ANNUAL REPORT 2013-14

(FOR THE PERIOD APRIL 2013 TO MARCH 2014)

KRISHI VIGYAN KENDRA (IDUKKI)

PART I - GENERAL INFORMATION ABOUT THE KVK

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

KVK Address	Telephone		E mail	Web Address
	Office	Fax		
Bapooji Krishi Vigyan Kendra, Santhanpara P.O., Idukki (Dt.), Pin-685619, Kerala.	04868 – 247541, 247715.	04868 – 247715	kvksanthanpara@gmail.com	www.kvkidukki.org

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

Address	Telephone		E mail	Web Address
	Office	Fax		
Bapooji Sevak Samaj, Kakkattu, Meenadom P.O., Pampady, Kottayam (Dt.), Pin-686 516, Kerala.	0481-2506271 +919446826019	Nil	bkvkchairperson@gmail.com	www.kvkidukki.org

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. Benjamin Mathew, Programme Coordinator i/c.	Nil	9447095299	benjaminbkvk@gmail.com

1.4. Year of sanction: 1994.

1.5. Staff Position (as 31st March 2014)

Sl. No.	Sanctioned post	Name of the incumbent	Designation	M/F	Discipline	Highest Qualification (for PC, SMS and Prog. Asst.)	Pay Scale	Basic pay	Date of joining KVK	Permanent /Temporary	Category (SC/ST/ OBC/ Others)
1	Programme Coordinator	Vacant	Programme Coordinator	-	-	-	-	-	-	-	-
2	SMS	Dr. S. Jayababu	Subject Matter Specialist	M	Animal Science	B.V.Sc. in Animal Husbandry	15600-39100	21000	19-06-1995	Permanent	Others
3	SMS	Manju Jincy Varghese	Subject Matter Specialist	F	Soil Science	M.Sc. Agriculture (Soil Science)	15600-39100	21000	10-01-2011	Permanent	Others
4	SMS	Dr. Benjamin Mathew	Subject Matter Specialist	M	Horticulture / Extension	Ph.D. Horticulture	15600-39100	21000	17-01-2011	Permanent	Others
5	SMS	Dr. Binu John Sam	Subject Matter Specialist	M	Horticulture	Ph.D. Horticulture	15600-39100	21000	17-01-2011	Permanent	Others
6	SMS	Sudhakar Soundarajan	Subject Matter Specialist	M	Plant Protection	M.Sc. Agricultural Entomology, MBA	15600-39100	21000	27-01-2011	Permanent	OBC
7	SMS	Vacant	Subject Matter Specialist	-	-	-	-	-	-	-	-
8	Programme Assistant (Lab Tech.) / T-4	Jayisy Joseph	Programme Assistant	F	Home Science	M. Sc. Home Science (Extension for Rural Development)	9300-34800	13500	20-06-1995	Permanent	Others
9	Programme Assistant (Computer) / T-4	Biju Narayanan	Programme Assistant	M	Computer Application	M.C.A., PGDCA	9300-34800	13500	01-10-2007	Permanent	OBC
10	Programme Assistant/ Farm Manager	Rachel Skariakutty	Programme Assistant	F	Rural craft	M.A. Sociology (P.G. Diploma in Rural Development)	9300-34800	13500	05-06-1995	Permanent	Others

11	Assistant	Shaji. K. Kakkattu	Assistant	M	-	-	9300-34800	13500	05-06-1995	Permanent	Others
12	Jr. Stenographer	Daisy Daniel	Jr. Stenographer	F	-	-	5200-20200	7100	05-06-1995	Permanent	Others
13	Driver	P. Nandagopal	Driver	M	-	-	5200-20200	7200	05-06-1995	Permanent	OBC
14	Auxiliary Staff	K.T. Mathew	Peon/ Messenger	M	-	-	5200-20200	7000	05-06-1995	Permanent	Others
15	Supporting Staff-1	K.O. Jose	Skilled Supporting Staff-1	M	-	-	5200-20200	7000	05-06-1995	Permanent	Others
16	Supporting Staff-2	P. Sabu	Skilled Supporting Staff-2	M	-	-	5200-20200	7000	05-06-1995	Permanent	Others

1.6. Total land with KVK (in ha) **:** 27.60 ha.

S. No.	Item	Area (ha)
1	Under Buildings	0.074 ha
2.	Under Demonstration Units	0.5 ha
3.	Under Crops	0.5 ha
4.	Orchard/Agro-forestry	0.5 ha
5.	Others	26.026 ha

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.)	Starting Date	Plinth area (Sq. m)	Status of construction
1.	Administrative Building	ICAR	2002	740	47,85,208.10	-	-	-
2.	Farmers' Hostel	NA	-	-	-	-	-	*Master Plan & Estimate submitted. Sanction pending.*
3.	Staff Quarters	NA	-	-	-	-	-	-
4.	Demonstration Units							
	1. Duck cum fish culture unit.	RF	2009	50	7,000.00	-	-	-
	2. Mushroom unit	Grama Panchayath, Santhanpara	2002	10	85,000.00	-	-	-
	3. Spawn production unit	SHM	2009	10	3,00,000.00	-	-	-
	4. Mist Chamber	SHM	2009	96	2,72,832.00	-	-	-
	5. Rain Shelter	SHM	2009	50	1,04,091.00	-	-	-
5	Fencing	NA	-	-	-	-	-	*Urgent requirement as the area is constantly facing intuition of wild animals and other intruders*

6	Rain Water harvesting system	NA	-	-	-	-	-	-
7	Threshing floor	NA	-	-	-	-	-	-
8	Farm godown	NA	-	-	-	-	-	-
9	Vehicle garage							*Urgently required*

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Mahindra Bolero SLE	May - 2012	5,78,380.36	39156.2	Good condition.
Motor Bike (Suzuki Shogun)	January - 1995	37,972.78	8828	In running condition with poor fuel efficiency.
Honda Aviator	March - 2009	50,000.00	9329.8	Running condition

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
A.V. aids (Specify)			
Television	1995	20,894.00	Not working
GE OHP	1996	7,100.00	Good but not in use
2ET Slide Projector	1996	11,556.00	Not working
Sharp Video Player	1996	10,000.00	Not working
Pentax SLR Camera	1996	13,599.15	Not working
Public Address System	2003	26,755.00	Good
Power Generator	2003	32,492.00	Good
LCD Projector (EPSON – EBW8)	2010	55,186.00	Good
Liberty Show Juno 5 x 7 (MW) Screen	2010	5,885.00	Good
Soil Science Lab Equipments (Specify)			
KEMI HOT PLATE with Energy Regulator	2006	5,400.00	Bad
Electronic Balance	2006	1,00,000.00	Under use but needs repair
Physical Balance	2006	8,991.00	Good
Spectrophotometer	2006	1,17,499.00	Under use but needs repair
Electronic Automatic KEL PLUS model KES 12L (Nitrogen Analyzer)	2006	97,043.00	Under use but needs repair
Conductivity Meter (PH Meter Utech 510)	2006	21,935.00	Under use but needs repair
HOT AIR OVEN	2006	13,725.00	Good
Water bath WDB2 350 x 400 100mm Size 12	2006	41,895.00	Good
Flame Photometer	2006	45,000.00	Under use but needs repair
Conductivity Meter	2006	13,500.00	Not working and requires new
LG 280 Litre Fridge Model – GI 296 TM V-Guard Stabilizer	2006	250.00	Good
Mixer grinder 750 Watts	2006	4,500.00	Bad and requires new
Online UPS System with Battery	2006	36,916.00	Needs repair
Fume Cupboard KEMI	2006	2,68,192.00	Good
Bio-control Lab Equipments			
Laminar Flow Chamber	2000	50,000.00	Under use but needs repair
Refrigerator	2000	10,760.00	Under use but needs repair
Chemical Balance	2000	1,800.00	Bad and required new
Auto Clave	2000	19,000.00	Bad and required new
Step up Stabilizer	2008	4,595.00	Good
Other Equipments			
FACIT Typewriter (Malayalam)	1995	9,735.00	Bad and not in use
FACIT Typewriter (English)	1995	9429.00	Bad and not in use
Stencil Duplicator	1995	13,700.00	Bad and not in use
Computer with Printer	2003	49,750.00	Obsolete, needs to be replaced by a laptop & printer
Photostat Machine	2003	80,000.00	Bad and outdated machine, urgently requires a new machine
Brush Cutter	2009	23,726.00	Good
Fax Machine	2009	15,000.00	Needs Repair

Laptop Computer (DELL Studio 14 N)	2010	37,150.00	Good
Inkjet Printer (Epson TX 111 AIO)	2010	1,779.00	Good

1.8. Details SAC meeting conducted in 2013-14

Sl. No.	Date	Number of Participants	No. of absentees	Salient Recommendations	Action taken
1.	11/12/2013	28	2	• Recommendation of micro-nutrient sprays should be based only on soil test reports • Organic management in Cabbage & Cauliflower should be emphasized • More importance should be given to soil test based fertilizer recommendations to crops • Demonstration units on Animal Husbandry should be strengthened • More stress to promote organic farming • Increase the number of demonstration units • Production of vegetable seed and quality planting materials should be improved • Women empowerment should be emphasized • Zinc and Boron deficiency is reported in many parts of Idukki district. A scientific intervention and compilation of soil test reports should be done by Bapooji KVK with the support of State Agriculture Department, VFPCK & ICRI to solve this problem • Home Science FLD/OFTs should be linked with other disciplines • Awareness on methods of proper hygiene should be given during food processing training programmes • Manual Chaff cutter should be included in fodder crops interventions • Animal health campaigns should be given more emphasis • More emphasis should be given on Hi-Tech vegetable cultivation and mechanization in paddy • Lead bank officials suggested to improve the linkages on financial literacy centre's	• FLDs are proposed for 2014-15 • Awareness campaigns are planned • OFTs & FLDs are proposed • Initiated demo units of poultry, rabbit etc. • Awareness campaigns are planned • Activities initiated • Participatory mode of seed production planned • Action initiated • Action initiated • FLDs proposed • Awareness method of proper hygienic are included in food processing training schedules • FLDs proposed • FMD awareness campaigns planned during next month • Training programmes are included on hi-tech vegetable cultivation • EDP training programmes are included with the consultant of FLC

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	Cardamom and Pepper based farming system in the High Ranges of the District
2	Paddy belts in specific locations
3	Homestead based farming
4	Tea plantation
5	Vegetables (Bitter gourd & Cowpea)
6	Cool season vegetables in Devikulam Block
7	Banana cropping
8	Rubber as mono-crop
9	Dairying

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

S. No	Agro-climatic Zone	Characteristics
1.	Zone-XIII	High Ranges
2.	Zone-VII	*Malayoram*
3.	High altitude zone – Vattavada & Kanthalloor	Climate suitable for cool season vegetables and temperate fruits

S. No	Agro ecological situation	Characteristics
1.	Agro Ecological Zone-1	Major part is mono-cropped with rubber, other areas - homestead farming is practiced with tapioca, banana and vegetables, altitude up to 500M above mean sea level, humid tropics spread over the zone. South West and North East monsoon are active and moderately distributed. South West monsoon with June maximum (South of 11^0 N latitude)
2.	Agro Ecological Zone-2	Major cropping pattern – Pepper, Cardamom, Coffee, Areca nut, Cocoa and Rubber intercropped, altitude 500M above mean sea level, humid tropics spread over the zone. Steep slopes
3.	Agro Ecological Zone-3	High altitude zone – Vattavada & Kanthalloor. Cool season vegetables occupy major area. Potato, temperate fruits are grown in a small scale. Zone includes the only wheat-growing tract of Kerala. North-East monsoon is prominent.

2.3 Soil type/s

S. No.	Soil type	Characteristics	Area in ha
1.	Manakkattu series	Clayey very deep, developed from gneissic parent material	-
2.	Cheenikuzhy series	Fine loamy texture	-
3.	Thommankuthu series	Clayey texture	-
4.	Venmani series	Clayey texture	-
5.	Marayoor series	Clay loam to clayey texture	-
6.	Pampadumpara series	Clayey texture	-

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

S. No	Crop	Area (ha)	Production (Metric tons)	Productivity (kg /ha)
1	Cardamom	32723	7232	250
2	Pepper	87274	30919	354
3	Banana	2665	23265	8730
4	Rice	1819	4744	2608
5	Coconut	17012	80 million nuts	5209 (Numbers/ha)
6	Tapioca	6223	240290	37883
7	Coffee	12915	8150	616
8	Tea	24648	44192	1514

Source of Data: - Economics and Statistics Department, Kerala State.

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

2.5. Weather data

Month	Rainfall (mm)	Temperature ^{0} C		Relative Humidity (%)
		Maximum	Minimum	
April 2013	178.6	29.0	17.9	97.1
May 2013	24.9	28.3	19.2	96.9
June 2013	203.3	25.0	18.1	98.9
July 2013	182.2	24.7	17.8	99.0
August 2013	290.0	23.6	17.4	99.4
September 2013	148.40	25.4	17.7	98.2
October 2013	327.9	26.1	17.7	97.3
November 2013	150.8	26.6	16.6	94.8
December 2013	12.7	24.5	16.3	94.8
January 2014	5.6	23.6	13.8	95.3
February 2014	4.10	26.6	15.3	93.7
March 2014	11.2	27.6	16.5	85.6

Source of Data: - Indian Cardamom Research Institute, Myladumpara, Idukki.

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

Category	Population	Production	Productivity
Cattle			
Crossbred	90081	234638 ton (Milk) & 9090.87 MT (meat)	-
Indigenous		809 ton (milk)	-
Buffalo	5627	1181 ton (milk) & 7385.62 MT (meat)	-
Sheep			
Crossbred	25		-
Indigenous			
Goats	97974	5898 ton (Milk) & 692.10 MT (meat)	-
Pigs			
Crossbred	11631	3136.5 MT (Meat)	-
Indigenous			
Rabbits	39628	-	-
Poultry			
Hens	531501	8.64 crores (Egg)	-
Desi		3.38 crores (Egg)	-
Improved		5.25 crores (Egg) & 12019.8 MT (Meat)	-
Ducks		1.21 crores (Egg)	-
Turkey and others		-	-

Category	Area	Production	Productivity
Fish	-	-	-
Marine	-	-	-
Inland	-	-	-
Prawn	-	-	-
Scampi	-	-	-
Shrimp	-	-	-

Source of Data: - District Animal Husbandry Office, Thodupuzha, Idukki.

2.7 District profile has been **Updated** for 2013-14 Yes / No: Yes

2.8 Details of Operational area / Villages

Sl. No.	Taluk	Name of the block	Name of the village	How long the village is covered under operational area of the KVK (specify the years)	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Udumbanchola	Nedumkandam & Kattappana	Anakkara, Anavilasom, Ayyappankoil, Chakkupallom, Chathurangappara, Chinnakanal, Kalkoonthal, Kanthippara, Karunapuram, Kattappana, Konnathady, Pampadumpara, Parathodu, Pooppara, Pottankadu (Bison Valley), Rajakkad, Rajakumary, Santhanpara, Thankamany, Udumbanchola, Upputhodu, Vathikudy, Vandanmedu & Senapathy	1995 onwards	Cardamom, Pepper, Ginger, Banana, Vegetables, Rice. Dairy cattle, goat, quail & poultry.	1) Unscientific crop management practices. 2) Use of local varieties of crops with poor yield potential. 3) Heavy pest & disease incidence in crops. 4) Infertility problem in dairy cows. 5) Poor growth performance and production. 6) Heavy infestation of shoot borer in ginger. 7) Heavy infestation of cardamom root grub.	1) Productivity improvement of major crops. 2) Introduction of high yielding improved crop varieties, livestock and poultry breeds. 3) Farm mechanization. 4) Integrated Pest and Disease Management (IPDM) in major crops. 5) Scientific management of livestock & poultry. 6) Self-employment and Income generation of rural youth & women. 7) Value addition of farm produce. 8) Trial on cultural method of shoot borer control in ginger. 9) Varietal trial of root grub resistant Thiruthali variety cardamom.
2	Peermedu	Azhutha	Elappara, Kokkayar, Kumily, Manjumala, Mlappara, Peerumedu, Periyar, Peruvanthanam, Upputhara & Vagamon	1995 onwards	Tea, Coffee, Cardamom. Dairy cattle, goat, poultry & piggery.	1) Unscientific crop management. 2) Heavy pest & disease incidence in crops. 3) Infertility problem in dairy animals. 4) Mastitis. 5) Ecto and endo parasitic infestation.	1) Productivity improvement of major crops. 2) IPDM in major crops. 3) Scientific management of livestock & poultry. 4) Trial on pest resistant cardamom variety.

3	Devikulam	Devikulam & Adimali	Anaviratty, Kannan Devan Hills, Kanthalloor, Keezhanthoor, Kottakomboor, Kunjithanny, Mankulam, Mannamkandam, Marayoor, Pallivasal, Parathode Pullukandam Vattavada & Vellathooval	1995 onwards	Cardamom, Pepper, Tea, Rice. Dairy cattle, goat, poultry & piggery.	1) Unscientific crop management practices. 2) Heavy pest & disease incidence in crops. 3) Mastitis and ecto & endo parasitic infestation. 4) Poor growth rate and body weight gain in dairy calves. 5) Lack of entrepreneurship among rural youth and women. 6) Low productivity in pepper due to depletion of soil organic matter.	1) Productivity improvement of major crops. 2) Integrated Pest and Disease Management (IPDM) in major crops. 3) Scientific management of livestock & poultry. 4) Self-employment and Income generation of rural youth & women. 5) Popularization of consortium bio fertilizers.
4	Thodupuzha	Thodupuzha, Elamdesom & Idukki	Alakkodu, Arakkulam, Elappally, Idukki, Kanjikkuzhy, Karikkodu, Karimannoor, Karimkulam, Kodikkulam, Kudayathoor, Kumaramangalam, Manakkad, Muttom, Neyyasserry, Purappuzha, Thodupuzha, Udumbannoor, Vannapuram & Velliyamattam	1995 onwards	Rubber, Coffee, Coconut, Vegetables, Tree spices, Tapioca, Rice. Dairy cattle, goat, poultry, piggery & turkey.	1) Unscientific crop management practices. 2) Lack of entrepreneurship among rural youth and women. 3) Mastitis and infertility problem in dairy animals. 4) Labour shortage in paddy farming.	1) Productivity improvement of major crops. 2) Self-employment and Income generation of rural youth & women. 3) Scientific management of livestock & poultry.

2.9 Priority thrust areas:

S. No.	Thrust area
1.	Integrated Nutrient Management in major crops
2.	IPDM in major Plantation and Vegetable crops
3.	Integrated sustainable farming system models
4.	Organic agriculture
5.	Scientific management of livestock and poultry
6.	Scientific fertility management
7.	Improvement in reproductive efficiency in dairy cattle
8.	Feed and nutrient management in livestock

PART III - TECHNICAL ACHIEVEMENTS

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

OFT				FLD			
1				2			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
9	9	44	44	10	10	75	75

Training				Extension Programmes			
Number of Courses		Number of Participants		Number of Programmes		Number of participants	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
75	101	3500	4066	250	293	1250	1397
Seed Production (Qtl.)				**Planting materials (Nos.)**			
Target		Achievement		Target		Achievement	
Vegetable seeds – 0.05q		Vegetable seeds – 0.0264q		Spices – 7000 nos.		Spices – 6752 nos.	
Mushroom spawn – 12q		Mushroom spawn – 9.65q		Ornamental crops – 2000 nos.		Ornamental crops – 1113 nos.	
Livestock, poultry strains and fingerlings (No.)				**Bio-products (Kg)**			
Target		Achievement		Target		Achievement	
Vigova Super M Duck-200 nos.		Vigova Super M Duck-200 nos.		Pseudomonas – 1000 L		Pseudomonas – 1250 L	
				Trichoderma – 500 L		Trichoderma – 114 L	
				EPN-8000 nos.		EPN-22550 nos.	
				Vermicompost – 30q		Vermicompost – 20q	

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

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions										
				Title of OFT if any	Title of FLD if any	Number of Training (farmers)	Number of Training (Youths)	Number of Training (extension personnel)	Extension activities (No.)	Supply of seeds (Qtl.)	Supply of planting materials (No.)	Supply of livestock (No.)	Supply of bio products	
													No.	Kg
1	Self-employment and Income generation of rural youth & women.	Mushroom	High cost of paddy straw due to its limited availability	Alternate media for growing oyster mushrooms	-	3	2	0	0	Spawn 60 pkts	-	-	-	-
2	Integrated Crop Management	Black Pepper	High incidence of P & D in living standards of black pepper.	Use of concrete poles as standards in Black Pepper	-	0	0	0	2	-	-	-	-	-
3	Integrated Nutrient Management	Cowpea	Indiscriminate use of chemical inputs	-	Use of microbial consortium for organic production of cowpea	3	0	0	0	-	-	-	-	VAM – 10 kg Panchagavyam – 10 kg Trichoderma – 20 lit Pseudomonas – 20 lit
4	Productivity improvement of major crops.	Banana	Low productivity	-	High density planting in banana	1	0	0	0	-	Suckers 1000 no.	-	-	
5	Integrated Crop Management	Bitter gourd	Unscientific Nutrient Management		Demonstration o f PGPR – Mix 1 on productivity of Bitter Gourd	3	2	1			Seed (0.05)			
6	Integrated Crop Management	Cow Pea	Unscientific Nutrient Management		Demonstration o f of IIHR Vegetable Nutrient mixture in cow pea Var. Vellayani Jothika	2	2	1			Seeds (0.05)			

7	IPM	Bitter Gourd	Indiscriminate use of PP chemical		Pheromone traps for management of fruit fly in Bitter gourd	4	2	2			Seeds (0.05)			
8	Varietal evaluation	Cardamom	Heavy infestation of root grub	Varietal trial of Thiruthali cardamom variety	-	3	-	-	2	-	-	-	-	-
9	Varietal evaluation	Black Pepper	High susceptibility to foot rot disease of cultivated varieties only available	Assessment of suitable Black Pepper Foot rot (Quick wilt) resistant variety for Idukki district	-	2	-	-	-	-	300 Rooted cutting	-	-	-
10	IPM	Cardamom	Young suckers with dead heart symptoms and indiscriminate use of PPC	Management of shoot fly, *Formosina flavipes* Mall. in small cardamom	-	3	-	-	-	-	-	-	-	-
11	IPM	Banana	Incidence of pseudostem weevil causes heavy yield loss	Assessment of Banana Pseudostem Weevil with Cassava based bio-pesticides	-	5	-	-	-	-	-	-	Beauveria Menma	2.6 kg 2 litres
12	INM	Black Pepper	Low productivity due to unscientific soil and nutrient management	-	Microbial Consortium bio fertilizers in black pepper	3	-	-	-	-	-	-	Azosprillum Phosphobacteria VAM Neem cake	25 kg 25 kg 110 kg 1000 kg
13	IPM	Cardamom	Low productivity due to poor pollination and Heavy infestation of root grub leading to heavy usage of PPC	-	Popularization of apiculture and EPN for increase in productivity and reducing root grub menace in cardamom	2	-	-	-	-	-	-	Bee box with hives EPN	10 Nos. 5330 nos.
14	IPM	Banana	Incidence of pseudo stem weevil causes heavy yield loss	-	Biological control of banana pseudo t stem weevil	3	-	-	-	-	-	-	Beauveria	35 kg
15	Crop improvement	Black Pepper	Less berry filling, non-uniform ripening and berry shedding	Management of berry drop in black pepper	-	2	-	-	2	-	-	-	-	-
16	INM	Cardamom	Poor soil fertility status	-	Integrated Nutrient Management in cardamom	5	-	-	5	-	-	-	-	-
17	Crop improvement	Black Pepper	Lower rooting percentage	-	Effective application of Azospirillum and VAM for better rooting in black pepper nursery	2	-	-	3	-	-	-	-	-

18	Improvement in reproductive efficiency of dairy cattle	Dairy cattle	Low reproductive efficiency and long inter calving period	Fertility management in repeat breeder cows following double PGF2 α injection	-	4	-	-	2	-	-	-	-	-
19	Feed and nutrient management in livestock	Dairy cattle	Poor growth performance & low milk production	Effect of rumen specific yeast (Saccromyces cervisiae) on growth, disease resistance & milk production in lactating animals	-	3	-	-	2	-	-	-	-	-

3.B2. Details of technology used during reporting period

S. No.	Title of Technology	Source of technology	Crop/enterprise	No. of programmes conducted			
				OFT	FLD	Training	Others (Specify)
1	2	3	4	5	6	7	8
1	Alternate media for growing oyster mushrooms	KAU, TNAU	Mushroom	1	0	5	Field visits – 10 FAS – 20 Demonstrations - 5
2	Use of concrete poles as standards in Black Pepper	KAU, IISR	Black Pepper	1	0	0	Field visits - 2
3	Use of microbial consortium for organic production of cowpea	KAU	Cowpea	0	10	3	Demonstrations - 2 Field visits – 10 FAS – 5
4	High density planting in banana	KAU	Banana	0	10	1	Field visits – 10 FAS – 5
5	Demonstration o f PGPR – Mix 1 on productivity of Bitter Gourd	KAU	Bitter gourd	0	10	6	Demonstrations - 1 Field visits – 5 FAS – 8
6	Demonstration o f of IIHR Vegetable Nutrient mixture in cow pea Var. Vellayani Jothika	IIHR	Cowpea	0	10	5	Demonstrations - 2 Field visits – 5 FAS – 9
7	Pheromone traps for management of fruit fly in Bitter gourd	KAU	Bitter gourd	0	5	8	Field visits – 5 FAS – 6
8	Varietal trial of locally adapted farmer developed pest/disease resistant variety of cardamom.	Innovation and ICRI	Cardamom	5	0	3	Field visits- 15 Demonstration-5 FAS-6
9	Assessment of suitable Black Pepper Foot rot (Quick wilt) resistant variety for Idukki District	Innovation and IISR	Black Pepper	5	0	2	Field visits- 4 Demonstration-5 FAS-6
10	Management of shoot fly, *Formosina flavipes* Mall. in small cardamom	Zonal Horticultural Research Station, UAS, Dharwad	Cardamom	5	**0**	3	Field visits- 8 Demonstration-5 FAS-18
11	Assessment of Banana Pseudostem Weevil with Cassava based bio-pesticides	NRCB and CTCRI	Banana	5	0	5	Field visits- 2 Demonstration-1
12	Microbial Consortium bio fertilizers in black pepper	IISR	Black Pepper	0	10	3	Field visits- 6 Demonstration-10 FAS-8
13	Popularization of apiculture and EPN for increase in productivity and reducing root grub menace in cardamom	KAU and ICRI	Cardamom	0	10	2	Field visits- 4 Demonstration-6 FAS-21
14	Biological control of banana pseudo t stem weevil	NRCB	Banana	0	10	3	Field visits- 12 Demonstration-3 FAS-6
15	Management of berry drop in black pepper	TNAU, IISR	Black Pepper	3	0	2	Field visit-5 FAS-5 Demonstration-3
16	Integrated Nutrient Management in cardamom	KAU, ICRI	Cardamom	0	10	5	Field visit-10 FAS-5
17	Effective application of Azospirillum and VAM for better rooting in black pepper nursery	IISR	Black Pepper	0	10	5	Field visit-5 FAS-3 Demonstration-2

18	Fertility management in repeat breeder cows following double PGF2 α injection	KAU & TANUVAS	Dairy cattle	10	0	4	Field visit-2
19	Effect of rumen specific yeast (Saccromyces cervisiae) on growth, disease resistance & milk production in lactating animals	KAU & TANUVAS	Dairy cattle	5	0	3	Field visit-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
1	0	3	0	0	0	0	0	0	46	57	12	8	24	21	11	6
2	0	3	0	0	0	0	0	0	0	0	0	0	0	14	0	0
3	0	0	0	0	10	0	0	0	33	14	0	0	10	0	0	0
4	0	0	0	0	10	0	0	0	23	8	0	0	10	0	0	0
5	0	0	0	0	10	0	0	0	54	35	23	11	8	2	2	2
6	0	0	0	0	8	2	0	0	44	28	10	13	9	5	4	3
7	0	0	0	0	3	2	0	0	63	43	20	14	6	5	0	0
8	5	0	0	0	0	0	0	0	24	8	0	0	15	6	0	0
9	4	1	0	0	0	0	0	0	12	4	0	0	6	4	0	0
10	5	0	0	0	0	0	0	0	30	8	0	0	21	5	0	0
11	4	1	0	0	0	0	0	0	35	16	0	0	21	0	0	0
12	6	4	0	0	0	0	0	0	48	8	0	0	10	4	0	0
13	10	0	0	0	0	0	0	0	26	4	0	0	18	7	0	0
14	10	0	0	0	0	0	0	0	38	8	0	0	18	0	0	0
15	3	0	0	0	0	0	0	0	10	5	0	0	15	0	0	0
16	0	0	0	0	10	0	0	0	40	10	0	0	21	0	0	0
17	0	0	0	0	10	0	0	0	20	10	0	0	10	0	0	0
18	6	5	2	2	0	0	0	0	55	15	8	2	0	0	0	0
19	2	1	1	1	0	0	0	0	28	12	3	2	0	0	0	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 Nutrient Management				1						1
Varietal Evaluation				2						2
Integrated Pest Management				2						2
Integrated Crop Management								1		1
Integrated Disease Management										
Small Scale Income Generation Enterprises				1						1
Weed Management										
Resource Conservation Technology										
Farm Machineries										
Integrated Farming System										
Seed / Plant production										
Value addition										
Drudgery Reduction										
Storage Technique										
Mushroom cultivation										
Total				**6**				**1**		**7**

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
Evaluation of Breeds						
Nutrition Management	1					1
Disease of Management	1					1
Value Addition						
Production and Management						
Feed and Fodder						
Small Scale income generating enterprises						
TOTAL	**2**	**0**	**0**	**0**	**0**	**2**

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

4. B. Achievements on technologies Assessed and Refined

5. 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 Nutrient Management	Black pepper	Management of berry drop in black pepper	3	3	0.2
Varietal Evaluation	Cardamom	Varietal trial of locally adapted farmer developed pest/disease resistant variety of cardamom.	5	5	0.2
	Black Pepper	Assessment of suitable Black Pepper Foot rot (Quick wilt) resistant variety for Idukki District	5	5	0.08
Integrated Pest Management	Cardamom	Management of shoot fly, *Formosina flavipes* Mall. in small cardamom	5	5	0.2
	Banana	Assessment of Banana Pseudostem Weevil with Cassava based bio-pesticides	5	5	0.08
Integrated Crop Management	Black Pepper	Use of concrete poles as standards in Black Pepper	3	3	0.25
Integrated Disease Management					

Small Scale Income Generation Enterprises	Mushroom	Alternate media for growing oyster mushrooms	3	3	0.05
Weed Management					
Resource Conservation Technology					
Farm Machineries					
Integrated Farming System					
Seed / Plant production					
Value addition					
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total			**29**	**29**	**1.06**

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
Evaluation of breeds				
Nutrition management	Dairy cattle	Effect of rumen specific yeast (Saccromyces cervisiae) on growth, disease resistance & milk production in lactating animals	5	5
Disease management	Dairy cattle	Fertility management in repeat breeder cows following double PGF2 α injection	10	10
Value addition				
Production and management				
Feed and fodder				
Small scale income generating enterprises				
Total			**15**	**15**

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	Perennial crop	High incidence of P & D in living standards of black pepper.	Use of concrete poles as standards in Black Pepper	3	Using concrete poles as standards instead of live standards	BCR	Ongoing for three years from 2012-13	Concrete poles supplied and rooted cuttings of Black Pepper planted	Adoptability restricted for small farmers as cost involved is high	-	-

Mushroom	Commercial crop	High cost of paddy straw due to its limited availability	Alternate media for growing oyster mushrooms	3	Use of alternate media like saw dust and farm wastes for oyster mushroom bed preparation	Yield per bed	Ongoing and shall be over by July 2014	Average yield of 0.8 kg per bed in 4 harvests in paddy straw beds Beds from Saw dust, Dried banana sheath & pseudostem and other dried farm waste prepared	Skeptical on the chances of contamination in beds prepared from dried banana sheath & pseudostem and other dried farm waste	-	-
Cardamom	Perennial	Heavy infestation of root grub.	Varietal trial of root grub resistant cardamom variety	5	Root grub resistant Thiruthali variety	% decrease in root grub attack. Yield & BCR	The attack of cardamom root grub was nill in Thiruthali variety with dry yield of 2.5kg / plant	Thriruthali can be recommended for multi-location trial	Thiruthali variety shows comparatively better root grub control.	-	-
Black pepper	Perennial	High susceptibility to foot rot disease of cultivated varieties	Assessment of suitable Black Pepper Foot rot (Quick wilt) resistant variety for Idukki District	5	1) Farmers practice (Chengannoor) 2) IISR – Thevam 3) Ashwati 4) Suvarna	% reduction in quick wilt incidence & yield	*Ongoing*				
Cardamom	Perennial	Young suckers with dead heart symptoms and Indiscriminate use of PPC.	Management of shoot fly, *Formosina flavipes* Mall. in small cardamom	5	Spray Neem oil @3.5ml/lit. Spray @ Thiamethoxam 0.5 g/lit.	No of dead hearts at different days after treatment (30,60,70)	Based on the observation indicated that thiamethoxam recorded lowest dead heart symptoms compared to neem oil.	Thiamethoxam treated plot recorded minimum infestation with 1.38 mean dead hearts compared to neem oil	Thiamethoxam was effective against cardamom shoot fly.	-	-
Banana	Commercial crop	Incidence of pseudostem weevil causes heavy yield loss.	Management of Banana Pseudostem Weevil with Cassava based bio-pesticides	5	Pseudostem trap smeared with Beauveria @ 100/ha and Stem injection with cassava extract @ 20 ml/plant	% reduction in Pseudostem weevil attack	*Ongoing*				
Black Pepper	Perennial crop	Less berry filling, no uniform ripening, berry shedding	Management of berry drop in black pepper	3	DAP(1.5%) spray at berry set and fruit development stage & KNO3 (1%)+ NAA (25 ppm) spray at berry set and fruit development stage	Yield, BCR	Comparatively more yield and BCR in KNO3 (1%)+ NAA (25 ppm) spray at berry set and fruit development stage.	Kno3 (1 %) + NAA (25 ppm) gave 35% increase in yield.	The farmers were satisfied in the IISR technology and found very effective in field than TNAU technology	-	-
Dairy cattle	Mixed farming	Low reproductive efficiency & long inter calving period	Fertility management in repeat breeder cows following double PGF2 α injection	10	Fertility management in repeat breeder cows following double PGF2 α injection	1) No. of animals shown estrus 2) Conceived status	*Ongoing*				
Dairy cattle	Mixed farming	Poor growth performance & low milk production	Effect of rumen specific yeast (Saccromyces cervisiae) on growth, disease resistance & milk	5	Effect of rumen specific yeast (Saccromyces cervisiae) on growth, disease resistance & milk	1) % of body weight gain 2) Increase in milk production 3) Digestive tract disease incidence	*Ongoing*				

			production in lactating animals		production in lactating animals	4) FCR	

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 (FP - Live standards of Glyricidia)	-	More than 50% Glyricidia standards damaged by caterpillar	-	-	*Ongoing for three years from 2012-13*
Technology option 2 (Live standards of Erythrina)	KAU	More than 30% Erythrina standards damaged by Erythrina wasp	-	-	
Technology option 3 (Concrete Poles)	IISR	-	-	-	
Technology option 1 (FP - Paddy Straw)	KAU	Oyster mushroom – Average yield of 0.8 kg per bed in 4 harvests	kg/bed	Rs. 200/bed	3.33
Technology option 2 (Saw Dust)	KAU	Beds prepared	-	-	*Ongoing*
Technology option 3 (Dried banana sheath & pseudostem)	TNAU	Beds prepared	-	-	
Technology option 4 (Other dried farm wastes)	TNAU	Beds prepared	-	-	
Technology option 1 (FP - Njallani variety cardamom)	Farmer developed variety	0.735	t/ha	234500	2.14
Technology option 2 (Thiruthali variety Cardamom)	Farmer developed variety	0.850	t/ha	332000	2.87
Technology option 3	-	-	-	-	-
Technology option 1 (FP - Chengannoor variety Black pepper)	Local	-	-	-	*Ongoing*
Technology option 2 (IISR Thevam variety Black pepper)	IISR	-	-	-	
Technology option 3 (Ashwati variety Black pepper)	Farmer developed variety from Wyanad	-	-	-	
Technology option 4 (Suvarna variety Black pepper)	Farmer developed variety from Wyanad	-	-	-	
Technology option 1 (FP - Spray Quinalphos @ 2ml/ litre)	-	0.648	t/ha	136000	1.82
Technology option 2 (Spray Neem oil @ 3.5ml/ litre)	ZHRS, UAS, Dharwad	0.760	t/ha	226000	1.98
Technology option 3 (Spray Thiamethoxam 0.5g/ litre)		0.790	t/ha	273000	2.36
Technology option 1 (FP - Spray Chlorpyriphos)	-	-	-	-	*Ongoing*
Technology option 2 (Pseudostem trap smeared with Beauveria @ 100/ ha)	NRCB, Trichy	-	-	-	
Technology option 3 (Stem injection with cassava extract @ 20 ml/ plant)	CTCRI, Thiruvananthapuram	-	-	-	
Technology option 1 (Farmer's practice)	-	1.3	t/ha	11800	1.13
Technology option 2 (DAP(1.5%) spray at berry set and fruit development stage)	TNAU	1.75	t/ha	25200	1.26
Technology option 3 (KNO3 (1%)+ NAA (25 ppm) spray at berry set and fruit development stage)	IISR	2.01	t/ha	37000	1.34
Technology option 1 (FP - Artificial breeding with frozen semen at optimum time during estrus)	-	-	-	-	*Ongoing*
Technology option 2 (Synchronization with double PGF2 α injection followed by fixed time breeding at 72 & 96 hours)	KAU & TANUVAS	-	-	-	
Technology option 3	-	-	-	-	-
Technology option 1 (FP - Feeding with concentrate and irregular deworming practices)	-	-	-	-	*Ongoing*
Technology option 2 (Allowing required amount of concentrate feed + forage grasses + deworming)	KAU & TANUVAS	-	-	-	
Technology option 3 (Feeding with rumen specific yeast along with concentrate feed)	KAU & TANUVAS	-	-	-	

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

1)

1 Title of Technology Assessed: **Use of concrete poles as standards in Black Pepper**

2 Problem Definition: High incidence of P & D in living standards of black pepper.

3 Details of technologies selected for assessment: Using concrete poles as standards instead of live standards.

4 Source of technology: IISR.

5 Production system and thematic area: Integrated Crop Management in perennial crop of Black Pepper.

6 Performance of the Technology with performance indicators: Ongoing

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: Percentage of live standards affected by pests and diseases.

8 Final recommendation for micro level situation: Ongoing.

9 Constraints identified and feedback for research: Erection of poles is cumbersome

10 Process of farmers participation and their reaction: Adoptability restricted for small farmers as cost involved is high.

2)

1 Title of Technology Assessed: **Alternate media for growing oyster mushrooms**

2 Problem Definition: High cost of paddy straw due to its limited availability.

3 Details of technologies selected for assessment: Use of alternate media like saw dust, dried banana sheath & pseudostem and farm wastes for oyster mushroom bed preparation.

4 Source of technology: KAU, TNAU.

5 Production system and thematic area: Small Scale Income Generation Enterprise in Mushroom Farming.

6 Performance of the Technology with performance indicators: Yield per bed.

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: Yield realization per bed in relation to different media used.

8 Final recommendation for micro level situation: Ongoing.

9 Constraints identified and feedback for research: Ongoing.

10 Process of farmers participation and their reaction: Skeptical on the chances of contamination in beds prepared from dried banana sheath & pseudostem and other dried farm wastes.

3)

1 Title of Technology Assessed: **Varietal trial of root grub resistant Thiruthali variety cardamom**

2 Problem Definition: Heavy infestation of root grub.

3 Details of technologies selected for assessment: Thiruthali variety cardamom.

4 Source of technology: Farmer developed varieties

5 Production system and thematic area: Cardamom based cropping system and crop improvement.

6 Performance of the Technology with performance indicators: The Thiruthali variety cardamom showed better root grub resistance.

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: The Thiruthali variety cardamom shows better root grub resistance.

8 Final recommendation for micro level situation: Thiruthali can be recommended for the farmers for control of root grub based on the percentage reduction in the root grub.

9 Constraints identified and feedback for research: Multi Location trial is recommended for the suitability of the variety in other areas of Idukki dist.

10 Process of farmers participation and their reaction: Farmers are satisfied with the root grub resistance of Thiruthali variety but due to the low boldness of the variety it is less preferred in the market.

4)

1 Title of Technology Assessed: **Assessment of suitable Black Pepper Foot rot (Quick wilt) resistant variety for Idukki District**

2 Problem Definition: High susceptibility to foot rot disease of cultivated varieties.

3 Details of technologies selected for assessment: IISR-Thevam, Ashwathi and Suvarna variety Black Pepper.

4 Source of technology: IISR &Farmer developed variety.

5 Production system and thematic area: Pepper based cropping systems and Crop Improvement.

6 Performance of the Technology with performance indicators: Ongoing.

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

8 Final recommendation for micro level situation: Ongoing.

9 Constraints identified and feedback for research: Ongoing.

10 Process of farmers participation and their reaction: Ongoing.

5)

1 Title of Technology Assessed: **Assessment of shoot fly, *Formosina flavipes* Mall. in small cardamom**

2 Problem Definition: Young suckers with dead heart symptoms and indiscriminate use of PPC

3 Details of technologies selected for assessment: Spray Neem oil @ 3.5ml/L and Thiamethoxam 0.5 g/L of water.

4 Source of technology: ZHRS, Mudigree

5 Production system and thematic area: Cardamom based cropping system and Pest Management.

6 Performance of the Technology with performance indicators: The observations at 30,60 and 70 days after spraying indicated that thiamethoxam treated plots recorded lowest dead heart symptoms compared to neem oil treated plots.

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: The development of healthy suckers was higher in thiamethoxam treated plots.

8 Final recommendation for micro level situation: Nil.

9 Constraints identified and feedback for research: Nil

10 Process of farmers participation and their reaction: The Cardamom Grower Association, Cardamom Planter Association and Haritha Farmers Club had adopted the technology and more than 100 farmers are practicing the technology in over 200 ha area.

6)

1 Title of Technology Assessed: **Management of Banana Pseudostem Weevil with Cassava based bio-pesticides**

2 Problem Definition: Incidence of pseudo stem weevil causes heavy yield loss.

3 Details of technologies selected for assessment: Pseudostem trap smeared with Beauveria @ 100/ha and Stem injection with cassava extract @ 20 ml/plant.

4 Source of technology: NRCB and CTCRI.

5 Production system and thematic area: Mono cropping and IPM.

6 Performance of the Technology with performance indicators: Ongoing.

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

8 Final recommendation for micro level situation: Ongoing.

9 Constraints identified and feedback for research: Ongoing.

10 Process of farmers participation and their reaction: Ongoing.

7)

1 Title of Technology Assessed: **Management of berry drop in black pepper**

2 Problem Definition: Less berry filling, non-uniform ripening & berry shedding

3 Details of technologies selected for assessment

Tech-1: No measures taken (Farmers practice)

Tech-2: DAP (1.5%) spray at berry set and fruit development stage

Tech-3: KNO3 (1%) + NAA (25 ppm) spray at berry set and fruit development stage

4 Source of technology: TNAU and IISR

5 Production system and thematic area: Pepper based cropping system and nutrient management

6 Performance of the Technology with performance indicators: Yield recorded in farmers practice was 13 q/ha with BCR 2.23 and T-2- yield 17.5 q/ha with BCR-2.67 and T-3- Yield -20.1qt/ha with BCR-2.75

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques: T-3 IISR technology is effective in controlling berry shedding

8 Final recommendation for micro level situation: Nil

9 Constraints identified and feedback for research: Nil

10 Process of farmers participation and their reaction: The pepper growers were satisfied with the IISR technology and the technology is proposed for demonstrations in 2014-15.

8)

1 Title of Technology Assessed: **Fertility management in repeat breeder cows following double PGF2 α injection**

2 Problem Definition: Low reproductive efficiency and long inter calving period

3 Details of technologies selected for assessment:

Tech-1: Artificial breeding with frozen semen at optimum time during estrus

Tech-2: Synchronization with double PGF2 α injection followed by fixed time breeding at 72 & 96 hours

4 Source of technology: KAU & TANUVAS

5 Production system and thematic area: Scientific reproduction and breeding management

6 Performance of the Technology with performance indicators: For control repeat breeding in dairy animals

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: Synchronization with double PGF2 α injection to overcome repeat breeding.

8 Final recommendation for micro level situation: Ongoing

9 Constraints identified and feedback for research: Nil

10 Process of farmers participation and their reaction: Final result is awaited on September 2014 to assess the suitability of the technology.

9)

1 Title of Technology Assessed: **Effect of rumen specific yeast (*Saccromyces cervisiae*) on growth, disease resistance & milk production in lactating animals**

2 Problem Definition: Poor growth performance, low milk production & unaware of new technologies

3 Details of technologies selected for assessment:

Tech-1: Feeding with concentrate and irregular deworming practices

Tech-2: Allowing required amount of concentrate feed + forage grasses + deworming

Tech-3: Feeding with rumen specific yeast along with concentrate feed

4 Source of technology: KAU & TANUVAS

5 Production system and thematic area: Dairy farming and sustainable livestock production

6 Performance of the Technology with performance indicators: For good growth performance and more milk production

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: Feeding with rumen specific yeast along with concentrate feed to solve the problem.

8 Final recommendation for micro level situation: The trial is ongoing and the final recommendation is possible after lactation period.

9 Constraints identified and feedback for research: Nil

10 Process of farmers participation and their reaction: Final result is awaited on July 2014 to assess the suitability of the technology.

4. D1. Results of Technologies Refined: Nil**.**

4. D.2. Details of each On Farm Trial for refinement: Nil.

PART V - FRONTLINE DEMONSTRATIONS

5. A. Summary of FLDs implemented during 2013-14

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
									Proposed	Actual	SC/ST	Others	Total	
	Oilseeds													
	Pulses													
	Cereals													
	Millets													
1		Monocrop	Rabi	Cowpea	Local	-	Integrated Nutrient Management	Use of microbial consortium for organic production of cowpea	0.8	0.8	0	10	10	-
2		Mono cropping	Rabi	Bitter gourd	Priyanka		Unscientific Nutrient Management	Demonstration of PGPR – Mix -1 on productivity of Bitter Gourd	1	1	0	10	10	-
3	Vegetables	Mono cropping	Rabi	Cowpea	Vellayani Jothika		Unscientific Nutrient Management	Demonstration of IIHR Vegetable Nutrient mixture in cow pea Var. Vellayani Jothika	1	1	0	10	10	-
4		Mono cropping	Rabi	Bitter gourd	Local		Indiscriminate use of PP chemical	Pheromone traps for management of fruit fly in Bitter gourd	2	2	0	5	5	-
	Flowers													

	Ornamental													
5	Fruit	Mono cropping	1.2 years	Banana	Nendran	-	IPM	Biological control of banana pseudo stem weevil	1	1	0	10	10	-
6		Monocrop	1.2 years	Banana	Nendran		Productivity improvement of major crops	High density planting in banana	2.0	2.0	0	10	10	-
7	Spices and condiments	Black Pepper based cropping system	Perennial	Black Pepper	Karimunda	-	INM	Microbial Consortium bio fertilizers in black pepper	0.4	0.4	0	10	10	-
8		Cardamom base cropping system	Perennial	Cardamom	Njallani	-	IPM	Popularization of apiculture and EPN for increase in productivity and reducing root grub menace in cardamom	3.5	3.5	0	10	10	-
9		Perennial crop	-	Cardamom	Njallani	-	Integrated nutrient management	INM in cardamom	1	1	0	10	10	-
10		Perennial crop	-	Black pepper	-	-	Integrated nutrient management	Effective Application of Azospirillum and VAM in rooting media for improve rooting	0.02	0.02	0	10	10	-
	Commercial crops													
	Medicinal and aromatic													
	Fodder													
	Plantation													
	Fibre													
	Dairy													
	Poultry													
	Rabbitry													
	Pigerry													
	Sheep and goat													
	Duckery													
	Common carps													

	Mussels													
	Ornamental fishes													
	Oyster mushroom													
	Button mushroom													
	Vermicompost													
	Sericulture													
	Apiculture													
	Implements													
	Others (specify)													

11. <u>Integrated Farming System:</u>

Two farmers were identified for the IFS models in two blocks such as Adimali and Nedumkandam blocks. Both the farmers are practicing the IFS in small scale. This year we introduced two more component in their field namely rabbit rearing and Apiculture. In the two models farmers also started mushroom cultivation in their house in smaller scale and planning to upgrade to commercial scale. We conduct regular field visit and monitoring of the farm. Group meetings and regular training programmes in these IFS plot.

12. <u>Special programme on value addition with branding of products and marketing</u>

EDP specialised training for fifteen trainees on "***Processing and value addition of fruits and vegetables"*** conducted at Bapooji Krishi Vigyan Kendra, Seminar hall from **20th to 27th January, 2014**. Practical and theory classes were arranged for the trainees along with orientation on preservation methods, squash making, packaging & labeling. They were also trained on CIG formation food hygiene issues, food laws & standards etc. Product training on sugar based products (Jam & Jelly), Mushroom products, pickling aspects, extract preparation and the trainees also given training on financial literacy.

An ex-trainees sammelan was also conducted on 26th and 27th March, 2014 respectively to motivate the trainees to start the units.

5. A. 1. Soil fertility status of FLDs plots during 2013-14

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

1	Vegetables	Monocrop	Rabi	Cowpea	Local	-	Integrated Nutrient Management	Use of microbial consortium for organic production of cowpea	Rabi	M	M	M	Bitter gourd
2		Mono cropping	Rabi	Bitter gourd	Priyanka		Unscientific Nutrient Management	Demonstration o f PGPR – Mix 1 on productivity of Bitter Gourd	Rabi	M	H	M	Fallow
3		Mono cropping	Rabi	Cowpea	Vellayani Jothika		Unscientific Nutrient Management	Demonstration o f of IIHR Vegetable Nutrient mixture in cow pea Var. Vellayani Jothika	Rabi	M	H	L	Bitter gourd
4		Mono cropping	Rabi	Bitter gourd	Local		Indiscriminate use of PP chemical	Pheromone traps for management of fruit fly in Bitter gourd	Rabi	H	H	M	Cowpea
	Flowers												
	Ornamental												
5	Fruit	Monocrop	1.2 yrs	Banana	Nendran		Productivity improvement of major crops.	High density planting in banana	Annual	H	M	M	Banana
6		Mono cropping	1.2 yrs	Banana	Nendran	-	IPM	Biological control of banana pseudo stem weevil	Annual	M	M	L	Banana
7	Spices and condiments	Black Pepper based cropping system	Perennial	Black Pepper	Karimunda	-	INM	Microbial Consortium bio fertilizers in black pepper	Perennial	H	M	L	Black Pepper
8		Cardamom base cropping system	Perennial	Cardamom	Njallani	-	IPM	Popularization of apiculture and EPN for increase in productivity and reducing root grub menace in cardamom	Perennial	H	M	L	Cardamom
9		Cardamom base cropping system	Perennial	Cardamom	Njallani	-	Integrated nutrient management	INM in cardamom	Perennial	H	M	L	Cardamom
10		Black Pepper based cropping system	Perennial	Black pepper	Karimunda	-	Application of Azospirillum and VAM in rooting media for improve rooting	Nutrient management	Perennial	H	M	L	Pepper
	Commercial crops												
	Medicinal and aromatic												
	Fodder												
	Plantation												
	Fibre												

5. B. Results of Frontline Demonstrations

5. B.1. Crops

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo.	Area (ha)	Yield (q/ha)				% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
							Demo			Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
							H	L	A										
Oilseeds																			
Pulses																			
Cereals																			
Millets																			

Vegetables	Use of microbial consortium for organic production of cowpea	Local	-	Monocrop	10	0.8	120	100	110	80	37.5	135000	220000	85000	1.62	142000	160000	18000	1.12
	Demonstration of PGPR – Mix 1 on productivity of Bitter Gourd	Priyanka	-	Mono cropping	10	1	210.2	152.6	181.4	165.2	9.81	165000	293000	128000	1.78	142000	232000	90000	1.63
	Demonstration of IIHR Vegetable Nutrient mixture in cow pea Var. Vellayani Jothika	Vellayani Jothika	-	Mono cropping	10	1	175.6	100.2	137.9	108.6	26.98	156500	256700	100200	1.64	134500	214300	79800	1.59
	Pheromone traps for management of fruit fly in Bitter gourd	Local	-	Mono cropping	5	2	168.4	131.2	149.8	113.4	32.1	134300	243500	109200	1.81	126300	214700	88400	1.70
Flowers																			
Ornamental																			
Fruit	Biological control of banana pseudo stem weevil	Nendran	-	Mono cropping	10	1	301.4	275.6	288.5	227.3	26.92	250610	386000	135390	1.54	214200	304300	90100	1.42
	High density planting in banana	Nendran	-	Monocrop	10	2.0	*Ongoing*												
Spices and condiments	Microbial Consortium bio fertilizers in black pepper	Karimunda	-	Perennial	10	0.4	2.6	2.5	2.6	2.1	23.81	185000	365000	180000	1.97	152000	264000	112000	1.73
	Popularization of apiculture and EPN for increase in productivity and reducing root grub menace in cardamom	Njallani	-	Perennial	10	3.5	7.4	7.0	7.2	5.7	26.32	154000	3150000	161000	2.04	132000	236000	1040000	1.78
	Integrated nutrient management in cardamom	Njallani	-	Cardamom based cropping system	10	1	9	8.8	8.9	7	27	285000	712000	427000	2.49	285000	560000	275000	1.96
	Effective application of azospirillum and VAM for better rooting in pepper nursery	Karimunda	-	Pepper based cropping system	10	1	-	-	-	-	-	10000	18500	8500	1.85	8000	12300	4300	1.53
Commercial																			
Fibre crops like cotton																			
Medicinal and aromatic																			
Fodder																			
Plantation																			
Fibre																			
Others (pl.specify)																			

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

** BCR= GROSS RETURN/GROSS COST

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

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**
a. Visual difference in crop stand b. Difference in pest & disease incidence	Plants more green in colour No major pest or disease incidence	Normal stand of the crop Aphids and Serpentine leaf miner found in almost 75% area

5. B.2. Livestock and related enterprises: Nil.

5. B.3. Fisheries: Nil.

5. B.4. Other enterprises: Nil.

5. B.5. Farm implements and machinery

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

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

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

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

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

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	5	123	-
2	Farmers Training	41	567	-
3	Media coverage	1	-	-
4	Training for extension functionaries	1	15	-
5	Others (Field visit)	70	67	-
6	Others (Demonstration)	21	51	-
7	Others (Fest, Carnival)	-	-	-
8	Others (FAS)	96	77	-
9	Others (Please specify)	-	-	-

PART VI – DEMONSTRATIONS 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										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/Irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil and Water Conservation										
Integrated Nutrient Management										
Production of organic inputs										
Others (pl.specify)										
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation	1	2	32	34	0	0	0	2	32	34
Others (Kitchen garden)	1	30	1	31	1	1	2	31	2	33
Others (**Banana cultivation**)	2	23	0	23	0	0	0	23	0	23
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl.specify)										
c) Ornamental Plants										

Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl.specify)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl.specify)										
Soil Health and Fertility Management										
Soil fertility management	2	3	19	22	0	0	0	3	19	22
Integrated water management										
Integrated nutrient management	1	30	0	30	0	0	0	30	0	30
Production and use of organic inputs	1	47	53	100	0	0	0	47	53	100
Management of Problematic soils										
Micro nutrient deficiency in crops	1	0	35	35	0	0	0	0	35	35
Nutrient use efficiency										
Balanced use of fertilizers										
Soil and water testing										
Others (pl.specify)										
Livestock Production and Management										
Dairy Management										
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Animal Disease Management										
Feed and Fodder technology										
Production of quality animal products										

Others (pl.specify)										
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques	1	1	16	17	7	3	10	8	19	27
Value addition	3	12	21	33	0	0	0	12	21	33
Women empowerment										
Location specific drudgery production										
Rural Crafts										
Women and child care										
Others (pl.specify)										
Agril. Engineering										
Farm machinery and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl.specify)										
Plant Protection										
Integrated Pest Management	4	74	26	100	26	4	30	100	30	130
Integrated Disease Management	1	31	40	71	1	28	29	32	68	100
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl.specify)										
Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										

Fish processing and value addition										
Others (pl.specify)										
Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production	4	21	13	34	0	0	0	21	13	34
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
Others (pl.specify)										
Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (Pl. specify)										
TOTAL	**22**	**274**	**256**	**530**	**35**	**36**	**71**	**309**	**292**	**601**

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**	**To tal**
Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										

Micro Irrigation/Irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil and Water Conservation	1	30	0	30	0	0	0	30	0	30
Integrated Nutrient Management										
Production of organic inputs										
Others (pl.specify)										
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation	2	15	66	81	15	22	37	30	88	118
Others (Organic farming)	6	100	45	145	22	22	44	122	67	189
Others (**Production technology**)	4	118	29	147	0	0	0	118	29	147
Others (**Hi tech cultivation**)	3	145	54	199	0	0	0	145	54	199
Others (**IFS**)	5	203	92	295	0	0	0	203	92	295
Others (**Organic vegetable cultivation**)	6	71	63	134	0	0	0	71	63	134
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl.specify)										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl.specify)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										

e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl.specify)										
Soil Health and Fertility Management										
Soil fertility management	2	30	75	105	0	0	0	30	75	105
Integrated water management										
Integrated nutrient management	2	161	56	217	0	0	0	161	56	217
Production and use of organic inputs										
Management of Problematic soils	2	45	15	60	0	0	0	45	15	60
Micro nutrient deficiency in crops	2	55	8	63	0	0	0	55	8	63
Nutrient use efficiency	1	19	6	25	0	0	0	19	6	25
Balanced use of fertilizers	1	25	10	35	0	0	0	25	10	35
Soil and water testing	3	108	44	152	6	4	10	114	48	162
Others (pl.specify)										
Livestock Production and Management										
Dairy Management										
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Animal Disease Management	2	53	23	76	4	1	5	57	24	81
Feed and Fodder technology	1	36	24	60	6	4	10	42	28	70
Production of quality animal products										
Others (pl.specify)										
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	1	170	85	255	0	0	0	170	85	255
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking	2	1	52	53	0	0	0	1	52	53
Gender mainstreaming through SHGs										
Storage loss minimization techniques										

Value addition	2	15	47	62	0	0	0	15	47	62
Women empowerment	1	2	35	37	0	0	0	2	35	37
Location specific drudgery production										
Rural Crafts										
Women and child care										
Others (pl.specify)										
Agril. Engineering										
Farm machinery and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl.specify)										
Plant Protection										
Integrated Pest Management	3	274	45	319	0	0	0	274	45	319
Integrated Disease Management	4	89	52	141	0	0	0	89	52	141
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides	1	45	7	52	0	0	0	45	7	52
Others (pl. specify)										
Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl. specify)										

Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										

Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production	3	28	82	110	6	8	14	34	90	124
Apiculture	1	38	14	52	0	0	0	38	14	52
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs	2	0	51	51	0	0	0	0	51	51
Mobilization of social capital										
Entrepreneurial development of farmers/youths	2	21	18	39	0	0	0	21	18	39
Others (pl.specify)										
Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (Pl. specify)										
TOTAL	**64**	**1897**	**1079**	**2976**	**59**	**61**	**120**	**1956**	**1140**	**3096**

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

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										

Small scale processing										
Post Harvest Technology	1	8	0	8	0	0	0	8	0	8
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl. specify)										
TOTAL	**1**	**8**	**0**	**8**	**0**	**0**	**0**	**8**	**0**	**8**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops	1	2	6	8	14	10	24	16	16	32
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production	1	6	35	41	0	10	10	6	45	51
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition	2	7	40	47	0	0	0	7	40	47
Small scale processing	1	19	26	45	0	0	0	19	26	45
Post Harvest Technology	1	2	32	34	0	0	0	2	32	34

Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl. specify)										
TOTAL	**6**	**36**	**139**	**175**	**14**	**20**	**34**	**50**	**159**	**209**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management	1	1	3	4	0	0	0	1	3	4
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl. specify)										
Total	**1**	**1**	**3**	**4**	**0**	**0**	**0**	**1**	**3**	**4**

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

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	1	2	32	34	0	0	0	2	32	34
1.b.	Commercial production of vegetables	1	30	1	31	1	1	2	31	2	33
1.c.	Integrated Pest and Disease Management	6	106	69	175	27	32	59	133	101	234
2	**Production and value addition**										
2.a.	Fruit Plants										
2.b.	Ornamental plants										
2.c.	Spices crops										
3.	**Soil health and fertility management**	4	33	54	87	0	0	0	33	54	87
4	**Production of Inputs at site**	1	47	53	100	0	0	0	47	53	100
4.a.	Mushroom production	4	21	13	34	0	0	0	21	13	34
5	**Methods of protective cultivation**	1	2	32	34	0	0	0	2	32	34
6	**Others (Banana cultivation)**	2	23	0	23	0	0	0	23	0	23
7	**Post harvest technology and value addition**										
7.a.	Processing and value addition	5	21	37	58	7	3	10	28	40	68
7.b.	Others (pl. specify)										
8	**Farm machinery**										
8.a.	Farm machinery, tools and implements										
8.b.	Others (pl. specify)										
9.	**Livestock and fisheries**										
10	**Livestock production and management**										
10.a.	Animal Nutrition Management										
10.b.	Animal Disease Management										
10.c	Fisheries Nutrition										
10.d	Fisheries Management										
10.e.	Others (pl. specify)										
11.	**Home Science**										
11.a.	Household nutritional security										
11.b.	Economic empowerment of women										
11.c.	Drudgery reduction of women										
11.d.	Others (pl. specify)										
12	**Agricultural Extension**										
12.a.	Capacity Building and Group Dynamics										
12.b.	Others (pl. specify)										
	Total	**25**	**285**	**291**	**576**	**35**	**36**	**71**	**320**	**327**	**647**

Details of sponsoring agencies involved

1. Coffee Board
2. Dept. of Agriculture
3. ATMA
4. Kudumbasree, Idukki
5. NSS College, Rajakumary
6. GVHSS, Rajakumary
7. MBVHSS, Senapathy
8. NHRDF
9. RAWE

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

S. No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	**Crop production and management**										
1.a.	Commercial floriculture										
1.b.	Commercial fruit production										
1.c.	Commercial vegetable production										
1.d.	Integrated crop management										
1.e.	Organic farming										
1.f.	Others (pl. specify)										
2	**Post harvest technology and value addition**										
2.a.	Value addition										
2.b	Others (pl. specify)										

.											
3.	**Livestock and fisheries**										
3.a.	Dairy farming										
3.b.	Composite fish culture										
3.c.	Sheep and goat rearing										
3.d.	Piggery										
3.e.	Poultry farming										
3.f.	Others (pl. specify)										
4.	**Income generation activities**										
4.a.	Vermi-composting										
4.b.	Production of bio-agents, bio-pesticides, bio-fertilizers etc.										
4.c.	Repair and maintenance of farm machinery and implements										
4.d.	Rural Crafts										
4.e.	Seed production										
4.f.	Sericulture										
4.g.	Mushroom cultivation										
4.h.	Nursery, grafting etc.										
4.i.	Tailoring, stitching, embroidery, dying etc.										
4.j.	Agril. para-workers, para-vet training										
4.k.	Others (pl. specify)										
5	**Agricultural Extension**										
5.a.	Capacity building and group dynamics										
5.b.	Others (Agricultural entrepreneurship development training)	4	51	48	99	4	9	13	55	57	112
	Others (Kudumbasree, Idukki)	1	1	8	9	0	0	0	1	8	9
	Others (EDP training on processing and value addition)	2	0	27	27	0	0	0	0	27	27
	Grand Total	**7**	**52**	**83**	**135**	**4**	**9**	**13**	**56**	**92**	**148**

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	5	28	15	43	0	0	0	2	5	7
Kisan Mela										
Kisan Ghosthi										
Exhibition	2	100	50	150	0	0	0	22	17	39
Film Show										
Method Demonstrations	1	2	10	12	0	0	0	0	0	0
Farmers Seminar										
Workshop (Speciality fertilizers for balanced nutrition)	1	150	49	199	0	0	0	5	1	6
Group meetings										
Lectures delivered as resource persons	1	23	0	23	0	0	0	6	2	8
Newspaper coverage	5	-	-	-	-	-	-	-	-	-
Radio talks	2	0	0	0	0	0	0	0	0	0
TV talks										
Popular articles										
Extension Literature	4	-	-	-	-	-	-	-	-	-
Advisory Services	101	66	34	100	0	0	0	0	4	4
Scientific visit to farmers field	45	45	0	45	0	0	0	0	0	0
Farmers visit to KVK	100	150	84	234	0	0	0	50	20	70
Diagnostic visits	17	16	1	17	0	0	0	0	0	0
Exposure visits	1	1	8	9	0	0	0	0	0	0
Ex-trainees Sammelan	2	7	12	19	0	0	0	0	0	0
Soil health Camp										
Animal Health Camp										
Agri mobile clinic										

Soil test campaigns	1	80	35	115	0	0	0	5	0	5
Farm Science Club Conveners meet										
Self Help Group Conveners meetings	1	34	0	34	0	0	0	0	0	0
Mahila Mandals Conveners meetings										
Celebration of important days (World food day)	1	60	48	108	0	0	0	16	34	50
Any Other (FFS)	3	98	10	108	0	0	0	0	0	0
Total	**293**	**860**	**356**	**1216**	**0**	**0**	**0**	**100**	**81**	**181**

PART IX – PRODUCTION OF SEED, PLANT AND LIVESTOCK MATERIALS

9.A. Production of seeds by the KVKs

Crop category	Name of the crop	Variety	Hybrid	Quantity of seed (qtl)	Value (Rs)	Number of farmers to whom provided
Cereals (crop wise)						
Oilseeds						
Pulses						
	Cowpea	Lola	-	0.02	4000	150
	Cowpea	Yard long bean	NS-621	0.0080	1100	100
	Cowpea	Kashi Baramasi	-	0.0040	400	20
Commercial crops						
Vegetables						
	Tomato	Pusa Ruby	-	0.0030	3000	1000
	Bitter gourd	F1	NS-435	0.005	1500	5
	Bitter gourd	Priyanka	-	0.02	3600	15
	Bitter gourd	Preethi	-	0.02	3600	18
	Snake gourd	Kaumudi	-	0.02	3000	200
	Snake gourd	F1 Lavanya	-	0.01	4800	25
	Carrot	Improved Kuroda	-	0.01	500	50
	Carrot	Nantes	-	0.01	2800	100
	Beet root	Action	-	0.0010	500	50
	Beet root	Madhur	-	0.005	3000	200
	Cauliflower	NS60	-	0.0004	640	25
	Cauliflower	Pusa Sakthi	-	0.0002	250	20
	Cauliflower	Pusa Sarath	-	0.0002	200	21
	Cauliflower	Deepika	-	0.0050	1700	50
	Cabbage	Pusa Drum Head	-	0.005	2400	50
	Cabbage	Golden Acre	-	0.0040	2000	28
	Cabbage	Pride of India	-	0.003	2250	34
	Cabbage	Maharani	F1	0.001	880	10
	Cabbage	Parvati super cross	-	0.0025	1200	25
	Chilli	Pusa Jwala	-	0.005	900	25
	Chilli	HYW HOT	-	0.005	1100	31
	Onion	Neelam black	-	0.0001	560	20
	Cucumber	RK-40 Summer	-	0.005	800	42
	Brinjal	NS-797	F1	0.005	600	30
	Ladies finger	Arka anamica	-	0.01	320	18
	Sambar cucumber	Sushmita	-	0.005	900	16
	Drum stick	PKM-1	-	0.002	520	31
	Water melon	Sugar baby	-	0.005	1250	42

Flower crops						
	African Marigold	Local	-	0.001	450	5
	Marigold	Local	-	0.0001	550	10
	Celosia Plumosa	Local	-	0.001	450	7
	Celosia	Local	-	0.0005	450	10
	Celosia	Local	-	0.00025	550	15
	Gerbera	-	F10	0.002	900	10
	Vinca	-	Pacifica mix	0.001	450	10
	Ageratum	-	Dwarf ball mix	0.005	450	15
	Pansy	Matrix mix	F1	0.00025	750	10
	Zinnia	-	Dream land mix	0.0001	750	10
	Dianthus	-	Double mix	0.001	450	10
	Portulaca	-	Double mix	0.0005	450	10
	Salvia	-	Vista mix	0.00025	550	10
	Gazania	-	Day break mix	0.00015	550	15
Spices						
Fodder crop seeds						
Fiber crops						
Forest Species						
Others (specify)						
Total				**0.2125**	**58,020**	**2,598**

9.B. Production of planting materials by the KVKs

Crop category	Name of the crop	Variety	Hybrid	Number	Value (Rs.)	Number of farmers to whom provided
Commercial						
Vegetable seedlings						
Fruits						
	Pulasan	-	-	4	1000	4
	Durian	-	-	6	600	6
	Mangosteen	-	-	13	2275	10
Ornamental plants						
	Balsam	-	-	500	2500	50
	Golden Cyprus	-	-	10	250	5
	Dianthus	-	-	10	150	5
	Poinsettia	-	-	25	625	25
	Bougainvillea	-	-	10	150	10
	Table palm	-	-	10	250	10
	Anthurium	-	-	15	225	10
	Peperomia	-	-	20	200	10
	Marigold	-	-	20	200	10
	Jasmine	-	-	25	125	15
	Coleus	-	-	25	125	10
	Bud rose	-	-	5	250	5
	Begonia	-	-	25	1250	20
Medicinal and Aromatic						

Plantation						
Spices						
	Black pepper	Panniyoor-1	-	900	6300	90
		Panniyoor-2	-	518	3626	52
		Panniyoor-4	-	823	5761	65
		Panniyoor-5	-	2022	14154	135
		Panniyoor-6	-	1418	9926	54
		Panniyoor-7	-	1003	7021	80
		Chengannoor	-	25	175	6
		Karimunda	-	150	1050	15
		Kottanadan	-	7860	55020	25
		Malabar excel	-	148	1036	20
		Pournami	-	150	1050	32
		Panchami	-	180	1260	20
		IISR Shakthi	-	135	945	12
		IISR Thevam	-	367	2569	30
		Sreekara	-	130	910	18
		Subhakara	-	112	784	14
		Thekken	-	125	875	13
Tuber						
Fodder crop saplings						
Forest Species						
Others(specify)						
Total				**16,789**	**1,22,637**	**886**

9.C. Production of Bio-Products

Bio Products	**Name of the bio-product**	**Quantity Kg**	**Value (Rs.)**	**Number of farmers to whom provided**
Bio Fertilizers	Azolla	3	240	12
Bio-pesticide	EPN	22550 nos.	33825	56
	Beauveria	100 kg	15000	43
	Metarhizium	40 litre	6000	25
Bio-fungicide	Pseudomonas	1550 litre	155000	340
	Trichoderma	164 litre	14400	91
	Mushroom spawn	710.5 kg	85260	250
Bio Agents				
Others (specify)				
Total			**3,09,725**	**817**

9.D. Production of livestock materials

Particulars of Live stock	**Name of the breed**	**Number**	**Value (Rs.)**	**Number of farmers to whom provided**
Dairy animals				
Cows				
Buffaloes				
Calves				
Others (Pl. specify)				
Poultry				
Broilers				

Layers	Sasso	291	32010	30
Duals (broiler and layer)				
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				
Piggery				
Piglet				
Others (Pl.specify)				
Fisheries				
Fingerlings				
Others (Pl. specify)				
Total		**291**	**32,010**	**30**

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.)
Six month Interval & 1000 copies distributed

(B) Literature developed/published

Item	Title	Authors name	Number
Research papers	-	-	-
Technical reports	-	-	-
News letters	-	-	1000
Technical bulletins	-	-	
Popular articles	-	-	-
Extension literature	Oyster Mushroom Cultivation	Dr. Benjamin Mathew & Dr. Binu John Sam	1000
	Strawberry Cultivation	Dr. Benjamin Mathew	1000
	Strawberry Pest & Disease Managements	Dr. Benjamin Mathew	1000
	Food security through Balanced nutrition	Ms. Jayisy Joseph	500
Others (Pl. specify)	-	-	-
TOTAL			**3000**

10.B. Details of Electronic Media Produced

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

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

1) <u>Castor Based Herbal extract for control of rodents and wild boars (Ecodon)</u>

KVK conducted an On Farm Trial during 2011-12 in Tapioca field for control of rodents. Castrol based herbal extract (ecodon) was used as one technology option. It was found very effective in controlling not only rodents but also wild boars. There was a heavy attack of wild boars in many areas in Idukki district. Keeping this in mind KVK conducted a field day for farmers' and conducted a method demonstration for farmers. More than 50 farmers attended the field day.

KVK Intervention:

- Trainings
- Method Demonstration

Impact:

The farmers gave good response regarding Ecodon and more than 200 farmers have adopted the technology. The technology is horizontal expanded through ATMA Idukki to cover various blocks of Idukki Dist.

2) <u>Enhanced Soil health status in different areas</u>

In the existing situation, farmers' awareness on balanced and efficient use of fertilizers is to be updated. Rational use of fertilizers and manures for optimum supply of all essential nutrients for crop production needs to be worked out and emphasized. In this context Bapooji Krishi Vigyan Kendra, Santhanpara along with Fertilizer Association of India conducted crop demonstration on balanced fertilizer application. Soil test based fertilizer recommendations along with organic manure were demonstrated. A field day was conducted with the harvest of the crop.

KVK Intervention:

- Trainings
- Demonstration

Impact:

The farmers were benefitted with the soil test based fertilizer recommendations. By adopting soil test based fertilization helps the farmers to reduce the cost of inputs (chemical fertilizers) to half.

3) <u>Biological Control of Cardamom Root Grub management with Entomopathogenic Nematodes</u>

Cardamom root grub is a serious pest damaging cardamom roots, causing 10 - 70% yield loss under various levels of infestation. The pest has been managed with chemical pesticides viz. Chloripyriphos or Phorate. Since insecticides like phorate and carbofuran are highly toxic, and the government of Kerala has banned these pesticides, biopesticides is an alternative and eco-friendly tool for sustainable management of this pest of cardamom. We conducted on farm trials and Front Line Demonstration in about 25 farmers' field from 2011 to 2013 on the EPN technology. The menace can be successfully managed with EPN was observed in the farmers field. We have also started the mass production and made available the EPN to the farmers at KVK.

KVK Intervention:

- On Farm Trial
- Front Line Demonstration
- Field day
- Demonstration

Impact:

Around 500 farmers are practicing the technology in over 1350 ha area in Idukki district.

4) <u>Biological Control of Banana Pseudo Stem Weevil with Microbial Bio-pesticides</u>

Banana pseudo stem weevil (*Odoiporus longicollis* Oliver) is considered as major pest causing considerable damage in Banana. This pest alone causes 10- 90 per cent reduction in yield of banana. Banana cultivars such as Nendran, Poovan, Karpuravalli, Red banana, etc. are found to be highly susceptible to this pest. We conducted on farm trials and Front Line Demonstration in about 25 farmers' field from 2011 to 2013. Banana pseudo stem trapping smeared with *Beaveria bassiana* @ 100 traps/ ha was evaluated. This is can be used for monitoring as well as controlling the weevils. It is a simple technology can be adopt easily by the farmers.

KVK Intervention:

- On Farm Trial
- Front Line Demonstration

- Field day
- Demonstration

Impact:

Around 75 farmers are practicing the technology in over 35 ha area in Idukki district.

Farmers Field School on IPDM in cardamom

Farmers Field School on Integrated Pest and Disease Management in cardamom was conducted at Haritha farmers club, Estate Poopara , Santhanpara Panchayath ,Idukki, Kerala. The field school consists of a group of 15 to 30 farmers divided into subgroups of 5 to 6 Farmers were selected on a voluntary basis and agreed to meet once in a month for 4 to 5 hours for field activities.

The schedule of FFS prepared for every month and the following activities were conducted.

Period	**Crop Stage**	**Lessons/Activities to be taught.**
-	-	Selection of village and farmers, Farmers meeting to explain about FFS programme, Bench Mark survey & IPDM technique.
1st Month	2 year & 3 month old plant	Inauguration, Group formation and Leader selection
2th Month	2 year & 4 month old plant	Field walk, Studying & assessing of pests & diseases, Message passing to farmers.
3th Month	2 year & 5 month old plant	Sampling techniques & introduction to Agro-Eco System Analysis (AESA), Defoliation, Group dynamics & IPDM Mantra.
4th Month	2 year & 6 month old plant	Symptoms of Macro and Micro nutrient deficiency, Pest population count & Preparation of Bio-pesticides.
5th Month	2 year & 7 month old plant	IPDM approaches for root grub management & micro-enterprises development on EPN production.
6th Month	2 year & 8 month old plant	Training on INM approaches, Beekeeping & micro-enterprises development programme
7th Month	2 year & 9 month old plant	Sprayed and non-sprayed fields study in cardamom pests and diseases and their management, Group dynamics, Role of predators and parasites.
8th Month	2 year & 10 month old plant	Yield comparison between IPDM and non IPDM fields.
Field day	-	Closing ceremony, Interaction of FFS with non-FFS farmers in IPDM stalls and exhibition & certificate distribution.

Observations of the soil conditions, plant growth and development, pest and disease attack symptoms and types of pests and their natural enemies and environmental conditions around the field were recorded. Comparisons were made between the number of pests, the number of natural enemies at different growing stage of the plant. Special topics based on local agricultural problems and conditions help supported the agro-ecosystem analysis by delving more deeply into specific issues relating to agro-ecology, crop development, IPDM principles, and symptoms of Macro and Micro nutrient deficiency, Pest population count and preparation of bio-pesticides, training on INM approaches, beekeeping and micro-enterprises development programme.

A field day was also organized in FFS field and had discussions with yield comparison between non IPDM and IPDM fields. Field schools developed within farmers, solidarity (even after the school), self-discovery, group cohesiveness and critical skills. Throughout the training, participants practice some exercises to build group trust and coherence. After the training farmers can easily identify cardamom insect pests,

disease and the beneficial insects. They can also prepare botanical pesticides, EPN, Trichoderma, Pseudomonas, Beauveria, Metarhizium.

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

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

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

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

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

10.G. Field activities

i. Number of villages adopted : 19
ii. No. of farm families selected : 77
iii. No. of survey/PRA conducted : 1

10.H. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab : Functioning.

1. Year of establishment : 2005-06
2. List of equipments purchased with amount :

Sl. No	Name of the Equipment	Qty.	Cost
1.	LPG Cylinder	1	4600.00
2.	Water bath WDB-2 350’400’100mm 12 holes	1	4815.00
3.	Machinery for Homogensing (khan shaker) Model LKS2 platform size 75cmx43cmx10cm	1	20,880.00
4.	Rotary Shaker	1	16,200.00
5.	Machinery for drying (Hot air oxen) with digital temperature control, size 455’455’455’	1	13,725.00
6.	Conductivity meter (PH meter Eutech 510)	1	21,935.00
7.	Genesis 20 visible Spectrophotometer meter	1	1,12,499.00
8.	CITIZEN Physical Balance Model CTL-600	1	8,991.00
9.	Micro processor based conductivity	1	13,500.00
10.	Micro Processor Based Flame Photometer with N, K & Ca FILTERS & Compressor	1	45,000.00
11.	Electronic Automatic KEL PLUS Micro processor Based Twelve Place Micro Block Digestion System	1	97,043.00
12.	Electronic Balance Model: CP 2245 Srl.No.18606016	1	1,00,000.00
13.	Hot plate	1	5,400.00
Total		**12**	**4,64,588.00**

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	1305	718	59	62360.00
Water Samples	15	13	12	750.00
Plant samples	0	0	0	0.00

Manure samples	4	3	1	200.00
Others (Soil test campaigns)	200	200	2	60000.00
Total	**1524**	**234**	**64**	**1,23,310.00**

Details of samples analyzed during the 2013-14:

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples	380	289	50	19000.00
Water Samples	2	2	1	100.00
Plant samples	0	0	0	0.00
Manure samples	0	0	0	0.00
Others (Soil test campaigns)	100	100	1	30000.00
Total	**482**	**391**	**52**	**49,100.00**

10.I. Technology Week celebration during 2013-14 Yes/No, If Yes

Period of observing Technology Week : 20/11/2013 to 23/11/2013
Total number of farmers visited : 615
Total number of agencies involved : 4
Number of demonstrations visited by the farmers within KVK campus : 6

Other Details

Types of Activities	No. of Activities	Number of Farmers	Related crop/livestock technology
Gosthies			
Lectures organized	7	615	
Exhibition	11	600	
Film show			
Fair			
Farm Visit	4	615	Pepper, Cardamom, Vegetables, Ornamental plants
Diagnostic Practical's			
Supply of Literature (No.)	615		
Supply of Seed (q)	0.1125	475	Vegetable & Flower seeds
Supply of Planting materials (No.)	2428	324	Pepper, ornamental plants
Bio Product supply (Kg)			
Bio Fertilizers (q)			
Supply of fingerlings			
Supply of Livestock specimen (No.)			
Total number of farmers visited the technology week		**615**	

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)
Ecodon for rodents & Wild boar bio control	25	90	-	-

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

11.B. Cases of large scale adoption
(Please furnish detailed information for each case)

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

PART XII - LINKAGES

12.A. Functional linkage with different organizations

Name of organization	Nature of linkage
Fertilizer Association of India, Chennai	Soil Health Enhancement programme(Agricultural promotional programme)- Demonstrations
Fertilizer Association of India, Chennai	Workshops on Speciality fertilizers for balanced nutrition

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

12.B. List 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.)
Soil Health Enhancement programme (Agricultural promotional programme)	To create among farmers about soil test based fertilizer recommendations	April 2013	Fertilizer Association of India, Chennai	40,000.00
Soil health campaigns	To create awareness among farmers regarding soil testing and its importance	May 2013	Fertilizer Association of India, Chennai	30,000.00
Crop Health Management	To help the farmers from various pests and disease problem by implementing effective pest surveillance based crop advisory system	March 2014	Dept. of agriculture, Kerala	6,00,000.00

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?

We are actively participated in the final formulation of SREP preparation of the Idukki District. We discussed the technologies that can take up in ATMA demonstrations. We also explained the areas which can cover under various trainings programmes.

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**	MTA	6	2	
02	**Research projects**				
03	**Training programmes**	Various trainings	6		
04	**Demonstrations**				
05	**Extension Programmes**				
	Kisan Mela				
	Technology Week	1	6	1	

	Exposure visit				
	Exhibition				
	Soil health camps	Awareness about soil health management	5	-	-
	Animal Health Campaigns				
	Others (Pl. specify)				
06	**Publications**				
	Video Films				
	Books				
	Extension Literature				
	Pamphlets				
	Others (Pl. specify)				
07	**Other Activities** (Pl. specify)				
	Watershed approach				
	Integrated Farm Development				
	Agri-preneurs development				

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

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

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

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

12.F. Details of linkage with RKVY

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

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			
May			
June			
July			
August			
September			
October			
November			
December			
January 2014			
February			
March 2014			
Total for the year 2013-14			

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.	Mushroom production unit	2010	50 m^2	Oyster mushroom var. CO1	Mushroom	0.5795 q	2318.00	17385.00	Revolving Fund
2.	Mushroom Spawn production unit	2009	10 m^2	Var. CO1, CO2 & Florida	Spawn	2842 packets	19894.00	85260.00	Funded by SHM
3.	Mist Chamber	2009	96 m^2	Panniyoor-1, 2, 4, 5, 6 & 7 Sreekara Subhakara Panchami Pournami IISR Thevam IISR Shakthi Excel Kottanadan Karimunda Chengannoor	Pepper vines	16066 rooted cuttings	9500.00	112462.00	Funded by SHM
4.	Rain Shelter	2009	50 m^2	-	Ornamental plants	700 nos.	1400.00	6300.00	Funded by SHM
5.	Terrace cultivation of vegetables	2010	170 m^2	-	Tomato				
				-	Cabbage				
				-	Garden Beans				
				-	Cauliflower	1.40 q	1100.00	5600.00	Revolving Fund
				-	Cowpea				
				-	Carrot				
				-	Beetroot				
				-	Cowpea				
				-	Cucumber				

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

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	
Cereals									
Pulses									
Oilseeds									
Fibers									
Spices & Plantation crops									
Floriculture									
Fruits									
Vegetables									

Others (specify)									

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.	Pseudomonas	1550 litres	74,400.00	1,55,000.00	-
2.	Trichoderma	164 litres	9,348.00	16,400.00	-
3.	EPN	22550 nos.	15,785.00	33,825.00	-
4.	Metarhizium	40 litres	4,000.00	6,000.00	-
5.	Beauveria	100 kg	10,000.00	15,000.00	-

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

13.E. Utilization of hostel facilities: NA.

13.F. Database management

S. No	Database target	Database created
	Farmers database	Farmers database 2011 onwards

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

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 Travancore	Rajakumary	453	Chairperson	57060837003	-	SBTR0000453
With KVK	State Bank of Travancore	Rajakumary	453	Chairperson & Programme Coordinator	57060836995	-	SBTR0000453

14.B. Utilization of KVK funds during the year 2013-14 (Rs. in lakh)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	**Pay & Allowances**	75.20	75.20	74.50572
2	**Traveling allowances**	1.30	1.30	1.25
3	**Contingencies**			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	2.65	2.65	2.65002
B	POL, repair of vehicles, tractor and equipments	1.63	1.63	1.63
C	Meals/refreshment for trainees (ceiling up to Rs.40/day/trainee be maintained)	0.75	0.75	0.75
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	0.70	0.70	0.70
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	2.70	2.70	2.70
F	On farm testing (on need based, location	0.60	0.60	0.60

	specific and newly generated information in the major production systems of the area)			
G	Training of extension functionaries	0.25	0.25	0.25
H	Maintenance of buildings	0.50	0.50	0.50007
I	Establishment of Soil, Plant & Water Testing Laboratory	0.00	0.00	0.00
J	Library	0.05	0.05	0.05005
K	Extension Activities	0.50	0.50	0.50
L	Farmers Field School	0.30	0.30	0.30
TOTAL (A)		**87.13**	**87.13**	**86.38586**
B. Non-Recurring Contingencies				
1	**Works**	0.00	0.00	0.00
2	**Equipments including SWTL & Furniture**	0.00	0.00	0.00
3	**Vehicle** (Four wheeler/Two wheeler, please specify)	0.00	0.00	0.00
4	**Library** (Purchase of assets like books & journals)	0.00	0.00	0.00
TOTAL (B)		**0.00**	**0.00**	**0.00**
C. REVOLVING FUND				
GRAND TOTAL (A+B+C)		**87.13**	**87.13**	**86.38586**

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 2011 to March 2012	2.80148	9.17622	7.95126	4.02645
April 2012 to March 2013	4.11341	15.40938	12.65084	6.87195
April 2013 to March 2014	6.87195	11.54556	14.54764	3.86987

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
Jayisy Joseph	Programme Assistant (Home Science)	Leadership skills for women executives	MANAGE, Hyderabad	28th October, 2013 to 1st November, 2013
Dr. S. Jayababu	Subject Matter Specialist (Animal Husbandry)	Extension approaches for scaling out recent developments in live stock production technologies	Veterinary college, Shimoga, Karnataka Veterinary & Animal Sciences University	7th to 9th January, 2014
		FMD sensitization workshop	IVRI, Bangalore	1st February, 2014

Dr. Benjamin Mathew	Programme Coordinator i/c.	Agriculture Extension Management for the Extension scientist's of KVK's	MANAGE, Hyderabad	10th to 19th May 2013
		Food Safety & Supply Chain Management of Spices & Botanical Ingredients	Spices Board & CII FACE	18th & 19th October 2013
Dr. Binu John Sam	Subject Matter Specialist (Horticulture)	Hi-Tech Agriculture	CTI, KAU Mannuthy	18th to 21st February 2014
Mr. Sudhakar Soundarajan	Subject Matter Specialist (Plant Protection)	Mass production & Quality control of Trichoderma and Pseudomonas	NBAII, Bangalore	12th June 2013

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

SUMMARY FOR 2013-14

I. TECHNOLOGY ASSESSMENT

Summary of technologies assessed under various crops

Thematic areas	Crop	Name of the technology assessed	No. of trials
Integrated Nutrient Management	Black pepper	Management of berry drop in black pepper	3
Varietal Evaluation	Cardamom	Varietal trial of Root grub resistant Cardamom variety	5
	Black Pepper	Assessment of suitable Black Pepper Foot rot (Quick wilt) resistant variety for Idukki District	5
Integrated Pest Management	Cardamom	Management of shoot fly, *Formosina flavipes* Mall. in small cardamom	5
	Banana	Assessment of Banana Pseudostem Weevil with Cassava based bio-pesticides	5
Integrated Crop Management	Black Pepper	Use of concrete poles as standards in Black Pepper	3
Integrated Disease Management			
Small Scale Income Generation Enterprises	Mushroom	Alternate media for growing oyster mushrooms	3
Weed Management			
Resource Conservation Technology			
Farm Machineries			
Integrated Farming System			
Seed / Plant production			
Value addition			
Drudgery Reduction			
Storage Technique			
Others (Pl. specify)			
Total			**29**

Summary of technologies assessed under livestock

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials
Disease Management	Dairy cattle	Fertility management in repeat breeder cows following double PGF2 α injection	10
Evaluation of Breeds			
Feed and Fodder management			
Nutrition Management	Dairy cattle	Effect of rumen specific yeast (*Saccromyces cervisiae*) on growth, disease resistance & milk production in lactating animals	5
Production and Management			
Others (Pl. specify)			
Total			**15**

Summary of technologies assessed under various enterprises: Nil.

Summary of technologies assessed under home science: Nil.

II. TECHNOLOGY REFINEMENT: Nil.

Summary of technologies assessed under refinement of various livestock: Nil**.**

Summary of technologies refined under various enterprises: Nil**.**

Summary of technologies refined under home science: Nil**.**

III. FRONTLINE DEMONSTRATION

Crops

Crop	Thematic area	Name of the technology demonstrated	No. of KVKs	No. of Farmer	Area (ha)	Yield (q/ha)		% change in yield	Other parameters		*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
						Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Cereals																		
Millets																		
Oilseeds																		
Pulses																		
Vegetables	Integrated Nutrient Management	Use of microbial consortium for organic production of cowpea	1	10	0.8	110	80	37.5	Plants more green in colour. No major pest or disease incidence.	Normal stand of the crop. Aphids and Serpentine leaf miner found in almost 75% area.	135000	220000	85000	1.62	142000	160000	18000	1.12
	Unscientific Nutrient Management	Demonstration of PGPR – Mix 1 on productivity of Bitter Gourd	1	10	1	210.2	178.2	17.96	-	-	165000	293000	128000	1.78	142000	232000	90000	1.63
	Unscientific Nutrient Management	Demonstration of IIHR Vegetable Nutrient mixture in cow pea Var. Vellayani Jothika	1	10	1	175.6	118.6	48.06	-	-	156500	256700	100200	1.64	134500	214300	79800	1.59
	Indiscriminate use of PP chemical	Pheromone traps for management of fruit fly in Bitter gourd	1	5	2	168.4	123.4	36.47	-	-	134300	243500	109200	1.81	126300	214700	88400	1.70
Flowers																		
Ornamental																		
Fruit	IPM	Biological control of banana pseudo stem weevil	1	10	1	288.5	227.3	26.92	-	-	250610	386000	135390	1.54	214200	304300	90100	1.42
Fibres like Cotton																		

	INM	Microbial Consortium bio fertilizers in black pepper	1	10	0.4	2.6	2.1	23.81	-	-	185000	365000	180000	1.97	152000	264000	112000	1.73
	IPM	Popularization of apiculture and EPN for increase in productivity and reducing root grub menace in cardamom	-	10	3.5	72	57	26.32	-	-	154000	3150000	161000	2.04	132000	236000	1040000	1.78
Spices and condiments	Integrated Nutrient Management	INM in Cardamom	-	10	1	89	70	27	-	-	285000	712000	427000	2.49	285000	560000	275000	1.96
	Integrated Nutrient Management	Effective application of azospirillum & VAM for better rooting in black pepper nursery	-	10	0.02	-	-	-	-	-	10000	18500	8500	1.85	8000	12300	4300	1.53
Commercial crops	Productivity improvement of major crops	High Density Planting in Banana	1	10	2.0	*Ongoing*												
Medicinal and aromatic																		
Fodder																		
Plantation																		
Fibre																		
Others (pl.specify)																		
	Total																	

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

Livestock: Nil.

Fisheries: Nil.

Other enterprises: Nil.

Women empowerment

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

Other women						
Children						
Neonats						
Infants						
Children						

Farm implements and machinery

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

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

Other enterprises

Demonstration details on crop hybrids: Nil.

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										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/Irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil and Water Conservation										
Integrated Nutrient Management										
Production of organic inputs										
Others (pl. specify)										
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop										
Off-season vegetables										

Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation	1	2	32	34	0	0	0	2	32	34
Others (Kitchen garden)	1	30	1	31	1	1	2	31	2	33
Others (**Banana cultivation**)	2	23	0	23	0	0	0	23	0	23
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl. specify)										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl. specify)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl. specify)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl. specify)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl. specify)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl. specify)										
Soil Health and Fertility Management										
Soil fertility management	2	3	19	22	0	0	0	3	19	22

Integrated water management										
Integrated nutrient management	1	30	0	30	0	0	0	30	0	30
Production and use of organic inputs	1	47	53	100	0	0	0	47	53	100
Management of Problematic soils										
Micro nutrient deficiency in crops	1	0	35	35	0	0	0	0	35	35
Nutrient use efficiency										
Balanced use of fertilizers										
Soil and water testing										
Others (pl. specify)										
Livestock Production and Management										
Dairy Management										
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Animal Disease Management										
Feed and Fodder technology										
Production of quality animal products										
Others (pl. specify)										
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques	1	1	16	17	7	3	10	8	19	27
Value addition	3	12	21	33	0	0	0	12	21	33
Women empowerment										
Location specific drudgery production										
Rural Crafts										
Women and child care										
Others (pl. specify)										
Agril. Engineering										
Farm machinery and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl. specify)										

Plant Protection										
Integrated Pest Management	4	74	26	100	26	4	30	100	30	130
Integrated Disease Management	1	31	40	71	1	28	29	32	68	100
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl. specify)										
Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl. specify)										
Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production	4	21	13	34	0	0	0	21	13	34
Apiculture										
Others (pl. specify)										
Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										

Others (pl. specify)										
Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (Pl. specify)										
TOTAL	**22**	**274**	**256**	**530**	**35**	**36**	**71**	**309**	**292**	**601**

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										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/Irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil and Water Conservation	1	30	0	30	0	0	0	30	0	30
Integrated Nutrient Management										
Production of organic inputs										
Others (pl. specify)										
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation	2	15	66	81	15	22	37	30	88	118
Others (Organic farming)	6	100	45	145	22	22	44	122	67	189
Others (**Production technology**)	4	118	29	147	0	0	0	118	29	147
Others (**Hi tech cultivation**)	3	145	54	199	0	0	0	145	54	199
Others (**IFS**)	5	203	92	295	0	0	0	203	92	295
Others (**Organic vegetable cultivation**)	6	71	63	134	0	0	0	71	63	134
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										

Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl. specify)										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl. specify)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl. specify)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl. specify)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl. specify)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl. specify)										
Soil Health and Fertility Management										
Soil fertility management	2	30	75	105	0	0	0	30	75	105
Integrated water management										
Integrated nutrient management	2	161	56	217	0	0	0	161	56	217
Production and use of organic inputs										
Management of Problematic soils	2	45	15	60	0	0	0	45	15	60
Micro nutrient deficiency in crops	2	55	8	63	0	0	0	55	8	63
Nutrient use efficiency	1	19	6	25	0	0	0	19	6	25
Balanced use of fertilizers	1	25	10	35	0	0	0	25	10	35
Soil and water testing	3	108	44	152	6	4	10	114	48	162
Others (pl. specify)										
Livestock Production and Management										

Dairy Management										
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Animal Disease Management	2	53	23	76	4	1	5	57	24	81
Feed and Fodder technology	1	36	24	60	6	4	10	42	28	70
Production of quality animal products										
Others (pl. specify)										
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	1	170	85	255	0	0	0	170	85	255
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking	2	1	52	53	0	0	0	1	52	53
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	2	15	47	62	0	0	0	15	47	62
Women empowerment	1	2	35	37	0	0	0	2	35	37
Location specific drudgery production										
Rural Crafts										
Women and child care										
Others (pl. specify)										
Agril. Engineering										
Farm machinery and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl. specify)										
Plant Protection										
Integrated Pest Management	3	274	45	319	0	0	0	274	45	319
Integrated Disease Management	4	89	52	141	0	0	0	89	52	141
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides	1	45	7	52	0	0	0	45	7	52
Others (pl. specify)										
Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										

Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl. specify)										

Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production	3	28	82	110	6	8	14	34	90	124
Apiculture	1	38	14	52	0	0	0	38	14	52
Others (pl. specify)										
Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs	2	0	51	51	0	0	0	0	51	51
Mobilization of social capital										
Entrepreneurial development of farmers/youths	2	21	18	39	0	0	0	21	18	39
Others (pl. specify)										
Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (Pl. specify)										
TOTAL	**64**	**1897**	**1079**	**2976**	**59**	**61**	**120**	**1956**	**1140**	**3096**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology	1	8	0	8	0	0	0	8	0	8
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl. specify)										
TOTAL	**1**	**8**	**0**	**8**	**0**	**0**	**0**	**8**	**0**	**8**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops	1	2	6	8	14	10	24	16	16	32
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production	1	6	35	41	0	10	10	6	45	51
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition	2	7	40	47	0	0	0	7	40	47
Small scale processing	1	19	26	45	0	0	0	19	26	45
Post Harvest Technology	1	2	32	34	0	0	0	2	32	34
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl. specify)										
TOTAL	**6**	**36**	**139**	**175**	**14**	**20**	**34**	**50**	**159**	**209**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management	1	1	3	4	0	0	0	1	3	4
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl. specify)										
Total	**1**	**1**	**3**	**4**	**0**	**0**	**0**	**1**	**3**	**4**

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

Sponsored training programmes

S.No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	**Crop production and management**										
1.a.	Increasing production and productivity of crops	1	2	32	34	0	0	0	2	32	34
1.b.	Commercial production of vegetables	1	30	1	31	1	1	2	31	2	33
1.c.	Integrated Pest and Disease Management	6	106	69	175	27	32	59	133	101	234
2	**Production and value addition**										
2.a.	Fruit Plants										
2.b.	Ornamental plants										
2.c.	Spices crops										
3.	**Soil health and fertility management**	4	33	54	87	0	0	0	33	54	87
4	**Production of Inputs at site**	1	47	53	100	0	0	0	47	53	100
4.a.	Mushroom production	4	21	13	34	0	0	0	21	13	34
5	**Methods of protective cultivation**	1	2	32	34	0	0	0	2	32	34
6	**Others (Banana cultivation)**	2	23	0	23	0	0	0	23	0	23
7	**Post harvest technology and value addition**										
7.a.	Processing and value addition	5	21	37	58	7	3	10	28	40	68
7.b.	Others (pl. specify)										
8	**Farm machinery**										
8.a.	Farm machinery, tools and implements										
8.b.	Others (pl. specify)										
9.	**Livestock and fisheries**										
10	**Livestock production and management**										
10.a.	Animal Nutrition Management										
10.b.	Animal Disease Management										
10.c	Fisheries Nutrition										

10.d	Fisheries Management										
10.e.	Others (pl. specify)										
11.	**Home Science**										
11.a.	Household nutritional security										
11.b.	Economic empowerment of women										
11.c.	Drudgery reduction of women										
11.d.	Others (pl. specify)										
12	**Agricultural Extension**										
12.a.	Capacity Building and Group Dynamics										
12.b.	Others (pl. specify)										
	Total	**25**	**285**	**291**	**576**	**35**	**36**	**71**	**320**	**327**	**647**

Details of Vocational Training Programmes carried out for rural youth

S.No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	**Crop production and management**										
1.a.	Commercial floriculture										
1.b.	Commercial fruit production										
1.c.	Commercial vegetable production										
1.d.	Integrated crop management										
1.e.	Organic farming										
1.f.	Others (pl. specify)										
2	**Post harvest technology and value addition**										
2.a.	Value addition										
2.b.	Others (pl. specify)										
3.	**Livestock and fisheries**										
3.a.	Dairy farming										
3.b.	Composite fish culture										
3.c.	Sheep and goat rearing										
3.d.	Piggery										
3.e.	Poultry farming										
3.f.	Others (pl. specify)										
4.	**Income generation activities**										
4.a.	Vermi-composting										
4.b.	Production of bio-agents, bio-pesticides, bio-fertilizers etc.										
4.c.	Repair and maintenance of farm machinery and implements										
4.d.	Rural Crafts										
4.e.	Seed production										
4.f.	Sericulture										
4.g.	Mushroom cultivation										
4.h.	Nursery, grafting etc.										
4.i.	Tailoring, stitching, embroidery, dying etc.										
4.j.	Agril. para-workers, para-vet training										
4.k.	Others (pl. specify)										
5	**Agricultural Extension**										
5.a.	Capacity building and group dynamics										
5.b.	Others (Agricultural entrepreneurship development training)	4	51	48	99	4	9	13	55	57	112
	Others (Kudumbasree, Idukki)	1	1	8	9	0	0	0	1	8	9
	Others (EDP training on processing and value addition)	2	0	27	27	0	0	0	0	27	27
	Grand Total	**7**	**52**	**83**	**135**	**4**	**9**	**13**	**56**	**92**	**148**

V. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	101	100	8	108
Diagnostic visits	17	17	0	17
Field Day	5	43	7	50
Group discussions	-	-	-	-
Kisan Ghosthi	-	-	-	-
Film Show	-	-	-	-
Self -help groups	1	34	0	34
Kisan Mela	-	-	-	-
Exhibition	2			
Scientists' visit to farmers field	45	45	0	45

Plant/animal health camps	-	-	-	-
Farm Science Club	-	-	-	-
Ex-trainees Sammelan	2	19	0	19
Farmers' seminar/workshop (Speciality fertilizers for balanced nutrition)	1	199	6	205
Method Demonstrations	1	12	0	12
Celebration of important days (World food day)	3	108	0	108
Special day celebration	-	-	-	-
Exposure visits	1	9	0	9
Others (pl. specify)	-	-	-	-
Total	**179**	**586**	**21**	**607**

Details of other extension programmes

Particulars	Number
Electronic Media	-
Extension Literature	3500
News Letter	1000
News paper coverage	10
Technical Articles	-
Technical Bulletins	-
Technical Reports	-
Radio Talks	2
TV Talks	-
Animal health amps (Number of animals treated)	-
Others (pl. specify)	-
Total	**5012**

VI. PRODUCTION OF SEED/PLANTING MATERIAL

Production of seeds by the KVKs

Crop category	Name of the crop	Name of the variety (if hybrid pl. specify)	Quantity of seed (q)	Value (Rs)	Number of farmers
Cereals					
Oilseeds					
Pulses					
	Cowpea	Lola	0.0020	4000	150
	Cowpea	Yard long bean (NS-621)	0.0080	1100	100
	Cowpea	Kashi Baramasi	0.0040	400	20
Commercial crops					
Vegetables					
	Tomato	Pusa Ruby	0.0030	3000	1000
	Bitter gourd	F1 (NS-435)	0.0050	1500	5
	Bitter gourd	Priyanka	0.0200	3600	15
	Bitter gourd	Preethi	0.0200	3600	18
	Snake gourd	Kaumudi	0.0200	3000	200
	Snake gourd	F1 Lavanya	0.0100	4800	25
	Carrot	Improved Kuroda	0.0100	500	50
	Carrot	Nantes	0.0100	2800	100
	Beet root	Action	0.0010	500	50
	Beet root	Madhur	0.0050	3000	200
	Cauliflower	NS60	0.0004	640	25
	Cauliflower	Pusa Sakthi	0.0002	250	20

	Cauliflower	Pusa Sarath	0.0002	200	21
	Cauliflower	Deepika	0.0050	1700	50
	Cabbage	Pusa Drum Head	0.0050	2400	50
	Cabbage	Golden Acre	0.0040	2000	28
	Cabbage	Pride of India	0.0030	2250	34
	Cabbage	Maharani (F1)	0.0010	880	10
	Chilli	Pusa Jwala	0.0050	900	25
	Chilli	HYW HOT	0.0050	1100	31
	Onion	Neelam black	0.0001	560	20
	Cucumber	RK-40 Summer	0.0050	800	42
	Brinjal	NS-797 (F1)	0.0050	600	30
	Ladies finger	Arka anamica	0.0100	320	18
	Sambar cucumber	Sushmita	0.0050	900	16
	Drum stick	PKM-1	0.0020	520	31
	Water melon	Sugar baby	0.0050	1250	42
Flower crops					
	African Marigold	Local	0.0010	450	5
	Marigold	Local	0.0001	550	10
	Celosia Plumosa	Local	0.0010	450	7
	Celosia	Local	0.0005	450	10
	Celosia	Local	0.00025	550	15
	Gerbera	F10	0.0020	900	10
	Vinca	Pacifica mix	0.0010	450	10
	Ageratum	Dwarf ball mix	0.0050	450	15
	Pansy	Matrix mix (F1)	0.00025	750	10
	Zinnia	Dream land mix	0.0001	750	10
	Dianthus	Double mix	0.0010	450	10
	Portulaca	Double mix	0.0005	450	10
	Salvia	Vista mix	0.00025	550	10
	Gazania	Day break mix	0.00015	550	15
Spices					
Fodder crop seeds					
Fiber crops					
Forest Species					
Others					
Total			**0.2125**	**58,020**	**2,598**

Production of planting materials by the KVKs

Crop category	Name of the crop	Name of the variety (if hybrid pl. specify)	Number	Value (Rs.)	Number of farmers
Commercial					
Vegetable seedlings					
Fruits					
	Pulasan	-	4	1000	4
	Durian	-	6	600	6
	Mangosteen	-	13	2275	10
Ornamental plants					
	Balsam	-	500	2500	50
	Golden Cyprus	-	10	250	5

	Dianthus	-	10	150	5
	Poinsettia	-	25	625	25
	Bougainvillea	-	10	150	10
	Table palm	-	10	250	10
	Anthurium	-	15	225	10
	Peperomia	-	20	200	10
	Marigold	-	20	200	10
	Jasmine	-	25	125	15
	Coleus	-	25	125	10
	Bud rose	-	5	250	5
	Begonia	-	25	1250	20
Medicinal and Aromatic					
Plantation					
Spices					
	Panniyoor-1	-	900	6300	90
	Panniyoor-2	-	518	3626	52
	Panniyoor-4	-	823	5761	65
	Panniyoor-5	-	2022	14154	135
	Panniyoor-6	-	1418	9926	54
	Panniyoor-7	-	1003	7021	80
	Chengannoor	-	25	175	6
	Karimunda	-	150	1050	15
	Kottanadan	-	7860	55020	25
	Malabar excel	-	148	1036	20
	Pournami	-	150	1050	32
	Panchami	-	180	1260	20
	IISR Shakthi	-	135	945	12
	IISR Thevam	-	367	2569	30
	Sreekara	-	130	910	18
	Subhakara	-	112	784	14
	Thekken	-	125	875	13
Tuber					
Fodder crop saplings					
Forest Species					
Others					
Total			**16,789**	**1,22,637**	**886**

Production of Bio-Products

Bio Products	**Name of the bio-product**	**Quantity Kg**	**Value (Rs.)**	**No. of Farmers**
Bio Fertilizers	Azolla	3	240	12
Bio-pesticide	EPN	22550 nos.	33825	56
	Beauveria	100 kg	15000	43
	Metarhizium	40 litre	6000	25
Bio-fungicide	Pseudomonas	1550 litre	155000	340
	Trichoderma	164 litre	14400	91
	Mushroom spawn	710.5 kg	85260	250
Bio Agents				
Others				
Total			**309725**	**817**

Production of livestock and related enterprise materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers
Dairy animals				
Cows				
Buffaloes				
Calves				
Others (Pl. specify)				
Poultry				
Broilers				
Layers	Sasso	291	32010	30
Duals (broiler and layer)				
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				
Piggery				
Piglet				
Others (Pl. specify)				
Fisheries				
Fingerlings				
Others (Pl. specify)				
Total		**291**	**32010**	**30**

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

Samples	No. of Samples	No. of Farmers	No. of Villages	Amount realized (Rs.)
Soil	380	289	50	19000.00
Water	2	2	1	100.00
Plant	0	0	0	0.00
Manure	0	0	0	0.00
Others (Soil test campaign)	100	100	1	30000.00
Total	**482**	**391**	**52**	**49,100.00**

VIII. SCIENTIFIC ADVISORY COMMITTEE

Number of SACs conducted: One

IX. NEWSLETTER

Number of issues of newsletter published: 1000

X. RESEARCH PAPER PUBLISHED

Number of research paper published
NIL

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

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

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