Annual Report 2014-15





ICAR - Krishi Vigyan Kendra
(ICAR-Indian Institute of Spices Research)
Peruvannamuzhi Post, Kozhikode - 673528, Kerala

ANNUAL REPORT 2014-15

(FOR THE PERIOD FROM APRIL 2014 TO MARCH 2015)

ICAR - KRISHI VIGYAN KENDRA (KOZHIKODE)

PART I - GENERAL INFORMATION ABOUT THE KVK

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

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

Address	Telephone		E mail	Web Address
	Office	Fax		
ICAR-Indian Institute of Spices Research, Post Bag No.1701, Marikunnu (P.O.) Kozhikode-673 012, Kerala.	0495-2731410	0091-495-2731187	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.S.Manoj (Programme Coordinator i/c)	0496-2249099	9447565549	manoj@spices.res.in

1.4. Year of sanction: 1992

1.5. Staff Position (as 31st March 2014)

Sl.No.	Sanctioned post	Name of the incumbent	Designation	M/F	Discipline	Highest Qn. (for PC, SMS and Prog. Asst.)	Pay scale	Basic Pay	Date of joining KVK	Per. / Temp.	Category (SC/ST/ Others)
1.	Programme Coordinator *	**Vacant**	-	-	-	-	-	-	-	-	-
2.	Subject Matter Specialist	P.S. Manoj	Subject Matter Specialist	M	Horticulture	Ph.D in Horticulture	15600-39100 +7600	39680	30.5.94	Per.	OBC
3.	Subject Matter Specialist	K.M. Prakash	Subject Matter Specialist	M	Agronomy	PG in Agrl. Science	15600-39100 +7600	36160	10.12.96	Per.	Others
4.	Subject Matter Specialist	S. Shanmugavel	Subject Matter Specialist	M	Animal Husbandry	PG in Vet. Science	15600-39100 +7600	38380	3.8.95	Per.	SC
5	Subject Matter Specialist	A. Deepthi	Subject Matter Specialist	F	Home Science	PG in Home Science	15600-39100+ 5400	22280	08/03/2010	Per.	SC
6	Subject Matter Specialist	B. Pradeep	Subject Matter Specialist	M	Fisheries	Ph.D in Fisheries	15600-39100+ 5400	22280	30/03/2010	Per.	Others
7	Subject Matter Specialist	Aiswariya K.K.	Subject Matter Specialist	F	Plant Protection	Ph.D in Agrl. Science	15600-39100+ 5400	22280	26.4.2010	Per.	OBC
8.	Programme Assistant (Lab Technician)	Mariya Dainy M S	Programme Assistant	F	-	PG in Agrl Science	9300-34800+ 4200	13500	30.6.2014	Per.	OBC
9	Programme Assistant (Computer)	C.K. Jayakumar	Programme Assistant	M	-	P G in Computer Science	5200-20200+2800	12060	01/02/2010	Per.	Others
10	Farm Manager	**Vacant**	Programme Assistant	-	-	-	-	-	-	-	-
11	Accountant/ Superintendent (Assistant)	**Vacant**	Accountant/ Superintendent (Assistant)	-	-	-	-	-	-	-	-
12	Stenographer Gr.III	K. Faisal	Stenographer Gr.III	M	-	-	9300-34800+4200	18000	1.4.02	Per.	OBC
13	Driver-cum-Mechanic	T.C. Prasad	Driver-cum-Mechanic	M	-	-	5200-20200+2800	16030	17.5.93	Per.	Others
14	Driver	P. Prakash	Driver	M	-	-	5200-20200+2800	11400	27.6.02	Per.	Others
15	Skilled Supporting staff	C.V. Ravindran	Skilled Supporting staff	M	-	-	4440-7440 +1400	10570	1.7.93	Per.	SC
16	Skilled Supporting staff	C. Ravindran	Skilled Supporting staff	M	-	-	4440-7440 +1400	10100	10.11.94	Per.	SC

* Dr.P.S.Manoj is holding charge of Programme Coordinator w.e.f 20.7.2013

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

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

SL. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs. in lakhs)	Starting Date	Plinth area (Sq.m)	Status of construction
1	Administrative Building	ICAR	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	(Old Animal Clinic) –Mushroom unit *	ICAR SHM	16.1.96 (7.3.09)	358.31 358.31	1.00 0.84	-	-	-
7	Poultry	ICAR	20.9.03	43.8	0.84	-	-	-
8	Dairy	ICAR	25.10.06	39.32	1.83	-	-	-
9	Vermiculture	ICAR	3.1.08	9.00	0.11	-	-	-
10	Rainwater harvesting system	ICAR	21.09.2013	2000m^3	9.62	-	-	-
11	Nursery with shed and fencing	ICAR	16.1.96	500.0	0.50	-	-	-
12	Shade house-Anthurium	ICAR	25.3.09	144.0	1.21	-	-	-
13	Goatary	ICAR	31.3.09	64.0	2.78	-	-	-
14	Training shed	SHM	25.11.08	90.0	2.69	-	-	-
15	Temporary vehicle shelter	ICAR	18.6.04	35.0	0.48	-	-	-
16	Water tank	ICAR	2.2.99	10,000	0.22	-	-	-
17	Pond with pump, storage tank etc.	ICAR	31.3.08	195	8.44	-	-	-
18.	Bore well	ICAR	2013	90 m depth	0.25		-	-
19	Hatchery shed	ICAR	2014	680	2.00	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Motor cycle Suzuki	2009	49,980	24438	Good
Mini bus DCM Toyota	1995	5,22,670	179888	Working with high maintenance cost
TATA Sumo Jeep	2004	4,98,642	182879	Not working
Power Tiller	2012	1,50,000	-	Good

C) Equipments & AV aids

Nature of the equipment	Year of purchase	Cost (Rs.)	Present Status
TV	1996	25800	Not working
VCP	1996	10850	Not working
Mixie	1996	2150	Working
Juicer	1996	1505	"
Kettle	1996	1375	"

Sewing machine (2 nos.)	1996	4800	"
1.5 HP pump	1997	8100	"
Grafting machine	1998	4950	Not working
Water purifier	1999	2745	"
Computer with accessories	2001	28,400	"
Computer with accessories	2001	44,700	Upgraded in 2003
UPS (1 KVA)	2002	17250	Good
7.5 KVA Generator	2003	56,950	Good
Computer with accessories	2003	61,175	"
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	"
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	"
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	"
Air conditioner 2 ton	2011	34000	"
Stabilizer 5 KVA	2011	2900	"
Computer – 2 nos.	2012	65000	"
Power Tiller	2012	150000	"
PABX system	2012	50000	"
Double distillation unit	2012	63250	"
Electronic balance	2012	6800	"
Horizontal autoclave	2012	278615	"
BOD Incubator	2012	62790	"
Motorized Sieve	2012	44737	"
Laminar air flow	2012	45070	"
Inkjet printer	2012	8,900	"
Water treatment plant	2013	59800	"
3KVA UPS	2013	27000	"
laptop	2013	54530	"

1.8. Details SAC meeting conducted in 2014-15

Sl.No.	Date	Number of Participants	No. of absentees	Salient Recommendations	Action taken
1.	19.11.2014	33	8	Titles of the training programmes should be very simple and catchy, to attract more farmers for attending trainings.	The titles are being modified to attract more farmers for the training programmes.
				Fifty percent of animals in KVK	Desi breeds will be procured once

				dairy demonstration units should be of Desi breeds and more emphasis to be given for these breeds. A comparative study of the performance of desi as well as improved breeds may be carried out. A research project to study the specialities of Vechur and other local breeds of cows may be proposed.	the status of KVK RF improves.
				The possibility of organizing paid training programmes in KVK may be explored. To begin with atleast one paid course may be started in each discipline.	One paid course has been identified in each discipline. The training programmes will be initiated during 2015 -16.
				Feedback received after the completion of FLD and OFT programmes is to be reported to Universities/Institutes concerned to fine tune the technologies	This is being followed.
				Various technological inputs for farmers may be sold through sales counter of ATIC at Kozhikode	This is being followed.
				Efforts may be initiated to register more farmers for Kisan Mobile Advisory Service by giving wide publicity through print and electronic media.	Wide publicity is being given through offices of Agricultural department and also during training programmes/ seminars/ exhibitions to encourage more farmers for the KMAS.
				This year being the year of family farming, organic vegetable cultivation may be promoted in homestead and through self help groups (SHGs).	A total of four training programmes on organic vegetable cultivation were organized during 2014-15 benefitting 197 farmers.
				Indigenous technologies of the locality may be refined and promising technologies may be popularized through training programmes.	An ITK to treat udder oedema of dairy cattle was refined by KVK and the new method is now widely practised by farmers.
				The possibility of starting a mobile soil testing lab cum mobile sales unit may be explored by channelizing resources from RKVY	This will be taken up during 2015-16
				SMS (Animal Science) may organize a workshop inviting the SMS (AS) of the adjoining KVKs of the State (5-6), Line Department Officials and farmers about the ethno-veterinary practices being carried out in KVK	Due to lack of funds, this could not be taken up during last year. The programme will be organized during 2015-16
				The possibility of commercializing different animal feeds and indigenous medicines refined by KVK may be explored. This should be taken up after ensuring that there are no side effects for these products	This will be taken up after further study to rule out any possible side effects.
				SMS (Home Science) may visit KVK, Goa to conduct diversified activities under Home Science discipline	The visit is proposed during the next harvesting season of nutmeg at Goa.
				Link between KVK and AIR should be strengthened to disseminate latest	A meeting was convened on 12.5.2015 to finalize the

				technologies to farmers in a timely manner. A regular time slot can be provided to KVK, Kozhikode, Malappuram and Wynadu to broadcast KVK activities, success stories, recent technologies, training schedule etc. through AIR. Director of Extension may convene a joint meeting of these three KVKs along with AIR officials to finalize the programme	programmes that can be taken up by all the three KVKs. The first programme with KVK support started on 3.6.2015
				More training programmes under animal science, fisheries and plant protection may be organized at Harithavidya.	This is being followed.
				Most of the arecanut palms of Thamarassery area are affected by Yellow Leaf Disease (YLD). Efforts may be taken to conduct a field visit involving CPCRI scientists to the affected areas to suggest suitable remedial measures.	CPCRI scientists have visited the plots on 13.3.2015 and remedial measures were suggested.

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)	This region extends over the Malabar and Konkan coasts and the Sahyadris and is covered by laterite and coastal alluvials. This is a humid region with annual rainfall above 200 cm and average temperatures of 26°C-32°C in July and 19°C-28°C in January. Rice, coconut, oilseeds, sugarcane, millets, pulses and cotton are the main crops. The region is also famous for plantation crops and spices which are raised along the hill slopes of the Ghats.
(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 (Tonnes)	Productivity (kg/ha)
1.	Coconut	124819	852 million nuts	6672 nos/ha
2.	Palmyra	149	NA	NA
3.	Rubber	21425	30800	NA
4.	Arecanut	10247	11177	1069
5.	Cocoa	630	386	586
6.	Cashew	2179	NA	305
7.	Paddy	3511	6575	1464
8.	Pulses	33	13	NA
9.	Jack	10011	20 million nuts	1913
10.	Mango	8262	27776	NA
11.	Banana	1700	12477	8139
12.	Pineapple	144	1042	NA
13	Papaya	1764	7001	NA
14.	Other fresh fruits	532		NA
15.	Tapioca	1824	40117	21732
16	Elephant foot yam	220	NA	NA
17	Colocasia	447	NA	NA
18	Yam	28	NA	NA
19	Sweet potato	14	2250	NA
20	Other tubers	61	NA	NA
21.	Drumstick	1440	427	NA
22.	Amaranthus	117	NA	NA
23.	Bitter gourd	62	NA	NA
24.	Snake gourd	22	NA	NA
25	Bhendi	24	NA	NA
26.	Brinjal	10	NA	NA
27.	Ash gourd	46	NA	NA
28.	Pumpkin	50	NA	NA
29.	Cucumber	85	NA	NA
30	Chillies green	107	107	NA
31	Other vegetables	223	NA	NA
32	Pepper	3332	615	180
33.	Betel	9	651	NA
34	Ginger	62	246	NA
35	Turmeric	328	732	NA
36	Cardamom	220	NA	NA
37	Tamarind	835	535	NA
38	Vanilla	7	NA	NA
39	Cloves	34	2	NA
40	Nutmeg	391	143	NA
41	Cinnamon	23	NA	NA
42	Fodder	64	NA	NA
43	Lemon grass	2	NA	NA
44	Medicinal plants	58	NA	NA

Source: Farm Information Bureau, Dept. of Agriculture, Govt. of Kerala, 2015.
NA- Not available

2.5. Weather data

Month	Rainfall (mm)	Temperature ^{0} C		Relative Humidity (%)
		Maximum	Minimum	
April 2014	56.7	35.3	23.4	87.06
May	376.5	34.3	24.6	88.0
June	1485.4	26.7	21.13	94.40
July	1513.2	28.3	21.5	97.93
August	777.1	28.6	21.6	96.90
September	422.4	29.8	23.93	96.13
October	350.8	30.24	24.17	92.45
November	120.6	32.54	23.3	92.26
December	17.2	33.08	21.17	89.64
January 2015	0	34.17	21.22	84.35
February	16mm	34.23	21.98	85.10
March	9	36.5	22.8	88.29

* 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
Fish	317.97 ha*	268.911 tonnes*	845.7 Kg/ha
Marine	71 Km*	9221 tonnes **	
Inland	3800 ha*	2210 tonnes**	
Prawn			
Scampi			
Shrimp	46.46 ha**	50.37 tonnes**	1 ton/ha**

* Panfish book, District Fisheries Resource data – Kozhikode district, 2011 of Fisheries Department.
** Success story of "Matsyakeralam" ,2009 of Fisheries Department.

2.7 District profile has been Updated for 2014-15: Yes

2.8 Details of Operational area / Villages

Sl.No.	Taluk	Name of the block	Name of the village	How long the village is covered under operational area of the KVK (specify the years)	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Quilandy	Balussery	Naduvannur	One year	Coconut, banana, vegetables, spices etc.	Low availability of leaf vegetables	Promotion of healthy leaf vegetables
2	Quilandy, Kozhikode	Balussery, Koduvally	Unnikulam, Thiruvambady	One year	Coconut, banana, vegetables, spices etc.	Severe incidence of *Phytophthora* foot rot of black pepper	Improving production of spices
3	Quilandy, Kozhikode, Vadakara	Perambra Balussery, Kunnummal Thikkodi Tuneri	Perambra, Koorachundu, Payyoli, Purameri, Chakkittapara, Changaroth, Velom	18 years	Fruits, vegetables	Low production and productivity of vegetables and fruits, Low production of cool season vegetables, Unavailability of quality planting materials, Unavailability of quality vegetable seeds, lack of knowledge about scientific cultivation	Improving production and productivity of fruits and vegetables, quality planting material production, scientific cultivation of fruits and vegetables
4	Quilandy	Perambra, Balussery	Koorachundu, Changaroth, Thamarassery, Chakkittapara, Naduvannur	6 years	Coconut, Rice, Black pepper, ginger	Rice-Shrinking area under wet land and low yield Ginger-Acute dearth of planting material of HYVs and high cost of seed rhizome. Black pepper-Foot rot disease and lack of HYV coverage in holdings Coconut-Poor management, Lack of intercropping, irrigation etc.	Promotion of upland rice. Production of quality planting materials. Promotion of foot rot tolerant varieties and high yielding varieties. Promotion of high production technologies
5	Vatakara and Koyilandy	Kunnummel	Palliyath	3 years	Dairy, goatary, paddy, tapioca etc.	High cost of feeding	Feeding management in livestock
6	Koyilandy and Vatakara	Perambra, Panthalayani, Kunnummal	Chemancheri, Chakkittapara, Koothali, Koorachundu, Maruthonkara	4 years	Fisheries	Cannibalism, Low survival rate, High cost of feed for sea bass culture, Non availability of quality fingerlings of pearl spot	Culture of Asian sea bass in brackish water ponds with various feeds, Breeding of pearlspot fish in fresh water ponds.

2.9 Priority thrust areas

S. No	Thrust area
1	Improving vegetable production – Introducing HYVs of vegetables
2	Quality planting material production of horticultural crops
3	High production technology of major horticultural crops
4	Improving productivity of crops through integrated nutrient management
5	Demonstration of High Yielding Varieties suitable to specific situations

6	Demonstration of new production technology/ variety of rice
7	Integrated Pest and Disease Management
8	Feeding management in livestock
9	Disease management in dairy cattle
10	Disease control measures
11	Freshwater aquaculture (Edible and ornamental fishes)

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
5	5	93	94	9	9	96	96

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
125	144	4000	4734	500	782	2000	3832

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
Nil	Nil	30000	**30634**

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
Layer chicks-2000	3617	*Trichoderma*: 300	380
Pregnant heifer-5	6	Pheromone Traps: 150	220
Goat kids-5	7	Vermicompost: 2000	4812
Farm Yard Manure-2000	2210		
Fish fingerlings-1000	1851		

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

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions										
				Title of OFT if any	Title of FLD if any	Number of Training (farmers)	Number of Training (Youths)	Number of Training (extension personnel)	Extension activities (No.)	Supply of seeds (Qtl.)	Supply of planting materials (No.)	Supply of livestock (No.)	Supply of bio products	
1.	Improving production of spices	Black pepper	Severe incidence of Phytophthora foot rot of black pepper	Performance evaluation of grafted black pepper	--	1	-	-	1	-	250 grafts	-		
2	Promotion of healthy leaf vegetables	Amaranthus	Low availability of leaf vegetables	--	Introduction of a high yielding variety of amaranthus viz. Renusree	1	-	-	1	0.75 kg	-	-	Trichoderma	5 kg

3	Quality planting material production	All horticultural crops	Unavailability of quality planting materials	-	-	2	6	-	-	-	-	-	-	-
4	Demonstration of new production technology variety of rice	Paddy	Rice-Shrinking area under wet land and low yield	-	Demonstration of upland rice Vaisakh	2	1	0	4	120 kg	-	-	-	-
5	Production of quality planting materials using pro-tray for addressing seed shortage of HYVs.	Ginger	Ginger-Acute dearth of planting material of HYVs and high cost of seed rhizome.	Performance evaluation of pro-tray technique of ginger	-	1	1	1	5	300 kg	-	-	-	-
6	Promotion of foot rot tolerant varieties and high yielding varieties.	Black pepper	Black pepper-Foot rot disease and lack of HYV coverage in holdings	-	Demonstration of IISR Thevam	3	2	1	8	-	2 lakhs	-	Trichoderma	400 kg
7	Promotion of high production technologies	Coconut	Coconut-Poor management, Lack of intercropping, irrigation etc.	-	-	1	0	1	15	-	-	-	-	-
8.	Disease management in black pepper	Spices-Black Pepper	Severe incidence of *Phytophthora* foot rot of black pepper	Management of foot rot of black pepper	-	1	-	-	3	-	-	-	17.5 kg *Trichoderma* 17.5 kg *Pseudomonas*	
9	Disease management in coconut	Plantation Crops-Coconut	Low yield and death of palms due to Tanjore wilt of coconut	-	Demonstration on integrated management of Tanjore wilt of coconut	1	1	-	3	-	-	-	-	-
10	Disease management in ginger	Spices-Ginger	Yield loss due to soft rot in ginger	-	Demonstration on use of PGPR encapsulated bio-capsules	1	-	-	2	-	-	-	*Pochonia* – 8 kg	-

					for management of soft rot of ginger									
11.	Disease management	Dairy	Reduction in milk production due to udder oedema	Assessing the efficacy of termite soil for udder oedema	-	4	2	-	2	-	-	-	Termite soil, turmeric, tamarind fruit, salt	
12	Feeding and disease management in dairy cattle	Dairy	Early lactation disorder leading to reduction in milk production	-	Demonstration on feeding Anionic mixture to prevent milk fever in cows	5	2	-	-	-	-	-	Ammonium chloride, magnesium sulphate, calcium	
13	Feeding management in dairy cattle	Dairy	Unbalanced nutrition in dairy cattle resulting in infertility/subfertility, poor production performance		Demonstration on complete feed mixture for dairy cattle	5	4	-	-	-	-	-	Complete feed mixture	
14	Fisheries Production Technologies	Aquaculture	Cannibalism and Non availability of cost effective formulated feed for high value fishes like Sea bass (*Lates calcarifer*)	Culture of Asian Sea bass (*Lates calcarifer*) in brackish water ponds	Seed production of pearlspot fish in fresh water area	1	15	2	90	-	-	1800	-	

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	Demonstration of a HYV of amaranthus viz. Renusree	KAU	Amaranthus	-	1	1	1 (Field day)
2	Performance evaluation of grafted black pepper	ICAR-IISR	Black pepper	1	-	-	1 (method demonstration)
3	Performance evaluation of pro-tray technique of ginger	ICAR-IISR	Ginger	1	0	3	5 (Method demonstration), 2 (Field day)
4	Demonstration of upland rice Vaisakh	KAU	Upland rice	0	1	3	5(Method demonstration), 2(filed day), 1 (Publication)

5	Demonstration of IISR Thevam	ICAR-IISR	Black pepper	0	1	3	3(Field day)
6	Management of foot rot of black pepper	ICAR-IISR, KAU	Black pepper	1	-	1	Seminar: 1
7	Demonstration on integrated management of Tanjore wilt of coconut	KAU	Coconut	-	1	2	Seminar: 2, Method Demonstrations: 2
8	Demonstration on use of PGPR encapsulated bio-capsules for management of soft rot of ginger	ICAR-IISR	Ginger	-	1	1	Seminar: 2, Method Demonstrations: 2
9	Assessing the efficacy of termite soil for udder oedema	ITK with KVK intervention	Milch cow	1	-	6	3
10	Demonstration on complete feed mixture (3 parts roughages and 1 part concentrates) in dairy cattle	NIANP, Bangalore	Milch cow	-	1	3	2
11	Feeding Anionic mixture (30-50 g per animal per day) to prevent milk fever in dairy cattle	TANUVAS, Chennai	Dairy cow	-	1	3	2

3.B2 contd..

No. of farmers covered															
OFT				**FLD**				**Training**				**Others (Specify)**			
General		**SC/ST**		**General**		**SC/ST**		**General**		**SC/ST**		**General**		**SC/ST**	
M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
9	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
-	-	-	-	-	5	-	-	18	8	-	-	22	28	-	-
5	-	-	-	-	-	-	-	-	-	-	-	10	2	-	-
4	1	-	-	-	-	-	-	14	11	3	2	39	21	2	3
-	-	-	-	4	6	-	-	22	15	1	1	12	15	2	1
-	-	-	-	6	-	-	-	34	18	2	1	22	16	2	1
5	**0**	**0**	**0**	-	-	-	-	**12**	**10**	**0**	**0**	**35**	**12**	**2**	**1**
-	-	-	-	**8**	**2**	**0**	**0**	**19**	**1**	**1**	**1**	**43**	**8**	**1**	**2**
-	-	-	-	**6**	**2**	**0**	**2**	**30**	**10**	**1**	**2**	**28**	**15**	**0**	**1**
4	**0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	**8**	**0**	**2**	**0**	-	-	-	-	-	-	-	-

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 Crop Management								1		1
Integrated Disease Management								**1**		1
Resource Conservation Technology				1						1
Total				**1**				**2**		**3**

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

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

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
Disease of Management	1 Dairy cow	-	-	-		1
Production and Management					1	1
TOTAL	**1**				**1**	**2**

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

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
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 (Per trail covering all the Technological Options)
Integrated Crop Management	Black pepper	Growing grafted pepper with irrigation and without irrigation	5	5	75 grafts
Integrated Disease Management	Black pepper	Management of foot rot of black pepper	1	5	0.027
Resource Conservation Technology	Ginger	Assessment of transplanting technique for ginger using pro-trays	5	5	0.1 ha
Total	**3**	**-**	**11**	**11**	**-**

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

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
Disease management	Dairy cow	Assessing the efficacy of termite soil for udder oedema	75	75
Production and management	Fisheries	Culture of Asian Sea bass (*Lates calcarifer*) in brackish water ponds	1	4
Total			76	79

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

4.C1. Results of Technologies Assessed

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	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	Irrigated	Severe incidence of Phytophthora foot rot of black pepper	Performance evaluation of grafted black pepper	5	Growing grafted pepper with irrigation and without irrigation	Growth performance, Yield and Pest and disease incidence	Average height of the grafts is 1.3 m. No *Phytophthora* foot rot incidence has been reported so far.	The grafts were supplied during November – December 2014. All the grafts have been established well. The trial is continuing	Initial growth of grafts is good and no mortality reported so far.	--	--
Ginger	Rainfed	Low availability and high cost of quality seed material	Assessment of transplanting technique for ginger using pro-trays	5	T.O.1: Farmers practice- Use of 30-50 g bits of seed rhizomes with two or more buds for direct planting on beds	Percentage of field establishment Disease incidence Yield, B:C ratio	T.O.1: 96, 2, 13.2, 1.55 T.O.2: 95,5, 12.6, 1.5 T.O.3: 98, 1,	Transplanting of 25-30 day old pro-tray raised plantlets using 5 g sprouted bits of seed rhizome on beds was found	TO-3 is superior in saving seed quantity by 20-40% compared to TO1 and TO2 Non synchronized sprouting of seed	Synchronization of sprouting of seed rhizomes in storage for simultaneo	Non synchronized sprouting of seed rhizomes in storage for simultaneously raising pro-tray was a

					T.O.2: Recommended practice-Use of 20-25 g bits of seed rhizomes with one or two buds for direct planting on beds (KAU-2010) T.O.3: Transplanting of 25-30 day old protray raised plantlets using 5 g bits (IISR-2012)		12.42, 1.7	to be the most superior technology with maximum B:C, maximum net income, minimum seed requirement, maximum field establishment and minimum soft rot incidence.	rhizomes in storage for simultaneously raising pro-tray was a major problem. More care was also needed for mulching following planting because of chance of breaking up of grownup shoots.	usly raising pro-tray	major problem.
Black pepper	Mixed farming	Incidence of *Phytophthor* a foot rot of black pepper	Management of *Phytophthor a* foot rot of black pepper	5	T.O.1: Farmers practice – Foliar spraying 1% BM on appearance of symptoms T.O.2: Prophylactic spray of 0.3% potassium phosphonate @ 5 litre per plant, twice a year (pre SW monsoon and pre NE monsoon) +*Pseudomonas* 50 g incubated in FYM (2 kg) , twice a year and *Trichoderma* 50 g incubated in neem cake (0.5 kg) and FYM (1 kg) twice a year (pre SW monsoon and pre NE monsoon)(ICAR -IISR) T.O.3 : *Pseudomonas* drenching (2%)- 5 litre per vine twice a year (pre SW monsoon and pre NE monsoon) and *Trichoderma* enriched organic manure 5 kg twice a year (10 days after *Pseudomonas* application)+ foliar spray of *Pseudomonas* (2%) twice a year (KAU)	Percentage mortality of vines, Yield	38% 206 kg/ha 18% 526 kg/ha 20% 518.9 kg/ha	Low percent mortality of vines and higher yield was obtained in ICAR-IISR treatment , while higher net returns and BC ratio was obtained for the KAU treatment	Even though T2 recorded higher yield and lower % of mortality of vines, the cost of cultivation was high for T2.	-	-
Dairy	Semi intensive	Udder oedema is common problem in high yielding milch cows resulting in reduction in milk yield.	Assessing the efficacy of termite soil for udder oedema	75	T.O.1: Application of cold water or salt water mixed with potassium permanganate 0.1% solution T.O.2: External application of mixture containing magnesium	Time taken to reduce oedema, number of applications, milk yield		T.O.1 20 percent udder oedema reduced in 2 to 3 application.4% milk yield increased T.O.2 87 percent udder oedema reduced in 1 to 2	T.O.1. Long time application of potassium permanganate solution is required. T.O.2 Quick results ,but thorough washing is required before milking to avoid unpleasant smell and sliminess of	-	-

					sulphate and glycerine on the affected quarter or application of adsorbent ointment/diuretics (KAU) T.O.3: External application of ground, boiled mixture containing termite soil/wasp soil (2 parts) , turmeric powder (2 parts) , fruits of tamarind (1 part) and common salt (40 g per kg) (ITK with KVK Intervention)			applications.9% milk yield increased T.O.3 92 percent udder oedema reduced in 1 to 2 applications.12 % milk yield increased	udder, otherwise milk spoilage may occur. T.O.3 Highly economical, eco-friendly and devoid of side effects.		
Fisheries	Brackish water aquaculture	Cannibalism and Non availability of cost effective formulated feed and fingerlings of high value fishes like Sea bass (*Lates calcarifer*) culture.	Culture of Asian Sea bass (*Lates calcarifer*) in brackish water ponds	3	Culture of sea bass using various feed	Survival Yield BC ratio	Trial progressing				

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: Growing local varieties of black pepper (Farmer's practice)	-	The trial is continuing	-	-	-
Technology option 2: Growing grafted pepper with irrigation	ICAR-IISR	The trial is continuing	-	-	-
Technology option 3: Growing grafted pepper without irrigation	ICAR-IISR	The trial is continuing	-	-	-
Technology option 1: Farmers practice- Use of 30-50 g bits of seed rhizomes with two or more buds for direct planting on beds	NA	13.2	t/ha	3.6 lakhs/ha	1.55
Technology option 2: Recommended practice-Use of 20-25 g bits of seed rhizomes with one or two buds for direct planting on beds	KAU-2010	12.6	t/ha	3.12 lakhs/ha	1.50
Technology option 3: Transplanting of 25-30 day old protray raised plantlets using 5 g bits	ICAR-IISR-2012	12.42	t/ha	3.79 lakhs/ha	1.70
Technology option 1	Farmer's practice	206	kg/ha	30369.60	1.32

(Farmer's practice)					
Technology option 2	ICAR-IISR	526.02	kg/ha	143567.4	1.83
Technology option 3	KAU	518.92	kg/ha	154845	1.98
Technology option 1 (Farmer's practice)	ITK with KVK intervention	20 percent udder oedema reduced in 2 to 3 application. 4% milk yield increased	Percentage	-	-
Technology option 2	NIANP, Bangalore	87 percent udder oedema reduced in 1 to 2 applications. 9% milk yield increased	Percentage	-	-
Technology option 3	TANUVAS, Chennai	92 percent udder oedema reduced in 1 to 2 applications. 12% milk yield increased	Percentage	-	-
Technology option 1: Culture of sea bass with thrash fish (Farmer's practice)	NA	-	-	-	-
Technology option 2: Polyculture of sea bass and tilapia	ICAR-CIBA	-	-	-	-
Technology option 3: Culture of sea bass using formulated feed	ICAR-CIBA	-	-	-	-

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

OFT-1

1 Title of Technology Assessed : Performance evaluation of grafted black pepper

2 Problem Definition : Severe incidence of Phytophthora foot rot of black pepper

3 Details of technologies selected for assessment: Growing grafted pepper with and without irrigation

4 Source of technology: ICAR – IISR, Kozhikode

5 Production system and thematic area: As intercrop with arecanut as main crop, Improving production of spices

6 Performance of the Technology with performance indicators: The trial is continuing

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: --

OFT-2

1 Title of Technology Assessed: Assessment of transplanting technique for ginger using pro-trays

2 Problem Definition: Low availability and high cost of quality seed material

3 Details of technologies selected for assessment:

- T.O.1: Farmers practice- Use of 30-50 g bits of seed rhizomes with two or more buds for direct planting on beds
- T.O.2: Use of 20-25 g bits of seed rhizomes with one or two buds for direct planting on beds
- T.O.3: Transplanting of 25-30 day old protray raised plantlets using 5 g bits

4 Source of technology: T.O.2: KAU, T.O.3: IISR

5 Production system and thematic area: Resource Conservation Technology

6 Performance of the Technology with performance indicators:

Parameters	**TO-1**	**TO-2**	**TO-3**

Percentage of field establishment	96	95	98
Percentage incidence of soft rot disease	2	5	1
Seed requirement/bed of 3mx1m size (kg)	2	1	0.4
Yield/bed of 3mx1m size (kg.)	8.8	8.4	8.28
Yield (t/ha)	13.2	12.6	12.42
Gross cost (Rs./ha)	6.50 lakhs	6.20 lakhs	5.40 lakhs
Gross income(Rs./ha)	10.10 lakhs	9.32 lakhs	9.19 lakhs
Net income (Rs./ha)	3.60 lakhs	3.12 lakhs	3.79 lakhs
B:C ratio	1.55	1.50	1.70

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

Technology options	T.O.1	T.O.2	T.O.3
Score/ ranking	2	3	1

8. Final recommendation for micro level situation: Transplanting of 25-30 day old pro-tray raised plantlets using 5 g sprouted bits of seed rhizome on beds was found to be the most superior technology with maximum B:C, maximum net income, minimum seed requirement, maximum field establishment and minimum soft rot incidence.
9. Constraints identified and feedback for research: Non synchronized sprouting of seed rhizomes in storage for simultaneously raising pro-tray was a major problem.
10. Process of farmers' participation and their reaction: Farmers with experience in traditional ginger cultivation were only selected for the trial and they expressed good opinion on the seed saving and yield aspects of the technology.

OFT-3

1. Title of Technology Assessed : Management of *Phytophthora* foot rot of black pepper
2. Problem Definition : Incidence of Phytophthora foot rot of black pepper
3. Details of technologies selected for assessment:

   T.O.1: Farmers practice – Foliar spraying 1% BM on appearance of symptoms

   T.O.2: Prophylactic spray of 0.3% potassium phosphonate @ 5 litre per plant, twice a year (pre SW monsoon and pre NE monsoon) +*Pseudomonas* 50 g incubated in FYM (2 kg) , twice a year and *Trichoderma* 50 g incubated in neem cake (0.5 kg) and FYM (1 kg) twice a year (pre SW monsoon and pre NE monsoon)(ICAR-IISR)

   T.O.3 : *Pseudomonas* drenching (2%)- 5 litre per vine twice a year (pre SW monsoon and pre NE monsoon) and *Trichoderma* enriched organic manure 5 kg twice a year (10 days after *Pseudomonas* application)+ foliar spray of *Pseudomonas* (2%) twice a year (KAU)
4. Source of technology:

Technology option 1	Farmer's practice
Technology option 2	ICAR-IISR
Technology option 3	KAU

5. Production system and thematic area: Intercropping, Disease management

6. Performance of the Technology with performance indicators:

	Performance Indicators	
	Percentage mortality of vines	**Yield (kg/ha)**
Technology option 1	38	206
Technology option 2	18	526.02
Technology option 3	20	518.92

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

Technology options	T.O.1	T.O.2	T.O.3
Score/ ranking	3	1	2

8. Final recommendation for micro level situation: The increased yield and reduced mortality of vines proved T2 to be superior. But T3 recorded higher B:C ratio.
9. Constraints identified and feedback for research:--
10. Process of farmers' participation and their reaction: There was active participation of the farmers.

OFT-4

1. Title of Technology Assessed: Assessing the efficacy of termite soil for udder oedema
2. Problem Definition: Udder oedema is common problem in high yielding milch cows resulting in reduction in milk yield.
3. Details of technologies selected for assessment: T.O.1: Application of cold water or salt water mixed with potassium permanganate 0.1% solution
   T.O.2: External application of mixture containing magnesium sulphate and glycerine on the affected quarter or application of adsorbent ointment/diuretics (KAU)
   T.O.3: External application of ground, boiled mixture containing termite soil/wasp soil (2 parts) , turmeric powder (2 parts) , fruits of tamarind (1 part) and common salt (40 g per kg) (ITK with KVK Intervention)
4. Source of technology : ITK with KVK Intervention
5. Production system and thematic area: Semi intensive system of cattle rearing under homestead along with poultry, goatary etc.
6. Performance of the Technology with performance indicators :
   T.O.1: 20 percent udder oedema reduced in 2 to 3 application.4% milk yield increased
   T.O.2: 87 percent udder oedema reduced in 1 to 2 applications.9% milk yield increased
   T.O.3: 92 percent udder oedema reduced in 1 to 2 applications.12% milk yield increased
7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques : T.O.1. Long time application of potassium permanganate solution is required.
   T.O.2: Quick results ,but thorough washing is required before milking to avoid unpleasant smell and sliminess of udder, otherwise milk spoilage may occur.
   T.O.3 Highly economical, ecofriendly and devoid of side effects
8. Final recommendation for micro level situation: highly useful technology for sustainable milk production
9. Constraints identified and feedback for research: No skilled technician is required, easy to apply
10. Process of farmers participation and their reaction ;farmers are keen to take the technology with positive sprit.

OFT-5

1. Title of Technology Assessed: Culture of Asian Sea bass (*Lates calcarifer*) in brackish water ponds
2. Problem Definition: Cannibalism and Non availability of cost effective formulated feed and fingerlings of high value fishes like Sea bass (*Lates calcarifer*) culture.
3. Details of technologies selected for assessment: T.O2: Polyculture of sea bass and tilapia (ICAR-CIBA), T.O.3: Culture of sea bass using formulated feed (ICAR-CIBA)
4. Source of technology: ICAR-CIBA
5. Production system and thematic area: Brackish water aquaculture
6. Performance of the Technology with performance indicators: Trial under progress
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

4.D1. Results of Technologies Refined: Nil

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

PART V - FRONTLINE DEMONSTRATIONS

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

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
									Proposed	Actual	SC/ST	Others	Total	
1.	Paddy	Rainfed	Rabi 2014	Paddy	Vaisakh	-	Varietal Evaluation	Demonstration of high yielding short duration upland rice Vaisakh	1 ha	1 ha	-	10	10	NA
2.	Vegetables	Irrigated	Summer season of 2014-15	Amaranthus	Renusree	-	Promotion of healthy leaf vegetables	Demonstration of a HYV of amaranthus viz. Renusree	1.0	0.50	-	5	5	Unavailability of seed from KAU.
	Spices and condiments													
3	Black pepper	Homestead	2014	Black pepper	IISR-Thevam	-	Variety Introduction	Demonstration of foot rot tolerant high yielding pepper variety IISR Thevam	1 ha	1 ha	-	6	6	NA

4	Ginger	Intercrop in coconut gardens	May 2014	Ginger	-	-	Organic Disease Management	Demonstration on use of PGPR encapsulated bio-capsules for management of soft rot of ginger	0.2	0.2	2	8	10	-
	Plantation													
5	Coconut	Mixed Farming	2014-15	Coconut	-	-	Integrated Disease Management	Demonstration on on integrated management of Tanjore wilt of coconut	0.86	0.86	1	9	10	-
	Livestock													
6	Dairy	semi intensive system of cattle rearing under homestead along with poultry, goatary etc.	All	Dairy	crossbred	-	Feeding management in dairy cattle	Demonstration on on complete feed mixture (3 parts roughages and 1 part concentrates) in dairy cattle (NIANP, Bangalore)	20 cows	20 cows	8	12	20	-
7	Dairy	Semi intensive system of cattle rearing under homestead along with poultry, goatary etc.	All	Milch cow	crossbred	-	Feeding and disease management in dairy cattle Problem: Early lactation disorder leading to reduction in milk production	Feeding Anionic mixture (30-50 g per animal per day) to prevent milk fever in dairy cattle (TANUVAS, Chennai)	25	25	16	9	25	-
8	Fisheries	Modified extensive system	2014-15	Fresh water fishes	Pearlspot fish	-	Fresh water fish culture	Seed production of pearlspot fish in fresh water area	0.2 ha	0.2 ha	2	8	10	NA
	Others													
9	Fruits spices and vegetables	Homestead	-	Fruits and vegetable	-	-	Vale addition	Production of value added products from fruits, vegetables and spices	-	-	-	10	10	NA

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

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Season and year	Status of soil			Previous crop grown
										N	P	K	
1	Paddy	Rainfed	Rabi 2014	Paddy	Vaisakh	-	Varietal evaluation	Demonstration of high yielding short duration upland rice Vaisakh	Rabi 2014	120	22	65	Fallow
2	Vegetables	Irrigated	Summer season of 2014-15	Amaranthus	Renusree	-	Promotion of healthy leaf vegetables	Demonstration of a HYV of amaranthus viz. Renusree	Summer season of 2014-15	112	131	92	Cowpea
	Spices and condiments												
3	Black pepper	Homestead	2014	Black pepper	IISR Thevam	-	Varietal evaluation	Demonstration of foot rot tolerant high yielding pepper variety IISR Thevam	2014	131	35	72	Tubers
4	Ginger	Rainfed	2014	Ginger	IISR Varada, Local varieties	-	Disease management	Demonstration on use of PGPR encapsulated bio-capsules for management of soft rot of ginger	Kharif 2014	125	31	68	Tubers
	Plantation												
5	Coconut	Rainfed	2014	Coconut	-	-	Disease management	Demonstration on integrated management of Tanjore wilt of coconut	All season	138	30	73	Nil

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										
Paddy	Demonstration of high yielding short duration upland rice Vaisakh	Vaisakh	-	Rainfed	10	1 ha	23.5	18.6	21	18.5	13.5	49860	81000	31140	1.62	48735	66300	17565	1.36
Vegetables	Demonstration of a HYV of amaranthus	Renusree	--	Irrigated	5	0.50	124.80	98.40	110.60	90.15	22.68	108510	199080	90570	1.84	108510	157762	49252	1.45
Spices																			
Black pepper	Demonstration of foot rot tolerant high yielding pepper variety IISR Thevam	IISR Thevam	-	Rainfed-Homestead	6	1 ha	Demonstration under progress	-	--	-	-	-	-	-	-	-	-	-	-

Ginger	Demonstration on use of bio-capsules for the management of soft rot of ginger	-	-	As pure crop in the interspaces of coconut gardens	10	0.2	157.5	132.5	147.05	145	1.4	532500	1019002	486501.5	1.91	562500	1010050	447550	1.79
Plantation																			
Coconut	Demonstration on integrated management of Tanjore wilt of coconut	-	-	Mixed farming	10	0.86	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demo**	**Check**
Demonstration of high yielding short duration upland rice Vaisakh : Duration (days)	112	108
Demonstration of high yielding short duration upland rice Vaisakh : Percentage incidence of rice bug damage	12	8
Demonstration of high yielding short duration upland rice Vaisakh : Straw yield (q/ha)	52	36
Demonstration of a HYV of amaranthus : Leaf spot incidence (%)	2.8	7.6
Demonstration on use of bio-capsules for the management of soft rot of ginger : Disease incidence(%) in ginger	**14**	**17**

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	Demonstration on complete feed mixture (3 parts roughages and 1 part concentrates) in dairy cattle (NIANP, Bangalore)	crossbred	20	20	M/y 14 Fat 3.7	M/y 8 Fat 2.9	M/y 11 Fat 3.3	M/y 8 Fat 2.9	75 27.58	175	490	315	2.8	105	280	175	2.6
Dairy	Feeding Anionic mixture (30-50 g per animal per day) to prevent milk fever in dairy cattle (TANUVAS, Chennai)	crossbred	25	25	M/y 13.5	M/Y 7.5	10.5	M/y 7.5	80	210	595	385	2.8	130	263	133	2.0

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

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										
Pearl spot fish	Seed production of pearlspot fish in fresh water area	Pearlspot (*Etroplus suratensis*)	10	200	Progressing	-	-	-	-	-	-	-	-	-	-	-	-

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

5.B.4. Other enterprises

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										
Others – Food processing and value addition	Production of value added products from fruits, vegetables and spices	Fruits, spices and vegetables	10	-	-	-	-	-	-	170.00	250.00	80.00	1.5	164.93	209	44.06	1.3

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

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

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

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

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	2	42	
2	Farmers Training	4	124	
3	Media coverage	2	-	Harvest mela

PART VI – DEMONSTRATIONS ON CROP HYBRIDS: Nil

Demonstration details on crop hybrids: Nil

PART VII. TRAINING

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Resource Conservation Technologies	1	37	11	48	1	1	2	38	12	50
Planting material production	1	24	11	35	2	1	3	26	12	38
Crop Diversification	1	50	0	50	2	0	2	52	0	52
Integrated Farming	2	64	36	100	8	3	11	72	39	111
Horticulture										

a) Vegetable Crops										
Organic vegetable production	1	10	7	17	1	1	2	11	8	19
b) Fruits										
Plant propagation techniques	3	70	9	79	-	-	-	70	9	79
Soil Health and Fertility Management										
Soil fertility management	1	35	5	40	0	0	0	35	5	40
Production and use of organic inputs	1	5	5	10	0	0	0	5	5	10
Micro nutrient deficiency in crops	1	21	9	30	0	0	0	21	9	30
Balanced use of fertilizers	1	8	7	15	0	0	0	8	7	15
Soil and water testing	1	15	2	17	0	0	0	15	2	17
Livestock Production and Management										
Dairy Management	6	124	35	159	45	22	67	169	57	226
Poultry Management	3	67	26	93	15	24	39	82	50	132
Rabbit Management	2	24	17	41	8	6	14	32	23	55
Animal Nutrition Management	6	77	24	101	23	11	34	100	35	135
Animal Disease Management	3	62	22	84	11	9	20	73	31	104
Feed and Fodder technology	2	33	12	45	9	5	14	42	17	59
Home Science/Women empowerment										
Designing and development for high nutrient efficiency diet	3	6	46	52	0	8	8	6	60	66
Value addition	9	23	178	201	0	40	40	23	218	241
Women empowerment	2	0	25	25	0	15	15	0	40	40
Rural Crafts	3	0	33	33	0	8	8	0	41	41
Plant Protection										
Integrated Pest Management	2	65	16	81	3	3	6	68	19	87
Integrated Disease Management	1	30	10	40	1	2	3	31	12	43
Production of bio control agents and bio pesticides	1	13	4	17	0	0	0	13	4	17
Others - IPDM	1	28	22	50	4	2	6	32	24	56
TOTAL	**58**	**891**	**572**	**1463**	**133**	**161**	**294**	**1024**	**739**	**1763**

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

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Crop Production										
Resource Conservation Technologies	1	32	16	48	2	1	3	34	17	50
Crop Diversification	2	83	26	109	3	2	5	86	28	114
Integrated Crop Management	4	101	95	196	6	2	8	107	97	204
Integrated Nutrient Management	1	38	16	54	3	0	3	41	16	57
Production of organic inputs	1	48	16	64	2	2	4	50	18	68
Mushroom cultivation	2	42	32	74	2	2	4	44	34	78
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop	1	18	26	44	-	-	-	18	26	44
Organic vegetable production	3	114	52	166	6	6	12	120	58	178
Soil Health and Fertility Management										

Integrated water management	1	55	10	65	0	0	0	55	10	65
Balanced use of fertilizers	1	13	1	14	0	0	0	13	1	14
Soil and water testing	1	47	5	52	0	0	0	47	5	52
Livestock Production and Management										
Dairy Management	7	134	46	180	23	18	41	157	64	221
Poultry Management	2	11	46	57	12	4	16	23	50	73
Rabbit Management	1	6	11	17	2	2	4	8	13	21
Animal Nutrition Management	3	46	17	63	11	9	20	57	26	83
Animal Disease Management	4	78	34	112	22	8	30	100	42	142
Feed and Fodder technology	2	34	23	57	11	9	20	45	32	77
Plant Protection										
Integrated Pest Management	1	22	5	27	0	0	0	22	5	27
Integrated Disease Management	5	148	9	157	7	3	10	155	12	167
Bio-control of pests and diseases	2	36	7	43	4	1	5	40	8	48
Others - IPDM	2	69	27	96	2	0	2	71	27	98
Fisheries										
Integrated fish farming	1	4	3	7	7	0	7	11	3	14
Capacity Building and Group Dynamics										
Entrepreneurial development of farmers/youths	**1**	**3**	**24**	**27**	**0**	**0**	**0**	**3**	**24**	**27**
TOTAL	**49**	**1182**	**547**	**1729**	**125**	**69**	**194**	**1307**	**616**	**1922**

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	6	38	86	124	1	1	2	39	87	126
Mushroom Production	1	18	22	40	0	0	0	18	22	40
Bee-keeping	1	40	6	46	0	1	1	40	7	47
Rural Crafts	5	0	58	58	0	23	23	0	81	81
Dairying	2	24	22	46	8	9	17	32	31	63
Sheep and goat rearing	5	89	12	101	6	4	10	95	16	111
Rabbit farming	1	12	5	17	5	3	8	17	8	25
Poultry production	1	5	18	23	9	4	13	14	22	36
Ornamental fisheries	1	13	3	16	0	0	0	13	3	16
Composite fish culture	3	65	34	99	3	1	4	68	35	103
Propagation of pepper and bush pepper	2	43	43	86	1	1	2	44	44	88
Production technology of pepper	2	44	42	86	1	1	2	45	43	88
Any other - Preparation and use of organic pesticides and bio control agents	1	23	0	23	4	1	5	27	1	28
TOTAL	**31**	**414**	**351**	**765**	**38**	**49**	**87**	**452**	**400**	**852**

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
Planting material production	1	34	50	84	1	1	2	35	51	86
Mushroom Production	1	24	14	38	1	1	2	25	15	40
Dairying	2	23	11	34	6	4	10	29	15	44
Poultry production	1	5	25	30	3	11	14	8	36	442
Ornamental fisheries	5	119	62	181	3	0	3	122	62	184
Composite fish culture	4	165	43	208	6	1	7	171	44	215
TOTAL	**14**	**370**	**205**	**575**	**20**	**18**	**38**	**390**	**223**	**1011**

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
Nursery management	1	26	8	34	1	1	2	27	9	36
Cultivation of hybrid vegetables	1	28	6	34	0	0	0	28	6	34
Production technology of spices and plantation crops	1	5	0	5	0	0	0	5	0	5
Organic farming practices	2	45	47	92	1	1	2	46	48	94
Recent advances in aquaculture	1	5	2	7	0	0	0	5	2	7
Mussel farming	1	1	1	2	0	0	0	1	1	2
Total	**7**	**110**	**64**	**174**	**2**	**2**	**4**	**112**	**66**	**178**

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
Integrated Pest Management	1	15	15	30	0	0	0	15	15	30
Production technology of spices and plantation crops	2	16	16	32	2	1	3	18	17	35
Pest Surveillance and Plant Health Management	2	13	28	41	1	0	1	14	28	42
Value addition	1	4	15	19	2	4	6	6	19	25
Total	**6**	**48**	**74**	**122**	**5**	**5**	**10**	**53**	**79**	**132**

7.G. Sponsored training programmes conducted

S.No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	**Crop production and management**										
1.a.	Increasing production and productivity of crops	6	153	108	261	12	8	20	165	116	281
1.b.	Organic farming	1	30	15	45	2	1	3	32	16	48
2	**Others**										
2.a	IPDM of crops	8	206	21	227	11	4	15	217	25	242
2.b	Pest Surveillance and Plant Health Management	2	13	28	41	1	0	1	14	28	42
2.c	Beekeeping as an income generating enterprise and for increased productivity of crops	1	40	6	46	0	1	1	40	7	47
	Total	**18**	**442**	**178**	**620**	**26**	**14**	**40**	**468**	**192**	**660**

Details of sponsoring agencies involved

1. Department of Agriculture
2. Kerala Horticultural Products Development Corporation

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.	**Livestock and fisheries**										
1.a.	Others - Ornamental fish culture	**2**	**44**	**2**	**46**	**3**	**1**	**4**	**47**	**3**	**50**
2.	**Income generation activities**										
2.a.	Tailoring, stitching, embroidery, dying etc.	**5**	**0**	**58**	**58**	**0**	**23**	**23**	**0**	**81**	**81**
3	**Agricultural Extension**										
3.a.	Beekeeping	**1**	**40**	**6**	**46**	**0**	**1**	**1**	**40**	**7**	**47**
	Grand Total	**8**	**84**	**66**	**150**	**3**	**28**	**28**	**87**	**92**	**178**

PART VIII – EXTENSION ACTIVITIES

Extension Programmes (including extension activities undertaken in FLD programmes)

Nature of Extension Programme	No. of Programmes	No. of Participants (General)			No. of Participants SC / ST			No.of extension personnel		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	10	130	58	188	9	10	19	47	25	72
Kisan Mela	1	1212	728	1940	78	34	112	37	28	65
Exhibition	12	1000s	1000s	1000s	100s	100s	100s	100s	100s	100s
Film Show	63	812	384	1196	83	34	117	18	11	29
Method Demonstrations	9	139	61	200	19	12	31	8	3	11
Farmers Seminar	9	573	344	917	60	55	115	235	115	350
Workshop	4	212	55	267	6	6	12	82	16	98
Group meetings	5	39	48	87	11	9	20	11	5	16
Lectures delivered as resource persons	3	322	117	439	37	26	63	7	9	16
Newspaper coverage	27	-	-	-	-	-	-	-	-	-
Radio talks	3	-	-	-	-	-	-	-	-	-
Popular articles	4	-	-	-	-	-	-	-	-	-
Extension Literature	100s	-	-	-	-	-	-	-	-	-
Advisory Services	2464	1401	812	2213	49	37	86	12	17	29
Scientific visit to farmers field	16									
Farmers visit to KVK	4087	2302	1712	4014	49	24	67	17	6	23
Diagnostic visits	25	45	6	51	2	1	3	6	6	12
Exposure visits	7	78	52	130	9	4	13	6	3	9
Field Visits	224	182	18	200	6	2	8	9	7	16
Ex-trainees Sammelan										
Soil health Camp	2	60	6	66	0	0	0	60	6	66
Animal Health Camp	2	33	18	51	3	2	5	2	1	3
Self Help Group Conveners meetings	2	0	19	19	0	3	3	1	1	2
Celebration of important days (specify)	3	12	17	29	1	1	2	1	0	1
Meetings attended	17	18	22	40	3	2	5	61	31	92
Consultancy services	667	512	11	523	6	2	8	19	7	26
Vaccination	11750	18	24	42	1	1	2	0	0	0
Total	**19416**	**8100**	**4512**	**12612**	**432**	**265**	**691**	**639**	**297**	**936**

PART IX – PRODUCTION OF SEED, PLANT AND LIVESTOCK MATERIALS

9.A. Production of seeds by the KVKs: Nil

9.B. Production of planting materials by the KVKs

Crop category	Name of the crop	Variety	Hybrid	Number	Value (Rs.)	Number of farmers to whom provided
Vegetable seedlings	Cabbage Cauliflower	NS183 NS 60-N	-	11790 10650	29475 26625	1160 963
Fruits	Mango	Sindhu	-	49	2940	45
Spices	Nutmeg	IISR Viswasree	-	104	13000	91
	Piper colubrinum	-	-	4913	39304	4778
	Bush pepper	Sreekara	-	3128	187680	2905
Total				**30634**	**299124**	**9942**

9.C. Production of Bio-Products

Bio Products	Name of the bio-product	Quantity (Kg)	Value (Rs.)	Number of farmers to whom provided
Bio-fungicide	*Trichoderma*	380	28500	510
Others	Pheromone traps	220 Nos	25875	197
	Mushroom spawn	251 kg	30120	382
	Vermicompost	2945	29450	92
Total			**113945**	**1181**

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	Pregnant heifer	6	63734	6
Goats	Malabari	7	31950	7
Poultry				
Layers	Gramasree	3617	3,61,700	427
Fisheries				
Fingerlings	Live bearer and egg laying freshwater Ornamental fishes	1851	15765	178
Total		**5481**	**473149**	**618**

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.)

Newsletter- KVK Kozhikode- Volume 7, No.1(January –June 2014), Hard copies : 50 , Soft copies: 80
Newsletter- KVK Kozhikode- Volume 7, No.2(July –December 2014), Hard copies : 50 , Soft copies: 80

(B) Literature developed/published

Item	Title	Authors name	Number
Technical bulletins	Wealth from waste – recycling of coconut inflorescence into value added Kera bouquet In:	Deepthi, A; Manoj, P.S. Prakash, K. M, Sasikumar, B and Aiswariya K. K	---

	Dinesh, R; Santhosh J Eapen; Senthil Kumar, C; M.Ramakrishnan Nair; Devasahayam, S; John Zachariah T and Anandaraj, M (Eds.). Abstracts, PLACROSYM XXI, International Symposium on Plantation Crops, ICAR-Indian Institute of Spices Research, Kozhikode, Kerala, India, pp189		
	Integration of traditional knowledge in the design and development of harvesting and post harvesting operations in plantation crops and spices. In: Dinesh, R; Santhosh J Eapen; Senthil Kumar, C; M.Ramakrishnan Nair; Devasahayam, S; John Zachariah T and Anandaraj, M (Eds.). Abstracts, PLACROSYM XXI, International Symposium on Plantation Crops	Prakash, K. M; Manoj, P.S. Arumuganathan, T and Sasikumar, B. 2014	----
Popular articles	Shrimp and ornamental fish farming promises better returns. In agriculture and Industry survey Magazine	Dr. B Pradeep	In Agriculture and Industry survey magazine-Feb 2015

10.B. Details of Electronic Media Produced: Nil

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

Success Story -1

1. Name of the farmer : John Joseph
Onamthuruthil (H)
P.O. Santhi Nagar
Omassery (via)
Kodencherry
Kozhikode

2. Age & DoB : 50 years (27th August 1963)

3. Education : M.A.(Philosophy)

4. Telephone No. : Land: 0495-2236260
Mob: 8547575260

5. Land holding : 15 acres

6. Background briefing:

Hailing from strong agricultural tradition, John was enticed by the beauty of grazing cattle and agriculture in the home yard in his childhood. After the college education his desire to become a model farmer like his ancestors flourished in him. After about 25 years of hard work he has developed a model mixed farming garden with sustained profitability in about 15 acres of ancestral share he received. There is a beautiful blending of various crops, poultry,

trees etc. with more emphasis on commercial dairying. He retains the title of maximum milk producer in the district for the last 5 years. He has bagged many awards to his credit. His present net income is Rs. 17.6 lakhs per annum.

7. Innovative technology developed/adopted

Soil and water conservation

In the beginning the sloppy hillock owned by him miserably subjected to runoff and soil erosion was affected with water scarcity in summer. As a first step he adopted terracing of the hill across the slope and pitching with stone. The entire 15 acre is now terraced and pitched with stone for effective prevention of soil erosion. Bamboos of different species are planted for additional soil binding across the slope.

Management of water resources

He has dug a huge pond (5 cent area) for harvesting rainwater and established drip irrigation system for most efficient use of water for plantation crops like coconut and spices like nutmeg pepper etc. He is also integrating fishery by rearing pearl spot in this pond. He is also following mulching of coconut basins for moisture conservation.

Scientific manuring

John is following scientific manuring on soil test basis with sufficient organic manuring utilizing the cow dung, urine and slurry produced in his own holding using slurry pump.

Conservation of biodiversity

The farm has diverse collection of varieties of fruits, spices, tubers, medicinal plants, vegetables, bamboos, breeds of livestock and poultry, both high yielding and elite to get a stable performance in climatic fluctuations. He is also maintaining honey bee colonies on special earthen pots to have better pollination in crops like coconut.

Fuel energy management

Energy requirement for cooking, drying etc. are entirely met from gober gas plant. He has no LPG connection.

8. Major innovations

A fodder bank of high yielding fodder grasses like Co3, Co4, Killikulam and Thumbermuzhi-1 are maintained with irrigation over 2 ha of land to ensure sufficient grasses which are chopped and given to the animals using chaff cutters to support nutritive requirement in addition to recommended level of concentrate. The farmer is practicing cross breeding of selected super cows with semen of exotic and indigenous super breeds and maintains only high yielding cows in the unit. He is carrying out HF x HF, HF x Jersey, HF x Sehival, H.F x Gir crosses with NDDB, ADS support and retains only cows with >25 lit milk production capacity at first calving. The special breeding using selected parents has resulted in the generation of disease resistant and climate resistant dairy animals to suit the local weather conditions. The male calf of the crosses are weaned and given for weal purpose. The dairy is maintained in low cost thatched /tiled roof with concrete floor lined with rubber mat. Screen filtered drinking water is supplied to dairy cows through channels for 24 hours. Milking machines are used for milking cows. The average daily production of milk is 400 litres which is collected from home itself by MILMA –a-cooperative body and by renowned hotels in the city.

The integration of poultry and ducks (Aseel cross) is very effective for managing flies, maggot, grubs, etc. in the dairy unit without the use of any chemicals.

9. Mixed farming

The farmer has adopted mixed farming following mechanization like chaff cutter, milking machine, microniser, palm climber, power spray etc. to suite the various needs. He is maintaining plant nurseries of pepper and nutmeg for own need.

The farmer has got the following components of crops and livestock for the successful running of the self-contained system.

Sl. No.	Name of crop/livestock	Quantity	Varieties/Breeds
1.	Coconut (>40 years)	700 nos.	WCT, TXD, DXT
2.	Nutmeg (>15 years)	400 nos.	Viswasree and 5 other High Yielding Varieties like Kochukudiyil, Kadukummakkal, Kinettunkara, Poovaramthode, Yellow mace nutmeg etc.
3.	Black pepper (>8 years)	300 nos.	Panniyur-1 to 5, Thommankodi, 6 IISR varieties, Karimunda, Vellamundi, Neelamundi etc.
4.	Fodder grass	2 ha	CO3, CO4, Killikulam & Thumbermuzhi-1
5.	Coffee (>10 years)	100 nos.	Hybrid CXR
6.	Banana	2000 nos.	Poovan, Robusta
7.	Tubers	3000	Elephant foot yam, Cassava (farmers selection), Colocasia, Dioscorea
8.	Vegetables	2 ha	Bitter gourd, Brinjal, Cowpea, Drumstick, curry leaf, cucumber, Amaranthus etc.
9.	Rubber	600 nos.	RRH-414 and RRH-430
10.	Fruit plant	400 nos.	Rambutan, Mangosteen, Papaya, Passion fruit
11	Dairy cow	50 nos.	Jersey, HF, Hybrids
12	Buffaloes	3	Jaffradabad, Murrah
13.	Poultry birds	50	Aseel poultry and ducks
14.	Trees (Timber)	500 nos.	Mahagony (*Swetessia mahagony*)
15.	Medicinal plants	1000 nos.	*Asoka, Vitex, Adathoda, Ravoulfia, Plumbago, Rudraksha, Alpinia, Calotropis, Euphorbia, Clitoria, Sida, Mimusops, Phyllanthus* etc.

10. Details of income realized/year

Sl.No.	Component	Quantity/ Number	Net income (Rs.)
1.	Coconut	17000 nuts	176800
2.	Pepper	300 kg	97500
3.	Coffee	500 kg	115500
4.	Areacanut	300 kg	7140
5.	Nutmeg seed	600 kg	168000
6.	Nutmeg mace	200 kg	112000
7.	Rambutan	200 kg	35200
8.	Mangosteen	100 kg	12750
9.	Banana	2000 kg	64000
10.	Rubber	2250 kg	35100
11.	Dairy	91250 lit	912500
12.	Others (Tubers, Vegetables etc.)	600 kg	25000
		Total	**1761490**

11. Awards and Recognitions

Sl.No.	Name of Award	Awarded by
1.	National Dairy Farmer Award 2011-2012	Department of Dairy & Fisheries, Ministry of Agriculture, Government of India.
2.	Best Dairy Farmer in Calicut 2011	MILMA
3.	Best Dairy in Kunnamangalam Block (2009-10)	ATMA., Dept. of Agriculture, Government of Kerala
4.	Trophy for Best *Ksheerakarshakan* in Malabar region (2012-13)	Dairy Department, Government of Kerala.

12. Spread effect on fellow farmer

All the high yielding fodder grass varieties like Co-3, Co-4, and Thumbermuzhi-1 are spread to fellow farmers in the neighbourhood and outside free of cost. The NDDB semen was distributed to the needy farmers for promotion of breed quality. A farm school of Dairy Department is run in the farm with exposure visit of about 60 selected dairy farmers every year to have own hand experience.

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

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

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

- Identification of courses for farmers/farm women- Based on feedback during kisan goshti, interaction at ATMA workshops and based on field survey.
- Rural Youth - Based on request received from groups, NGOs, SHGs etc.
- In-service personnel - Based on Departmental priorities and demand

10.G. Field activities

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

10.H. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab : Working

1. Year of establishment : 210
2. List of equipments purchased with amount :

Sl. No	Name of the Equipment	Qty.	Cost
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	130802
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
14	Double distillation unit	1	63250
15	Electronic balance	1	6800
Total		**15**	**498592**

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	2621	450	40	*
Water Samples	28	28	9	2800
Total	**2649**	**478**	**49**	**2800**

Details of samples analysed during the 2014-15:

Details	No. of Samples analysed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples	70	70	28	All the soil samples were analysed under the project entitled " Integrated Pepper Research and Development Project for North Kerala Districts"
Water Samples	2	2	2	200
Total	**72**	**72**	**30**	**200**

10.I. Technology Week celebration during 2014-15

Period of observing Technology Week : From 20th to 24th February 2015
Total number of farmers visited : 2500
Total number of agencies involved : 15
Number of demonstrations visited by the farmers within KVK campus: 18

Other Details

Types of Activities	No. of Activities	Number of Farmers	Related crop/livestock technology
Goshties	1	200	Production technology of coconut, Dairy animal management, ornamental fish culture
Lectures organized	15	450	Production technology of spices and plantation crops
Exhibition	13 stalls	1000's	Production technology of crops and allied fields
Film show	5	150	Production technology of spices and livestock
Fair	5	1000's	
Farm Visit	4	450	Production technology of spices and livestock
Diagnostic Practical's	4	300	Identification of pests and diseases of vegetables
Supply of Literature (No.)	8	450	Production technology of crops and allied fields
Supply of Seed (q)	1kg 1 q	75	Vegetable seeds Ginger seed
Supply of Planting materials (No.)	250	-	Spices and plantation crops, fruits etc.
Bio Product supply (Kg)	100 kg	-	*Trichoderma*
Bio Fertilizers (q)	-	-	-
Supply of fingerlings	-	-	-
Supply of Livestock specimen (No.)	-	-	-
Total number of farmers visited the technology week	-	2500	-

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

PART XI. IMPACT

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

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Propagation techniques and gardening	50	15	Nil	Rs.15,000 per person per year
Bee keeping	57	32	600	1800
Bush pepper production	45	28	500	Rs.18000/ year
Mushroom cultivation	72	25	Nil	Rs. 6000/year

11.B. Cases of large scale adoption: Nil

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

PART XII - LINKAGES

12.A. Functional linkage with different organizations

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.

Sl. No	Name of Organization	Nature of linkage
a.	Spices Board, Cochin	Market information on spices
b.	Directorate of Arecanut and Spices Development, Calicut	Information and technology aspects of arecanut, funding for training on spices
c.	Centre for Water Resources Development and Management, Calicut	Technology of watershed management, drip irrigation
d.	Coconut Development Board, Cochin	Technology of value addition in coconut products and information on coconut pest management, funding on training on mechanized coconut climbing
e.	Rubber Board, Kottayam	Technology on cultivation aspects of rubber and disease management
f.	M.S. Swaminathan Research Foundation, Chennai	Information on medicinal plants, organic farming and training faculty
g.	Central Plantation Crops Research Institute	Technology on coconut, arecanut and other plantation crops
h.	All India Radio, Calicut	Participating in Farm radio programs, wide publicity to KVK training programmes
i.	IDC Thamarassery (NGO)	Training, meetings, project review
j.	Fisheries Dept., Kozhikode, Malappuram, Kannur, NGO-COD Thamarassery	Training
k.	Line Departments of Agriculture, Animal Husbandry etc.	Organizing training programmes, seminars, field visits, ATMA MTA meetings etc.
l.	Kerala Horticultural Products Development Corporation	Training, funding for training on bee keeping.

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

Name of the scheme	Role of KVK	Date/ Month of initiation	Funding agency	Amount (Rs.)
Farmer Technology Transfer fund for production and supply of improved breeds of poultry chicks for backyard rearing and broiler farming	Production of layer/broiler chicks for supply to farmers at reasonable rates	November 2013	NABARD	7.00
Lead Enthusiastic Agriculturist to Develop farm by setting up an agriculture incubation centre at KVK, Kozhikode	To act as agri-incubation centre with technical support of KVK	March 2015	NABARD	7.30

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?

KVK provided technical guidance during the preparation of SREP

Coordination activities between KVK and ATMA during 2013-14

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks (if any)
01	Meetings	Monthly Technology Advisory Meetings	10	-	Preparation of technological advises for the ensuing months were undertaken, Diagnostic field visits were also conducted for addressing the problems discussed in the meetings
02	Diagnostic field visit	Field visit to farmers field	2.4	2	-
03	Kisan Goshties	Farmer scientist interaction	12	-	

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

MIDH sponsored for 3 training programmes on Production and Processing of Spices (Rs. 2.25 lakhs benefiting 150 farmers)

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

12.F. Details of linkage with RKVY : Nil

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 2013	3	753	32
May	4	778	56
June	5	792	18
July	0	0	0

August	4	803	12
September	3	814	22
October	4	818	49
November	5	823	17
December	4	831	9
January 2014	1	832	11
February	1	838	17
March 2014	2	882	41
Total for the year 2014-15	**36**	**8964**	**284**

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	Poultry unit	2013	43.8m^2	Gramasree, Vencob	-	10958	0.84	1078819	-
2	Dairy	2010	39.32m^2	Local breeds	-	Nil	1.83	Nil	-
3	Vermicompost	2008	9.00 m^2	-	-	2500 kg	0.11	25000	-
4	Nursery	1996	500m^2	-	-	32224	0.50	372722	-
5	Goatary	2009	64m^2	Malabari	-	14	2.78	51580	-
6	Ornamental fish	2011	50m^2	Guppy, platy etc.	-	1263	0.20	11115	-

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	-	0.3	WCT	Coconut	1217 Nos.	2100	6694	Base crop in homestead
Arecanut	1996	-	0.3	Mohitnagar	Ripe nuts	250 kg	1500	4500	10^{th} year of establishment. Due to Mahali disease yield was poor.
Spices	1994-2003	-	0.1	Nutmeg Viswasree	Scions for training.	-	-	-	Scion bank under top working or rejuvenation
Medicinal plants unit	2001	-	0.2	Different medicinal plants	-	-	1000	-	Used for conservation of germplasm
Black pepper	2001	-	0.2	Diff. HYV	-	-	2000	10000	Used for Bush pepper production

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*	380	8740	28500	-
2	Pheromone Traps	220	8360	24750	-

3	Mushroom spawn	251	5020	30120	210 farmers
4	Vermicompost	2941	-	29450	25 farmers

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

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1	Pregnant heifer	Crossbred	KVK	6	-	63734	
2	Goats	Malabari	KVK	7	-	31950	
3	Layer chicks	Gramasree	KVK	3617	79574	361700	
4	Freshwater edible fishes	Catla, Rohu, Mrigal, Grass carp, Pearlspot	Fresh fish	31Kg	1000	3170	Remaining fishes of earlier partially harvested stock
5	Freshwater ornamental fishes	Livebearers and egg laying verities	Ornamental fishes	1851	6000	15765	Low investment technology

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 2014	-	-	-
May 2014	-	-	-
June 2014	-	-	-
July 2014	-	-	-
August 2014	-	-	-
September 2014	1	5	-
October 2014	2	6	-
November 2014	33	7	-
December 2014	39	13	-
January 2015	26	12	-
February 2015	22	8	-
March 2015	15	7	Nil

13.F. Database management

S. No	Database target	Database created
1	District agricultural inventory	Updated and being maintained

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

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 Demonstrations	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)		
10.00 lakhs	9.62 lakhs	Pond for fish culture	5	2	7455	680	22	200	1 ha

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	000861	ICAR Unit, IISR, Kozhikode	30302810771	673002001	SBIN0000861
With KVK							

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

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	**Pay & Allowances**	87.83	87.83	87.83
2	**Travelling allowances**	1.2	1.19	1.19
3	**Contingencies**			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	1.29	1.27	1.28
B	POL, repair of vehicles, tractor and equipments	1.00	1.00	1.00
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	0.20	0.18	0.20
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	0.20	0.19	0.20
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	2.21	2.20	2.21
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	0.60	0.40	0.54
G	Training of extension functionaries	0.10	0.10	0.10
H	Maintenance of buildings	0.10	0.09	0.10
I	Extension activities	0.10	0.10	0.10
J	Farmers field school	0.10	0.10	0.10
K	Library	0	0	0
L	IFS	0.10	0.10	0.10
TOTAL (A)		**95.03**	**94.74**	**94.95**
B. Non-Recurring Contingencies				
1	**Works**			
2	**Equipments including SWTL & Furniture**			
3	**Vehicle** (Four wheeler/Two wheeler, please specify)			
4	**Library** (Purchase of assets like books & journals)			
TOTAL (B)				
C. REVOLVING FUND				
GRAND TOTAL (A+B+C)		**95.03**	**94.74**	**94.95**

14.C. 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 2012 to March 2013	0.47	20.79	13.15	8.11
April 2013 to March 2014	8.11	17.85	18.10	6.01
April 2014 to March 2015	6.01	8.78	17.46	-2.67

15. Details of HRD activities attended by KVK staff during 2013-14

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
Dr. K.K. Aiswariya	Subject Matter Specialist	Orientation course on IPM in important crops of Southern India with special reference to Karnataka, Kerala, Goa and Tamil Nadu	NBAIR, Bangalore	23/7/2014 to 25/7/2015
		Training on IIHR Technology-Neem soap	ICAR-IIHR	26/11/2014
		Orientation programme on mandatory activities of KVKs	KVK Bijapur	03/12/2014 to 06/12/14
Dr. P S Manoj	Subject Matter Specialist	Food safety	ICAR-IISR, Kozhikode	05/5/14 to 6/5/14
		Integrated Farming System	KAU, Thrissur	28/10/14 to 29/10/14
		Banana micro nutrient mixture	ICAR-IIHR, Bangalore	25/11/2014
K.M. Prakash	Subject Matter Specialist	Organic certification and internal control system management	Central Training Institute, KAU	14/10/2014 to 18/10/14

16. Please include any other important and relevant information which has not been reflected above

Farmers Field School

1. Title of Technology : Farmers' Field School- Production and supply of *Nutriladdu,* a supplementary food for pre-school and adolescents
2. Problem Definition : Malnutrition in young children and adolescents.
3. Technology demonstration: Preparation of *Nutriladdu* - using cereals (rice, wheat) millet (ragi), pulses, nuts, gingelly seed and jaggery.
4. Source of technology: Department of Food Science and Technology, Calicut University
5. Production system and thematic area:
   Thematic area **:-**Formulation of supplementary food for addressing malnutrition
6. Status

   On hand training was conducted for members of two SHGs in Perambra block. Three awareness classes on nutrition aspects and three method demonstrations on preparation of Nutriladdu were organized. Due to reduction of sanctioned budget from Rs.30000 to Rs10000, further study through *Anganwadies* could not be taken up.

SUMMARY FOR 2014-15

I. TECHNOLOGY ASSESSMENT

Summary of technologies assessed under various crops

Thematic areas	Crop	Name of the technology assessed	No. of trials
Integrated Crop Management	Black pepper	Growing grafted pepper with irrigation and without irrigation	5
Integrated Disease Management	Black pepper	Management of foot rot of black pepper	1
Resource Conservation Technology	Ginger	Assessment of transplanting technique for ginger using pro-trays	5
Total	**3**	**-**	**11**

Summary of technologies assessed under livestock

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials
Disease management	Dairy cow	Assessing the efficacy of termite soil for udder oedema	75
Production and management	Fisheries	Culture of Asian Sea bass (*Lates calcarifer*) in brackish water ponds	1
Total			76

Summary of technologies assessed under various enterprises: Nil

Summary of technologies assessed under Home Science: Nil

II. TECHNOLOGY REFINEMENT: Nil

III. FRONTLINE DEMONSTRATION

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
Paddy	Varietal Evaluation	Demonstration of high yielding short duration upland rice Vaisakh	-	10	1 ha	21	21	13.5	Duration: 112, % incidence of rice bug damage: 12, Straw yield (q/ha):52	108, 8, 36	49860	81000	31140	1.62	48735	66300	17565	1.36
Vegetables	Promotion of healthy leaf vegetables	Demonstration of a HYV of amaranthus viz. Renusree	-	5	0.50	110.60	110.60	22.68	Leaf spot incidence (%): 2.8	7.6	108510	199080	90570	1.84	108510	157762	49252	1.45

Spices and condiments			-														
Black pepper	Variety Introduction	Demonstration of foot rot tolerant high yielding pepper variety IISR Thevam	-	6	1 ha	--	--	-	-	-	-	-	-	-	-	-	-
Ginger	Organic Disease Management	Demonstration on use of PGPR encapsulated bio-capsules for management of soft rot of ginger	-	10	0.2	147.05	147.05	1.4	Disease incidence(%): 14	17	532500	1019002	486501.5	1.91	562500	1010050	447550	1.79
Plantation			-															
Coconut	Integrated Disease Management	Demonstration on integrated management of Tanjore wilt of coconut	-	10	0.86	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total	**-**	**41**	**3.56**													

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	Feeding management in dairy cattle	Demonstration on complete feed mixture (3 parts roughages and 1 part concentrates) in dairy cattle (NIANP, Bangalore)	-	20	20	M/y: 11 Fat: 3.3	8 2.9	75 27.58	-	-	175	498	315	2.8	105	280	175	2.6
Dairy	Feeding and disease management in dairy cattle Problem: Early lactation disorder leading to reduction in milk production	Feeding Anionic mixture (30-50 g per animal per day) to prevent milk fever in dairy cattle (TANUVAS, Chennai)	-	25	25	M/y: 10.5	7.5	80	-	-	210	595	385	2.8	130	263	133	2
		Total	**-**	**45**	**45**													

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
Fisheries	Fresh water fish culture	Seed production of pearlspot fish in fresh water area	-	10	10	Demo. under progress	-	-	-	-	-	-	-	-	-	-	-	-
	Total		**-**	**10**	**10**													

Other enterprises

Category	Name of the technology demonstrated	No. of KVKs	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.) or Rs./unit				*Economics of check (Rs.) or Rs./unit			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Fruits spices and vegetables	Production of value added products from fruits, vegetables and spices	-	10	10	-	-	-	-	-	170	250	80	1.5	164.93	209	44.06	1.3
Total		**-**	**10**	**10**													

Women empowerment: Nil

Farm implements and machinery: Nil

Demonstration details on crop hybrids: Nil

IV. Training Programme

Training for Farmers and Farm Women including sponsored training programmes (On campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Resource Conservation Technologies	1	37	11	48	1	1	2	38	12	50
Planting material production	1	24	11	35	2	1	3	26	12	38
Crop Diversification	1	50	0	50	2	0	2	52	0	52
Integrated Farming	2	64	36	100	8	3	11	72	39	111
Horticulture										
a) Vegetable Crops										
Organic vegetable production	1	10	7	17	1	1	2	11	8	19
b) Fruits										
Plant propagation techniques	3	70	9	79	-	-	-	70	9	79
Soil Health and Fertility Management										
Soil fertility management	1	35	5	40	0	0	0	35	5	40

Production and use of organic inputs	1	5	5	10	0	0	0	5	5	10
Micro nutrient deficiency in crops	1	21	9	30	0	0	0	21	9	30
Nutrient use efficiency										
Balanced use of fertilizers	1	8	7	15	0	0	0	8	7	15
Soil and water testing	1	15	2	17	0	0	0	15	2	17
Livestock Production and Management										
Dairy Management	6	124	35	159	45	22	67	169	57	226
Poultry Management	3	67	26	93	15	24	39	82	50	132
Rabbit Management	2	24	17	41	8	6	14	32	23	55
Animal Nutrition Management	6	77	24	101	23	11	34	100	35	135
Animal Disease Management	3	62	22	84	11	9	20	73	31	104
Feed and Fodder technology	2	33	12	45	9	5	14	42	17	59
Home Science/Women empowerment										
Designing and development for high nutrient efficiency diet	3	6	46	52	0	8	8	6	60	66
Value addition	9	23	178	201	0	40	40	23	218	241
Women empowerment	2	0	25	25	0	15	15	0	40	40
Rural Crafts	3	0	33	33	0	8	8	0	41	41
Plant Protection										
Integrated Pest Management	2	65	16	81	3	3	6	68	19	87
Integrated Disease Management	1	30	10	40	1	2	3	31	12	43
Production of bio control agents and bio pesticides	1	13	4	17	0	0	0	13	4	17
Others - IPDM	1	28	22	50	4	2	6	32	24	56
TOTAL	**58**	**891**	**572**	**1463**	**133**	**161**	**294**	**1024**	**739**	**1763**

Training for Farmers and Farm Women including sponsored training programmes (Off campus)

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Crop Production										
Resource Conservation Technologies	1	32	16	48	2	1	3	34	17	50
Crop Diversification	2	83	26	109	3	2	5	86	28	114
Integrated Crop Management	4	101	95	196	6	2	8	107	97	204
Integrated Nutrient Management	1	38	16	54	3	0	3	41	16	57
Production of organic inputs	1	48	16	64	2	2	4	50	18	68
Mushroom cultivation	2	42	32	74	2	2	4	44	34	78
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop	1	18	26	44	-	-	-	18	26	44
Organic vegetable production	3	114	52	166	6	6	12	120	58	178
Soil Health and Fertility Management										
Integrated water management	1	55	10	65	0	0	0	55	10	65
Balanced use of fertilizers	1	13	1	14	0	0	0	13	1	14

Soil and water testing	1	47	5	52	0	0	0	47	5	52
Livestock Production and Management										
Dairy Management	7	134	46	180	23	18	41	157	64	221
Poultry Management	2	11	46	57	12	4	16	23	50	73
Rabbit Management	1	6	11	17	2	2	4	8	13	21
Animal Nutrition Management	3	46	17	63	11	9	20	57	26	83
Animal Disease Management	4	78	34	112	22	8	30	100	42	142
Feed and Fodder technology	2	34	23	57	11	9	20	45	32	77
Plant Protection										
Integrated Pest Management	1	22	5	27	0	0	0	22	5	27
Integrated Disease Management	5	148	9	157	7	3	10	155	12	167
Bio-control of pests and diseases	2	36	7	43	4	1	5	40	8	48
Others - IPDM	2	69	27	96	2	0	2	71	27	98
Fisheries										
Integrated fish farming	1	4	3	7	7	0	7	11	3	14
Capacity Building and Group Dynamics										
Entrepreneurial development of farmers/youths	1	3	24	27	0	0	0	3	24	27
TOTAL	**49**	**1182**	**547**	**1729**	**125**	**69**	**194**	**1307**	**616**	**1922**

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	6	38	86	124	1	1	2	39	87	126
Mushroom Production	1	18	22	40	0	0	0	18	22	40
Bee-keeping	1	40	6	46	0	1	1	40	7	47
Rural Crafts	5	0	58	58	0	23	23	0	81	81
Dairying	2	24	22	46	8	9	17	32	31	63
Sheep and goat rearing	5	89	12	101	6	4	10	95	16	111
Rabbit farming	1	12	5	17	5	3	8	17	8	25
Poultry production	1	5	18	23	9	4	13	14	22	36
Ornamental fisheries	1	13	3	16	0	0	0	13	3	16
Composite fish culture	3	65	34	99	3	1	4	68	35	103
Propagation of pepper and bush pepper	2	43	43	86	1	1	2	44	44	88
Production technology of pepper	2	44	42	86	1	1	2	45	43	88
Any other - Preparation and use of organic pesticides and bio control agents	1	23	0	23	4	1	5	27	1	28
TOTAL	**31**	**414**	**351**	**765**	**38**	**49**	**87**	**452**	**400**	**852**

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
Planting material production	1	34	50	84	1	1	2	35	51	86
Mushroom Production	1	24	14	38	1	1	2	25	15	40
Dairying	2	23	11	34	6	4	10	29	15	44
Poultry production	1	5	25	30	3	11	14	8	36	442
Ornamental fisheries	5	119	62	181	3	0	3	122	62	184
Composite fish culture	4	165	43	208	6	1	7	171	44	215
TOTAL	**14**	**370**	**205**	**575**	**20**	**18**	**38**	**390**	**223**	**1011**

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
Nursery management	1	26	8	34	1	1	2	27	9	36
Cultivation of hybrid vegetables	1	28	6	34	0	0	0	28	6	34
Production technology of spices and plantation crops	1	5	0	5	0	0	0	5	0	5
Organic farming practices	2	45	47	92	1	1	2	46	48	94
Recent advances in aquaculture	1	5	2	7	0	0	0	5	2	7
Mussel farming	1	1	1	2	0	0	0	1	1	2
Total	**7**	**110**	**64**	**174**	**2**	**2**	**4**	**112**	**66**	**178**

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
Integrated Pest Management	1	15	15	30	0	0	0	15	15	30
Production technology of spices and plantation crops	2	16	16	32	2	1	3	18	17	35
Pest Surveillance and Plant Health Management	2	13	28	41	1	0	1	14	28	42
Value addition	1	4	15	19	2	4	6	6	19	25
Total	**6**	**48**	**74**	**122**	**5**	**5**	**10**	**53**	**79**	**132**

Sponsored training programmes

S.No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	**Crop production and management**										
1.a.	Increasing production and productivity of crops	6	153	108	261	12	8	20	165	116	281
1.b.	Organic farming	1	30	15	45	2	1	3	32	16	48
2	**Others**										
2.a	IPDM of crops	8	206	21	227	11	4	15	217	25	242
2.b	Pest Surveillance and Plant Health Management	2	13	28	41	1	0	1	14	28	42
2.c	Beekeeping as an income generating enterprise and for increased productivity of crops	1	40	6	46	0	1	1	40	7	47
	Total	**18**	**442**	**178**	**620**	**26**	**14**	**40**	**468**	**192**	**660**

Details of Vocational Training Programmes carried out for rural youth

S.No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1.	**Livestock and fisheries**										
1.a.	Others - Ornamental fish culture	2	44	2	46	3	1	4	47	3	50
2.	**Income generation activities**										
2.a.	Tailoring, stitching, embroidery, dying etc.	5	0	58	58	0	23	23	0	81	81
3	**Agricultural Extension**										
3.a.	Beekeeping	1	40	6	46	0	1	1	40	7	47
	Grand Total	**8**	**84**	**66**	**150**	**3**	**28**	**28**	**87**	**92**	**178**

V. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Field Day	10	207	72	279
Kisan Mela	1	2052	65	2117
Exhibition	12	0	100s	-
Film Show	63	1313	29	1342
Method Demonstrations	9	231	11	242
Farmers Seminar	9	1032	350	1382
Workshop	4	279	98	377
Group meetings	5	107	16	123
Lectures delivered as resource persons	3	502	16	518
Newspaper coverage	27	-	-	-
Radio talks	3	-	-	-
Popular articles	4	-	-	-
Extension Literature	100s	-	-	-
Advisory Services	2464	2299	29	2328
Scientific visit to farmers field	16	0		0
Farmers visit to KVK	4087	4081	23	4104
Diagnostic visits	25	54	12	66
Exposure visits	7	143	9	152
Field Visits	224	208	16	224
Ex-trainees Sammelan	-	-	-	-
Soil health Camp	2	66	66	132
Animal Health Camp	2	56	3	59
Self Help Group Conveners meetings	2	22	2	24
Celebration of important days (specify)	3	31	1	32
Meetings attended	17	45	92	137
Consultancy services	667	531	26	557
Vaccination	11750	44	0	44
Total	**19416**	**13303**	**936**	**14239**

Details of other extension programmes

Particulars	Number
News Letter	2
News paper coverage	27
Technical Bulletins	2
Radio Talks	3
Popular articles	4
Animal health amps (Number of animals treated)	2
Total	**40**

VI. PRODUCTION OF SEED/PLANTING MATERIAL

Production of seeds by the KVKs: Nil

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	Cabbage Cauliflower	NS183 NS 60-N	11790 10650	29475 26625	1160 963
Fruits	Mango	Sindhu	49	2940	45
Spices	Nutmeg	IISR Viswasree	104	13000	91
	Piper colubrinum	-	4913	39304	4778
	Bush pepper	IISR Sreekara	3128	187680	2905
Total			**30634**	**299124**	**9942**

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity (Kg)	Value (Rs.)	Number of farmers to whom provided
Bio-fungicide	*Trichoderma*	380	28500	510
Others	Pheromone traps	220 Nos	25875	197
	Mushroom spawn	251 kg	30120	382
	Vermicompost	2945	29450	92
Total			**113945**	**1181**

Production of livestock and related enterprise materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	Number of farmers
Dairy animals				
Cows	Pregnant heifer	6	63734	6
Goats	Malabari	7	31950	7
Poultry				
Layers	Gramasree	3617	3,61,700	427
Fisheries				
Fingerlings	Live bearer and egg laying freshwater Ornamental fishes	1851	15765	178
Total		**5481**	**473149**	**618**

VII. DETAILS OF SOIL, WATER AND PLANT ANALYSIS 2013-14

Samples	No. of Samples	No. of Farmers	No. of Villages	Amount realized (Rs.)
Soil	70	70	28	All the soil samples were analyzed under the project entitled " Integrated Pepper Research and Development Project for North Kerala Districts"
Water	2	2	2	200
Total	**72**	**72**	**30**	**200**

VIII. SCIENTIFIC ADVISORY COMMITTEE

Number of SACs conducted: One
Date: 19.11.2014

IX. NEWSLETTER

Number of issues of newsletter published: Two
Newsletter- KVK Kozhikode- Volume 7, No.1(January –June 2014), Hard copies : 50
Newsletter- KVK Kozhikode- Volume 7, No.2(July –December 2014), Hard copies : 50

X. 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.)**
5	**2**	**7455**	**680**	**22**

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