

**BAPOOJI KRISHI VIGYAN KENDRA**  
Santhanpara, Idukki District, Kerala State.

**ANNUAL REPORT**  
**2011-12**

**(FOR THE PERIOD FROM APRIL 2011 TO MARCH 2012)**

**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	kvksanathanpara@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	chairmankvkidukki@rediffmail.com	www.kvkidukki.org

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. S. Jayababu, Programme Coordinator i/c.	04868-247546	9446223170	kvksanathanpara@gmail.com

**1.4. Year of sanction:** 1994.**1.5. Staff Position (as 31<sup>st</sup> March 2012)**

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	-	-	-	15600-39100	23600	-	-	-
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	Agri. Extension	Ph.D. Horticulture	15600-39100	21000	17-01-2011	Permanent	Others
5	SMS	Pramod Chacko	Subject Matter Specialist	M	Agronomy	M.Sc. Agriculture (Agronomy)	15600-39100	21000	17-01-2011	Permanent	Others
6	SMS	Dr. Binu John Sam	Subject Matter Specialist	M	Horticulture	Ph.D. Horticulture	15600-39100	21000	17-01-2011	Permanent	Others
7	SMS	Sudhakar Soundarajan	Subject Matter Specialist	M	Plant Protection	M.Sc. Agricultural Entomology	15600-39100	21000	27-01-2011	Permanent	OBC
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	F.F. Attendant	M	-	-	5200-20200	7000	05-06-1995	Permanent	Others
16	Supporting staff-2	P. Sabu	F.F. Attendant	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	15-06-2009	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	-	-	-	-	-	-
6	Rain Water harvesting system	NA	-	-	-	-	-	-
7	Threshing floor	NA	-	-	-	-	-	-
8	Farm godown	NA	-	-	-	-	-	-

**B) Vehicles**

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Tempo Trax	July - 1995	3,06,676.34	135329	Vehicle condemned and auctioned
Motor Bike (Suzuki Shogun)	January - 1995	37,972.78	8828	In running condition with poor fuel efficiency.
Honda Aviator	March - 2009	50,000.00	7142	Good condition.

**C) Equipments & AV aids**

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
<b>A.V. aids (Specify)</b>			
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
<b>Soil Science Lab Equipments (Specify)</b>			
KEMI HOT PLATE with Energy Regulator	2006	5,400.00	Bad
Electronic Balance	2006	1,00,000.00	Good
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
<b>Bio-control Lab Equipments</b>			
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
<b>Other Equipments</b>			
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	Bad
Photostat Machine	2003	80,000.00	Good
Brush Cutter	2009	23,726.00	Good
Fax Machine	2009	15,000.00	Good
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 2011-12:** Not conducted.

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

**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	Cool season vegetables
6	Dairying
7	Banana cropping
8	Rubber mono-crop

## 2.2 Description of Agro-climatic Zone &amp; 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° 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.	Cheenkuzhy 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	33078	7827	237
2.	Pepper	58290	16708	287
3.	Banana	2705	23662	8748
4.	Rice	2115	5494	2598
5.	Coconut	17776	79 million nuts	4194 (Numbers/ha)
6.	Tapioca	7706	255284	33128
7.	Coffee	12680	7815	616
8.	Tea	24412	36952	1514

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

## 2.5. Weather data

Month	Rainfall (mm)	Temperature ° C		Relative Humidity (%)
		Maximum	Minimum	
April 2011	268.8	29.0	17.5	94.8
May 2011	28.6	29.4	18.5	93.8
June 2011	398.6	24.2	17.4	99.5
July 2011	351.0	23.5	17.0	99.8
August 2011	410.2	24.0	17.6	99.8
September 2011	188.2	24.4	17.4	98.3
October 2011	298.5	26.3	17.9	95.2
November 2011	237.2	24.0	17.0	96.0
December 2011	14.0	24.2	15.5	97.6
January 2012	4.7	24.7	14.7	96.2
February 2012	0.2	27.0	15.8	93.0
March 2012	30.5	28.2	17.2	94.6

**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
<b>Cattle</b>			
<i>Crossbred</i>	173237	Milk – 45.01 Lakh MT	-
<i>Indigenous</i>	26412	-	-
<b>Buffalo</b>	4348	-	-
<b>Sheep</b>			
<i>Crossbred</i>	-	-	-
<i>Indigenous</i>	-	-	-
<b>Goats</b>	104708	Meat – 109 T	-
<b>Pigs</b>			
<i>Crossbred</i>	26914	61.00 T	-
<i>Indigenous</i>	-	-	-
<b>Rabbits</b>	58369	7800 Kg	-
<b>Poultry</b>			
Hens	413099	161.05 Billions	-
<i>Desi</i>	5000		
<i>Improved</i>	-		
Ducks	19520	107000	-
Turkey and others	38480	17.00 (000)	-

Category	Area	Production	Productivity
Fish	More than 8 Lakhs	960 MT	-

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

2.7 District profile has been **Updated** for 2011-12: 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) Low productivity in poultry. 7) Lack of mechanization in pepper processing 8) Labour shortage in paddy farming 9) Heavy infestation of shoot borer in ginger.	1) Productivity improvement of major crops. 2) Introduction of high yielding improved crop varieties, livestock and poultry breeds. 3) Integrated Pest and Disease Management (IPDM) in major crops. 4) Scientific management of livestock & poultry. 5) Self-employment and Income generation of rural youth & women. 6) Value addition of farm produce. 7) Mechanized pepper threshing 8) Mechanization in paddy farming 9) Trial on cultural method of shoot borer control in ginger.
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, 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. 4) Mechanization in paddy farming.

## 2.9 Priority thrust areas

S. No.	Thrust area
1.	Productivity improvement of major crops
2.	Mechanization in paddy farming
3.	Introduction of high yielding improved crop varieties, livestock and poultry breeds
4.	Integrated Pest and Disease Management (IPDM) in major crops
5.	Self-employment and Income generation of rural youth & women
6.	Value addition of farm produce
7.	Scientific management of livestock and poultry
8.	Drudgery reduction
9.	Improvement in reproductive efficiency in dairy cattle
10.	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
11	10	53	47	14	12	122	86

Training				Extension Programmes			
3				4			
Number of Courses		Number of Participants		Number of Programmes		Number of participants	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
170	172	7000	6379	300	276	1000	950

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
Vegetable seeds – 2000 packets	Vegetable seeds – 2179 packets	Fruits – 100 nos.	Fruits – 75 nos.
Flower crops – 20 packets	Flower crops – 35 packets	Spices – 125000 nos.	Spices – 7208 nos.
Mushroom spawn – 10000 packets	Mushroom spawn – 1303 packets	Vegetable seedlings – 2000 nos.	Vegetable seedlings – 2200 nos.
		Ornamental crops – 5000 nos.	Ornamental crops – 1700 nos.
		Plantation crops – 400 nos.	Plantation crops – 325 nos.

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
Poultry (Egg) – 15000 Nos.	Poultry (Egg) – 1720 Nos.	Pseudomonas – 3000 L	Pseudomonas – 549 L
		Trichoderma – 1000 L	Trichoderma – 87 L
		Vermiculture – 100 kg	Vermiculture – 120 kg
		Vermicompost – 2000 kg	Vermicompost – 150 kg
		Azolla – 100 kg	Azolla – 50 kg

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

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions											
				Title of OFT if any	Title of FLD if any	Number of Training (farmers)	Number of Training (Youths)	Number of Training (extension personnel)	Extension activities (No.)	Supply of seeds (Qtl.)	Supply of planting materials (No.)	Supply of livestock (No.)	Supply of bio products		
													No.	Kg	
1.	Varietal evaluation	cardamom	Heavy infestation of root grub	Varietal trial of Thiruthali cardamom variety	-	2	0	0	2	-	1000	-	-	-	-
2.	Plant protection	Ginger	Heavy infestation of shoot borer	Mulching in ginger with Vitex negundo and Lantana camara leaves to control shoot borer attack	-	2	0	0	2	-	-	-	-	-	-
3.	Farm mechanization	paddy	Labour shortage	Mechanization in paddy farming	-	3	3	1	4	-	-	-	-	-	Pseudomonas – 70 L
4.	Mechanization in pepper processing	pepper	Drudgery and economic loss	Mechanized pepper threshing	-	2	2	2	5	-	-	-	-	-	-
5.	Crop improvement	pepper	Low productivity	Effective use of consortium bio fertilizers in black pepper	-	1	1	1	3	-	-	-	-	-	Azospirillum – 10 kg Phosphobacterium – 10 kg VAM – 44 kg

6.	Increase in productivity	Banana	Low productivity	-	Site specific nutrient Management of Nendran Banana under the agro-climatic conditions of High Ranges of Idukki	8	8	-	18	-	-	-	-	-
7.	Crop Improvement	Cauliflower	High cost of Private sector seeds	Assessment of suitable varieties of Cauliflower for high ranges of Idukki District	-	3	3	-	15	-	2500 seedlings	-	-	-
8.	Increasing bunch yield in banana	Banana	Lesser bunch weight realized in banana in different tracts	Assessment on the effect of K <sub>2</sub> SO <sub>4</sub> sprays on bunch yield of banana var. Nendran in different climatic regimes of Idukki district	-	Started and ongoing			-	-	-	-	-	
9.	Increasing availability of different types of mushrooms	Mushroom	Single type of mushroom not fully accepted by all section of people	Suitability of mushroom types in the high altitude regions of Idukki district	-	2	0	0	60 pkts.	-	-	-	-	
10.	Increasing demand for pepper cuttings	Black Pepper	Lack of adequate planting material	Rapid multiplication in pepper (Serpentine method)	-	Started and ongoing			-	3000 cuttings	-	-	Pseudomonas – 6 Litres	
11.	Pest management	Cardamom	Recurring occurrence of pest	Management of cardamom root grub	-	5	0	0	2	-	-	-	-	<i>Metarhizium anisopliae</i> -30 kg EPN (IJs)-3750 cadavers
12.	IDM	Cardamom	Incidence of clump rot	Management of Clump rot in cardamom disease	-	5	2	0	1	-	Neem cake-100 kg	-	-	<i>Trichoderma</i> -60 L
13.	Bee keeping	Cardamom	Lack of knowledge in apiary	Popularization of apiary /beekeeping in cardamom cultivation area	-	5	2	0	1	-	Bee hives with colonies-14 nos	-	-	-
14.	IPM	Black pepper	incidence of scales and thrips	Management of scales and thrips in Black pepper	-	5	0	0	-	-	Dimethoate-16 L1	-	-	-
15.	IPM	Black pepper	Tender shoots, leaves and spikes are damaged by adult.	Management of Black Pepper Pollu beetle	-	4	0	0	-	-	Quinalphos-5 L Neemgold-5L	-	-	-
16.	IPM	Banana	Severe incidence of Pseudostem weevil	Management of Banana Pseudostem Weevil	-	5	0	0	-	-	Neem azal-10 L Chlorpyrifos-20 L	-	-	Beauveria-23 kg

17.	Increase in productivity	Cardamom	1) Soil acidity. 2) Low productivity. 3) Immature flower & capsule shedding.	-	Site specific nutrient management in cardamom soils	2	0	0	Field visit - 4	-	-	-	-	-
18.	Increase in productivity	Tapioca	Low productivity in tubers	Control of rats in tapioca field and other tuber crops	-	Ongoing								
19.	Breeding improvement	Dairy cattle	Infertility problem	Synchronization of estrus in dairy cows	-	7	0	0	3	-	-	-	-	-
20.	Nutrient management	Dairy cattle	Low meat & milk production	-	Supplementation of mineral mixture in livestock feeding	6	0	0	3	-	-	-	-	-
21.	Production & improvement of dairy cattle	Dairy cattle	Low production of mixed fodder	-	Popularization of mixed fodder system	5	0	0	2	-	-	-	-	-
22.	Production & improvement of poultry	Poultry	Low productivity	-	Hatchability of poultry eggs using low cost incubator	4	0	0	4	-	-	-	-	-

### 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.	Mechanization in paddy farming	FLD	Paddy	0	7	7	Field visits - 2 Demonstrations - 2
2.	Mechanized pepper threshing	Innovation	Pepper	0	5	6	FAS - 1 Field visits - 1 Demonstrations - 3
3.	Effective use of consortium bio fertilizers in black pepper	KAU	Pepper	0	8	3	Field visits - 2 FAS - 1
4.	Varietal trial of thiruthali cardamom variety	Innovation	Cardamom	5		2	Field visits - 2
5.	Mulching in ginger with Vitex negundo and Lantana camara leaves to control shoot borer attack	MoA	Ginger	5		2	Field visits - 2
6.	Site specific nutrient Management of Nendran Banana under the agro-climatic conditions of High Ranges of Idukki	IIHR	Banana	0	1	8	Field visits - 10 FAS - 8
7.	Assessment of suitable varieties of Cauliflower for high ranges of Idukki District	Namdari seeds IARI	Cauliflower	1	0	3	Field visits - 5 FAS - 10
8.	Assessment on the effect of K <sub>2</sub> SO <sub>4</sub> sprays on bunch yield of banana var. Nendran in different climatic regimes of Idukki district	KAU	Banana	5	0	0	Field visits - 4 FAS - 3
9.	Suitability of mushroom types in the high altitude regions of Idukki district	KAU & TNAU	Mushroom	5	0	2	Field visits - 10 FAS - 8 Demonstrations - 3
10.	Rapid multiplication in pepper (Serpentine method)	KAU	Black pepper	0	3	0	Field visits - 3 FAS - 3
11.	Management of cardamom root grub	ICRI, Myladumpara, Idukki	Cardamom	1	0	5	Field visits - 10 Demonstrations - 5
12.	Management of Clump rot in cardamom disease	ICRI, Myladumpara, Idukki	Cardamom	0	1	4	Field visits - 4 FAS - 5
13.	Popularization of apiary /beekeeping in cardamom cultivation area	KAU, Thrissur	Cardamom	0	1	6	Field visits - 8 FAS - 2

14.	Management of scales and thrips in Black pepper	DASD	Black pepper	0	1	4	Field visits – 4 FAS – 1
15.	Management of Black Pepper Pollu beetle	DASD	Black pepper	1	0	3	Field visits – 4 Demonstration – 5
16.	Management of Banana Pseudostem Weevil	NRCB	Banana	1	0	6	Field visits – 10 Demonstration – 5
17.	Site specific nutrient management in cardamom soils	ICRI, Myladumpara, Idukki	Cardamom	0	2	0	Field visit - 4
18.	Control of rats in tapioca field & other tuber crops	KAU, Thrissur	Tapioca	1	0	0	-
19.	Synchronization of estrus in dairy cows	TANUVAS	Dairy cattle	1	0	7	Field visit - 3
20.	Supplementation of mineral mixture in livestock feeding	TANUVAS	Dairy cattle	0	1	6	Field visit - 3
21.	Popularization of mixed fodder system	TANUVAS & KAU	Dairy cattle	0	1	5	Field visit - 2
22.	Hatchability of poultry eggs using low cost incubator	TANUVAS	Poultry	0	1	4	Field visit -2 & Demonstration - 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	0	0	0	4	1	1	1	40	7	15	8	4	1	1	3
2.	0	0	0	0	37	19	16	11	32	4	17	11	6	1	1	1
3.	0	0	0	0	5	2	1	0	14	3	1	4	3	2	2	0
4.	4	0	0	1	0	0	0	0	6	1	3	1	2	0	0	0
5.	2	1	2	0	0	0	0	4	1	1	1	1	1	1	3	1
6.	3	1	0	0	0	0	0	40	23	10	3	0	0	0	0	0
7.	0	0	0	0	5	0	0	78	28	10	5	0	0	0	0	0
8.	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.	5	0	0	0	0	0	0	13	8	8	3	0	0	0	0	0
10.	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
11.	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
13.	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
15.	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	5	0	0	0	36	4	0	0	0	0	0	0
18.	Ongoing															
19.	4	0	0	1	0	0	0	0	111	3	21	5	0	0	0	0
20.	0	0	0	0	15	0	0	3	100	30	30	20	0	0	0	0
21.	0	0	0	0	6	0	2	2	100	10	30	10	0	0	0	0
22.	0	0	0	0	6	0	2	2	70	10	30	10	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				1	1					2
Integrated Pest Management			4			1			1	6
Integrated Crop Management										
Integrated Disease Management			1							1
Small Scale Income Generation Enterprises			1							1
Weed Management										
Resource Conservation Technology										
Farm Machineries										
Integrated Farming System										
Seed / Plant production						1				1
Value addition										
Drudgery Reduction										
Storage Technique										
Mushroom cultivation					1					1
Total	0	0	0	7	2	3	0	0	1	13

**4.A2. Abstract on the number of technologies refined in respect of crops - NA****4.A3. Abstract on the number of technologies assessed in respect of livestock enterprises**

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
Disease of Management	1					1
<b>TOTAL</b>	<b>1</b>					<b>1</b>

**4.A4. Abstract on the number of technologies refined in respect of livestock enterprises****4.B. Achievements on technologies Assessed and Refined****4.B.1. Technologies Assessed under various Crops**

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trail covering all the Technological Options)
Varietal Evaluation	Cardamom	Varietal trial of Thiruthali cardamom variety	5	5	0.4
	Cauliflower	Assessment of suitable varieties of Cauliflower for high ranges of Idukki District	4	4	0.008
Integrated Pest Management	Cardamom	Management of cardamom root grub	5	5	2 ha
	Black pepper	Management of Black Pepper Pollu beetle	4	4	1 ha
	Banana	Management of Banana Pseudostem Weevil	5	5	1 ha
	Tapioca	Control of rats in tapioca field & other tuber crops	5	5	1 ha
	Ginger	Mulching in ginger with Vitex negundo and Lantana camara leaves to control shoot borer attack	5	5	0.13
Seed / Plant production	Banana	Assessment on the effect of K <sub>2</sub> SO <sub>4</sub> sprays on bunch yield of banana var. Nendran	5	5	0.5
Mushroom cultivation	Mushroom	Suitability of mushroom types in the high altitude regions of Idukki	5	5	5 units
<b>Total</b>					

**4.B.2. Technologies Refined under various Crops****4.B.3. Technologies assessed under Livestock and other enterprises**

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Disease management	Dairy cattle	Synchronization of estrus in dairy cows	5	5
<b>Total</b>			<b>5</b>	<b>5</b>

**4.B.4. Technologies Refined under Livestock and other enterprises****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
Cardamom	Cardamom belts	Heavy infestation of root grub	Varietal trial of Thiruthali cardamom variety	5	Root grub resistance of Thiruthali cardamom variety	Yield BCR	Ongoing	-	-	-	-
Ginger	Rotational cropping	Heavy infestation of shoot	Mulching in ginger with Vitex negundo and	5	Cultural control of shoot borer	Yield BCR	Ongoing				

		borer	Lantana camara leaves to control shoot borer attack								
Cauliflower	Seasonal crop	High cost of private sector seeds	Assessment of suitable varieties of Cauliflower for high ranges of Idukki District	4	Recommended variety NS 60. Pusa Shakhti Pusa Sharat	Date of curd initiation Date of first harvest Weight of curd Yield	1 <sup>st</sup> week of January 2 <sup>nd</sup> week of February NS 60:985.75g P Shakthi: 193.75g P Sharat: 610g NS 60:142.65kg/acre P Shakthi: 28.1kg/acre P Sharat: 88.45kg/acre	Pusa Shakti showed comparatively best performance over Pusa Sharat. But overall performance of NS 60 was best.	NS 60 was the high yielding variety compared with tested varieties.	Early varieties from IARI should test.	By testing the early varieties we can also improve the yield performance of IARI varieties.
Banana	Annual crop	Lesser bunch weight realized in banana in different tracts	Assessment on the effect of K <sub>2</sub> SO <sub>4</sub> sprays on bunch yield of banana var. Nendran in different climatic regimes of Idukki district	5	Effect of K <sub>2</sub> SO <sub>4</sub> sprays on bunch yield of banana	1) Yield. 2) Cracking of fingers, if any. 3) Keeping quality. 4) BCR	Ongoing				
Mushroom	Perennial	Single type of mushroom not fully accepted by all section of people	Suitability of mushroom types in the high altitude regions of Idukki district	5	Performance of oyster, milky & button mushrooms under various climatic regimes	1) Yield. 2) Sensory evaluation. 3) Keeping quality. 4) Marketability. 5) BCR	Ongoing				
Cardamom	Perennial crop	Heavy root grub incidence	Management of cardamom root grub with microbial biopesticides and Entomopathogenic Nematodes	5	Evaluation of root grub management using microbial biopesticides & EPN.	Root grub incidence, Effectiveness & BCR	Comparative root grub control evaluation in cardamom.	Root grub is controlled by 95 % in all the EPN treated plots and <i>Metarhizium anisopliae</i> indicate that 80 % control of root grub when compare to control plots.	EPN is effective in controlling of root grub and increasing yield substantially.	Yes, cardamom is perennial crop hence the assessment needs to repeat two more years.	
Black pepper	Perennial crop	Spikes damaged by adult.	Management of Black Pepper Pollu beetle.	4	Evaluation of Neemgold and Quinalphos in the IPM of Black pepper	Per cent damage, Period of effectiveness & BCR	-	Significant reduction in the incidence of pollu beetle.	Neem gold is helped to reduce the pollu beetle but also reduce the pesticides load in black pepper by 30%.		
Banana	Mono cropping	Incidence of pseudo stem weevil causes heavy yield loss	Management of banana pseudo stem weevil	5	Evaluation of effective control methods of banana pseudo stem weevil	Per cent damage, period of effectiveness & BCR	Comparative control methods of banana pseudo stem weevil evaluation in banana	Effectiveness of different methods: Pseudostem smear with Beauveria Neem azal Chlorpyriphos Cassava extract			

Tapioca	Homestead farming	Low productivity due to rat attack	Control of rats in tapioca field & other tuber crops	5	Growing of Chethikoduveli among tuber crops, using Mancomp trap, chemical control	Yield	Ongoing
Dairy cattle	Dairy farming is a major enterprise where infertility problem is more	Infertility problem	Synchronization of estrus in dairy cows	10	Synchronization of estrus in dairy cows	Conception rate & intercalving period	On going

**Contd..**

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)- Njallani variety cardamom	Innovation	Ongoing			
Technology option 2- Thiruthali variety cardamom	Innovation	Ongoing			
Technology option 1 (Farmer's practice) - Application of PPC as recommended by local pesticide dealers	Local	Ongoing			
Technology option 2- Application of dimethoate/quinalphos @ 250 ml/100 l of water	KAU	Ongoing			
Technology option 3- Application of Vitex negundo and Lantana camara as mulch	MoA	Ongoing			
Technology option 1 (Farmer's practice)	Namdari seeds	NS 60: 142.65 kg/ acre	NS 60: 142.65 kg/ ha	2,30,345	1.72
Technology option 2	IARI	Pusa Sharat: 28.1 kg/ acre	Pusa Sharat: 28.1 kg/ ha	1,00,453	0.5
Technology option 3	-	Pusa Shakthi 88.45 kg/ acre	Pusa Shakthi 88.45 kg/ ha	2,25,855	1.68
Technology option 1 (Farmer's practice) - Unscientific management	Farmers practice	Ongoing			
Technology option 2- Spraying Urea @ 1g/100ml/plant	KAU	Ongoing			
Technology option 3- Spraying K <sub>2</sub> SO <sub>4</sub> @ 3g/100ml/plant	KAU	Ongoing			
Technology option 1 Oyster mushroom	Farmers practice	Ongoing			
Technology option 2- Milky mushroom	KAU	Ongoing			
Technology option 3- Button mushroom	TNAU	Ongoing			

Technology option 1 (Farmer's practice) - Drenching Chlorpyrifos @ 0.04%.	-	0.8	t/ha	Rs.2,80,000	1.7
Technology option 2- <i>Metarhizium anisopliae</i> @25g/plant mixed with cow dung	ICRI	1	t/ha	Rs.3,50,000	2.4
Technology option 3- EPN (IJs) @ 4 cadaver / plant	ICRI	1.3	t/ha	Rs.5,30,000	3.1
Technology option 1- Farmer's practice	-	0.7	t/ha	Rs.2,00,000	1.6
Technology option 2- Spray Quinalphos (0.05%) twice a year	DASD	1.6	t/ha	Rs.4,40,000	2.7
Technology option 3- Spray Neemgold (0.6%) during August, September and October	DASD	1.5	t/ha	Rs.4,00,000	2.5
Technology option 1 (Farmer's practice)	-	14000	kg /ha	Rs.2,10,000	2.8
Technology option 2- Pseudostem trap smeared with <i>Beauveria bassiana</i> @ 100 traps/ha	NRCB	23070	kg /ha	Rs.3,46,050	4.6
Technology option 3- Spray neem oil @ 2.5ml/L+0.5ml soap solution	NRCB	20110	kg /ha	Rs.3,01,650	4.0
Technology option 4- Spray Chlorpyrifos @ 0.03%	NRCB	21890	kg /ha	Rs.3,28,350	4.3
Technology option 1- Farmer's practice	-	-	-	-	-
Technology option 2- Cultural method of growing Chethikoduveli among tuber crops	KAU	Ongoing			
Technology option 3- Mechanical control of rats using Mancomp rat trap					
Technology option 4- Chemical control using Ecodon					
Technology option 1- Farmer's practice	-	-	-	-	-
Technology option 2	TANUVAS	On going			
Technology option 3	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: **Varietal trial of Thiruthali cardamom variety.**
- 2 Problem Definition: Heavy infestation of root grub in the local variety of cardamom.
- 3 Details of technologies selected for assessment: Thiruthali variety of cardamom developed by farmer.
- 4 Source of technology: Farmer developed, recognized by ICAR & ICRI.

- 5 Production system and thematic area: Cardamom belts, crop development.
- 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 farmer's participation and their reaction: Ongoing.

## 2)

- 1 Title of Technology Assessed: **Mulching in ginger with Vitex negundo and Lantana camara leaves to control shoot borer attack.**
- 2 Problem Definition: Heavy infestation of shoot borer in ginger.
- 3 Details of technologies selected for assessment: Application of Vitex negundo and Lantana camara as mulch.
- 4 Source of technology: MoA.
- 5 Production system and thematic area: Rotational cropping, crop protection.
- 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 farmer's participation and their reaction: Ongoing.

## 3)

- 1 Title of Technology Assessed: **Assessment of suitable varieties of Cauliflower for high ranges of Idukki District.**
- 2 Problem Definition: High cost of private sector seeds.
- 3 Details of technologies selected for assessment

Technology Options	Details of the technology assessed	Area in ha.
1. (Farmer's practice)	NS 60	0.004
2	Pusa Sharat & Pusa Shakthi	0.004

- 4 Source of technology: Namdari seeds & IARI.
- 5 Production system and thematic area: Varietal Evaluation.
- 6 Performance of the Technology with performance indicators

Weight of curd		Yield	
Variety	(g)	Variety	(kg/acre)
NS 60	985.75	NS 60	142.65
Pusa Sharat	193.75	Pusa Sharat	28.1
Pusa Shakthi	610	Pusa Shakthi	88.45

- 7 Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: Nil.
- 8 Final recommendation for micro level situation: Pusa Shakthi had shown comparatively best result over Pusa sharat. But the yield performances of those varieties were less when compared with NS 60. So we have to test the early varieties of IARI such as Pusa early synthetic & Pusa Meghna in this region.
- 9 Constraints identified and feedback for research: Commercial cultivation of the cauliflower has some constraints due to severe pest attack when compared with the traditional vegetable crops. The variety Pusa sharat showed buttoning in this area.

- 10 Process of farmer's participation and their reaction: Farmers are convinced with the IARI Pusa Shakthi variety for the cultivation of cauliflower in the Idukki area due to the low cost production. They have the only concern regarding the timely availability of seedlings.

## 4)

- 1 Title of Technology Assessed: **Assessment on the effect of  $K_2SO_4$  sprays on bunch yield of banana var. Nendran in different climatic regimes of Idukki district.**
- 2 Problem Definition: Banana, irrespective of the varieties, responds very well to the applied nutrients and water, especially at the vegetative stage. Although the crop shows vigorous dry matter production in the early stages of growth, the proportion of dry matter partitioning to reproductive growth is inadequate. Most of the dry matter confines to the pseudostem and foliage resulting in poor bunch size, reduced number of fruits and low fruit quality. Though banana cultivation is practiced mostly by the available package of practices, its productivity may still be increased by use of  $K_2SO_4$  sprays. This has to be assessed in the various climatic regimes of Idukki district.
- 3 Details of technologies selected for assessment:

Technology Options	Details of the technology assessed	Area in ha.
1. (Farmer's practice)	Not scientifically done	0.02
2	Urea spray	0.02
3	$K_2SO_4$ sprays	0.02

- 4 Source of technology: KAU
- 5 Production system and thematic area: Annual crop, improvement in productivity.
- 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 farmer's participation and their reaction: Ongoing.

## 5)

- 1 Title of Technology Assessed: **Suitability of mushroom types in the high altitude regions of Idukki.**
- 2 Problem Definition: Immense scope exists in the picturesque cool high altitude regions of Idukki district for cultivation of mushroom which is in high demand in local market and also to the neighbouring districts of Kottayam and Ernakulam. Currently around 25 small scale growers operate mostly in the low and medium altitude regions of the district with the technical guidance from the KVK. The sole type grown is Pleurotus sajor caju and the output is not comparable to the ever increasing demand for the same among hotels and resorts and the local folk. Since the temperature regime in the high altitude regions is around 15-20 0C, button mushrooms can be tried. Also during those periods of the year when the temperature rises above 20 0C, milky mushrooms may also be tried among the existing cultivators to get an additional income.
- 3 Details of technologies selected for assessment:

Technology Options	Details of the technology assessed	Area in ha.
1. (Farmer's practice)	Oyster Mushroom	1 cent
2	Milky mushroom	1 cent
3	Button mushroom	1 cent

- 4 Source of technology: KAU & TNAU.
- 5 Production system and thematic area: Increasing availability of different types of mushrooms.

- 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 farmer's participation and their reaction: Ongoing.

## 6)

- 1 Title of Technology Assessed: **Management of cardamom root grub, *Basilepta fulvicorne* with microbial bio-pesticides and Entomopathogenic Nematodes.**
- 2 Problem Definition: Low productivity due to root grub incidence.
- 3 Details of technologies selected for assessment: Application of *Metarhizium anisopliae* @ 25g/plant with cow dung and EPN @ 4 cadavers/ plant twice in a year (April-May & September-October).
- 4 Source of technology: ICRI, Myladumpara.
- 5 Production system and thematic area: Cardamom based cropping system and Integrated management of cardamom root grub.
- 6 Performance of the Technology with performance indicators: The yield and BCR data recorded after the treatments indicated the following results. The percentage reduction of root grub attack was 53 % and the yield 0.6 t/ha with the BCR of 1.7 in farmers practice, 77 % and the yield 1 t/ha with the BCR of 2.4 in management with *Metarhizium anisopliae* and 88 % with the yield of 1.3 t/ha with the BCR of 3.1 in management with Entomopathogenic Nematodes.
- 7 Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: EPN is effective in controlling of root grub and increasing yield substantially.
- 8 Final recommendation for micro level situation: Cardamom is a perennial crop hence the assessment needs to be conducted in the year of 2012 – 2013.
- 9 Constraints identified and feedback for research: Microbial bio-pesticides and Entomopathogenic Nematodes show significant results on the productivity of cardamom only if the technology is continuously practiced for three years and maintain shade area properly.
- 10 Process of farmer's participation and their reaction: The cardamom growers association had adopted the technology and more than 200 farmers are practicing the technology in over 150 ha area.

## 7)

- 1 Title of Technology Assessed: **Management of Black Pepper Pollu beetle, *Longitarsus nigripennis*.**
- 2 Problem Definition: Heavy yield losses due to incidence of Pollu beetle.
- 3 Details of technologies selected for assessment: 1) Spray Quinalphos (0.05%) twice a year during June-July and September. 2) Spray Neemgold (0.6%) during August, September and October.
- 4 Source of technology: DASD.
- 5 Production system and thematic area: Pepper based cropping system and Integrated Pest Management.
- 6 Performance of the Technology with performance indicators: The yield loss due to pollu beetle incidence recorded in farmers practice was 40 % and the yield 0.7 t/ha with the BCR of 1.6, the pollu beetle incidence recorded under Quinalphos (0.05%) was 10 % and the yield 1.6 t/ha with the BCR of 2.7 and the pepper plants under Neem gold was 20 % and the yield 1.5 t/ha with the BCR of 2.5
- 7 Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: Neem gold is helped to reduce the pollu beetle but also reduce the pesticides load in black pepper by 30%.

- 8 Final recommendation for micro level situation: Nil.
- 9 Constraints identified and feedback for research: Significant reduction in the incidence of pollu beetle in black pepper.
- 10 Process of farmer's participation and their reaction: The pepper growers association had adopted the technology and more than 100 farmers are practicing the technology in over 50 ha area.

## 8)

- 1 Title of Technology Assessed: **Management of banana pseudo stem weevil.**
- 2 Problem Definition: Incidence of pseudo stem weevil causes heavy yield loss.
- 3 Details of technologies selected for assessment:
  - 1) Pseudostem trap smeared with *Beauveria bassiana* @ 100/ha.
  - 2) Spray neem oil @ 2.5ml/L.
  - 3) Spray Chlorpyrifos @ 0.03%.
- 4 Source of technology: NRCB.
- 5 Production system and thematic area: Mono cropping and Integrated Pest Management.
- 6 Performance of the Technology with performance indicators: The percentage reduction of Pseudostem weevil attack recorded in farmers practice was 45 % and the yield of 14,000 kg /ha with the BCR of 2.8 , Pseudostem trap smeared with *Beauveria bassiana* @ 100/ha was 10 % and the yield of 23,070 kg /ha with BCR of 4.6 ,the Pseudostem weevil incidence recorded under Spraying of neem oil @ 2.5ml/L was 35 % and the yield of 20,110 kg/ha with the BCR of 4.0 and Spraying of Chlorpyrifos @ 2.5 ml/L was 40%. and the yield of 21,890 kg/ha with the BCR of 4.3
- 7 Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: Nil.
- 8 Final recommendation for micro level situation: Application of Pseudostem trap with *Beauveria bassiana* @ 100 traps/ha effectively checked the population of pseudostem weevil. It can be popularized to create the importance among the farming community.
- 9 Constraints identified and feedback for research: Nil.
- 10 Process of farmer's participation and their reaction: Technology is accepted by the farmers and they were actively participated in the trial programme to know the technology for pseudostem weevil management.

## 9)

- 1 Title of Technology Assessed: **Control of rats in tapioca field.**
- 2 Problem Definition: Low tuber yield due to rat attack.
- 3 Details of technologies selected for assessment: Growing of Chethikoduveli among tuber crops, using Mancomp trap, chemical control
- 4 Source of technology: KAU.
- 5 Production system and thematic area: Integrated Pest Management.
- 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 farmer's participation and their reaction: Ongoing.

10)

- 1 Title of Technology Assessed: **Synchronization of estrus in dairy cows.**
- 2 Problem Definition: Infertility in dairy cows.
- 3 Details of technologies selected for assessment: Synchronization of estrus in dairy cows.
- 4 Source of technology: TANUVAS.
- 5 Production system and thematic area: Mixed farming.
- 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 farmer's participation and their reaction: Ongoing.

#### 4.D1. Results of Technologies Refined - NA

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

### PART V - FRONTLINE DEMONSTRATIONS

#### 5.A. Summary of FLDs implemented during 2011-12

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		
	Cereals	Paddy belts	Rabi 2011	Paddy	Uma Palthony	Uma	Farm mechanization	Mechanized paddy farming	3.5	3.5	2	5	7	-	
	Fruit	Mono cropping	Annual	Banana	Nendran	-	Integrated nutrient management	Site specific nutrient Management of Nendran Banana under the agro-climatic conditions of High Ranges of Idukki	1	1	-	5	5	NA	
	Spices and condiments	Black pepper mono cropping	Perennial	Black pepper	Karimunda	-	Post harvest technology	Mechanized pepper processing	50 ha	Ongoing					
		Black pepper mono cropping	Perennial	Black pepper	Karimunda	-	Nutrient management	Consortium bio fertilizers	0.32 ha	0.32 ha	1	7	8	-	
		Black pepper nursery	Perennial	Black pepper	Karimunda	-	Rapid multiplication	Rapid multiplication in pepper (Serpentine method)	0.02	0.02	0	3	3	-	
		Cardamom	Perennial crop	Cardamom	Njallani	-	IDM	Management of clump rot in cardamom disease	1	1	3	2	5	-	
		Pepper based cropping system	Perennial crop	Pepper	Karimunda	-	IPM	Management of scales and thrips in Black pepper	1	1	5	-	-	-	
		Cardamom based cropping system	Perennial	Cardamom	Njallani	-	Improved crop production	Site specific nutrient management in cardamom soils	0.2	0.2	0	5	5	-	
	Dairy	Mixed farming	Throughout the year	Dairy cattle	Crossbred cattle	-	Nutrient management	Supplementation of mineral mixture in livestock feeding	18	50 animals	3	15	18	Nil	
		Mixed farming	Throughout the year	Dairy cattle	Crossbred cattle	-	Production & improvement of dairy cattle	Popularization of mixed fodder system	10	1ha	4	6	10	Nil	

Poultry	Mixed farming	Throughout the year	Poultry	All types of poultry	-	Production & improvement of poultry	Hatchability of poultry eggs using low cost incubator	10	1 unit	4	6	10	Nil
Apiculture	Cardamom	Perennial crop	Cardamom	Njallani	-	Better pollination	Popularization of apiary beekeeping in cardamom cultivation area	2.5	2.5	-	5	5	-

### 5.A. 1. Soil fertility status of FLDs plots during 2011-12

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	
	Cereals	Paddy belts	Rabi 2011	Paddy	Uma PalTHONY	Uma	Farm mechanization	Mechanized paddy farming	Rabi 2011	H	M	M	Paddy
	Fruit	Mono cropping	Annual	Banana	Nendran	-	Integrated nutrient management	Site specific nutrient Management of Nendran Banana under the agro-climatic conditions of High Ranges of Idukki	Annual	M	L	M	Banana
	Spices and condiments	Black pepper mono cropping	Perennial	Black pepper	Karimunda	-	Pepper processing	Mechanized pepper processing	Perennial	H	M	H	Perennial crop
		Black pepper mono cropping	Perennial	Black pepper	Karimunda	-	Nutrient management	Consortium bio fertilizers	Perennial	H	M	H	Perennial crop
		Cardamom	2011-12	Cardamom	Njallani	-	Low Productivity	Integrated disease management	2011-12	H	M	H	Cardamom
		Pepper	2011-12	Pepper	Karimunda	-	Low Productivity	Integrated pest management	2011-12	H	M	H	Pepper
		Cardamom based cropping system	Perennial	Cardamom	Njallani	-	Balanced fertilization	Site specific nutrient management in Cardamom soils	-	H	M	H	Perennial crop

### 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)			
							H	L	A	Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Cereals - Paddy	Mechanized paddy farming	Uma, PalTHONY	Uma	Paddy belts	7	3.5 ha	33.1	29.9	31.5	28.8	9.38	31,021	44,569	13,548	1.44	41,550	39,859	-1691	0.96
Fruit	Site specific nutrient Management of Nendran Banana under the agro-climatic conditions of High Ranges of Idukki	Nendran	-	Mono cropping	5	1	Ongoing												
Spices and condiments	Consortium bio fertilizers	Karimunda	-	perennial	8	0.32	2.86t	2.74	2.8t	2.17	29	1,94,215	6,72,000	4,77,785	3.46	1,71,473	5,099,50	3,38,477	2.97
	Rapid multiplication in pepper (Serpentine method)	Karimunda	-	Black pepper nursery	3	0.02	Ongoing												
	Management of clump rot in cardamom disease	Njallani	-	Perennial crop	5	1	-	-	H	A	20 %	1.5 lakhs	8 lakhs	6.5 lakhs	4.33	1.5 lakhs	5 lakhs	3.5 lakhs	2.3
	Management of scales and thrips in Black pepper	Karimunda	-	Perennial crop	5	1	-	-	H	A	7%	Rs.30,000	5 lakhs	4.7 lakhs		Rs.30,000	3.5 lakhs	3.2 lakhs	-
Others (Apiculture)	Popularization of apiary /beekeeping in cardamom cultivation area	Njallani	-	Perennial crop	5	2.5	H				30%	1.5 lakhs	9 lakhs	7.5 lakhs	6.0	1.25 lakhs	5 lakhs	3.5 lakhs	2.8

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

### 5.B.2. Livestock and related enterprises

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Yield (q/ha)		%	*Economics of demonstration (Rs./unit)				*Economics of check (Rs./unit)					
					Demo	Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR		
					H	L	A										
Dairy	Supplementation of mineral mixture in livestock feeding	Crossbred cattle	18	50 animals	Ongoing												
	Popularization of mixed fodder system	Crossbred cattle	10	1 ha	Ongoing												
Poultry	Hatchability of poultry eggs using low cost incubator	All types of poultry	10	1 unit	Ongoing												

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

\*\* BCR= GROSS RETURN/GROSS COST

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

### 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		
Pepper thresher	27,040	Mechanized pepper threshing	5															Ongoing

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

\*\* BCR= GROSS RETURN/GROSS COST

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

Sl. No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	8	68	-
2	Farmers Training	41	510	-
3	Media coverage	3	-	-
4	Training for extension functionaries	-	-	
5	Others (Field visit)	8	80	-
6	Others (Demonstrations)	2	60	-
7	Others (Please specify)	-	-	-

## PART VI – DEMONSTRATIONS ON CROP HYBRIDS

Demonstration details on crop hybrids – Nil

## PART VII. TRAINING

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

Area of training	No. of Courses	No. of Participants												
		General			SC/ST			Grand Total						
		Male	Female	Total	Male	Female	Total	Male	Female	Total				
<b>Horticulture</b>														
<b>a) Vegetable Crops</b>														
Off-season vegetables	1	13	4	17	0	0	0	13	4	17				
Protective cultivation	1	20	15	35	0	0	0	20	15	35				

Others (Mushroom cultivation)	2	8	14	22	0	0	0	8	14	22
Balanced use of fertilizers	1	100	36	136	0	0	0	100	36	136
<b>Livestock Production and Management</b>										
Dairy Management	1	18	0	18	0	0	0	18	0	18
Rabbit Management	1	12	3	15	0	0	0	12	3	15
Value addition	2	6	24	30	0	0	0	6	24	30
<b>Plant Protection</b>										
Integrated Pest Management	1	3	5	8	0	0	0	3	5	8
Integrated Disease Management										
Bio-control of pests and diseases	1	6	2	8	0	0	0	6	2	8
Production of bio control agents and bio pesticides	1	9	4	13	0	0	0	9	4	13
Others (Organic farming)	2	50	5	55	0	0	0	50	5	55
<b>TOTAL</b>	<b>14</b>	<b>245</b>	<b>112</b>	<b>357</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>245</b>	<b>112</b>	<b>357</b>

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
<b>Crop Production</b>										
Micro Irrigation/Irrigation	2	45	87	132	0	0	0	45	87	132
Nursery management	1	0	10	10	0	0	0	0	10	10
Soil and Water Conservation	1	54	18	72	0	0	0	54	18	72
Production of organic inputs	1	20	25	45	0	0	0	20	25	45
Others (Upland Rice cultivation)	1	33	52	185	0	0	0	133	52	185
Others (Organic Paddy cultivation)	1	50	20	70	0	0	0	50	20	70
Others (Innovation in Organic farming)	1	22	1	23	5	0	5	27	1	28
<b>Horticulture</b>										
<b>a) Vegetable Crops</b>										
Production of low value and high volume crop	1	0	15	15	0	0	0	0	15	15
Off-season vegetables	2	35	5	40	20	0	20	55	5	60
Nursery raising	1	6	45	51	0	0	0	6	45	51
Protective cultivation	2	35	47	82	5	20	25	40	67	107
Others (Vegetable cultivation)	1	24	27	51	0	0	0	24	27	51
<b>b) Fruits</b>										
Cultivation of Fruit – Organic cultivation	2	40	35	75	0	0	0	40	35	75
Plant propagation techniques – Banana	5	123	82	205	0	0	0	123	82	205
Others (Mushroom)	4	30	70	100	0	12	12	30	82	112
<b>c) Ornamental Plants</b>										
<b>d) Plantation crops</b>										
Production and Management technology – Cocoa	1	12	7	19	0	0	0	12	7	19
<b>e) Tuber crops</b>										
Others (Marketing)	1	58	8	63	15	22	37	70	30	100
<b>f) Spices</b>										
Others (Cultivation of Cardamom)	1	27	4	31	4	1	5	31	5	36

<b>g) Medicinal and Aromatic Plants</b>										
<b>Soil Health and Fertility Management</b>										
Soil fertility management	1	0	24	24	0	0	0	0	24	24
Integrated nutrient management	2	10	44	0	0	0	0	10	44	54
Production and use of organic inputs	1	30	0	30	0	0	0	30	0	30
Balanced use of fertilizers	1	30	5	35	0	0	0	30	5	35
Others (Organic farming)	1	42	6	48	0	0	0	42	6	48
<b>Livestock Production and Management</b>										
Dairy Management	2	34	29	63	0	0	0	34	29	63
<b>Home Science/Women empowerment</b>										
Processing and cooking	1 (3 days)	0	28	28	0	0	0	0	28	28
Value addition	1	2	17	19	0	0	0	2	17	19
<b>Plant Protection</b>										
Integrated Pest Management	3	115	115	230	0	0	0	115	115	230
Integrated Disease Management	1	41	0	0	0	0	0	41	0	41
Bio-control of pests and diseases	4	40	30	70	0	0	0	40	30	70
Production of bio control agents and bio pesticides	2	45	31	76	0	0	0	45	31	76
Others (Organic farming)	7	223	87	310	0	0	0	223	87	310
Mushroom production	1	30	2	32	0	0	0	30	2	32
Apiculture & value addition	1	13	20	33	0	0	0	13	20	33
<b>TOTAL</b>	<b>58</b>	<b>1366</b>	<b>996</b>	<b>2362</b>	<b>49</b>	<b>55</b>	<b>104</b>	<b>1415</b>	<b>1051</b>	<b>2466</b>

### 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	1	23	17	40	0	0	0	23	17	40
Protected cultivation of vegetable crops – Cool season	4	114	38	152	0	0	0	114	38	152
Production of organic inputs – Bio-pesticides	5	113	79	192	0	0	0	113	79	192
Planting material production	2	48	21	69	10	9	19	58	30	88
Mushroom Production	3	71	37	108	0	0	0	71	37	108
Bee-keeping	1	6	7	13	0	0	0	6	7	13
Sericulture	1	6	7	13	0	0	0	6	7	13
Value addition	2	31	26	57	0	0	0	31	26	57
Small scale processing – Mushroom value addition	1	0	14	14	0	0	0	0	14	14
Post Harvest Technology	2	45	40	85	0	0	0	45	40	95
Tailoring and Stitching – Crochet work, Wall hanging preparation	1	0	19	19	0	1	1	0	20	20
Rural Crafts	1	0	19	19	0	1	1	0	20	20
Sheep and goat rearing	1	5	14	19	0	0	0	5	14	19
Quail farming	1	25	19	44	0	0	0	25	19	44
Any other (Soil testing procedure)	1	4	7	11	0	0	0	4	7	11
<b>TOTAL</b>	<b>27</b>	<b>491</b>	<b>364</b>	<b>855</b>	<b>10</b>	<b>11</b>	<b>21</b>	<b>501</b>	<b>375</b>	<b>876</b>

**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	1	57	8	59	0	0	0	51	8	59
Commercial fruit production – Banana	1	36	16	52	0	0	0	36	16	52
Production of organic inputs	1	24	0	24	0	0	0	24	0	24
Mushroom Production	1	21	16	37	0	0	0	21	16	37
Any other (Soil testing & bio-pesticides)	1	35	5	40	0	0	0	35	5	40
<b>TOTAL</b>	<b>5</b>	<b>167</b>	<b>45</b>	<b>212</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>167</b>	<b>45</b>	<b>212</b>

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	1	20	5	25	0	0	0	20	5	25
Integrated Pest Management	1	25	19	44	0	0	0	25	19	44
Protected cultivation technology	1	30	14	44	0	0	0	30	14	44
Formation and Management of SHGs	1	17	4	21	0	0	0	5	14	19
Household food security	1	25	19	44	0	0	0	25	19	44
Any other (Vegetable model preparation & Crochet work)	1	0	19	19	0	1	1	0	20	20
<b>Total</b>	<b>7</b>	<b>122</b>	<b>94</b>	<b>216</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>122</b>	<b>95</b>	<b>217</b>

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Formation and Management of SHGs	1	28	4	32	0	0	0	28	4	32
Low cost and nutrient efficient diet designing	2	3	29	32	0	0	0	3	29	32
<b>Total</b>	<b>3</b>	<b>31</b>	<b>33</b>	<b>64</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>31</b>	<b>33</b>	<b>64</b>

**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
<b>1</b>	<b>Crop production and management</b>										
1.a.	Increasing production and productivity of crops	5	128	58	186	0	0	0	128	58	186
1.b.	Commercial production of vegetables	1	6	35	41	5	20	25	11	55	66
<b>2</b>	<b>Production and value addition</b>										
2.a.	Fruit Plants	7	179	94	273	0	0	0	179	94	273
2.c.	Spices crops	2	80	100	180	0	0	0	80	100	180
<b>3.</b>	<b>Soil health and fertility management</b>	2	42	27	69	0	0	0	42	27	69
<b>4</b>	<b>Production of Inputs at site</b>	1	12	7	19	0	0	0	12	7	19
<b>5</b>	<b>Methods of protective cultivation</b>	2	49	12	61	0	0	0	49	12	61
<b>6</b>	<b>Others (Organic farming)</b>	22	567	289	856	20	0	20	587	289	876
<b>7</b>	<b>Post harvest technology and value addition</b>										
7.a.	Processing and value addition	3	28	49	77	0	0	0	28	49	77
7.b.	Others (Value addition of local fruits)	3	22	33	55	0	0	0	22	33	55
<b>8</b>	<b>Farm machinery</b>										
<b>9.</b>	<b>Livestock and fisheries</b>										
<b>10</b>	<b>Livestock production and management</b>										
<b>11.</b>	<b>Home Science</b>										
11.b.	Economic empowerment of women	1	2	16	18	0	0	0	2	16	18
11.d.	Others (Value addition in mushroom)	1	0	14	14	0	0	0	0	14	14
<b>12</b>	<b>Agricultural Extension</b>										
12.a.	Capacity Building and Group Dynamics	1	55	8	63	15	22	37	70	30	100
12.b.	Others (Scientific production of mushrooms)	3	57	36	93	0	12	12	57	48	105
	<b>Total</b>	<b>54</b>	<b>1227</b>	<b>778</b>	<b>2005</b>	<b>40</b>	<b>54</b>	<b>94</b>	<b>1267</b>	<b>832</b>	<b>2099</b>

**Details of sponsoring agencies involved**

1. Department of Agriculture, Govt. of Kerala.
2. ATMA
3. Lead Bank
4. UBI Training Centre, Nedumkandam.
5. Fertilizer Association of India (FAI), Chennai.
6. VOSARD, Kumily.
7. HOPS, Adimali.
8. HDS, Idukki.
9. Canara Bank, Kattappana.

**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	<b>Crop production and management</b>										
2	<b>Post harvest technology and value addition</b>										
2.a.	Value addition	1	0	28	28	0	0	0	0	28	28
3.	<b>Livestock and fisheries</b>										
4.	<b>Income generation activities</b>										
4.i.	Tailoring, stitching, embroidery, dyeing etc.	1	0	19	19	0	1	1	0	20	20
4.k.	Others (Crochet work)	2	0	38	38	0	2	2	0	40	40
5	<b>Agricultural Extension</b>										
	<b>Grand Total</b>	<b>4</b>	<b>0</b>	<b>85</b>	<b>85</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>88</b>	<b>88</b>

**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
Farmers Seminar	1	215	131	346	0	0	0	215	131	346
Workshop	1	100	36	136	0	0	0	100	36	136
Group meetings										
Lectures delivered as resource persons	1	333	52	385	0	0	0	333	52	385
Radio talks	2									
TV talks										
Popular articles	4									
Extension Literature	3									
Advisory Services	76	37	48	85	0	0	0	6	3	9
Scientific visit to farmers field	52	116	9	125						
Farmers visit to KVK	127	969	840	1809	0	0	0	29	44	73
Diagnostic visits	4	5	0	5						
Exposure visits	1	1	0	1						
Soil health Camp	2	12	0	12	0	0	0	1	0	1
Soil test campaigns	1	30	5	35						
Celebration of important days (World Food Day)	1	44	19	25	0	0	0	0	0	0
<b>Total</b>	<b>276</b>	<b>1862</b>	<b>1140</b>	<b>2964</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>684</b>	<b>266</b>	<b>950</b>

**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
Vegetables	Capsicum	INDAM Mahabharath	F1	100 packets	1000.00	80
	Carrot	Improved Kuroda	-	120 packets	1200.00	72
	Beetroot	Action	F1	95 packets	950.00	56
	Beans	Local	-	150 packets	1500.00	125
	Greens	CO-1	-	200 packets	2000.00	110
	Cowpea	Local	-	250 packets	2500.00	200
	Brinjal	INDAM Green Round	F1	84 packets	840.00	60
	Cabbage	Maharani	F1	150 packets	1500.00	75
	Cauliflower	INDAM-9803	F1	250 packets	2500.00	225
	Chilly	INDAM-42	F1	160 packets	1600.00	140
	Onion	INDAM GULAB	DR-1	125 packets	1250.00	100
	Bitter gourd	Local	-	190 packets	1900.00	180
	Green peas	Local	-	165 packets	1650.00	150
	Tomato	Local	-	140 packets	1400.00	110
Spices	Pepper	Panniyoor-1	-	190	1900	109
		Panniyoor-4	-	148	1480	124
		Panniyoor-6	-	102	1020	96
		Panniyoor-7	-	297	2970	202
		Pournami	-	142	852	104
		Panchami	-	126	756	98
		Sreekara	-	1600	9600	198
		Subhakara	-	1400	8400	200
		Malabar Excel	-	168	1008	141
		Thevam	-	172	1032	98
		Sakthi	-	143	858	100
		Chengannoor	-	690	4140	250
Karimunda	-	2030	12180	2000		
Others	Honey	-	-	16 L	3200.00	16
	White pepper	Karimunda	-	23 kg	5730.00	10
	Wine	-	-	10 bottle	840.00	10
	Cleaning lotion	-	-	3 L	75.00	3
	Liquid soap	-	-	160 L	8000.00	116
	Soap powder	-	-	70 kg	3500.00	35
	Painted pot	-	-	3 nos.	200.00	3
	Painted photos	-	-	2 nos.	600.00	2
	Honeybee colony	-	-	29 nos.	31900.00	5
	Soap kit	-	-	1	60.00	1
	Bath soap	-	-	4	100.00	2
	Chocolate	-	-	1 packet	175.00	1
	Cardamom (dry)	Njallani	-	6.15 kg	2000.00	4
	Tomato pickle	-	-	8.72 kg	698.00	8
	Cardamom pickle	-	-	1 packet	60.00	1
	Edible mushroom	CO-1 & Florida	-	34.175 kg	6835.00	1200
	Mushroom bed	CO-1 & Florida	-	4 kg	260.00	4
	Tomato	Local	-	120 kg	1200.00	100
	Cabbage	Maharani	F1	6 kg	168.00	6

	Garden beans	Local	-	112.780 kg	3383.40	104
	Cauliflower	INDAM – 9803	F1	10.800 kg	302.40	8
	Cowpea	-	-	12.10 kg	363.00	6
	Carrot	Improved Kuroda	-	8.55 kg	239.40	10
	Beetroot	Action	-	9.400 kg	263.20	12
	Capsicum	INDAM Mahabharath	-	16 kg	800.00	23
	Chilly (baji)	INDAM	-	19.600 kg	980.00	32
	Brinjal	INDAM	F1	21.100 kg	591.00	40
	Greens	Local	-	11.100 kg	333.00	12
	Green peas	Local	-	5.500 kg	154.00	8
	Banana	Robusta	-	25 kg	250.00	25
	Banana	Nendran	-	55 kg	1100.00	25
	Banana	Njalipoovan	-	6 kg	120.00	8
	Tapioca	-	-	61 kg	854.00	32
	Corn	-	-	42 nos.	420.00	24
<b>Total</b>					<b>1,43,740.40</b>	<b>7,299.00</b>

### 9.B. Production of planting materials by the KVKs

Crop category	Name of the crop	Variety	Hybrid	Number	Value (Rs.)	Number of farmers to whom provided
Vegetable seedlings	Cauliflower	INDAM & PUSA	F1	1250 nos.	2500.00	50
	Cabbage	INDAM & PUSA	F1	950 nos.	1900.00	50
Fruits (seedlings)	Rambuttan	-	-	8 nos.	200.00	8
	Sapporta	-	-	10 nos.	550.00	10
	Lime	-	-	8 nos.	360.00	4
	Philosan	-	-	6 nos.	300.00	6
	Apple	-	-	3 nos.	150.00	3
	Mangostin	-	-	8 nos.	400.00	8
	Orange (Bud)	-	-	10 nos.	1200.00	10
	Mango (Graft)	-	-	12 nos.	600.00	12
	Ilumban puli	-	-	10 nos.	500.00	10
Ornamental plants	Euphorbia	-	-	25 nos.	1250.00	25
	Coleus	-	-	150 nos.	750.00	25
	Balsom	-	-	1000 nos.	5000.00	500
	Bud rose	-	-	20 nos.	1000.00	10
	Golden cypress	-	-	10 nos.	2500.00	10
	Poinsettia	-	-	25 nos.	625.00	25
	Lucky bamboo	-	-	12 nos.	180.00	10
	Dianthus	-	-	28 nos.	280.00	25
	Hibiscus	-	-	15 nos.	300.00	15
	Peperomia	-	-	12 nos.	120.00	12
	Garcenia	-	-	14 nos.	350.00	14
	Anthurium	-	-	16 nos.	2400.00	8
	Petunia	-	-	18 nos.	270.00	8
	Orchid	-	-	12 nos.	150.00	2
Marigold	-	-	120 nos.	1200.00	60	
Spices	Cardamom tillers	PV2	-	75 nos.	2520.00	5
		Njallani	-	150 nos.	4500.00	10
<b>Total</b>					<b>32,055.00</b>	<b>935</b>

**9.C. Production of Bio-Products**

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	Number of farmers to whom provided
Bio-fungicide	Pseudomonas	549 L	43920.00	500
	Trichoderma	87 L	6960.00	85
Others	Mushroom spawn	1303 packets	39090.00	250
	Vermiwash	2 bottle	100.00	2
	Vermicompost	145 packets	2100.00	50
	Vermiculture	120 kg	33000.00	60
<b>Total</b>			<b>1,25,170.00</b>	<b>947</b>

**9.D. Production of livestock materials**

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	Number of farmers to whom provided
<b>Poultry</b>				
Japanese Quail (Egg)	<i>Nandanam</i>	1720 nos.	2580.00	35
Japanese Quail (Meat)	<i>Nandanam</i>	5 nos.	125.00	2
<b>Total</b>			<b>2,705.00</b>	<b>37</b>

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

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

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

(B) Literature developed/published

Item	Title	Authors name	Number
Popular articles	Terrace vegetable cultivation through organic ways published in " <i>Krishiyanam</i> ".  Jack Fruit: A natural organic fruit, A Cover story published in " <i>Kissan World</i> ".  Vegetable cultivation: In terrace and homesteads published in " <i>Krishiyanam</i> ".  Homestead farming published in " <i>Krishiyanam</i> ".	Dr. Benjamin Mathew	-
Extension literature	For safe pest control: Biological pesticides  Pseudomonas fluorescence: A good bio-fungicide  Cultivation practices of cool season vegetables	Dr. Benjamin Mathew	500 copies each
<b>TOTAL</b>			

**10.B. Details of Electronic Media Produced: Nil.****10.C. Success Stories / Case studies, if any (two or three pages write-up on each case with suitable action photographs. The Success Stories / Case Studies need not be restricted to the reporting period).****A Successful group unit by women entrepreneurs (Asraya hot chip unit)**

A group of 28 women from different villages attended “value added product preparation and snacks making”, training at Nedumkandam centre on May-2011. Demonstration and classes were given by Bapooji KVK for them on banana chips making, Jaggery coated banana , riped banana sweet chips, potato chips, tapioca chips, murukku, mixture, rava ball, unniappam, Preserved items etc .Three members participated from Combyar area were much motivated through the value added product preparation training and they approached UBI bank for financial assistance. Technical guidelines given for them to start the unit by BKVK.

They have started the Asraya hot chips centre unit near to panchayat community hall, Nedumkandam on 9th June 2011 and registered under Kudumba shree. Asraya hot chips unit inaugurated by shri. K.K. Jayachandran, MLA and the programme chaired by Smt. Shyamala Viswanath, Panchayat President. Technical advises were given by BKVK for the unit whenever needed by the unit. Follow up visits were carried out frequently. The unit is running very successfully at Nedumkandam.

Mrs. Ally Babu, Mrs. Molly Abraham and Mrs. Kunjumol along with this chips unit have started hotel. They are getting an income of Rs.19000/- per month as profit.

***KVK Intervention:***

- Identified the interested group from the trainees.
- Off –campus demonstration to the group on product preparations.
- Technical guidance
- Motivation to start the unit
- Details about the utensils and raw material for the unit.
- Guidelines given for marketing.
- Present status- running successfully

***Impact:***

Many people approached this unit for homely food and chips. During festivals they are getting bulk order from other shops. This entrepreneur feels proud of getting employment opportunity in their area itself.

**10.D. Give details of innovative methodology or innovative technology of Transfer of Technology developed and used during the year: Nil.****10.E. Give details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development (in detail with suitable photographs): Nil.****10.F. Indicate the specific training need analysis tools/methodology followed for**

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

**10.G. Field activities**

- i. Number of villages adopted: 10.
- ii. No. of farm families selected: 5.
- 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 Homogenising (khan shaker) Model LKS2 platform size 75cmx43cmx10cm	1	20,880.00
4.	Rotary Shaker	1	16,200.00
5.	Machinery for drying (Hot air oven) 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
<b>Total</b>		<b>12</b>	<b>4,64,588.00</b>

**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	724	375	100	33210.00
Water Samples	1	1	1	50.00
Plant samples	0	0	0	0.00
Manure samples	1	1	1	50.00
Others (specify)	0	0	0	0.00
<b>Total</b>	<b>726</b>	<b>377</b>	<b>102</b>	<b>33,310.00</b>

**Details of samples analyzed during the 2011-12:**

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples	72	53	45	3600.00
Water Samples	10	8	8	500.00
Plant samples	0	0	0	0.00
Manure samples	2	1	1	100.00
Others (specify)	0	0	0	0.00
<b>Total</b>	<b>84</b>	<b>62</b>	<b>54</b>	<b>4,200.00</b>

**10.I. Technology Week celebration during 2011-12 : Nil.**

**10. J. Interventions on drought mitigation (if the KVK included in this special programme): NA.****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)
Farm mechanization	238	74	1700/ha	14,000/ha
Value addition in fruits & vegetables	22	30	Nil	6,000
Scientific Oyster mushroom cultivation	75	50	Nil	7,500/month

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****Farm Mechanization**

Labour shortage and high labour cost are the major constraints faced by the paddy farmers of the district. Rice cultivation demands high labour input and labour shortage results in delay of cultural operations which in turn lead to low productivity and economic loss. Power tiller, Paddy Transplanter, Cono Weeder, Paddy Reaper & Paddy Thresher were introduced and popularized among the paddy farmers of the district. Technology transfer on scientific paddy farming and farm mechanization is carried out with trainings and demonstrations. Traditional paddy farmers of the district wholeheartedly cooperated with farm mechanization and satisfied with the results.

**PART XII – LINKAGES****12.A. Functional linkage with different organizations****12.B. List special programmes undertaken by the KVK and operational now, which have been financed by State Govt./Other Agencies**

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
Selective farm mechanization for combating labour crisis in production	March 2012	State Planning Board	5,17,500.00
Soil health enhancement programme	April 2011	Fertilizer Association of India, Chennai	40,000.00

**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?

Dr. Benjamin Mathew (SMS) deputed as the expert for the Convergence between Research and Extension under *ATMA programme of the Idukki district.*

**Coordination activities between KVK and ATMA during 2011-12**

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks (if any)
01	Meetings	GB, BTT, FAC etc.	8		
03	Training programmes		25		

04	Demonstrations			7	Assessment in two block of Idukki District
05	Extension Programmes				
	Exposure visit	Seed processing Plant VFPCCK, Alathur & Precision Farming centre at Perumatty		2	

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

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Constraints if any
1.	Gardener's HRD training	Training	Yet to be released	-	-

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

12.F. Details of linkage with RKVY: Nil.

12. G Kisan Mobile Advisory Services: Nil.

### 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 <sup>2</sup>	Oyster mushroom var. CO1	Mushroom	34.175 kg	1367.00	6835.00	Revolving Fund
2.	Mushroom Spawn production unit	2009	10 m <sup>2</sup>	Var. CO1, CO2 & Florida	Spawn	1303 packets	9121.00	39090.00	Funded by SHM
3.	Mist Chamber	2009	96 m <sup>2</sup>	Panniyoor-1, 2, 6 & 7 Sreekara Subhakara Panchami Pournami	Pepper vines	7208 rooted cuttings	10812.00	46196.00	Funded by SHM
4.	Rain Shelter	2009	50 m <sup>2</sup>	PUSA, INDAM-9803, Local	Vegetable seedlings	2200 seedlings	2300.00	11000.00	Funded by SHM
5.	Terrace cultivation of vegetables	2010	170 m <sup>2</sup>	Local Maharani	Tomato	343 kg	1029.00	8777.00	Revolving Fund
			Local	Cabbage					
			Local	Garden Beans					
			INDAM-9803	Cauliflower					
			-	Cowpea					
			Improved Kuroda	Carrot					
			Action	Beetroot					
			INDAM Mahabharath	Capsicum					

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

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Vegetables	14/08/2011	12/01/2012	0.15	Arun	Amaranthus seeds	1.6 kg	1145.00	3680.00	-

**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	549 L	19215.00	43920.00	-
2.	Trichoderma	87 L	3045.00	6960.00	-
3.	Vermiculture	120 kg	12000.00	33000.00	-

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

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1.	Japanese quail	<i>Nandanam</i>	Meat & egg	1720 nos.	1100.00	2580.00	Currently non-productive due to completion of laying period

**13.E. Utilization of hostel facilities:** Nil.

**13.F. Database management :** Nil

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

**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	Rajakumari	453	Chairman	57060837003	-	SBTR0000453
With KVK	State Bank of Travancore	Rajakumari	453	Chairman & Programme Coordinator	57060836995	-	SBTR0000453
	District Cooperative Bank	Santhanpara	-	KVK Revolving Fund	3754	-	-

**14.B. Utilization of KVK funds during the year 2011-12 (Rs. in lakh)**

S. No.	Particulars	Sanctioned	Released	Expenditure
<b>A. Recurring Contingencies</b>				
1	<b>Pay &amp; Allowances</b>	59.00	59.00	6259542.00
2	<b>Traveling allowances</b>	1.25	1.25	125000.00
3	<b>Contingencies</b>			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	1.70	1.70	170087.00
B	POL, repair of vehicles, tractor and equipments	0.75	0.75	75000.00
C	Meals/refreshment for trainees (ceiling up to Rs.40/day/trainee be maintained)	0.75	0.75	75019.00
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	0.35	0.35	34999.00
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	2.50	2.50	201800.00
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	1.35	1.35	130515.00
G	Training of extension functionaries	0.10	0.10	10000.00
H	Maintenance of buildings	0.10	0.10	10014.00
I	Establishment of Soil, Plant & Water Testing Laboratory	0.00	0.00	0.00
J	Library	0.05	0.05	5000.00
K	Extension activities	0.10	0.10	10000.00
L	Farmers Field School	0.25	0.25	25000.00
<b>TOTAL (A)</b>		<b>68.25</b>	<b>68.25</b>	<b>7131976.00</b>
<b>B. Non-Recurring Contingencies</b>				
1	<b>Works</b>	0.00	0.00	0.00
2	<b>Equipments including SWTL &amp; Furniture</b>	0.00	0.00	0.00
3	<b>Vehicle</b> (Four wheeler/Two wheeler, please specify)	6.00	6.00	600000.00
4	<b>Library</b> (Purchase of assets like books & journals)	0.00	0.00	0.00
<b>TOTAL (B)</b>		<b>6.00</b>	<b>6.00</b>	<b>6.00</b>
<b>C. REVOLVING FUND</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>GRAND TOTAL (A+B+C)</b>		<b>74.25</b>	<b>74.25</b>	<b>77,31,976.00</b>

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

Year	Opening balance as on 1 <sup>st</sup> April	Income during the year	Expenditure during the year	Net balance in hand as on 1 <sup>st</sup> April of each year
April 2009 to March 2010	4,57,150.00	6,36,699.00	5,49,636.00	5,44,498.00
April 2010 to March 2011	5,44,498.00	3,74,483.00	6,13,997.00	2,89,561.27
April 2011 to March 2012	2,89,561.27	9,14,547.00	7,89,162.50	4,17,184.00

**15. Details of HRD activities attended by KVK staff during 2011-12**

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
Dr. S. Jayababu	Programme Coordinator i/c.	Winter School of ICAR	Madras Veterinary College, Chennai	06/09/2011 to 28/09/2011
Dr. Binu John Sam	SMS Horticulture	Agricultural project planning and management	MANAGE, Hyderabad	27/06/2011 to 02/07/2011
		Button and Oyster mushroom cultivation	Horticultural Research Station, TNAU, Ooty	02/09/2011
		National Workshop on Advanced technologies in Horticulture	IIHR, Bangalore	16/01/2012 to 19/01/2012
Mr. Sudhakar Soundarajan	SMS Plant Protection	Biological control of Cardamom Pest & Disease Management	ICRI, Myladumpara	18/10/2011 to 19/10/2011
		Banana Pest & Disease Management	NRCB, Trichy	07/11/2011 to 08/11/2011
Mr. Pramod Chacko	SMS Agronomy	Innovative techniques in cardamom cultivation	ICRI, Myladumpara	18/10/2011 to 19/10/2011
Dr. Benjamin Mathew	SMS Agricultural Extension	Agricultural Project Planning & Management	MANAGE, Hyderabad	27/06/2011 to 02/07/2011
		Mushroom cultivation technology for staffs of KVK	DMR, Solan	21/07/2011 to 27/07/2011
		Protection and Management of IPR in Agriculture. (Short Course)	IPR cell KAU, Thrissur	20/09/2011 to 29/09/2011
		Workshop on XII plan concern and priorities of agriculture and allied sector-Voluntary Perspective	KAU, Thrissur	24/11/2011 & 25/11/2011
Ms. Manju Jincy Varghese	SMS Soil Science	Soil testing and bio-product preparation	ICRI, Myladumpara	18/10/2011 to 19/10/2011

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

# SUMMARY FOR 2011-12

## I. TECHNOLOGY ASSESSMENT

### Summary of technologies assessed under various crops

Thematic areas	Crop	Name of the technology assessed	No. of trials
Integrated Nutrient Management	Banana	Assessment on the effect of K <sub>2</sub> SO <sub>4</sub> sprays on bunch yield of banana var. Nendran in different climatic regimes of Idukki district	5
Varietal Evaluation	Cardamom	Varietal trial of Thiruthali variety cardamom	5
	Cauliflower	Assessment of suitable varieties of Cauliflower for high ranges of Idukki District	4
	Mushroom	Suitability of mushroom types in the high altitude regions of Idukki district	5
Integrated Pest Management	Ginger	Cultural control of shoot borer	5
	Cardamom	Management of Cardamom root grub	5
	Black pepper	Management of Black pepper pollu beetle	4
	Banana	Management of Banana Pseudostem weevil	5
	Tapioca	Rat control in Tapioca	5
<b>Total</b>			<b>43</b>

### 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	Synchronization of estrus in dairy cows	5
<b>Total</b>			<b>5</b>

### Summary of technologies assessed under various enterprises

### Summary of technologies assessed under home science

## II. TECHNOLOGY REFINEMENT - Nil

## III. FRONTLINE DEMONSTRATION

### Crops

Crop	Thematic area	Name of the technology demonstrated	No. of KVKs	No. of Farmer	Area (ha)	Yield (q/ha)		% change in yield	Other parameters		*Economics of demonstration (Rs./ha)				**Economics of check (Rs./ha)			
						Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Cereals - Paddy	Farm mechanization	Mechanization in paddy farming	-	7	3.5	31.5	28.8	9.38	-	-	31,021	44,569	13,548	1.44	41,550	39,859	-1,691	0.96
Fruit - Banana	Integrated Nutrient Management	Site specific nutrient Management of Nendran Banana under the agro-climatic conditions of High Ranges of Idukki	-	5	1	Ongoing												
	Large scale production of planting material	Rapid multiplication in pepper (Serpentine method)	-	3	0.02	Ongoing												
Spices and condiments	IDM	Management of clump rot in cardamom disease	-	5	1	1200	-	20%	-	-	1.5 lakhs	8 lakhs	6.5 lakhs	4.33	1.5 lakhs	5 lakhs	3.5 lakhs	2.3
	IPM	Management of scales and thrips in Black pepper	-	5	1	1100	-	7%	-	-	Rs.30,000	5 lakhs	4.7 lakhs	3.20	Rs.30,000	3.5 lakhs	3.2 lakhs	2.4
Cardamom	Nutrient Management	Site specific nutrient management in cardamom soils	-	5	0.2	10	8	25%	-	-	0.7 lakhs	2.5 lakhs	1.8 lakhs	3.60	0.75 lakhs	1.5 lakhs	0.75 lakhs	2.0

<b>Black pepper</b>	Integrated Nutrient Management	Consortium bio fertilizers	-	8	3.2	2.8t	2.17	29	-	-	1,94,215	6,72,000	4,77,785	3.46	1,71,473	5,099,50	3,38,477	2.97
<b>Others (Apiculture)</b>	Better pollination	Popularization of apiary /beekeeping in cardamom cultivation area	-	5	2.5	1300	-	30%	-	-	1.5 lakhs	9 lakhs	7.5 lakhs	6.0	1.25 lakhs	5 lakhs	3.5 lakhs	2.8
<b>Total</b>																		

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

\*\* BCR= GROSS RETURN/GROSS COST

### Livestock

Category	Thematic area	Name of the technology demonstrated	No. of KVKs	No. of Farmer	No. of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.)				*Economics of check (Rs.)			
						Demonstration	Check	Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR	
Dairy	Nutrient management	Supplementation of mineral mixture in livestock feeding	1	18	50 animals						Ongoing							
	Production & improvement of dairy cattle	Popularization of mixed fodder system	1	10	1 ha						Ongoing							
Poultry	Production & improvement of poultry	Hatchability of poultry eggs using low cost incubator	1	10	1 unit						Ongoing							
<b>Total</b>																		

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

\*\* BCR= GROSS RETURN/GROSS COST

### Fisheries - Nil

### Other enterprises

### Women empowerment

### 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	Demonstration	Check	Demonstration	Check	Demonstration	Check			
Pepper thresher	Black pepper	Mechanized pepper threshing							Ongoing							

### 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				
<b>Horticulture</b>														
<b>a) Vegetable Crops</b>														
Off-season vegetables	1	13	4	17	0	0	0	13	4	17				
Protective cultivation	1	20	15	35	0	0	0	20	15	35				
Others (Mushroom cultivation)	2	8	14	22	0	0	0	8	14	22				
Balanced use of fertilizers	1	100	36	136	0	0	0	100	36	136				
<b>Livestock Production and Management</b>														

Dairy Management	1	18	0	18	0	0	0	18	0	18
Rabbit Management	1	12	3	15	0	0	0	12	3	15
<b>Home Science/Women empowerment</b>										
Value addition	2	6	24	30	0	0	0	6	24	30
<b>Plant Protection</b>										
Integrated Pest Management	1	3	5	8	0	0	0	3	5	8
Bio-control of pests and diseases	1	6	2	8	0	0	0	6	2	8
Production of bio control agents and bio pesticides	1	9	4	13	0	0	0	9	4	13
Others (Organic farming)	2	50	5	55	0	0	0	50	5	55
<b>Fisheries</b>										
<b>Production of Inputs at site</b>										
<b>Capacity Building and Group Dynamics</b>										
<b>Agro-forestry</b>										
<b>TOTAL</b>	<b>14</b>	<b>245</b>	<b>112</b>	<b>357</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>245</b>	<b>112</b>	<b>357</b>

### 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
<b>Crop Production</b>										
Micro Irrigation/Irrigation	2	45	87	132	0	0	0	45	87	132
Nursery management	1	0	10	10	0	0	0	0	10	10
Soil and Water Conservation	1	54	18	72	0	0	0	54	18	72
Production of organic inputs	1	20	25	45	0	0	0	20	25	45
Others (Upland Rice cultivation)	1	33	52	185	0	0	0	133	52	185
Others (Organic Paddy cultivation)	1	50	20	70	0	0	0	50	20	70
Others (Innovation in Organic farming)	1	22	1	23	5	0	5	27	1	28
<b>Horticulture</b>										
<b>a) Vegetable Crops</b>										
Production of low value and high volume crop	1	0	15	15	0	0	0	0	15	15
Off-season vegetables	2	35	5	40	20	0	20	55	5	60
Nursery raising	1	6	45	51	0	0	0	6	45	51
Protective cultivation	2	35	47	82	5	20	25	40	67	107
Others (Vegetable cultivation)	1	24	27	51	0	0	0	24	27	51
<b>b) Fruits</b>										
Cultivation of Fruit – Organic cultivation	2	40	35	75	0	0	0	40	35	75
Plant propagation techniques – Banana	5	123	82	205	0	0	0	123	82	205
Others (Mushroom)	4	30	70	100	0	12	12	30	82	112
<b>c) Ornamental Plants</b>										
<b>d) Plantation crops</b>										
Production and Management technology – Cocoa	1	12	7	19	0	0	0	12	7	19
<b>e) Tuber crops</b>										
Others (Marketing)	1	58	8	63	15	22	37	70	30	100
<b>f) Spices</b>										

Others (Cultivation of Cardamom)	1	27	4	31	4	1	5	31	5	36
<b>g) Medicinal and Aromatic Plants</b>										
<b>Soil Health and Fertility Management</b>										
Soil fertility management	1	0	24	24	0	0	0	0	24	24
Integrated nutrient management	2	10	44	0	0	0	0	10	44	54
Production and use of organic inputs	1	30	0	30	0	0	0	30	0	30
Balanced use of fertilizers	1	30	5	35	0	0	0	30	5	35
Others (Organic farming)	1	42	6	48	0	0	0	42	6	48
<b>Livestock Production and Management</b>										
Dairy Management	2	34	29	63	0	0	0	34	29	63
<b>Home Science/Women empowerment</b>										
Processing and cooking	1 (3 days)	0	28	28	0	0	0	0	28	28
Value addition	1	2	17	19	0	0	0	2	17	19
<b>Agril. Engineering</b>										
<b>Plant Protection</b>										
Integrated Pest Management	3	115	115	230	0	0	0	115	115	230
Integrated Disease Management	1	41	0	0	0	0	0	41	0	41
Bio-control of pests and diseases	4	40	30	70	0	0	0	40	30	70
Production of bio control agents and bio pesticides	2	45	31	76	0	0	0	45	31	76
Others (Organic farming)	7	223	87	310	0	0	0	223	87	310
<b>Fisheries</b>										
<b>Production of Inputs at site</b>										
Mushroom production	1	30	2	32	0	0	0	30	2	32
Apiculture & value addition	1	13	20	33	0	0	0	13	20	33
<b>Capacity Building and Group Dynamics</b>										
<b>Agro-forestry</b>										
<b>TOTAL</b>	<b>58</b>	<b>1366</b>	<b>996</b>	<b>2362</b>	<b>49</b>	<b>55</b>	<b>104</b>	<b>1415</b>	<b>1051</b>	<b>2466</b>

### 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	1	23	17	40	0	0	0	23	17	40
Protected cultivation of vegetable crops – Cool season	4	114	38	152	0	0	0	114	38	152
Production of organic inputs – Bio-pesticides	5	113	79	192	0	0	0	113	79	192
Planting material production	2	48	21	69	10	9	19	58	30	88
Mushroom Production	3	71	37	108	0	0	0	71	37	108
Bee-keeping	1	6	7	13	0	0	0	6	7	13
Sericulture	1	6	7	13	0	0	0	6	7	13
Value addition	2	31	26	57	0	0	0	31	26	57
Small scale processing – Mushroom value addition	1	0	14	14	0	0	0	0	14	14
Post Harvest Technology	2	45	40	85	0	0	0	45	40	95
Tailoring and Stitching – Crochet work, Wall hanging preparation	1	0	19	19	0	1	1	0	20	20

Rural Crafts	1	0	19	19	0	1	1	0	20	20
Sheep and goat rearing	1	5	14	19	0	0	0	5	14	19
Quail farming	1	25	19	44	0	0	0	25	19	44
Any other (Soil testing procedure)	1	4	7	11	0	0	0	4	7	11
<b>TOTAL</b>	<b>27</b>	<b>491</b>	<b>364</b>	<b>855</b>	<b>10</b>	<b>11</b>	<b>21</b>	<b>501</b>	<b>375</b>	<b>876</b>

### 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	1	57	8	59	0	0	0	51	8	59
Commercial fruit production – Banana	1	36	16	52	0	0	0	36	16	52
Production of organic inputs	1	24	0	24	0	0	0	24	0	24
Mushroom Production	1	21	16	37	0	0	0	21	16	37
Any other (Soil testing & bio-pesticides)	1	35	5	40	0	0	0	35	5	40
<b>TOTAL</b>	<b>5</b>	<b>167</b>	<b>45</b>	<b>212</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>167</b>	<b>45</b>	<b>212</b>

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	1	20	5	25	0	0	0	20	5	25
Integrated Pest Management	1	25	19	44	0	0	0	25	19	44
Protected cultivation technology	1	30	14	44	0	0	0	30	14	44
Formation and Management of SHGs	1	17	4	21	0	0	0	5	14	19
Household food security	1	25	19	44	0	0	0	25	19	44
Any other (Vegetable model preparation & Crochet work)	1	0	19	19	0	1	1	0	20	20
<b>Total</b>	<b>7</b>	<b>122</b>	<b>94</b>	<b>216</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>122</b>	<b>95</b>	<b>217</b>

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Formation and Management of SHGs	1	28	4	32	0	0	0	28	4	32
Low cost and nutrient efficient diet designing	2	3	29	32	0	0	0	3	29	32
<b>Total</b>	<b>3</b>	<b>31</b>	<b>33</b>	<b>64</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>31</b>	<b>33</b>	<b>64</b>

### 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
<b>1</b>	<b>Crop production and management</b>										
1.a.	Increasing production and productivity of crops	5	128	58	186	0	0	0	128	58	186
1.b.	Commercial production of vegetables	1	6	35	41	5	20	25	11	55	66
<b>2</b>	<b>Production and value addition</b>										
2.a.	Fruit Plants	7	179	94	273	0	0	0	179	94	273
2.c.	Spices crops	2	80	100	180	0	0	0	80	100	180
<b>3.</b>	<b>Soil health and fertility management</b>	<b>2</b>	<b>42</b>	<b>27</b>	<b>69</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>42</b>	<b>27</b>	<b>69</b>

<b>4</b>	<b>Production of Inputs at site</b>	1	12	7	19	0	0	0	12	7	49
<b>5</b>	<b>Methods of protective cultivation</b>	2	49	12	61	0	0	0	49	12	61
<b>6</b>	<b>Others (Organic farming)</b>	22	567	289	856	20	0	20	587	289	876
<b>7</b>	<b>Post harvest technology and value addition</b>										
7.a.	Processing and value addition	3	28	49	77	0	0	0	28	49	77
7.b.	Others (Value addition of local fruits)	3	22	33	55	0	0	0	22	33	55
<b>8</b>	<b>Farm machinery</b>										
<b>9</b>	<b>Livestock and fisheries</b>										
<b>10</b>	<b>Livestock production and management</b>										
<b>11.</b>	<b>Home Science</b>										
11.b.	Economic empowerment of women	1	2	16	18	0	0	0	2	16	18
11.c.	Drudgery reduction of women										
11.d.	Others (Value addition in mushroom)	1	0	14	14	0	0	0	0	14	14
<b>12</b>	<b>Agricultural Extension</b>										
12.a.	Capacity Building and Group Dynamics	1	55	8	63	15	22	37	70	30	100
12.b.	Others (Scientific production of mushrooms)	3	57	36	93	0	12	12	57	48	105
	<b>Total</b>	<b>54</b>	<b>1227</b>	<b>778</b>	<b>2005</b>	<b>40</b>	<b>54</b>	<b>94</b>	<b>1267</b>	<b>832</b>	<b>2099</b>

#### 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
<b>1</b>	<b>Crop production and management</b>										
<b>2</b>	<b>Post harvest technology and value addition</b>										
2.a.	Value addition	1	0	28	28	0	0	0	0	28	28
<b>3.</b>	<b>Livestock and fisheries</b>										
<b>4.</b>	<b>Income generation activities</b>										
4.i.	Tailoring, stitching, embroidery, dyeing etc.	1	0	19	19	0	1	1	0	20	20
4.k.	Others (Crochet work)	2	0	38	38	0	2	2	0	40	40
<b>5</b>	<b>Agricultural Extension</b>										
	<b>Grand Total</b>	<b>4</b>	<b>0</b>	<b>85</b>	<b>85</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>88</b>	<b>88</b>

## V. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	76	85	9	94
Diagnostic visits	4	5	0	5
Scientists' visit to farmers field	52	125	0	125
Farmers' seminar/workshop	2	482	-	482
Celebration of important days (World Food Day)	1	44	0	44
Exposure visits	2	40	-	40
Others (Soil Health Camp)	2	12	1	13
Others (Soil Test Campaign)	1	35	0	35
<b>Total</b>	<b>140</b>	<b>828</b>	<b>10</b>	<b>838</b>

#### Details of other extension programmes

Particulars	Number
Extension Literature	3
Technical Articles	4
Radio Talks	2
<b>Total</b>	<b>9</b>

## 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
Vegetables	Capsicum	INDAM Mahabharath (F1)	100 packets	1000.00	80
	Carrot	Improved Kuroda	120 packets	1200.00	72
	Beetroot	Action (F1)	95 packets	950.00	56
	Beans	Local	150 packets	1500.00	125
	Greens	CO-1	200 packets	2000.00	110
	Cowpea	Local	250 packets	2500.00	200
	Brinjal	INDAM Green Round (F1)	84 packets	840.00	60
	Cabbage	Maharani (F1)	150 packets	1500.00	75
	Cauliflower	INDAM-9803 (F1)	250 packets	2500.00	225
	Chilly	INDAM-42 (F1)	160 packets	1600.00	140
	Onion	INDAM GULAB (DR-1)	125 packets	1250.00	100
	Bitter gourd	Local	190 packets	1900.00	180
	Green peas	Local	165 packets	1650.00	150
	Tomato	Local	140 packets	1400.00	110
Spices	Pepper	Panniyoor-1	190 rooted cuttings	1900	109
		Panniyoor-4	148 rooted cuttings	1480	124
		Panniyoor-6	102 rooted cuttings	1020	96
		Panniyoor-7	297 rooted cuttings	2970	202
		Pournami	142 rooted cuttings	852	104
		Panchami	126 rooted cuttings	756	98
		Sreekara	1600 rooted cuttings	9600	198
		Subhakara	1400 rooted cuttings	8400	200
		Malabar Excel	168 rooted cuttings	1008	141
		Thevam	172 rooted cuttings	1032	98
		Sakthi	143 rooted cuttings	858	100
		Chengannoor	690 rooted cuttings	4140	250
	Karimunda	2030 rooted cuttings	12180	2000	
Others	Honey	-	16 L	3200.00	16
	White pepper	Karimunda	23 kg	5730.00	10
	Wine	-	10 bottle	840.00	10
	Cleaning lotion	-	3 L	75.00	3
	Liquid soap	-	160 L	8000.00	116
	Soap powder	-	70 kg	3500.00	35
	Painted pot	-	3 nos.	200.00	3

	Painted photos	-	2 nos.	600.00	2
	Honeybee colony	-	29 nos.	31900.00	5
	Soap kit	-	1	60.00	1
	Bath soap	-	4	100.00	2
	Chocolate	-	1 packet	175.00	1
	Cardamom (dry)	Njallani	6.15 kg	2000.00	4
	Tomato pickle	-	8.72 kg	698.00	8
	Cardamom pickle	-	1 packet	60.00	1
	Edible mushroom	CO-1 & Florida	34.175 kg	6835.00	1200
	Mushroom bed	CO-1 & Florida	4 kg	260.00	4
	Tomato	Local	120 kg	1200.00	100
	Cabbage	Maharani (F1)	6 kg	168.00	6
	Garden beans	Local	112.780 kg	3383.40	104
	Cauliflower	INDAM – 9803(F1)	10.800 kg	302.40	8
	Cowpea	-	12.10 kg	363.00	6
	Carrot	Improved Kuroda	8.55 kg	239.40	10
	Beetroot	Action	9.400 kg	263.20	12
	Capsicum	INDAM Mahabharath	16 kg	800.00	23
	Chilly (baji)	INDAM	19.600 kg	980.00	32
	Brinjal	INDAM (F1)	21.100 kg	591.00	40
	Greens	Local	11.100 kg	333.00	12
	Green peas	Local	5.500 kg	154.00	8
	Banana	Robusta	25 kg	250.00	25
	Banana	Nendran	55 kg	1100.00	25
	Banana	Njalipoovan	6 kg	120.00	8
	Tapioca	-	61 kg	854.00	32
	Corn	-	42 nos.	420.00	24
<b>Total</b>				<b>1,43,740.40</b>	<b>7,299.00</b>

#### Production of planting materials by the KVKs

Crop category	Name of the crop	Name of the variety (if hybrid pl. specify)	Number	Value (Rs.)	Number of farmers
Vegetable seedlings	Cauliflower	INDAM & PUSA ( F1)	1250 nos.	2500.00	50
	Cabbage	INDAM & PUSA (F1)	950 nos.	1900.00	50
Fruits	Rambuttan	-	8 nos.	200.00	8
	Sappotta	-	10 nos.	550.00	10
	Lime	-	8 nos.	360.00	4
	Philosan	-	6 nos.	300.00	6
	Apple	-	3 nos.	150.00	3
	Mangostin	-	8 nos.	400.00	8
	Orange (Bud)	-	10 nos.	1200.00	10
	Mango (Graft)	-	12 nos.	600.00	12
	Ilumban puli	-	10 nos.	500.00	10
Ornamental plants	Euphorbia	-	25 nos.	1250.00	25
	Coleus	-	150 nos.	750.00	25
	Balsom	-	1000 nos.	5000.00	500
	Bud rose	-	20 nos.	1000.00	10
	Golden cypress	-	10 nos.	2500.00	10
	Poinsettia	-	25 nos.	625.00	25
	Lucky bamboo	-	12 nos.	180.00	10
	Dianthus	-	28 nos.	280.00	25

	Hibiscus	-	15 nos.	300.00	15
	Peperomia	-	12 nos.	120.00	12
	Garcenia	-	14 nos.	350.00	14
	Anthurium	-	16 nos.	2400.00	8
	Petunia	-	18 nos.	270.00	8
	Orchid	-	12 nos.	150.00	2
	Marigold	-	120 nos.	1200.00	60
Spices	Cardamom tillers	PV2	75 nos.	2520.00	5
		Njallani	150 nos.	4500.00	10
<b>Total</b>				<b>32,055.00</b>	<b>935</b>

### Production of Bio-Products

Bio Products	Name of the bio-product	Quantity	Value (Rs.)	No. of Farmers
		Kg		
Bio-fungicide	Pseudomonas	549 L	43920.00	500
	Trichoderma	87 L	6960.00	85
Others	Mushroom spawn	1303 packets	39090.00	250
	Vermiwash	2 bottle	100.00	2
	Vermicompost	145 packets	2100.00	50
	Vermiculture	120 kg	33000.00	60
<b>Total</b>			<b>1,25,170.00</b>	<b>947</b>

### Production of livestock and related enterprise materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers
<b>Dairy animals</b>				
<b>Poultry</b>				
Japanese Quail (Egg)	<i>Nandanam</i>	1720 nos.	2580.00	35
Japanese Quail (Meat)	<i>Nandanam</i>	5 nos.	125.00	2
<b>Piggery</b>				
<b>Fisheries</b>				
<b>Total</b>			<b>2,705.00</b>	<b>37</b>

## VII. DETAILS OF SOIL, WATER AND PLANT ANALYSIS 2011-12

Samples	No. of Samples	No. of Farmers	No. of Villages	Amount realized (Rs.)
Soil	72	53	45	3600
Water	10	8	8	500
Plant	0	0	0	0
Manure	2	1	1	100
Others (pl. specify)	0	0	0	0
<b>Total</b>	<b>84</b>	<b>62</b>	<b>54</b>	<b>4200</b>

## VIII. SCIENTIFIC ADVISORY COMMITTEE

Number of SACs conducted - Nil
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**IX. NEWSLETTER**

Number of issues of newsletter published - Nil
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**X. RESEARCH PAPER PUBLISHED**

Number of research paper published - Nil
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**XI. DETAILS ON RAIN WATER HARVESTING STRUCTURE AND MICRO-IRRIGATION SYSTEM**

Activities conducted - Nil
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