situation

It is highly suitable technology oestrus synchronization and fixed time breeding in high yielding milch cows.

9 Constraints identified and feedback for research

The treatment cost was higher. Skilled technician or Veterinarians required to monitor throughout the treatment. Cost of CIDR is high. Vaginitis is a problem in 2% treated cows.

10 Process of farmers participation and their reaction

The farmers are intensively participated and availed the technology. They are more interaction and keen interest to knowhow the technology.

OFT 6

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Dairy	Semi intensive	Repeat breeding due to delayed ovulation is major problem in high yielding dairy cattle	GnRH treatment and double AI for management of repeat breeding cows	25	GnRH treatment and double AI for management of repeat breeding cows	Conception rate	Conceptio rate 83%	It is a very useful technology in repeat breeding cows due to delayed ovulation or animals showed prolonged oestrus.	Very good technology to enhance conception rate in high yielding milch cows	-	-

Contd..

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					
GnRH					
Technology option 1 (Farmer's practice) Mineral supplementation along with	-	Semi intensive system of cattle rearing in the homesteads along with	46% cows conceived in the treated cows	Rs.7000/-	8:2

concentrate feed and allow for Artificial breeding or natural mating during oestrus period		other agricultural crops			
Technology option 2 Administration of mineral supplementation either oral or parenteral administration along with concentrate feed and Artificial breeding with good quality frozen semen at optimum time during oestrus period.	KAU	Semi intensively along with other crops in the homesteads	62% cows conceived in the treated animals	Rs.16000/-	8:3
Technology option 3 GnRH treatment and double AI for management of repeat breeder cows	TANUVAS	Animals are reared semi intensively in the farm premises along with other agrl. Crops and live stocks like poultry, goats etc.	86% treated cows conceived with double insemination at 24 hrs. interval	Rs.19000/-	5:2

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

1. Title of Technology Assessed

   GnRH treatment and double AI for management of repeat breeder cows

2 Problem Definition

   Repeat breeding is a major problem in dairy farmers resulting in economic loss to the farmers.

3 Details of technologies selected for assessment

   T01: Mineral supplementation either oral or parenteral along with concentrate feed and allow for artificial breeding or natural mating oestrus breeding.

   T02: Administratio of mineral supplementation either oral or parenteral administration along with concentrate feed and artificial breeding with good quality frozen semen at optimum time during oestrus period.

T03: GnRH treatment and double AI for management of repeat breeder cows.

4 Source of technology: TANUVAS

5 Production system and thematic area

Cattle s are reared semiintensively along with other livestocks like poultry, goatary and agricultural crops. Repeat breeding is major problem in dairy cattle during summer due to non-availability of green fodder.

6 Performance of the Technology with performance indicators

Parenteral administration of GnRH followed by artificial insemination with frozen semen at 24 hrs. interval enhanced conception rate (86%) in repeat breeders cows.

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

It is a very good technology to improve conception rate in repeat breeder cows.

8 Final recommendation for micro level situation

This technology already been recommended for treatment of repeat breeders cows under field conditions

9. Constraints identified and feedback for research

Before going to treat repeat breeder cows with GnRH due care should be given to diagnose whether the repeat breeding may be due to other causes like microbial origin or uterine pathology etc.

10 Process of farmers participation and their reaction

Farmers opined that this technology was highly successful for enhancing conception rate in repeat breeder cows.

OFT 7

Results of Technologies Assessed

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Dairy	Semi intensive	Early pregnancy (30 days) involves risky and skilled person is required. Farm woman can diagnose pregnancy in cattle by this method.	Bioseed assay for pregnancy testing in dairy cattle	25	Bioseed assay for pregnancy testing in dairy cattle	Seed germination rate and its relation to conception rate.	Conception rate 90-95%	A farm woman can easily identify pregnancy in dairy cattle at about 30 days after AI with 5% error.	Highly useful technology to farm woman for profitable dairy farming.	-	-

Contd..

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					

Bio seed assay					
Technology option 1 (Farmer's practice) By observing external symptoms like cessation of oestrus, weight gaining, enlargement of abdomen, udder development etc.	-	Semi intensive rearing of cows along with other livestocks and agricultural crops	10-15% animals can be confirmed by this method	-	-
Technology option 2 By rectal examination to assess the dissimilarity of uterine ……. Or enlargement of uterus. Rectal palpation of genital organ for pregnancy diagnosis can be performed after 60 days.	SAU	Semi intensive production in the homesteads	99-100% accuracy by this method but involvement skilled technician and can be identified after 60 days breeding	Rs.15000/-	-
Technology option 3 Bio seed assay for pregnancy diagnosis in dairy cattle can be performed by using paddy seed 21 days post breeding	TANUVAS	Semi intensive production of dairy cattle along with livestock and poultry	90-100% accuracy, not required skilled technician. Pregnancy diagnosis as early as 30 days post breeding is possible	-	-

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

1. Title of Technology Assessed

   Bioseed assay for pregnancy testing in dairy cattle

2 Problem Definition

Post service anoestrum may result in false or mis-pregnancy in dairy cattle results in infertility, affect production, anoestrum, and long intercalving interval. Pregnancy diagnosis in dairy cattle can be performed by skilled technician only.

3Details of technologies selected for assessment

T01: By observing external symptoms like cessation olf estrum, weight gaining, enlargement of abdomen, udder development etc.

T02: By rectal examination to assess the dissimilarity of uterine horns or enlargement of esterus . Rectal palpation of genital organ for pregnancy diagnosis can be performed after 60 days.

T03: Bioseed assay for pregnancy diagnosis in dairy cattle can be performed by using paddy seed 21 days post breeding.

4 Source of technology: TANUVAS

5 Production system and thematic area

Cattles are rearing semi-intensively along with other agricultural crops and livestock like poultry, goatary etc. Early pregnancy of 30 days after breeding can be identified by farm woman by using paddy seed.

6 Performance of the Technology with performance indicators

The technology was highly useful and adopted by farm woman to identify the pregnancy of dairy cattle as early as 60 days after breeding 90-100% accuracy was achieved and not required skilled technician. Easy and economical

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

Very good technology to the dairy farmers to identify pregnancy. 100% dairy farmers adopted the technology. Easy to perform and economical.

8 Final recommendation for micro level situation

Recommended to the dairy farmers of the district to perform the technology to confirm the pregnancy in dairy cattle.

3 Constraints identified and feedback for research

Slight variation in proportion of cow's urine and water may affect germination of paddy seed and result of pregnancy diagnosis.

10 Process of farmers participation and their reaction

The technology was highly suitable and adaptable by dairy farmers. 100% accuracy will be achieved if performed the test in proportion of cow's urine and water.

OFT 8
Results of Technologies Assessed

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Ornamental fish culture	Breeding and culture of livebearers	Low survival of fry and poor water quality	Use of live feed in rearing of ornamental fishes	3	Feeding of Angel fish fry with boiled chicken egg -Farmers Practice	Survival rate Growth	Survival: 0.8% Average size after 1 month: 5mm	Poor survival rate	It will be better to give artemia nauplii initially for 7 days and then microworms can be used for angel fish fry	Mixed feeding schedule with 1-7 days: artemia nauplii (80%) + microworms with (20% 8-14 days artemia initiall (20%	The size of micro worms are from 50-1000µm and that of artemia nauplii is 100-400µm hence during initial stage angel fish fry was not getting
					Use of live feed (Artemia nauplii) in rearing of ornamental fishes- CIFE		Survival: 30% Average size after 1 month: 5mm	Initial survival rate and growth was good (7 days)			

					Use of live feed (micro worms - *Panagrellus spp*) in rearing of ornamental fishes- University of Florida		Survival: 38% Average size after 1 month: 6mm	Initial survival and growth was not good (7 days)		+ (80% microworms 15 -20 days microworms (100%) 20-30days: micro worms + powdered formulated feed	enough feed when fed alone with microworms hence a mixed feeding schedule was tried and the survival rate improved to 46% and average size: 6mm

Contd..

Technology Assessed	**Source of Technology**	**Production of angel fish fingerlings 1 pair of brooder (after 4 breedings**	**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	40	Nos/4breeding	30	1.6
Technology option 2	CIFE, Mumbai	300	Nos/4breeding	832	4.46
Technology option 3	University of Florida	380	Nos/4breeding	1000	8.16

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

1 Title of Technology Assessed : Use of live feed in rearing of ornamental fishes

2 Problem Definition : Low survival of fry and poor water quality

3 Details of technologies selected for assessment:

TO1: Feeding of fry with boiled chicken egg -Farmers Practice

TO2 Use of live feed (Artemia nauplii) in rearing of ornamental fishes- CIFE

TO3: Use of live feed (micro worms -*Panagrellus spp*) in rearing of ornamental fishes- University of Florida

4 Source of technology: Farmers Practice, CIFE Mumbai, University of Florida

5 Production system and thematic area: Ornamental fish culture, Fish Ornamental breeding and rearing

6 Performance of the Technology with performance indicators: Initial survival rate was better for fry fed with *artemia nauplii* but in later stages it was better for those fed with micro worms

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques 1. TO3(best), 2. T02 3. TO1

8 Final recommendation for micro level situation: It is better to give artemia nauplii initially for 7 days and then microworms can be used for angel fish fry

9 Constraints identified and feedback for research: It will be better to give artemia nauplii initially for 7 days and then microworms can be used for angel fish fry

10 Process of farmers participation and their reaction: Farmers participation was encouraging and they have even done the refinement in technique

OFT 9

Results of Technologies Assessed

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12

Fresh water fish culture	Extensive aquaculture	**Increase in cost of feed and non scientific fish culture practice**	Culture of freshwater fishes using low cost feed	2	Feeding occasionally with cattle feed and fertilization	Growth and survival	Avg size 100g Survival 80%	Low growth rate	Feeding with coconut oilcake and rice bran is better option as	Kitchen refuge (25%) can be added to coconut oil cake rice bran mixture and fed daily instead of feeding kitchen refuge on alternate days	Water quality is affected due to kitchen refuse that is not consumed by fish .Hence alternate days feeding with kitchen refuse is not a good solution for reducing cost of feed
					Feeding with coconut oil cake and rice bran		Avg size 290g Survival 85%	Better growth rate and good water quality			
					Mixed feeding schedule with kitchen refuse and coconut oil cake with rice bran		Avg size 169g Survival 80%	Moderate growth rate and water quality was deturating			

Contd..

Technology Assessed	**Source of Technology**	**Production after 9 months**	**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	Framers practice	400	Kg/ha	500	1.03
Technology option 2	Kerala Agriculture University	1233	Kg/ha	15,000	1.18
Technology option 3	Network of Aquaculture Centres in Asia Pacific	676	Kg/ha	6,280	1.18

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

1 Title of Technology Assessed : Culture of freshwater fishes using low cost feed

2 Problem Definition : Increase in cost of feed and non scientific fish culture practice

3 Details of technologies selected for assessment:

TO1: Feeding occasionally with cattle feed and fertilization- Framers practice

TO2 : Feeding with coconut oil cake and rice bran- Kerala Agriculture University

TO3: Mixed feeding schedule with kitchen refuse and coconut oil cake with rice bran- NACA

4 Source of technology: Framers practice, Kerala Agriculture University, Network of Aquaculture Centres in Asia Pacific

5 Production system and thematic area: Fresh water fish culture, Fish feeding

6 Performance of the Technology with performance indicators: Low growth rate in case of farmers practice, Better growth rate and good water quality on feeding with oil cake and rice bran,, Moderate growth rate and water quality was deturating in mixed feeding schedule

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques 1. TO2(best), 2. T03 3. TO1

8 Final recommendation for micro level situation: Better growth rate was got on feeding with ricebran and coconut oil cake

9 Constraints identified and feedback for research: Water quality deturation in case of mixed feeding schedule due to accumulation of non consumed feed at pond bottom

10 Process of farmers participation and their reaction: Encouraging and have opted for giving small quantity of kitvhen refuse(25%)

4.D1. Results of Technologies Refined - NIL

Results of On Farm Trial

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

Contd..

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

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

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	
	Oilseeds													
	Pulses													
	Cereals													
	Millets													
	Vegetables													
	Flowers													
	Ornamental													
	Fruit													
	Spices and condiments	Rainfed Homestead	2009 Kharif	Black Pepper	Sreekara	-	Popularization of HYV.	Demn. Of HYVs of Black Pepper	6 ha	6 ha	Nil	10	10	Nil
S		Semi-urban houses	2009	Black pepper	Bush pepper	-	Popularization of new production technologies	Demn. Of bush pepper prodn. Technology using *Karimunda* variety	200 pots	200 pots	-	20	20	Nil

								and KAU package of practices						
		Mixed farming	May 2010	Black pepper	Karimunda, Panniyur-1, Panchami, Pournami, Arkkalamunda	-	Integrated management of disease of spices	Integrated Disease Management of *Phytophthora* Foot Rot of Black Pepper (An integrated approach which comprises of cultural, chemical and bio control methods (IISR)- Application of neem cake (2 kg) + Lime (1 kg) + Foliar application of 1% BM once + Potassium Phosphonate (0.3%) + Trichoderma application (50 g/vine) twice).	0.22	0.22			10	
		Inter cropping	April-July	Pepper			Value addition	Preservation technique of green Pepper in brine.			1	9	10	
		Rainfed	Kharif 2010	Turmeric	IISR Kedaram	-	Planting material production	Seed production of turmeric	0.05	0.05	-	10	10	-
	Commercial													
	Medicinal and aromatic													
	Fodder													

	Plantation													
	Fibre													
	Dairy													
	Poultry													
	Rabbitry													
	Pigerry													
	Sheep and goat													
	Duckery													
	Common carps													
	Mussels													
	Ornamental fishes													
	Oyster													

	mushroom													
	Button mushroom													
	Vermicompost													
	Sericulture													
	Apiculture													
	Implements													
	Others (specify)													
	Dairy	Semiintensive	All 2009-10	Cows	Crossbred	-	Breeding management by oestrus synchornisation and AI	Popularization of hormone treatment for fertility management in cows	75 cows	75 cows	27	48	75	-
	Goatary	Semi-intensive	All 2009-10	She goats	Malabari crossbred	-	Breeding management by oestrus synchronization and AI	Popualrisation of hormone treatment for feretility management in goats	180 she goats	180 she goats	23	37	60	-
	Dairy	Semi-intensive	All 2010-11	Cows	Cross bred	-	Breeding management by post AI administration of ceftriaxone sodium in milch cows	Post AI administration of sterile ceftriaxone sodium o conception rate in milch cows	100 cows	100 cows	31	69	100	-

	Fisheries	Freshwater fish culture	July-April	Freshwater fish culture	Pangassius-tiger shark		Freshwater fish culture	Popularisation of *Pangassius* for freshwater aquaculture	0.2 ha	0.2 ha	-	5	5	Nil
		Freshwater fish breeding	June-August	Freshwater fish breeding	Channa, common carp		Freshwater fish breeding	Induced breeding of freshwater fishes using GnR hormones	0.04 ha	0.04 ha	-	10	10	Nil

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

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Season and year	Status of soil			Previous crop grown
										N	P	K	
	Oilseeds												
	Pulses												
	Cereals												
	Millets												
	Vegetables												
	Flowers												
	Ornamental												

	Fruit												
	Spices and condiments	Rainfed homestead	Kharif 2010	Black pepper	Sreekara	-	Popularization of HYV	Production of HYV of black pepper	Rabi 2010	0.83	13.45	9.82	Vegetables and tubers.
		Rainfed	Kharif 2010	Turmeric	IISR Kedaram	-	Planting material production	Seed production	Kharif 2010	0.78	12.15	8.76	Crop raised as intercrop of coconut. Earlier no intercrop was grown.
	Commercial												
	Medicinal and aromatic												
	Fodder												
	Plantation												
	Fibre												

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																			
Pulses																			
Cereals																			
Millets																			
Vegetables																			
Flowers																			
Ornamental																			
Fruit																			
Spices and condiments																			

Black pepper	Demn. In HYV of Black pepper with integrated disease management	*Sreekara*	-	Rainfed homestead	10	6ha	7.84	5.49	6.58	5.96	10.4%	92150	148050	55900	1.60	87400	134100	46700	1.53
	Demn. Of Bush pepper production technology	Karimunda	-	Semiurrban homesteads	20	200 pots	0.36 (dry) Kg/ pot	0.155 dry kg/ pot	0.196 kg/ pot	0.12 kg/ vine	63%	135 / pot	250/pot	115/ pot	1.85	96/ vine	157.5/ vine	61.5/ vine	1.64
Black pepper	Integrated Disease Management of *Phytophthora* Foot Rot of Black Pepper	Karimunda, Panniyur-1, Panchami, Pournami, Arkkalamunda	Mixed farming	10	0.22	28.4	13.6	21.02	5.09	312.96	1,18,349	1,49,210	30,861	1.26	32,800	36,120	3320	1.10	
	Green Pepper in brine			Inter cropping	4							125/kg	167.5/kg	42.5/kg	**1.34**	85/kg	75/kg	10	**1.13**
Turmeric	Seed production of HYVs	Kedaram	-	Rainfed	10	0.05	186	104	146.8	88	66.82	1.60 lakh	4.69 lakh	3.00	2.93	1.1 lakh	2.81 lakh	1.71 lakh	2.55
Commercial																			
Medicinal and aromatic																			
Fodder																			
Plantation																			

Fibre																			
Others (pl.specify)																			

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST
H – Highest Yield, L – Lowest Yield A – Average Yield
*** Local check is taken as vine for comparison

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

Black pepper	**Data on other parameters in relation to technology demonstrated**		
	Parameter with unit	**Demo**	**Check**
	Incidence of foot rot/100 plants	3%	14-15%
	Percent of pollu beetle affected spikes	2%	12%
	Percentage incidence of root mealy bug	2%	3%
	Bush pepper		
	No. of harvest/plant	48	One time
	No. of spikes/plant	286	156
	Incidence of pollu beettle attack	Nil	12% of plants had symptoms of pollu beetle attack
	Disease incidence (%)	35%	65 %
Turmeric	Pest and disease incidence	Turmeric is relatively free from pest and disease incidence and hence in both demonstration and check, disease and pest incidence was very less except stray incidence of shoot borer	

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	Popularisation of hormone treatment for fertility management in cows	Cross bred	75	75	24 lit	9 lit.	16.5 lit	7.5 lit	120	1200	12000	11400	10%	460	7140	6680	15:5
	Post AI administration of sterile ceftriaxone sodium on conception rate in milch cows	Cross bred	100	100 cows	18.2	9.5	13.75	7.00	157	850	11000	10150	12:9	340	9500	9160	3:1
Goatary	Popularisation of hormone treatment for fertility management in goats	Malabari cross bred	60	180 she goats	Rs.5600	Rs.2400	Rs.4000	Rs.2800	100	450	56000	5150	12:4	220	2800	2580	12:7
Rabbitry																	
Pigerry																	
Sheep and goat																	
Duckery																	
Others (pl.specify)																	

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

** BCR= GROSS RETURN/GROSS COST

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

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

Oestrus response(%)	**100%**	**36-38%**
Conception rate (%)	62%	42%
Oestrus response(%)	98%	33%
Conception rate%	51%	39%
Conception rate%	78%	56%

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./m2)				*Economics of check Rs./unit) or (Rs./m2)			
					Demo			Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Common carps																	
Mussels																	
Ornamental fishes																	
Others Pangassius (Tiger shark)	Popularisation of *Pangassius* for freshwater aquaculture	Pangassius	5	400	125	80	32	20	37.5	11200	16000	4800	1.43	2200	2880	680	1.3

Induced breeding in murrels and common carp	Induced breeding of freshwater fishes using GnR hormones	Common carp, murrels, Pangasius	10		Under progress Successfully bred common carp with induced breeding												

* 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**
	Healthy and no occurrence of disease	Stress shown due to low dissolved oxygen

5.B.4. Other enterprises -NIL

Enterprise	Name of the technology demonstrated	Variety/ species	No. of Demo	Units/ Area {m^2}	Yield (q/ha)				% Increase	*Economics of demonstration (Rs./unit) or (Rs./m2)				*Economics of check (Rs./unit) or (Rs./m2)			
					Demo			Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
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- NIL

Name of the implement	Cost of the implement in Rs.	Name of the technology demonstrated	No. of Demo	Area covered under demo in ha	Labour requirement in Mandays		% save	Savings in labour (Rs./ha)	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
					Demo	Check			Gross cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST

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

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

5.B.6. Cotton - NIL

5.B.6.1.Summary of demonstrations conducted under FLD cotton

Sl. No.	Category	Technology Demonstrated	Variety	Hybrid	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
						Proposed	Actual	SC/ST	Others	Total	
	Production Technology										
	IPM										
	Farm Implements										

5.B.6.2 Production technology demonstrations - NIL

Performance of demonstrations

Farming situation	Technology Demonstrated	Area (ha)	No.of demo.	Variety	Hybrid	Yield (q/ha)		% Increase	Economics of demonstration (Rs./ha)				Economics of local check (Rs./ha)			
						Demo	Local		Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR

Performance of Bt hybrids, Desi hybrids, non-Bt hybrids and Varieties in Front Line Demonstrations in cotton during 2010-11 -NIL

Category	Farming situation	Technology Demonstrated	Area (ha)	No.of demo.	Variety	Hybrid	Yield (q/ha)		% Increase	Economics of demonstration (Rs./ha)				Economics of local check (Rs./ha)			
							Demo	Local		Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR
Bt hybrids																	
Desi hybrids (AXA)																	
HXB Hybrids																	
HXH Hybrids																	

Herbacium Varieties																	
Hirsutum Varieties																	
Arboreum 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 (q/ha)			Economics of demonstration (Rs./ha)				Economics of local check (Rs./ha)			
						IPM	Non IPM	% Change	IPM	Non IPM	% Change	Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR

5.B.6.4 Demonstrations on farm implements - NIL

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

				Demo	Local check	% change
Total						

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

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

T.V. Programme							
Others (Pl.specify)							
TOTAL							

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

S. No	Crop / Enterprise	Name of the technology demonstrated	Feed Back
1	Black pepper	Demn. Of HYV of Black pepper and integrated disease management	The HYV *Sreekara* out yielded local check *Karimunda* in the homestead system. The average spike intensity square foot was 35 for *Sreekara* in comparison to 24 of local variety *Karimunda*. As an intercrop in coconut based homestead average no of standards per hectare was 950 as against 1100/ha as mono crop. The cost of production of pepper was worked out to be Rs.140 per kg using HYV and Rs.146/kg for local varieties. Integrated disease management was working well for managing foot rot of pepper . On an average 6.58 Q/ha (dry) yield was realized compared to 5.96 Q/ha of *Karimunda*, the local check.
2	Bush pepper	Demonstration of Bush pepper production technology in pots using variety *Karimunda* and following KAU PoP	The bush pepper plants should not be allowed to bear spikes till sufficient vegetative growth and vigour is achieved. The de-spiking of small plants was found to be positively correlated with the growth of plants. The plants grown without any spikes for 3-4 months in the pots following transplanting put up maximum branching and yield later on. There were one spike each on every leaf axil of the plant. Keeping of atleast 10 bush pepper plants per house can meet the yearly demand of green pepper, black pepper and white pepper of a family of 4 members. On an average of 0.196 kg (dry) black pepper could be realized per year/pot compared 0.12 kg from vine.
3.	Black Pepper	Integrated Disease Management of *Phytophthora* Foot Rot of Black Pepper	IDM measures have to be taken up during appropriate time for better results.
4.	Turmeric	Demonstration of seed production in HYVs of turmeric	Turmeric is relatively free from pests and diseases compared to other spices. Seed production is a profitable enterprise.
5.	Nutmeg	value addition and Product diversification of nutmeg pericarp	Successfully completed most of the products except nutmeg rind
6	Dairy	Popularisation of hormone treatment for fertility management in cows	1.No need to observe whether the animal come to heat or not 2.Fixed time breeding helpful to the farmer to enhance conception rate. 3.Not only synchronise the breeding but also synchronise the calving

7	Goatary	Popularization of hormone treatment for fertility management in goats	1.To bring all the animal into oestrum in a particular time 2.Artificial insemination can be carried out in a particular time I all the treated goats 3.All the treated goats come to delivery in a particular time, hence management of all the kids easy. 4.If one of the gait fail to feed mother milk, other goat will take care of. 5.Easy and economical 6.Very good technology for broiler goat rearing
8	Dairy	Post AI administration of sterile ceftriaxone sodium on conception rate in milch cows	1.Post AI administration of sterile ceftriaxone sodium enhanced conception rate from 48% to 78% 2.Easy and economical in high yielding animals 3.Reduced intercalving interval

5.B.6.7 Farmers' reactions on specific technologies

S. No	**Crop / Enterprise**	**Name of the technology demonstrated**	**Feed Back**
1	Black pepper	Demonstration of HYV of Black pepper with integrated disease management	1.The spike intensity of HYV *Sreekara* is fairly higher than local variety *Karimunda*. 2.Farmers demanded to produce and supply more planting materials of the variety.
2.	Bush pepper	Demonstration of Bush pepper production technology in pots for semi urban houses	There was great appreciation on the production technology of Bush pepper. 2.The semi-urban farmers convinced of the production potential, ornamental value, year round production, convenience for harvesting and maintenance wants to spread this to every house in the urban and semi urban areas.
3	Black Pepper	Integrated Disease Management of *Phytophthora* Foot Rot of Black Pepper	The FLD is labour –intensive
4	Turmeric	Demonstration of seed production in HYVs of turmeric	As turmeric is relatively free from pests and diseases, seed production is highly profitable. The demand for seed is also high locally.
5	Green pepper	Preserving tender green pepper in brine	Farmer's showed a positive response and accepted the new technology.

6	Dairy	Popularisation of hormone treatment for fertility management in cows	1.It is very useful technology to improve conception rate in milch cows 2.Oestrus synchronization and fixed time breeding help the farmer no need to observe oestrus symptoms
7	Goatary	Popularisation of hormone treatment for fertility management in goats	1.Very good technology to bring all the goats in a particular time and fixed time breeding helped all the treated goat to deliver in a particular time 2.Useful technology for broiler goat rearing.

5.B.6.8 Extension and Training activities under FLD

S. No.	**Activity**	**No. of activities organized**	**No. of parti-cipants**	**Remarks**
1.	Field Day	15	176	Field class conducted for Bush pepper technology during planting in pots, manuring, despiking, Harvesting of spikes. For Demonstration of HYV of Pepper at Manuring of vines, application of LDM, summer care and harvest of pepper
2.	Farmers Training	25	594	To give practical training on production and maintenance of bush pepper, and also for training on production technology of HYV of pepper.
3.	Media coverage	1	-	For popularizing production technology of bush pepper in Hindu dated 27.9.10
4.	Training of Extension functionaries	2	53	Spices Production technology
5	Field day	1	21	Field day during harvesting of crop
7.	Farmers' training	1	15	Training on HPT of turmeric
8.	Field days			

9.	Farmers Training	1	19	
10.	Media coverage			
11.	Training for extension functionaries	1	20	
12.	Farmers Training	4	15	

(Animal Science)

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	6	220	
2	Farmers Training	14	474	
3	Media coverage	-	-	
4	Training for extension functionaries	2	73	

PART VI – DEMONSTRATIONS ON CROP HYBRIDS – NIL

Demonstration details on crop hybrids

Type of Breed	Name of the technology demonstrated	Name of the hybrid	No. of Demo	Area (ha)	Yield (q/ha)				% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
					Demo			Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Cereals																	
Bajra																	
Maize																	
Paddy																	
Sorghum																	
Wheat																	
Others (pl.specify)																	
Total																	
Oilseeds																	
Castor																	
Mustard																	
Safflower																	
Sesame																	
Sunflower																	
Groundnut																	
Soybean																	
Others (pl.specify)																	
Total																	
Pulses																	
Greengram																	
Blackgram																	
Bengalgram																	

Redgram																		
Others (pl.specify)																		
Total																		
Vegetable crops																		
Bottle gourd																		
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																		
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

PART VII. TRAINING

7.A.. Farmers' Training including sponsored training programmes (On campus)

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Crop Production										
Weed Management										
Resource Conservation Technologies	6	103	59	162	6	11	17	109	70	179
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/Irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil and Water Conservation										
Integrated Nutrient Management										
Production of organic inputs										

Others (pl.specify)										
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Nutrition garden	1	2	4	6			-	2	4	6
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Induction of flowering in mango	1	10		10				10		10
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl.specify)										

d) Plantation crops										
Production and Management technology	1	32	4	36	2	-	2	34	4	38
Processing and value addition										
Others (pl.specify)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
f) Spices										
Production and Management technology	11	183	139	322	16	8	24	199	147	346
Processing and value addition										
Others (pl.specify)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl.specify)										
Soil Health and Fertility Management										
Soil fertility management	1	21	29	50	4	3	7	25	32	57
Integrated water management										
Integrated nutrient management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient use efficiency										
Balanced use of fertilizers										
Soil and water testing										

Others (pl.specify)										
Livestock Production and Management										
Dairy Management	4	37	92	129	2	8	10	39	100	139
Poultry Management	3	42	56	98	7	7	14	49	63	112
Goatary management	5	110	45	155	19	36	55	129	81	210
Rabbit Management										
Animal Nutrition Management	2	79	58	137	13	17	30	92	75	167
Animal Disease Management	3	21	48	69	4	3	7	25	51	76
Feed and Fodder technology	4	89	41	130	8	12	20	97	53	150
Production of quality animal products										
Others (pl.specify)										
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Women empowerment										
Location specific drudgery production										
Rural Crafts										
Women and child care										
Designing and development for high nutrient	4	23	64	87	8	1	9	31	65	96

efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking	1	18	19	37	-	-	-	18	19	37
Gender mainstreaming through SHGs										
Storage loss minimization techniques	8	18	88	106		15	15	18	103	121
Value addition										
Women empowerment	3	-	35	35	-	14	14	-	49	49
Others (pl.specify)										
Agril. Engineering										
Farm machinery and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl.specify)										
Plant Protection										
Integrated Pest Management	3	43	94	137	6	16	22	49	110	159
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl.specify)										
Integrated Disease Management in Black Pepper	1	7	12	19	-	-	-	7	12	19

Integrated Pest and Disease Management in Ginger and Turmeric	1	11	1	12	3	-	3	14	1	15
Integrated Pest and Disease Management in Banana	2	31	10	41	2	2	4	33	12	45
Integrated Pest and Disease Management in Coconut	1	28	6	34	3	-	3	31	6	37
Integrated Pest and Disease Management in Black Pepper and Nut meg	1	33	70	103	4	9	13	37	79	116
Application of bio control agents in black pepper nursery	1	26	68	94	4	10	14	30	78	108
Plant protection aspects of ginger and turmeric (seed treatment)	1	11	82	93	3	14	17	14	96	110
Apiculture	1	28	9	37	-	-	-	28	9	37
Others (pl.specify)										
Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture	1	7	2	9	0	0	0	7	2	9
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl.specify)										

Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production										
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development										
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	71	1013	1135	2148	114	186	300	1127	1321	2448

7.B.. Farmers' Training including sponsored training programmes (Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Weed Management	1	26	-	26	2	-	2	28	-	28
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/Irrigation										
Seed production										
Nursery management										
Integrated Crop Management	1	27	8	35	1	-	1	28	8	36
Soil and Water Conservation										
Integrated Nutrient Management										
Production of organic inputs										
Others (pl.specify)										
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										

Others (pl.specify)										
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl.specify)										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl.specify)										
d) Plantation crops										
Production and Management technology	2	76	26	102	7	3	10	83	29	112
Processing and value addition										
Others (pl.specify)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
f) Spices										
Production and Management technology	2	84	54	138	4	6	10	88	60	148

Processing and value addition	1	7	-	7				7		7
Others (pl.specify)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl.specify)										
Soil Health and Fertility Management										
Soil fertility management	3	49	11	60	-	1	1	49	12	61
Integrated water management										
Integrated nutrient management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient use efficiency										
Balanced use of fertilizers										
Soil and water testing										
Others (pl.specify)										
Livestock Production and Management										
Dairy Management	4	127	68	195	29	22	51	156	90	246
Poultry Management	2	16	52	68	4	9	13	20	61	81
Goatary Management	2	74	46	120	17	9	26	91	55	146
Rabbit Management										
Animal Nutrition Management	2	77	39	116	14	21	35	91	60	151
Animal Disease Management	3	135	46	181	21	25	46	156	71	227
Feed and Fodder technology	3	121	53	174	17	25	42	138	78	216
Breeding management	3	80	36	116	18	10	28	98	46	144

Pregnancy testing	4	95	36	131	16	13	29	111	49	160
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Women empowerment	1	-	29	29	-	4	4	-	33	33
Location specific drudgery production										
Rural Crafts										
Women and child care										
Others (pl.specify)										
Agril. Engineering										
Farm machinery and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl.specify)										

Plant Protection										
Integrated Pest Management										
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl.specify)										
Integrated Management of fruit fly in bitter gourd	1	29	-	29	3	-	3	32	-	32
Integrated Pest Management in Vegetables	1	15	-	15	2	-	2	17	-	17
Integrated Pest and Disease Management in Vegetables	1	38	19	57	3	2	5	41	21	62
Plant Protection aspects of spices	1	68	28	96	3	5	8	71	33	104
Use of pheromone traps in bitter gourd	1	11	4	15	-	-	-	11	4	15
Botanicals as component of IPM in vegetables	1	11	4	15	-	-	-	11	4	15
Others (pl.specify)										
Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture	2	34	16	50	2	0	2	36	16	52
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes	3	16	65	81	0	0	0	16	65	81
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										

Fish processing and value addition										
Others (pl.specify)Mussel Culture	2	0	79	79	0	6	6	0	85	85

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										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production										
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development										
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	**47**	**1216**	**719**	**1935**	**163**	**161**	**324**	**1279**	**880**	**2159**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production	3	31	12	43	-	1	1	31	13	44
Vermi-culture	1	21	10	31	3	-	3	24	10	34
Mushroom Production	1	-	27	27	-	4	4	-	31	31
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements	2	20	28	48	3	-	3	23	28	51
Value addition										
Small scale processing	01	2	10	12	-	-	-	2	10	12
Post Harvest Technology										
Tailoring and Stitching										

Rural Crafts	4	7	74	81	-	-	-	7	74	81
Production of quality animal products										
Dairying	2	22	11	33	2	35	37	24	46	70
Sheep and goat rearing	3	30	14	44	5	2	7	35	16	51
Quail farming										
Piggery										
Rabbit farming										
Poultry production	1	-	9	9	-	2	2	-	11	11
Ornamental fisheries	5	53	69	122	3	0	3	56	69	125
Composite fish culture	1	12	0	12	0	0	0	12	0	12
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology	1	0	19	19	0	0	0	0	19	19
Fry and fingerling rearing										
Any other - Use of weed cutter	1	19	5	24	-	3	3	19	8	27
Integrated Pest and Disease Management in Banana and Coconut	1	21	10	31	1	2	3	22	12	34
Apiculture	1	23	7	30	3	2	5	26	9	35
Anthurium cultivation	1	4	8	12				4	8	12
Pineapple cultivation	1	7	1	8				7	1	8
TOTAL	**30**	**272**	**305**	**577**	**20**	**51**	**71**	**292**	**365**	**657**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming	1	46	18	64	2	1	3	48	19	67
Seed production										
Production of organic inputs										
Planting material production	1	10	4	14	-	-	-	10	4	14
Vermi-culture	1	28	34	62	8	2	10	36	36	72
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition	3		37	37				-	37	37
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts	1		30	30					30	30
Production of quality animal products										
Dairying	1	4	2	6	-	34	34	4	36	40
Sheep and goat rearing										
Quail farming										

Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries	5	66	54	120	0	5	5	66	59	125
Composite fish culture										
Freshwater prawn culture										
Induced breeding	1	7	1	8	0	0	0	7	1	8
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other –Soil sample collection for analysis	1	20	3	23	-	-	-	23	-	23
Plant Protection in Nutrition Garden	1	31	21	52	5	6	11	36	27	63
TOTAL	**16**	**212**	**204**	**416**	**15**	**48**	**63**	**230**	**249**	**479**

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	1	3	17	20	-	1	1	3	18	21
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals	2	58	11	69	4	1	5	62	12	74
Livestock feed and fodder production										
Household food security										
Any other –Mushroom spawn production .,	1	-	1	1	-	-	-	-	1	1
Any other (pl.specify) Ornamental fish culture	1	4	12	16	0	0	0	4	12	16
Composite fish culture	2	26	22	48	1	3	4	27	25	52
Total	**7**	**91**	**63**	**154**	**5**	**5**	**10**	**96**	**68**	**164**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management	1	3	17	20	-	1	1	3	18	21
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify)										
Total	**1**	**3**	**17**	**20**	**-**	**1**	**1**	**3**	**18**	**21**

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										
1.b.	Commercial production of vegetables										
2	**Production and value addition**										
2.a.	Fruit Plants										
2.b.	Ornamental plants										
2.c.	Spices crops	2	94	102	196	12	7	19	106	109	215
3.	**Soil health and fertility management**										
4	**Production of Inputs at site**										
5	**Methods of protective cultivation**										
6	**Others (pl.specify) Plant Protection**	11	217	360	577	22	54	76	239	414	653
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	4	-	86	86	-	100	100	1	193	194
11.c.	Drudgery reduction of women	1	3	1	4	2	3	5	4	5	9

11.d.	Others (pl.specify)	1	-	13	13	-	5	5	-	18	18
12	**Agricultural Extension**										
12.a.	Capacity Building and Group Dynamics										
12.b.	Others (pl.specify)										
	Others (pl.specify) Ornamental fish culture	7	89	86	175	0	2	2	89	88	177
	Mussel culture	2	0	79	79	0	6	6	0	85	85
	Composite fish culture	1	19	6	25	2	0	2	21	6	27
	Total	**29**	**422**	**733**	**1155**	**38**	**177**	**215**	**460**	**918**	**1378**

Details of sponsoring agencies involved

1. NHM, ATMA
2.CWRDM

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										
1.e.	Organic farming										
1.f.	Others Plant protection and propagation skills	1	15	38	53	3	6	9	18	44	62
	Plant Protection	1	15	38	53	4	2	6	19	40	59
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										
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	1	14	33	47	-	20	20	14	53	67
4.e.	Seed production										
4.f.	Sericulture										
4.g.	Mushroom cultivation										

4.h.	Nursery, grafting etc.										
4.i.	Tailoring, stitching, embroidery, dying etc.	2	-	30	30	-	6	6	-	36	36
4.j.	Agril. para-workers, para-vet training										
4.k.	Others (pl.specify)										
5	**Agricultural Extension**										
5.a.	Capacity building and group dynamics										
5.b.	Others (pl.specify)										
	Grand Total	**5**	**44**	**139**	**183**	**7**	**34**	**41**	**51**	**173**	**224**

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	29	227	159	386	44	29	73	24	15	39
Kisan Mela	1	1215	719	1934	8	7	15	22	34	56
Kisan Ghosthi	19	823	361	1184	59	40	99	24	30	54
Exhibition	9	1020	1115	2135	28	15	43	25	32	57
Film Show	28	347	407	754	17	22	39	44	53	97
Method Demonstrations	38	319	506	825	46	70	116	57	58	115
Farmers Seminar	10	326	170	496	26	19	45	22	58	80
Workshop	2	70	34	104	0	0	0	0	0	0
Group meetings	7	74	53	127	9	4	13	1	0	1
Lectures delivered as resource persons	5	281	169	450	77	28	105	9	10	19
Newspaper coverage	2	1200	400	1600	0	0	0	0	0	0
Radio talks	6	800	140	940	0	0	0	0	0	0
TV talks	1	0	0	0	0	0	0	0	0	0
Popular articles	1	0	0	0	0	0	0	0	0	0
Extension Literature	3	900	600	1500	0	0	0	0	0	0
Advisory Services	848	548	352	900	0	0	0	0	0	0
Scientific visit to farmers field	98	152	33	185	4	2	6	1	1	2
Farmers visit to KVK	1192	715	477	1192	0	0	0	0	0	0
Diagnostic visits	25	29	7	36	4	3	7	3	1	4

Exposure visits	9	173	103	276	8	4	12	0	0	0
Ex-trainees Sammelan		0	0	0	0	0	0	0	0	0
Soil health Camp		0	0	0	0	0	0	0	0	0
Animal Health Camp	2	42	29	71	9	7	16	2	2	4
Agri mobile clinic		0	0	0	0	0	0	0	0	0
Soil test campaigns	20	277	151	428	19	20	39	0	0	0
Farm Science Club Conveners meet	2	62	18	80	2	1	3	2	1	3
Self Help Group Conveners meetings	3	2	62	64	2	9	11	0	0	0
Mahila Mandals Conveners meetings		0	0		0	0	0	0	0	0
Celebration of important days – Farmers' day	1	22	11	33	2	1	3	4	1	5
Any Other –Seed day for ginger & turmeric	1	17	5	22	1	1	2	18	6	24
Gosuraksha camp	2	41	24	65	6	5	11	0	0	0
Block ksheerotsavam	2	180	79	259	44	29	73	9	6	15
Artificial insemination	Cow 189 Goats 96	0	0	0	0		0	0	0	0
Vaccination	IBD-11880 chicks RDVK-11750	0	0	0	0	0	0	0	0	0
Helpline	1037	0	0	0	0	0	0	0	0	0
E-mail	76	0	0	0	0	0	0	0	0	0
Total		**9862**	**6184**	**16046**	**415**	**316**	**731**	**267**	**308**	**575**

PART IX – PRODUCTION OF SEED, PLANT AND LIVESTOCK MATERIALS -NIL

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	Name of the variety (if hybrid pl. specify)	Number	Value (Rs.)	Number of farmers
Commercial					
Vegetable seedlings					
Fruits	Mangosteen seedling		27	1620	16
	Lovi-lovi seedling		36	720	21
	Indian gooseberry graft		22	880	11
	Passion fruit		25	500	9
	Kilo pera		46	1380	20
	Mango graft	Alphonsa, Kalappady, Priyoor, Sindhu	1225	55125	123
	Rambutan seedling		768	15360	45
	Rose apple seedling		90	1350	22
	Jack graft		17	1020	5
	Sapota graft		35	1750	21
	Annona seedling		63	945	26
Ornamental plants	Misc. ornamental palms		40	400	21
	Other ornamental tree seedlings		17	255	7
	Croton		130	1300	57
Medicinal and Aromatic					
Plantation	Arecanut seedling	Mohitnagar	1300	13000	17
Spices	Bush pepper	Karimunda	1053	26325	234
Tuber					
Fodder crop saplings					
Forest Species	Neem seedlings		80	1200	
Others					
Total				**123130**	**655**

9.C. Production of Bio-Products

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	No. of Farmers
Bio Fertilizers				
Bio-pesticide				
Bio-fungicide	*Trichoderma*	436 kg	32700	32
Bio Agents	*Pseudomonas*	366 kg	21960	24
	Vermicompost	1450 kg	14500	89
Others	FYM	1140 cft	22820	Supplied to host institute
Total			**91980**	

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	Sunandhini	5	48650	5 farmers
Goats	Malabari	11	16520	7 farmers
Calves				
Others (Pl. specify)				
Poultry				
Broilers	Suguna & Vencob	2255 kgs	157810	451 farmers
Layers	Gramashree	7087	448855	1417
Duals (broiler and layer)				
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				

Piggery				
Piglet				
Others (Pl.specify)				
Fisheries				
Fingerlings				
Others (Pl. specify)				
Others (Pl. specify) Ornamental fishes	Guppy, platy, goldfish, gourami, angel fish	247	1470	15
Total			**673305**	

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			
News letters			
Technical bulletins	Walking with farmers , ITK documentation	K.M. Prakash, P.A. Mathew, P.S. Manoj & Dr. S. Shanmugavel	4
Popular articles	Innovation of a Nutmeg farmer	K.M. Prakash & P.A. Mathew	
Extension literature	Broiler goat rearing	Dr. S. Shanmugavel	2500
	Training manual on integrated approaches for enhancing productivity and value addition of black pepper and ginger	Dr. C.K. Thankamani & K.M. Prakash	100
	Training material on integrated approaches for enhancing productivity and value addition for ginger, turmeric, cinnamon & cambodge.	Dr. C.K. Thankamani & K.M. Prakash	100
Others (Pl. specify)			
District contingency plan	District contingency plan	K M Prakash, B Pradeep, P. S Manoj, Shanmugavel	3
TOTAL			

10.B. Details of Electronic Media Produced

S. No.	Type of media (CD / VCD / DVD/ Audio-Cassette)	Title of the programme	Number
1.	CD	E-book on inventory of agriculture of Calicut district	100

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).

The Broad outline for the case study may be

Title

Background

Interventions
- Process
- Technology

Impact
- Horizontal Spread
- Economic gains
- Employment Generation

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

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.	Coconut	Hanging of old CDs in copra drying yards	Reflection of light by CDs will ward off

			birds that come to eat copra

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

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

10.G. Field activities- NIL

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

10.H. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab :
1. Year of establishment :2004
2. List of equipments purchased with amount :

Sl.No.	Name of equipment	Qty.	Cost (Rs.)
1	Electronic physical balance	1	6160
2	Chemical balance	1	42162
3	PH meter	1	14388
4	Oven	1	15476
5	Water distillation still	1	41340
6	Digestion and distillation system	1	1,30,802
7	Hot plate	1	4120
8	Spectrophotometer	1	55230
9	Shaker	1	48038

10	Conductivity meter	1	14960
11	Flame photometer	1	37026
12	Refrigerator	1	16890
13	Grinder	1	1950

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	**197**	**197**	**4**	**360**
Water Samples				
Plant samples				
Manure samples				
Others (specify)				
Total	**197**	**197**	**4**	**360**

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	**197**	**197**	**4**	**360**
Water Samples				
Plant samples				
Manure samples				
Others (specify)				
Total	**197**	**197**	**4**	**360**

10.I. Technology Week celebration

Period of observing Technology Week: From 27.1.2011 to 29.1.2011
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.)			Turmeric (Prabha) 1.5 Q Bush pepper : 1053 nos. Nutmeg graft: 5388 nos. HYV of Black Pepper: 16541
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		

C. Farmers-scientists interaction on livestock management

State	**Livestock components**	**Number of interactions**	**No.of participants**
Kerala	**Dairy management -Preservation of fodder crops**	**2**	**280**
	Pregnancy testing in cattle by using paddy seed in cattle		
Total			

D. Animal health camps organized

State	**Number of camps**	**No.of animals**	**No.of farmers**
Kerala	**2**	**62**	**91**
Total			

E. Seed distribution in drought hit states- NIL

State	Crops	Quantity (qtl)	Coverage of area (ha)	Number of farmers
Total				

F. Large scale adoption of resource conservation technologies - NIL

State	Crops/cultivars and gist of resource conservation technologies introduced	Area (ha)	Number of farmers
Total			

G. Awareness campaign -NIL

State	Meetings		Gosthies		Field days		Farmers fair		Exhibition		Film show	
	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers
Total												

PART XI. IMPACT

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

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

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

11.B. Cases of large scale adoption - NIL

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

PART XII – LINKAGES

12.A. Functional linkage with different organizations

KVK is maintaining functional linkages with All India Radio, the State Dept. of Agriculture, Dept. of Animal Husbandry, Dept. of Fisheries, Matsyafed, Agri-Horti Society, Calicut, Gramin Banks around KVK Voluntary organizations etc. to organise various training programmes and other extension activities like animal health camps, seminars and exhibitions.

Linkage with other organisations for information, technology etc.

Sl. No	Name of Organization	Nature of linkage
a.	Spices Board, Cochin	Information on technology of various aspects of vanilla cultivation, development scheme, marketing etc.
b.	Central Food Technological Research Institute, Mysore	Information on technology of food preservation
c.	Tropical Botanical Garden and Research Institute, Palode	Supply of rare species of medicinal plants
d.	Kerala Forest Research Institute, Trichur	Cultivation technology of rare species of bamboo and supply of planting materials
e.	University of Calicut	Identification of ornamental and medicinal plants
f.	Agency for Non –conventional Energy and Rural Technology, Trivandrum	Technology of smokeless chula and supply of solar light for demonstration purposes
g.	Directorate of Arecanut and Spices Development, Calicut	Information and technology aspects of arecanut
h.	SERIFED, Trivandrum	Information on sericulture, supply of mulberry and silkworm seed

i.	Centre for Water Resources Development and Management, Calicut	Technology of watershed management
j.	Coconut Development Board, Cochin	Technology of value addition in coconut products and information on coconut pest management.
k.	Rubber Board, Kottayam	Technology on cultivation aspects of rubber and disease management
l.	Kerala Livestock Development Board, Trivandrum	Training of KVK staff, supply of semen
m.	M.S. Swaminathan Research Foundation, Chennai	Information on medicinal plants, organic farming and training
n.	Indian Institute of Vegetable Research, Varanasi	Information on improved varieties of vegetables
o.	MANAGE, Hyderabad	Extension technology
p.	Indian Agricultural Research Institute, New Delhi	Zero Energy Cooling Chamber technology
q.	Regional Engineering College, Calicut	Landscape technology
r.	Trainers' Training Centre, Avinashalingam, Coimbatore	Skill development in photography
s.	Central Plantation Crops Research Institute	Technology on coconut, Arecanut
t.	ATMA	Conducting training programmes and demonstrations

Linkage with NGOs

The local NGOs such as Central for Overall Development, Thamarassery,; Nehru Yuva Kendra, Calicut; SEED, Perambra; Integrated Development Centre, Thamarassery; National Yuvak Co-operative Society, Calicut; Socio-Economic Unit, Calicut etc. actively involved in the activities of KVK. The activities with other organisations are given below:

Sl.No	Organisation	Nature of linkage
i.	National Board for Agriculture and Rural Development, Trivandrum	Funding of VVV Clubs formed by KVK
ii.	Local and Lead bank	Funding of kisan melas organised by KVK and extending loan to KVK beneficiaries
iii.	Indian Farmers Movement, Calicut	Sponsoring of KVK training programmes
iv.	Local Administration	Sponsoring of KVK training programmes, project consultancy, funding of KVK beneficiaries' projects
v.	Kerala Gandhi Smarak Grama Nirmana Kendra, Calicut	Sponsoring of KVK training programmes
vi.	All India Radio, Calicut	Participating in Farm radio programs, wide publicity to KVK training programmes
vii.	Calicut Agri-horti Society, Calicut	Arrangement of exhibitions
ix.	Fertilizers and Chemicals Travancore, Cochin	Sponsoring trainees
x.	Nehru Yuvak Kendra, Calicut	Sponsoring trainees
xi.	Youth clubs	Sponsoring trainees, organising animal camps

Linkages with line Departments

Sl.No	Organisation	Nature of linkage
a)	State Department of Agriculture	KVK conducts training programmes and seminars for department officials and participates in watershed development programme and inspects pepper nurseries of Department Farms. Department assists KVK in the selection of beneficiaries under FLD and OFT programmes, and in the implementation of various development schemes of KVK

b)	State Department of Animal Husbandry	Conducting training programme, animal health camps and campaign against disease outbreaks in animals, resource persons for KVK training programmes, supply of piglets and chicks of improved breeds
c)	Department of Fisheries	Conduct of training programmes, selection of KVK beneficiaries for fishery related activities, supply of fingerlings
d)	Kerala Livestock Development Board, Trivandrum	Supply of frozen semen for artificial insemination programme of the Kendra, supply of fodder seeds/ sets
e)	Farmers Training Centre, Calicut	Resource personnel from KVK for the training programmes
f)	MATSYAFED	Financial assistance to KVK beneficiaries
g)	Kerala Forest Department	Supply of planting materials of forest plants
h)	Kerala State Poultry Development Corporation, Trivandrum	Supply of improved breeds of poultry
i)	Farm Information Bureau	Organising farmers' seminars, kisan melas etc.
j)	Department of Industries, Govt. of Kerala	Organisation of vocational training programmes for handicapped youth.
k)	Community Polytechnic, Govt. Polytechnic College, Calicut	Organization of vocational training programmes for youth.
l)	State Horticulture Mission, Kerala	Funding fro training of Gardeners

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.)

NHM-Two day training of farmers in spice production technology	16.2.11	NHM	1.5 lakhs

12.C. Details of linkage with ATMA

a) Is ATMA implemented in your district Yes

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

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**		District level/block level meetings attended Selection of awardees under ATMA at District level	2 programmes 2 programmes	Collaborated to arrange 3 exposure visits of farmers & training.
01	**Meetings**	**12**	**12**		**10 managing committee and 2 governing body meeting**
02	**Research projects**				
03	**Training programmes**	1.On bush pepper production technology	**4**	**4**	
		2. Mushroom production technology			
		3. Vermicomposting technology			
		4.Rapid multiplication of Black Pepper			
		Includes both on-campus and off-campus trainings	5		
		8	**8**		**177 farmers attended**

04	**Demonstrations**	Bush pepper for Rs.25000/- through Krishi Bhavan, Perambra	**1**	**1**	Conducted method demonstration and campus training in addition to proposing the demonstration and supplying of bush pepper plants 125 nos.
05	**Extension Programmes**				
	Kisan Mela	**1**	**1**	**1**	
		8	**18**		**595 farmers attended**
	Technology Week				
	Exposure visit		**2**		
	Exhibition				
	Soil health camps				
	Animal Health Campaigns				
	Kisan Gosthies	Conducted in different blocks of the district	6	-	-
	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

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Constraints if any
1.	2 days training on spices production technology 2 batches	Financial sponsoring	1.5 lakhs	1.5 lakh	Nil

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			
November			
December			
January 2011			
February Activated	25	25	-
March	18	18	-

PART XIII- PERFORMANCE OF INFRASTRUCTURE IN KVK

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

Sl. No.	Demo Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	
1	Ornamental fish culture unit	20 10	0.064	Ornamental fishes	Guppy, platy, goldfish, gourami, angel fish	247	240	1470	

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

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Coconut	1976	20.2.10 25.4.10 23.6.10 20.8.10 21.10.10 24.12.10	0.3	WCT	Coconut	1527 Nos.	5075	7635	Base crop in homestead
Arecanut	1996	15.1.10 23.3.10 21.5.10 20.6.10	0.3	Mohit Nagar	Ripe nuts	200 kg	1600	2000	8th year of establishment. Due to Mahali disease yield was poor.
Spices	1994-2003		0.3	Nutmeg Viswasree	Scions.	-	-		Scion bank
Sapota	2002		1	Cricket ball	-	-	1900	-	5th year of establishment. Scion bank Used for Bush pepper production
Guava	2002		1	Allahabad Safeda	-	-	1300	-	
Medicinal plants unit	2001		0.2	Different medicinal plants	-	-	1400	-	
Black pepper	2001		0.2	Diff. HYV	-	-	2000	10000	

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

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1	Trichoderma	436 kg	6540	32,700	The bio control agents are produced on demand basis and the labour charge is not included as it was done by self.
2.	Pseudomonas	366 kg	5490	21,960	"

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

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	

13.E. Utilization of hostel facilities

Accommodation available (No. of beds)

Months	**No. of trainees stayed**	**Trainee days (days stayed)**	**Reason for short fall (if any)**
April 2010	-	-	
May 2010	1	2	
June 2010	30	7	
July 2010	26	4	
August 2010	43	4	
September 2010	41	5	
October 2010	2	2	
November 2010	23	1	

December 2010	87	6	
January 2011	2	2	
February 2011	42	2	
March 2011	27	5	

13.F. Database management

S. No	Database target	Database created
1	Inventory of agriculture, Kozhikode District	Yes
2	100 Progressive farmer details	Yes

13.G. Details on Rain Water Harvesting structure and micro-irrigation system- NIL

Amount sanction (Rs.)	Expenditure (Rs.)	Details of infrastructure created / micro irrigation system etc.	Activities conducted					Quantity of water harvested in '000 litres	Area irrigated / utilization pattern
			No. of Training programmes	No. of Demonstration s	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)		

PART XIV - FINANCIAL PERFORMANCE

14.A. Details of KVK Bank accounts

Bank account	Name of the bank	Location	Branch code	Account Name	Account Number	MICR Number	IFSC Number
With Host Institute	State Bank of India	Calicut			30302810771		
With KVK							

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

S. No	Items / Head	Opening balance if any	Remittance by ZPD VIII Bangalore	Actual expenditure dubitable to Council A/C	Closing balance if any	Remarks
1	**Production Technology – 50 ha**					
	a. Essential inputs					
	b. POL, hiring vehicle, Kisan melas, printed materials, reports, demonstration boards					
	Total					
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**	60.00	60.00	53.05
2	**Traveling allowances**	1.00	1.00	0.98
3	**Contingencies**			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	2.57	2.57	2.56
B	POL, repair of vehicles, tractor and equipments	2.00	2.00	1.9
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	1.00	1.00	0.99
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	0.23	0.23	0.22
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	1.55	1.55	1.54
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	0.74	0.74	0.73
G	Training of extension functionaries	0.24	0.24	0.19
H	Maintenance of buildings	0.17	0.17	0.16
I	Extension activities	0.26	0.26	0.24
J	Library	0.05	0.05	0.04
K	Farmers' field school	0.19	0.19	0.18
	Total contingencies	**9.00**	**9.00**	**8.90**
	Recurring total (A)	**70.00**	**70.00**	**62.96**
B. Non-Recurring Contingencies				

1	**Works**			
2	**Equipments & Furniture**			
	(i) Digital Camera	0.25	0.25	0.22
	(ii)Power Tiller	1.50	1.50	0
	(iii)Xerox machine	0.75	0.75	0.60
	(iv)EPABX	0.50	0.50	0.00
3	**Library** (Purchase of assets like books & journals)	0.10	0.10	0.09
TOTAL (B)		3.10	3.10	0.91
C. REVOLVING FUND		0	0	0
GRAND TOTAL (A+B+C)		**73.10**	**73.10**	**63.88**

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

Year	Opening balance as on 1st April	Income during the year	Expenditure during the year	Net balance in hand as on 1st April of each year
April 2008 to March 2009	1.39	5.00	4.19	2.20
April 2009 to March 2010	2.00	4.56	5.76	0.80
April 2010 to March 2011	0.80	9.76	9.06	1.50

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

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
K.M . Prakash	Subject Matter Specialist	Precision Farming	Precision farming Development Centre, Tavanore, KAU.	2.2.2011 to 3.2.2011

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

Farmer's Field School

A Farmers' Field School on "Integrated Pest Management in Vegetables" was conducted at Thalakkulathur of Calicut district, which is a vegetable growing tract of the district. Training classes and demonstrations were conducted on integrated pest management aspects and inputs were distributed for 15 beneficiaries for effective pest management in vegetable crops like bitter gourd, snake gourd, ridge gourd, cow pea, ash gourd and amaranthus. Sprayers, pheromone traps (fruit fly traps), IPM Kit, materials for preparation of tobacco decoction, eco friendly pesticides like Nimbicidine, Sevin, Malathion etc. were distributed to the beneficiaries and the amount allocated under FFS has been utilized effectively.

SUMMARY FOR 2010-11

I. TECHNOLOGY ASSESSMENT

Summary of technologies assessed under various crops

Thematic areas	Crop	Name of the technology assessed	No. of trials
Integrated Nutrient Management			
Varietal Evaluation			
Integrated Pest Management			
Integrated Crop Management	Mango	Induction of flowering in mango through paclobutrazol application combined with INM and IPM	10
Integrated Disease Management			
Small Scale Income Generation Enterprises			
Weed Management			
Resource Conservation Technology			
Farm Machineries			
Integrated Farming System	Coconut	Performance evaluation of mixed cropping of *Viswasree* nutmeg grafts in irrigated coconut garden	5
Seed / Plant production			

Value addition	Black pepper	Assessment of Bacterial fermentation technique for production of white pepper	5
Drudgery Reduction			
Storage Technique			
Others (Pl. specify)			
Total			**20**

Summary of technologies assessed under livestock

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials
Disease Management			
Evaluation of Breeds			
Feed and Fodder management			
Nutrition Management			
Production and Management			
Breeding management	Dairy	Fertility in anoeastrus cows following CIDR treatment	25
Breeding management	Dairy	GnRH treatment and double AI for management of repeat breeding cows	25
Pregnancy diagnosis in cows	Dairy	Bioseed assay for pregnancy testing in dairy animals	25
Total			**75**

Summary of technologies assessed under various enterprises

Thematic areas	Enterprise	Name of the technology assessed	No. of trials
Culture of ornamental fishes using live feed.	ornamental fish culture	Culture of ornamental fishes using live feed.	3

Culture of ornamental fishes using live feed.	**Freshwater fish culture**	Culture of fish using low cost feed	2
		Total	5

Summary of technologies assessed under home science

Thematic areas	Enterprise	Name of the technology assessed	No. of trials
Value addition	Nutmeg	Value addition and product diversification of nutmeg pericarp	4
		Total	4

II. TECHNOLOGY REFINEMENT - NIL

Summary of technologies refined under various crops

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

Others (Pl. specify)			
Total			

Summary of technologies assessed under refinement of various livestock

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

Summary of technologies refined under various enterprises

Thematic areas	Enterprise	Name of the technology assessed	No. of trials

Summary of technologies refined under home science

Thematic areas	Enterprise	Name of the technology assessed	No. of trials

III. FRONTLINE DEMONSTRATION

Cotton

Frontline demonstration on cotton: NIL

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

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST

Other crops

Crop	Thematic area	Name of the technology demonstrated	No. of KVKs	No. of Farmer	Area (ha)	Yield (q/ha)		% change in yield	Other parameters		*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
						Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Cereals																		
Millets																		
Oilseeds																		

Pulses																		
Vegetables																		
Flowers																		
Ornamental																		
Fruit																		
Spices and condiments																		
Black pepper	Disease management of spices	**Integrated Disease Management of *Phytophthora* Foot Rot of Black Pepper**	-	10	0.22	2 1.02	5.09	312.96	Disease inciden86ce-35%	Disease incidence-65%	1,18,349	1,49,210	30,861	1.26	32,800	36,120	3320	1.10
Turmeric		Seed production of HYVs	-	-	0.05	186	88	66.82	186	104	1.6 lakhs	4.69 lakh	3 lakhs	2.93	1.1 lakh	2.81 lakhs	1.71 lakhs	2.55
Commercial																		
Medicinal and aromatic																		

Fodder																		
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

Livestock

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
Dairy	Breeding management in cows	Popularization of hormone treatment for fertility management in cows		75	75	Oestrus response (100%) Conception rate (62%)	38% 42%	163% 47%	-	-	1200	12000	11400	(10%)	460	7140	6680	15:5
Breeding management in goats	Popularization of hormone treatment for fertility management in goats	60		60	Oeastrus response (98%) Conception rate (51%)	33% 39%	196% 31%				450	5600	5150	12:4	220	2800	2580	12:7
Breeding management	Post AI administration of sterile ceftriaxone sodium on conception rate in milch cows	100		100	Conception rate (78%)	56%	39%	-	-		850	11000	10150	12:9	340	9500	9160	3:1
Poultry																		

Rabbitry																		
Pigerry																		
Sheep and goat																		
Duckery																		
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)																		
Others (pl.specify)	Fresh water fish culture	Popularisation of *Pangassius* for freshwater aquaculture		5	5	Yield Survival rate	Yield Survival rate	37.5 % increase in yield Survival rate same	No disease outbreak	Mortality due to low dissolved oxygen	11200	16000	4800	1.43	2200	2880	680	1.3
	Induced breeding of fresh water fishes	Induced breeding of freshwater fishes using GnR hormones		10	10	Spawning success and survival rate	Nil											
	Total			**15**	**15**													

* 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 -NIL

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: NIL

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 : NIL

Name of the implement	Crop	Name of the technology demonstrated	No. of KVKs	No. of Farmer	Area (ha)	Filed observation (output/man hour)		% change in major parameter	Labor reduction (man days)				Cost reduction (Rs./ha or Rs./Unit ect.)			
						Demonstration	Check									

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST

Other enterprises

Demonstration details on crop hybrids - NIL

Crop	Name of the Hybrid	No. of farmers	Area (ha)	Yield (kg/ha) / major parameter			Economics (Rs./ha)			
				Demonst-ration	Local check	% change	Gross Cost	Gross Return	Net Return	BCR
Cereals										
Bajra										
Maize										
Rice										
Sorghum										
Wheat										
Others (pl.specify)										
Total										
Oilseeds										
Castor										

Mustard										
Safflower										
Sesame										
Sunflower										
Groundnut										
Soybean										
Others (pl.specify)										
Total										
Pulses										
Greengram										
Blackgram										
Bengalgram										
Redgram										
Others (pl.specify)										
Total										
Vegetable crops										
Bottle gourd										
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										
Maize (Fodder)										
Sorghum (Fodder)										
Others (pl.specify)										
Total										

IV. Training Programme

Farmers' Training including sponsored training programmes (On campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Weed Management										
Resource Conservation Technologies	6	103	59	162	6	11	17	109	70	179
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/Irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil and Water Conservation										
Integrated Nutrient Management										
Production of organic inputs										
Others (pl.specify)										
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										

Grading and standardization										
Protective cultivation										
Nutrition garden	1	2	4	6			-	2	4	6
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Induction of flowering in mango	1	10		10				10		10
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl.specify)										
d) Plantation crops										
Production and Management technology	1	32	4	36	2	-	2	34	4	38
Processing and value addition										
Others (pl.specify)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										

f) Spices										
Production and Management technology	11	183	139	322	16	8	24	199	147	346
Processing and value addition										
Others (pl.specify)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl.specify)										
Soil Health and Fertility Management										
Soil fertility management	1	21	29	50	4	3	7	25	32	57
Integrated water management										
Integrated nutrient management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient use efficiency										
Balanced use of fertilizers										
Soil and water testing										
Others (pl.specify)										
Livestock Production and Management										
Dairy Management	4	37	92	129	2	8	10	39	100	139
Poultry Management	3	42	56	98	7	7	14	49	63	112
Goatary management	5	110	45	155	19	36	55	129	81	210
Rabbit Management										
Animal Nutrition Management	2	79	58	137	13	17	30	92	75	167
Animal Disease Management	3	21	48	69	4	3	7	25	51	76

Feed and Fodder technology	4	89	41	130	8	12	20	97	53	150
Production of quality animal products										
Others (pl.specify)										
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Women empowerment										
Location specific drudgery production										
Rural Crafts										
Women and child care										
Designing and development for high nutrient efficiency diet	4	23	64	87	8	1	9	31	65	96
Minimization of nutrient loss in processing										
Processing and cooking	1	18	19	37	-	-	-	18	19	37
Gender mainstreaming through SHGs										
Storage loss minimization techniques	8	18	88	106		15	15	18	103	121
Value addition										
Women empowerment	3	-	35	35	-	14	14	-	49	49
Others (pl.specify)										

Agril. Engineering										
Farm machinery and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl.specify)										
Plant Protection										
Integrated Pest Management	3	43	94	137	6	16	22	49	110	159
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl.specify)										
Integrated Disease Management in Black Pepper	1	7	12	19	-	-	-	7	12	19
Integrated Pest and Disease Management in Ginger and Turmeric	1	11	1	12	3	-	3	14	1	15
Integrated Pest and Disease Management in Banana	2	31	10	41	2	2	4	33	12	45
Integrated Pest and Disease Management in Coconut	1	28	6	34	3	-	3	31	6	37
Integrated Pest and Disease Management in Black Pepper and Nut meg	1	33	70	103	4	9	13	37	79	116
Application of bio control agents in black pepper nursery	1	26	68	94	4	10	14	30	78	108

Plant protection aspects of ginger and turmeric (seed treatment)	1	11	82	93	3	14	17	14	96	110
Apiculture	1	28	9	37	-	-	-	28	9	37
Others (pl.specify)										
Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture	1	7	2	9	0	0	0	7	2	9
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl.specify)										
Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										

Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production										
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development										
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	**71**	**1013**	**1135**	**2148**	**114**	**186**	**300**	**1127**	**1321**	**2448**

Farmers' Training including sponsored training programmes (Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Weed Management	1	26	-	26	2	-	2	28	-	28
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/Irrigation										
Seed production										
Nursery management										
Integrated Crop Management	1	27	8	35	1	-	1	28	8	36
Soil and Water Conservation										
Integrated Nutrient Management										
Production of organic inputs										
Others (pl.specify)										
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										

Others (pl.specify)										
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl.specify)										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl.specify)										
d) Plantation crops										
Production and Management technology	2	76	26	102	7	3	10	83	29	112
Processing and value addition										
Others (pl.specify)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
f) Spices										
Production and Management technology	2	84	54	138	4	6	10	88	60	148

Processing and value addition	1	7	-	7				7		7
Others (pl.specify)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl.specify)										
Soil Health and Fertility Management										
Soil fertility management	3	49	11	60	-	1	1	49	12	61
Integrated water management										
Integrated nutrient management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient use efficiency										
Balanced use of fertilizers										
Soil and water testing										
Others (pl.specify)										
Livestock Production and Management										
Dairy Management	4	127	68	195	29	22	51	156	90	246
Poultry Management	2	16	52	68	4	9	13	20	61	81
Goatary Management	2	74	46	120	17	9	26	91	55	146
Rabbit Management										
Animal Nutrition Management	2	77	39	116	14	21	35	91	60	151
Animal Disease Management	3	135	46	181	21	25	46	156	71	227
Feed and Fodder technology	3	121	53	174	17	25	42	138	78	216
Breeding management	3	80	36	116	18	10	28	98	46	144

Pregnancy testing	4	95	36	131	16	13	29	111	49	160
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Women empowerment	1	-	29	29	-	4	4	-	33	33
Location specific drudgery production										
Rural Crafts										
Women and child care										
Others (pl.specify)										
Agril. Engineering										
Farm machinery and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl.specify)										

Plant Protection										
Integrated Pest Management										
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl.specify)										
Integrated Management of fruit fly in bitter gourd	1	29	-	29	3	-	3	32	-	32
Integrated Pest Management in Vegetables	1	15	-	15	2	-	2	17	-	17
Integrated Pest and Disease Management in Vegetables	1	38	19	57	3	2	5	41	21	62
Plant Protection aspects of spices	1	68	28	96	3	5	8	71	33	104
Use of pheromone traps in bitter gourd	1	11	4	15	-	-	-	11	4	15
Botanicals as component of IPM in vegetables	1	11	4	15	-	-	-	11	4	15
Others (pl.specify)										
Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture	2	34	16	50	2	0	2	36	16	52
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes	3	16	65	81	0	0	0	16	65	81
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										

Fish processing and value addition										
Others (pl.specify)Mussel Culture	2	0	79	79	0	6	6	0	85	85

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										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production										
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development										
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	**47**	**1216**	**719**	**1935**	**163**	**161**	**324**	**1279**	**880**	**2159**

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

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production	3	31	12	43	-	1	1	31	13	44
Vermi-culture	1	21	10	31	3	-	3	24	10	34
Mushroom Production	1	-	27	27	-	4	4	-	31	31
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements	2	20	28	48	3	-	3	23	28	51
Value addition										

Small scale processing	01	2	10	12	-	-	-	2	10	12
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts	4	7	74	81	-	-	-	7	74	81
Production of quality animal products										
Dairying	2	22	11	33	2	35	37	24	46	70
Sheep and goat rearing	3	30	14	44	5	2	7	35	16	51
Quail farming										
Piggery										
Rabbit farming										
Poultry production	1	-	9	9	-	2	2	-	11	11
Ornamental fisheries	5	53	69	122	3	0	3	56	69	125
Composite fish culture	1	12	0	12	0	0	0	12	0	12
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology	1	0	19	19	0	0	0	0	19	19
Fry and fingerling rearing										
Any other - Use of weed cutter	1	19	5	24	-	3	3	19	8	27
Integrated Pest and Disease Management in Banana and Coconut	1	21	10	31	1	2	3	22	12	34
Apiculture	1	23	7	30	3	2	5	26	9	35
Anthurium cultivation	1	4	8	12				4	8	12
Pineapple cultivation	1	7	1	8				7	1	8
TOTAL	**30**	**272**	**305**	**577**	**20**	**51**	**71**	**292**	**365**	**657**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming	1	46	18	64	2	1	3	48	19	67
Seed production										
Production of organic inputs										
Planting material production	1	10	4	14	-	-	-	10	4	14
Vermi-culture	1	28	34	62	8	2	10	36	36	72
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition	3		37	37				-	37	37
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts	1		30	30					30	30
Production of quality animal products										
Dairying	1	4	2	6	-	34	34	4	36	40
Sheep and goat rearing										
Quail farming										

Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries	5	66	54	120	0	5	5	66	59	125
Composite fish culture										
Freshwater prawn culture										
Induced breeding	1	7	1	8	0	0	0	7	1	8
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other –Soil sample collection for analysis	1	20	3	23	-	-	-	23	-	23
Plant Protection in Nutrition Garden	1	31	21	52	5	6	11	36	27	63
TOTAL	**16**	**212**	**204**	**416**	**15**	**48**	**63**	**230**	**249**	**479**

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	1	3	17	20	-	1	1	3	18	21
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals	2	58	11	69	4	1	5	62	12	74
Livestock feed and fodder production										
Household food security										
Any other –Mushroom spawn production .,	1	-	1	1	-	-	-	-	1	1
Any other (pl.specify) Ornamental fish culture	1	4	12	16	0	0	0	4	12	16
Composite fish culture	2	26	22	48	1	3	4	27	25	52
Total	**7**	**91**	**63**	**154**	**5**	**5**	**10**	**96**	**68**	**164**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management	1	3	17	20	-	1	1	3	18	21
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify)										
Total	**1**	**3**	**17**	**20**	**-**	**1**	**1**	**3**	**18**	**21**

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										
1.b.	Commercial production of vegetables										
2	**Production and value addition**										
2.a.	Fruit Plants										
2.b.	Ornamental plants										
2.c.	Spices crops	2	94	102	196	12	7	19	106	109	215
3.	**Soil health and fertility management**										
4	**Production of Inputs at site**										
5	**Methods of protective cultivation**										
6	**Others (pl.specify) Plant Protection**	11	217	360	577	22	54	76	239	414	653
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	4	-	86	86	-	100	100	1	193	194

11.c.	Drudgery reduction of women	1	3	1	4	2	3	5	4	5	9
11.d.	Others (pl.specify)	1	-	13	13	-	5	5	-	18	18
12	**Agricultural Extension**										
12.a.	Capacity Building and Group Dynamics										
12.b.	Others (pl.specify)										
	Others (pl.specify) Ornamental fish culture	7	89	86	175	0	2	2	89	88	177
	Mussel culture	2	0	79	79	0	6	6	0	85	85
	Composite fish culture	1	19	6	25	2	0	2	21	6	27
	Total	**29**	**422**	**733**	**1155**	**38**	**177**	**215**	**460**	**918**	**1378**

Details of sponsoring agencies involved

1. NHM, ATMA
2.CWRDM

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										
1.e.	Organic farming										
1.f.	Others Plant protection and propagation skills	1	15	38	53	3	6	9	18	44	62
	Plant Protection	1	15	38	53	4	2	6	19	40	59
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										
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	1	14	33	47	-	20	20	14	53	67
4.e.	Seed production										
4.f.	Sericulture										
4.g.	Mushroom cultivation										

4.h.	Nursery, grafting etc.										
4.i.	Tailoring, stitching, embroidery, dying etc.	2	-	30	30	-	6	6	-	36	36
4.j.	Agril. para-workers, para-vet training										
4.k.	Others (pl.specify)										
5	**Agricultural Extension**										
5.a.	Capacity building and group dynamics										
5.b.	Others (pl.specify)										
	Grand Total	**5**	**44**	**139**	**183**	**7**	**34**	**41**	**51**	**173**	**224**

V. Extension Programmes

Activities	No. of Programmes	No. of farmers	No. of Extension Personnel	TOTAL
Field Day	29	459	39	498
Kisan Mela	1	1949	56	2005
Kisan Ghosthi	19	1283	54	1337
Exhibition	9	2178	57	2235
Film Show	28	793	97	890
Method Demonstrations	38	941	115	1056
Farmers Seminar	10	541	80	621
Workshop	2	104	0	104
Group meetings	7	140	1	141
Lectures delivered as resource persons	5	555	19	574
Newspaper coverage	2	1600	0	1600
Radio talks	6	940	0	940
TV talks	1	0	0	0
Popular articles	1	0	0	0
Extension Literature	3	1500	0	1500
Advisory Services	848	900	0	900
Scientific visit to farmers field	98	191	2	193
Farmers visit to KVK	1192	1192	0	1192
Diagnostic visits	25	43	4	47
Exposure visits	9	288	0	288
Ex-trainees Sammelan		0	0	0
Soil health Camp		0	0	0
Animal Health Camp	2	87	4	91
Agri mobile clinic		0	0	0
Soil test campaigns	20	467	0	467
Farm Science Club Conveners meet	2	83	3	86
Self Help Group Conveners meetings	3	75	0	75
Mahila Mandals Conveners meetings		0	0	0
Celebration of important days –Farmers' day	1	36	5	41

Any Other –Seed day for ginger & turmeric	1	24	24	48
Gosuraksha camp	2	76	0	76
Block ksheerotsavam	2	332	15	347
Artificial insemination	Cow 189 Goats 96	0	0	0
Vaccination	IBD-11880 chicks RDVK-11750	0	0	0
Helpline	1037	0	0	0
E-mail	76	0	0	0
Total		**16777**	**575**	**17352**

Details of other extension programmes

Particulars	**Number**
Electronic Media	
Extension Literature	200
News Letter	
News paper coverage	
Technical Articles District contingent plan	3 copies
Technical Bulletins Walking with farmers ITK document	6 copies
Technical Reports	
Radio Talks –Interview on soft rot management of ginger & bush pepper cultivation techniques	2
TV Talks KVK activities for farmers	1
Animal health amps (Number of animals treated)	
Others (pl.specify)	
Radio Talks	**2**
Farmers' Field School	**1**
Total	

V. Extension Programmes (Animal sciences)

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	671	675	14	1360
Diagnostic visits	6	16	-	22
Field Day	12	246	6	264
Group discussions	3	67	-	70
Kisan Ghosthi	1	125	7	133
Film Show				
Self -help groups	3	75	-	78
Kisan Mela				
Exhibition				
Scientists' visit to farmers field	6	99	2	107
Plant/animal health camps	2	87	4	93
Farm Science Club				
Ex-trainees Sammelan				
Farmers' seminar/workshop	4	303	26	333
Method Demonstrations	4	58	4	66
Celebration of important days				
Special day celebration (seed day for ginger & turmeric)				
Exposure visits	2	93	0	95
Others (pl.specify)				
Total				

Details of other extension programmes

Particulars	Number
Electronic Media	
Extension Literature	1
News Letter	1
News paper coverage	1
Technical Articles District contingent plan	
Technical Bulletins Walking with farmers ITK document	

Technical Reports	
Radio Talks –	1
TV Talks	1
Animal health amps (Number of animals treated)	91
Gosuraksha camp	76
Ksheerothsavam	332
Artificial insemination with frozen semen Cow-189, Goat-94	285
Vaccination	
IBD-11880 chicks RDVK-11750 chicks	23630
Helpline	1037
E-mail	76

VI. PRODUCTION OF SEED/PLANTING MATERIAL- NIL

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	**Mangosteen seedling**		27	1620	16
	Lovi-lovi seedling		36	720	21
	Indian gooseberry graft		22	880	11
	Passion fruit		25	500	9
	Kilo pera		46	1380	20
	Mango graft	Alphonsa, Kalappady, Priyoor, Sindhu	1225	55125	123
	Rambutan seedling		768	15360	45
	Rose apple seedling		90	1350	22
	Jack graft		17	1020	5
	Sapota graft		35	1750	21
	***Annona* seedling**		63	945	26
Ornamental plants	**Misc. ornamental palms**		40	400	21
	Other ornamental tree seedlings		17	255	7
	Croton		130	1300	57
Medicinal and Aromatic					
Plantation	**Arecanut seedling**	**Mohithnagar**	1300	13000	17
Spices	**Bush pepper**	**Karimunda**	1053	26325	234
Tuber					
Fodder crop saplings					
Forest Species	**Neem seedlings**		80	1200	
Total				**124750**	

Production of Bio-Products

Bio Products	Name of the bio-products	Quantity Kg	Value (Rs.)	No. of Farmers
Bio Fertilizers				
Bio-pesticide				
Bio-fungicide	***Trichoderma***	**436 kg**	**32700**	32
Bio Agents	***Pseudomonas***	**366 kg**	**21960**	24
Others	**Vermicompost**	**1450 kg**	**14500**	89
	FYM	**1140 cft**	**22820**	Supplied to host institute
Total			**91980**	

Production of livestock and related enterprise materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers
Dairy animals				
Cows	Sunandini	5	48650	5
Goats	Malabari	11	16520	9
Calves				
Others (Pl. specify)				
Poultry				
Broilers	Suguna & Vencob	2255 kgs	157810	451
Layers	Gramasree	7087 nos.	448855	1417
Duals (broiler and layer)				
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				
Piggery				
Piglet				
Others (Pl.specify)				
Fisheries				
Fingerlings				
Others (Pl. specify) Ornamental fishes	Guppy, platy, goldfish, gourami, angel fish	247	1470	15
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	**197**	**197**	**4**	**360.00**
Water				

Plant				
Manure	**197**	**197**	**4**	**360.00**
Others (pl.specify)				
Total	**197**	**197**	**4**	**360**

VIII. SCIENTIFIC ADVISORY COMMITTEE

Number of SACs conducted -1 (25-06-2010)

IX. NEWSLETTER

Number of issues of newsletter published : NIL

X. RESEARCH PAPER PUBLISHED

Number of research paper published : NIL

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

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

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