KRISHI VIGYAN KENDRA (IDUKKI)

ANNUAL REPORT- 2019

(FOR THE PERIOD FROM 01 January 2019 TO 31 December 2019)

ICAR - KrishiVigyan Kendra,
BapoojiSevakSamaj,
Pethotty P.O., Santhanpara,
Idukki (Dt.), Pin-685619, Kerala.
Phone: 04868 – 247541, 247715.
E-mail: kvk.Idukki@icar.gov.in, kvksanthanpara@gmail.com
Website URL: www.kvkidukki.org

PART I - GENERALINFORMATION 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		
ICAR - KrishiVigyan Kendra, Bapooji Sevak Samaj, Pethotty P.O., Santhanpara, Idukki (Dt.), Pin-685619, Kerala.	04868 – 247541, 247715.	Nil	kvksanthanpara@gmail.com	www.kvkidukki.org

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

Address	Telephone		E mail	Web Address
	Office	Fax		
Bapooji Sevak Samaj, Kakkattu, Meenadom P.O., Pampady, Kottayam (Dt.), Pin-686 516, Kerala.	0481-2506271 +91 9446826019	04868-247048	bkvkchairperson@gmail.com	www.kvkidukki.org

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. R. Marimuthu, Senior Scientist& Head	-	8157895397	kvksanthanpara@gmail.com

1.4. Year of sanction:

1.5. Staff position as on 31 December 2019

Sl. No.	Sanctioned post	Name of the incumbent	Designation	M /F	Discipline	Highest Qualification (for PC, SMS and Prog. Asstt.)	Pay Scale	Basic pay	Date of joining KVK	Permanent /Temporary	Category (SC/ST/ OBC/ Others)
1	Head/Senior Scientist	Dr. R. Marimuthu	Senior Scientist& Head	M	Agronomy	Doctorate in Agriculture - Agronomy	37400-67000	50720	17-01-2019	Permanent	OBC
2	Scientist/SMS	Dr. S. Jayababu	Subject Matter Specialist	M	Animal Science	B.V. Sc. & AH	15600-39100	21000	19-06-1995	Permanent	Others
3	Scientist/SMS	Manju Jincy Varghese	Subject Matter Specialist	F	Soil Science	M.Sc. Agriculture (Soil Science)	15600-39100	21000	10-01-2011	Permanent	Others
4	Scientist/SMS	**Vacant**	Subject Matter Specialist	-	**Vacant**	-	-	-	-	-	-
5	Scientist/SMS	Sudhakar Soundarajan	Subject Matter Specialist	M	Plant Protection	M.Sc. Agricultural Entomology, MBA	15600-39100	21000	27-01-2011	Permanent	OBC
6	Scientist/SMS	Ashiba A	Subject Matter Specialist	F	Agronomy	M.Sc. Agronomy	15600-39100	21000	07-01-2019	Permanent	Others
7	Scientist/SMS	Preethu K. Paul	Subject Matter Specialist	F	Agri. Extension	M.Sc. Agricultural Extension	15600-39100	21000	07-01-2019	Permanent	Others
8	Programme Assistant (Lab Tech.)	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)	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 - 1	P. Nandagopal	Driver	M	-	-	5200-20200	7200	05-06-1995	Permanent	OBC
14	Driver - 2	**Vacant**	Driver	-	**Vacant**	-	-	-	-	-	-
15	SSS-1	P. Sabu	Skilled Supporting Staff-1	M	-	-	5200-20200	7000	05-06-1995	Permanent	Others
16	SSS-2	K.T. Mathew	Skilled Supporting Staff-2	M	-	-	5200-20200	7000	05-06-1995	Permanent	Others

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

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

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	2002	740	47,85,208.10	-	-	-
2.	Farmers Hostel	NA	-	-	-	-	-	*Master Plan & Estimate submitted. Sanction pending.*
3.	Staff Quarters	NA	-	-	-	-	-	-
	1							
	2							
	3							
	4							
	5							
	6							
4.	Demonstration Units							
	1. Duck cum fish culture unit.	RF	2009	50	7,000.00	-	-	-
	2. Mushroom unit	GramaPanchayath, 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	-	-	-
	6.Bio-Hub	State Planning Board	2014	65	1,50,000.00	-	-	-
	7.KarshakaSevaKendram	Department of Agriculture – Vegetable Scheme	2015	100	3,58,000.00	-	-	-
	8. Pheromone Trap Production Unit	RF	2014	10	65,000.00	-	-	-
	9.Pseudomonas Production Unit	Department of Agriculture – Vegetable Scheme	2015	25	50,000.00	-	-	-

	10.Trichoderma Production Unit	Department of Agriculture – Vegetable Scheme	2015	25	50,000.00	-	-	-
	11.EPN Production Unit	Department of Agriculture – Vegetable Scheme	2015	25	70,000.00	-	-	-
	12.Low cost mass multiplication centre	Department of Agriculture	2018	25	20,000.00	-	-	-
	13.Low cost VAM production Unit	Department of Agriculture	2018	10	20,000.00	-	-	-
5	Fencing	NA	-	-	-	-	-	Urgent requirement as the area is constantly facing intuition of wild animals and other intruders
6	Rain Water harvesting system	NA	-	-	-	-	-	-
7	Threshing floor	NA	-	-	-	-	-	-
8	Farm godown	NA	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-
10	-	-	-	-	-	--	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Mahindra Bolero SLE	May - 2012	5,78,380.36	121234	Good condition.
Honda Aviator	March - 2009	50,000.00	12965	Running condition
Motor Bike (Suzuki Shogun)	January - 1995	37,972.78	8864	Irreparable, to be condemned

C) Equipment & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
A.V. aids (Specify)			
Television	1995	20,894.00	Not working
GE OHP	1996	7,100.00	Good, but not in use
ZETT 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
Ahuja Amplifier SSA 160 636956	2003	7,010.00	Good Condition
Ahuja Speaker, SRX50DX	2003	1,825.00	Good Condition
Ahuja Mike SHM 1000XLR	2003	2,295.00	Good Condition (serviced)
Ahuja Mike ASMT 80 XLR	2003	1,470.00	Good Condition
Ahuja mike Stand DGV	2003	510.00	Good Condition
Ahuja Mike stand DGT	2003	295.00	Good Condition
Ahuja portable teaching wireless WA 320 AWL 321	2003	9,700.00	Good Condition
Honda generator Model EBK 2000 AC	2003	32,490.00	Good Condition
LPG Generator 5000 CLS	2011	100000.00	Good Condition
LCD Projector (EPSON_EBW8)	2010	55186.00	Good Condition
Liberty Show Juno 5 x 7 (MW) Screen	2010	5885.00	Good Condition
Kodak Knoma Camera	1995	1550.00	Obsolete
Tripod Screen 52x70 inch	1996	2029.50	In working condition
Soil Science Lab Equipments (Specify)			
KEMI HOT PLATE with Energy Regulator	2006	5,400.00	Not working
Electronic Balance	2006	1,00,000.00	Under use but needs repair
Physical Balance	2006	8,991.00	Good
Spectrophotometer	2006	1,17,499.00	Not working
Electronic Automatic KEL PLUS model KES 12L (Nitrogen Analyzer)	2006	97,043.00	Not working

Conductivity Meter (PH Meter Utech 510)	2006	21,935.00	Not working
HOT AIR OVEN	2006	13,725.00	Not working
Water bath WDB2 350 x 400 100mm Size 12	2006	41,895.00	Not working
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	Needs replacement
Online UPS System with Battery	2006	36,916.00	Needs replacement
Fume Cupboard KEMI	2006	2,68,192.00	Needs replacement
Bio-control Lab Equipments			
Laminar Flow Chamber	2000	50,000.00	Under use but needs repair
Refrigerator	2000	10,760.00	Under use but needs repair
Chemical Balance	2000	1,800.00	required new
Auto Clave	2000	19,000.00	required new
Step up Stabilizer	2008	4,595.00	Good
Other Equipments			
FACIT Typewriter (Malayalam)	1995	9,735.00	Obsolete
FACIT Typewriter (English)	1995	9429.00	Obsolete
Stencil Duplicator	1995	13,700.00	Obsolete
Ortem sewing machine	1995	2,300.00	Obsolete
Computer with Printer	2003	49,750.00	Obsolete, needs to be replaced by a Desktop computer
Photostat Machine	2003	80,000.00	Obsolete
Brush Cutter	2009	23,726.00	Good, needs servicing
Fax Machine	2009	15,000.00	Obsolete
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 of SAC meeting conducted during 2019: Nil.

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	Coconut, Tea and coffee plantation
5	Vegetables (Bitter gourd & Cowpea)
6	Cool season vegetables in Devikulam Block
7	Banana cropping
8	Rubber- Pineapple as inter-crop
9	Dairy cattle, Poultry production & Management
10	Mixed Fodder Production

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

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

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

2.3 Soil type/s

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

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

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	31165	16505	530
2	Pepper	43790	18726	428
3	Banana	7535	67469	8954
4	Rice	695	1631	2347
5	Coconut	16122	63 million nuts	3907
6	Tapioca	6998	297870	42565
7	Coffee	12717	8310	653
8	Tea	40590	44991	2048

* Directorate of Economics and Statistics, Department of Agriculture and Cooperation.

2.5. Weather data

Month	Rainfall (mm)	Temperature ^{0} C		Relative Humidity (%)
		Maximum	Minimum	
January 2019	22	27.9	18.4	87.0
February 2019	31	29.2	19.1	79.0
March 2019	55	30.7	20.6	65.0
April 2019	122	37.0	24.0	60.0
May 2019	190	36.0	24.0	65.0
June 2019	356	34.0	24.0	70.0
July 2019	454	32.0	23.0	73.0
August 2019	287	31.0	22.0	76.0
September 2019	184	32.0	22.0	75.0
October 2019	271	31.0	22.0	78.0
November 2019	181	30.0	21.0	78.0
December 2019	73	29.0	20.0	80.0

* IMD, Trivandrum

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

Category	Population	Production	Productivity
Cattle			
Crossbred	97395	164559.858 ton (Milk) & 10.276827 MT (meat)	3.26 ton (milk)
Indigenous	7155	4309 ton (milk)	2.89 l/day
Buffalo	5471	7779 ton (milk) & 4285.62 MT (meat)	2.7 ton
Sheep			
Crossbred	9	-	-
Indigenous	-	-	-
Goats	102432	17298 ton (Milk) & 11892.10 MT (meat)	-
Pigs			
Crossbred	14670	23436.5 MT (Meat)	-
Indigenous	-	-	-
Rabbits	9980	-	-
Poultry			
Hens	698787	758.82198 in lakh nos (Egg)	-
Desi	60848	398 in lakh (Egg)&5840462MT meat	-
Improved	130924	-	-
Ducks	20087	-	-
Turkey and others	16456	-	

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

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

2.7 District profile maintained in the KVK has been **Updated** for 2019: 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	Devikulam	Devikulam	Kannan Devan Village, Vattavada	2 years	Finger Millet	Lodging (Yield loss 16 - 19%), Shattering losses, Severe disease incidence (Yield loss 28%),Non availability of improved variety	Variety Evaluation
					Cabbage	Inadequate knowledge on soil test based nutrient management in cabbage, Indiscriminate use of chemical inputs, Ignorance on banned chemicals in Idukki district, Severe incidence of pest & disease	Integrated crop management
					Carrot	Severe damage to the roots of carrot by Root Knot Nematode causing malformation, thereby affecting both quality and quantity, Soil borne pathogen (soft rot) cause huge crop losses, Rot occurring during transportation of harvested carrots also leads to post harvest losses	Bio intensive pest management
					Passion Fruit	Less juice and soft seeds, Vine keeps flowering but less fruit set, High fruit drop, Malformed / Shriveled fruits, Low TSS and high acidity of juice	Integrated Nutrient management
					Kiwi	Lack of awareness on the scope of exotic fruits	Variety introduction
					Poultry	Non availability of quality layer chicks, low growth rate, poor laying performance and feather pecking	Scientific management of livestock and poultry

2	Udumbanchola	Kattappana	Vandanmedu	2 years	Cowpea	Soil acidity - 4.7, Tips of primary leaves necrotic and tissues between the veins tend to ridge, White, yellow or orange chlorotic spots or stripes on older leaves, Upper leaves near the growing point turns yellow and sometimes red, leaves short, show crinkling, little leaf and internodes become shorter.	Integrated Nutrient management, Bio intensive pest management.
					Passion fruit	Less juice and soft seeds, Vine keeps flowering but less fruit set, High fruit drop, Malformed / Shriveled fruits, Low TSS and high acidity of juice	Integrated Nutrient management
					Bitter gourd	High soil acidity (3.5-4.0), Marginal chlorosis of older leaves, Leathery and brittle upper leaves, Upward cupping of leaves, Distortion of new leaves, buds, malformed/shriveled fruits, Rosette appearance.	Bio intensive pest management
					Black Pepper	Poor quality planting material, Quick wilt incidence, Non availability of climbers, as today's youth are unwilling to take up this job, Chances of falling from the poles are very high, Causes severe physical and health problems, Wastage of produce during manual harvest, Causes health problems like itching and other skin diseases, High price fluctuation in Season, Middle man exploitation, Lack of value addition in black pepper	Crop improvement

3	Udumbanchola	Nedumkandam	Udumbanchola	6 years	Paddy	High acidity Iron toxicity leading to tiny brown spots from leaf tip to base. Stunted growth, damaged root, less grain filling, Continuous cultivation of Traditional variety, Heavy incidence of pest & disease (yield loss 17-26%)	Integrated Nutrient management, Varietal Popularization
					Banana	High soil acidity (nearly-4.4), Inward marginal yellowing of older leaf followed by marginal necrosis, Yellow stripes parallel to leaf midrib and crinkling of leaves, Unfolding of leaf is delayed, Flag leaf deformed, Distal part of the inflorescence comes out and the basal part get stuck up at the throat, growth retardation	Integrated Nutrient management
					Small cardamom	Panicles become stunted. Shedding of flowers and immature capsules thus reducing the total number of capsules formed. Infestation causes formation of corky encrustation on pods resulting in their malformed and shriveled condition	Bio intensive pest management
					Nutritional Garden	Inadequate knowledge on the benefits of nutritional garden in households, Dietary deficiencies among tribal folk	Organic farming
					Dairy Cattle	Feeding of more grains/concentrates, Cassava leaves and jack rind, Incidence of Mastitis in high yielders Mastitis-Coliform & Mycoplasma 50-60% Sub clinical-30% Milk yield reduction-30%	Fodder production and management, Scientific management of livestock and poultry

2.8 Details of Benchmark Information collected from DFI villages

Sl. No.	Taluk	Name of the block	Name of the village	Name of the Head of Household	Annual Gross Income (Rs.)	Annual Expenditure (Rs.)	Annual Net Income (Rs.)

	Udumbanchola	Nedumkandam	Udumbanchola	1. Biju M Paul	Rs.763200	Rs.456000	Rs.307200
				2. SajimonSkaria	Rs.576000	Rs.384000	Rs.192000
				3. Mary Thankachan	Rs.1092000	Rs.696000	Rs.396000
				4. Sibiskaria	Rs.660000	Rs.240000	Rs. 420000
				5. Ratheesh V. R	Rs.492000	Rs.396000	Rs.96000
				6. Biju Mathew	Rs.504000	Rs.276000	Rs.228000
				7. Soman	Rs.474000	Rs.276000	Rs.198000
				8. Binu M Paul	Rs. 658800	Rs. 504000	Rs. 154800
				9. Bex V Mathew	Rs.660000	Rs.504000	Rs.156000
				10. V P. Rajendran	Rs.578400	Rs. 477600	Rs.100800
				11. Baby Binu	Rs. 427200	Rs. 312000	Rs. 115200
				12. Joby K George	Rs. 540000	Rs. 492000	Rs. 48000
				13. ShaibySaji	Rs.1020000	Rs.744000	Rs. 276000
				14. ValsaSasi	Rs.672000	Rs. 432000	Rs. 240000
				15. LeelammaScaria	Rs. 474000	Rs. 240000	Rs. 234000
				16. Thankachan P.V	Rs. 678000	Rs. 342000	Rs. 336000
				17. Alicekutty Manuel	Rs.780000	Rs. 540000	Rs. 240000
				18. Benny V. D	Rs. 72000	Rs.24000	Rs.48000
				19. Biju Mathew	Rs.711600	Rs.576000	Rs.135600
				20. LathaShaji	Rs. 780000	Rs. 474000	Rs. 306000
				21. Yamuna Siby	Rs. 546000	Rs 318000	Rs. 228000
				22. ManjuVijayakumar	Rs. 547200	Rs. 456000	Rs. 91200
				23. Lalitha Ravi	Rs. 942000	Rs. 672000	Rs. 270000
				24. .Lysamma Sunil	Rs. 547560	Rs. 420000	Rs. 127560
				25. Tressy Augustine	Rs. 678000	Rs. 342000	Rs. 336000
				26. Paul Kuriakose	Rs. 600000	Rs.420000	Rs.180000
				27. Asha Rajappan	Rs.42000	Rs.24000	Rs.18000
				28. Suresh P. Joseph	Rs.480000	Rs.300000	Rs.180000
				29. RajeshwariAyyappan	Rs. 72000	Rs.24000	Rs.48000
				30. Reghunath Pillai	Rs.1826400	Rs.840000	Rs.986400
				31. Thankachan P.V	Rs.711600	Rs.576000	Rs.135600
				32. Baby Binu	Rs.624000	Rs.540000	Rs.84000
				33. Jobin K George	Rs.552000	Rs.396000	Rs.156000
				34. Sajimon V S	Rs.1668000	Rs.924000	Rs.744000

2.	Devikulam	Devikulam	KDH Village	G. Kumar	Rs.144000	Rs.72000	Rs.72000
				G. Gnanadurai	Rs.168000	Rs.74400	Rs.93600
				Rani D	Rs.60000	Rs.25200	Rs.34900
				Muthulakshmi	Rs.48000	Rs.26400	Rs.21600
				L. Jaya	Rs. 144000	Rs. 108000	Rs. 133200
				Subha	Rs. 115200	Rs. 54000	Rs. 61200
				Satheesh Kumar	Rs.216000	Rs. 84000	Rs.132000
				Srikanth	Rs. 132000	Rs.72000	Rs.60000
				S. Madasamy	Rs.168000	Rs.102000	Rs. 66000
				SudheeshReghu	Rs. 150000	Rs. 84000	Rs. 66000
				Kavitha	Rs. 96000	Rs.60000	Rs.36000
				Mariammal	Rs. 150000	Rs. 84000	Rs.66000
				Nagaraj	Rs. 198000	Rs. 96000	Rs. 102000
				MuruganGaneshan	Rs. 144000	Rs. 90000	Rs.54000
				Selvaraj	Rs. 132000	Rs.66000	Rs. 66000
				Vijayakanth	Rs.90000	Rs.25200	Rs. 64800
				V. Karuppaswamy	Rs.144000	Rs.108000	Rs.36000
				Henry	Rs. 114000	Rs.60000	Rs.54000
				Amaravathi	Rs.204000	Rs.120000	Rs.84000
				Vallammal	Rs.168000	Rs.96000	Rs.72000
				Padma Devi	Rs.186000	Rs.120000	Rs.66000
				Premdas	Rs.162000	Rs.102000	Rs.60000
				Santhosh	Rs.1500000	Rs.78000	Rs.72000
				Senthil Kumar	Rs. 198000	Rs. 96000	Rs.102000
				Amitraj	Rs.132000	Rs.102000	Rs.30000
				Reghu	Rs.163200	Rs.102000	Rs.61200
				Sethu	Rs.180000	Rs.120000	Rs.60000
				Babu	Rs.150000	Rs.120000	Rs.30000
				Marimuthu	Rs.180000	Rs.150000	Rs.30000
				Devendran	Rs.102000	Rs.50400	Rs.51600

2.9 Priority thrust areas

S. No	Thrust area
1	Integrated crop management practices.
2	Crop Diversification
3	Farm Mechanization
4	Soil Health management
5	Demonstration of high yielding varieties
6	Bio intensive crop health management
7	Drought management
8	Scientific management of dairy animals
9	Value addition

PART III - TECHNICAL ACHIEVEMENTS (2019)

3.A. Target and Achievements of mandatory activities

OFT				FLD			
1				2			
OFTs (No.)		Farmers (No.)		FLDs (No.)		Farmers (No.)	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
06	06	15	15	14	14	68	68

Training				Extension Programmes			
3				4			
Courses (No.)		Participants (No.)		Programmes (No.)		Participants (No.)	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
82	138	1895	4869	1837	851	8008	5617

Seed Production (Q)		Planting material (Nos.)	
5		6	
Target	Achievement	Target	Achievement
5	0	33260	5695

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
800	0	Bio-agent - 15000 & Bio-fertilizer - 10000	12780

3.B1. Abstract of interventions undertaken

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 product	
													No.	Kg
1.	Integrated Nutrient Management	Tapioca	Secondary and micronutrient deficiencies	Assessing the effect of customized fertilizer formulation for Cassava and Elephant Foot Yam intercropped in coconut garden	-	01	0	0	06	0	25	0	0	0

2.	Integrated Nutrient Management	Passion Fruit	Less juice and soft seeds 2) Vine keeps flowering but less fruit set 3) High fruit drop 4) Malformed / Shriveled fruits 5) Low TSS and high acidity of juice	Assessment of micro-nutrient sprays for mitigating irregularities in passion fruit	-	0	0	0	04	0	0	0	0	28
3.	Varietal Evaluation	Finger Millet	Lodging (Yield loss 16 - 19%), Shattering losses, Severe disease incidence (Yield loss 28%), Non availability of improved variety& Low yield due to poor fertilizer response	Assessment of finger millet varieties in tribal belts of Idukki district		0	0	0	03	30	0	0	2	2
4.	Integrated Pest Management	Plantation crop	Crop raiding by elephants targeting field , pose serious socio economic and conservation problems in Idukki district	Assessment of different innovative technologies for deterring crop raiding wild elephants	-	02	0	0	0	0	0	0	0	KrishiRakshik..@ 1 Panchagavya based herbal extract .@ 10 L Bee boxes.@ 3 nos.
5.	Integrated Pest Management	Small cardamom	Panicles become stunted. Shedding of flowers and immature capsules thus reducing the total number of capsules formed. Infestation causes formation of corky encrustation on pods resulting in their malformed and shriveled condition	Assessment of different biological control agents for the management of thrips in small cardamom	-	02	0	0	0	0	0	0	0	Lecanicllium @ 25L Steinernema@ 15kg
6.	Seed/ Plant Production	Black Pepper	1.Low recovery of planting material due to disease in nursery 2.Quick wilt disease	Assessment of different potting mixture to produce healthy planting material of black pepper	-	01	0	0	03	0	0	0	0	104

7.	Evaluation of breeds	Poultry	Non availability of quality layer chicks, low growth rate, poor laying performance and feather pecking	Assessment of production performance of different breeds of poultry under homesteads in Idukki districts	-									
8.	Integrated Nutrient mangement	Paddy	High acidity Iron toxicity leading to tiny brown spots from leaf tip to base. Stunted growth, damaged root, less grain filling	-	Demonstration of Fine Silica in paddy.	02	0	0	15	0	0	0	0	260
9	Varietal popularization	Paddy	Continuous cultivation of Traditional variety Heavy incidence of pest & disease (yield loss 17-26%)	--	Demonstration of Akshaya variety of Paddy	01	0	0	10	60	0	0	0	206
10	Integrated Nutrient Management	Vegetable cowpea	1) Soil acidity- 4.7 2) Necrotic leaf tip and tissues between the veins tend to ridge 3) Chlorotic stripes on older leaves. 4) yellow and crinkling in growing tips 5) little leaf and internodes become shorter	-	Enhancing Productivity and Nitrogen Use efficiency in cowpea	01	0	0	03	0	0	0	0	260
11	Integrated Pest and Disease management	Vegetable cowpea	Indiscriminate use of chemical inputs	-	Bio- intensive pest and disease management in cowpea	02	0	0	0	0	0	0	0	1.Trichoderma @10L 2.Hansenia spora uvaram@ 8L 3.Lecanicillium @5 L. 4. Beauveria @5L. PPFM@ 2L.

12	Integrated Nutrient Management	Cabbage	1) Inadequate knowledge on soil test based nutrient management in cabbage 2) Indiscriminate use of chemical inputs 3) Ignorance on banned chemicals in Idukki district 4) Severe incidence of pest & disease	-	Integrated Nutrient Management in Cabbage.	01	0	0	03	0	0	0	0	8
13	Integrated Pest and Disease managemnet	Bitter Gourd	Indiscriminate use of chemical inputs	-	Bio- intensive pest and disease management in Bitter Gourd	01	0	0	0	0	0	0	0	1.Seed pro 200gm, 2.Phermone treap@20 nos 3.Lecanicillium@5 L 4.Beauveria@ 3L. Pesudomonas@15 L.
14	Integrated Pest and Disease management	Carrot	Root knot nematode is damaged to roots, affected both quality and quantity. Soil borne pathogen (soft rot) cause huge crop losses.	-	Bio- intensive pest management of root knot nematode and soft rot in carrot.	02	0	0	0	0	0	0	0	Bacillus subtillis @25 L
15	Crop introduction	Pepino	Cultivation of Pepino (Sweet Cucumber, Melon Pear) as an exotic salad vegetable	-	Cultivation of Pepino (sweet cucumbet, melon pear) as an exotic salad vegetables.	01	0	0	01	0	0	0	0	0

16	Integrated Nutrient management	Banana	1) High soil acidity (nearly-4.4) 2) Inward marginal yellowing of older leaf followed by marginal necrosis 3) Yellow stripes parallel to leaf midrib and crinkling of leaves. 4) Unfolding of leaf is delayed 5) Flag leaf deformed 6) Distal part of the inflorescence comes out and the basal part get stuck up at the throat 7) growth retardation	-	Integrated Nutrient management in Banana	01	0	0	16	0	0	0	0	254.50
17	Crop introduction	Kiwi	Lack of awareness on the scope of exotic fruits	-	Cultivation of Kiwi Fruit which requires relatively less chilling period.	01	0	0	02	0	21	0	0	3
18	Varietal popularization	Amorphophallus	Lack of acrid free variety	-	Demonstration of acrid free variety of Gajendra in high ranges	01	0	0	07	0	275	0	0	0
19	Oragnic Farming	All suitable vegetables	1) Inadequate knowledge on the benefits of nutritional garden in households 2) Dietary deficiencies among tribal folk	-	Implementation of homestead garden, easy availability of nutritional plants	04	0	0	07	0	800	0	0	0
20	Disease Management	Dairy	Feeding of more grains/concentrates, Cassava leaves and jack rind	-	Demonstration on ethno veterinary (EVM) for bloat in dairy cattle	02	0	0	03	0	0	0	0	0
21	Disease Management	Dairy	Incidence of Mastitis in high yielders	-	Mastiguard germicidal teat product spary for preventing common mastitis bacteria from entering teat canal and extended antimicrobial protection	02	0	0	08	0	0	0	0	0
22	Disease management	Dairy cattle	Infertility problem	-	Demonstration on estrous synchronization in cattle	01	0	0	02	0	0	0	0	0

	Evaluation of breeds	Poultry	Non-availability of quality layer chicks	Assessment of different breeds of poultry under homestead in Idukki district.		03	0	0	0	0	0	0	0	0

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.	Assessing the effect of customized fertilizer formulation in Tapioca and EFY intercropped in coconut garden	CTCRI	Tapioca and EFY	05	0	01	06
2.	Assessment of Finger Millet Varieties in Tribal belt of Idukki District	TNAU & PC unit, Bengaluru	Finger Millet	03	0	0	02
3.	Assessment of Micronutrient sprays for mitigating irregularities in passion fruit.	KAU	Passion Fruit	02	0	0	04
4.	Assessment of different innovative technologies for deterring crop raiding wild elephants	Kerala State Forest Depatment-2017 and TNAU-2018	Small cardamom	01	0	02	05
5.	Assessment of different potting mixture to produce healthy planting material of Black Pepper.	KAU, TNAU	Black Pepper nursery	02	0	01	02
6.	Assessment of different biological control agents for the management of thrips in small cardamom	IISR -2018 and ICRI-2017	Small Cardamom	02	0	03	05
7.	Assessment of different breeds of poultry under homestead in Idukki district	CPDO, Bangaluru & DPR, Hyderabad	Poultry	03	0	03	0
8.	Demonstration on the effect of fine silica in iron toxic soils of Paddy.	KAU	Paddy	0	05	02	15
9.	Demonstration on Akshaya Variety of Rice	KAU	Paddy	0	05	01	10
10.	Cultivation of Kiwi fruit which require relatively less chilling period	SKUAST, J&K	KIWI	0	03	01	02
11.	Cultivation of Pepino (Sweet Cucumber, Melon Pear) as an exotic salad vegetable	TNAU	Pepino	0	05	01	01
12.	Integrated Nutrient Management in Banana	KAU	Banana	0	5	01	16
13.	Enhancing Productivity and Nitrogen Use Efficiency in Cowpea	KAU	Vegetable cowpea	0	5	01	02
14.	Integrated Nutrient Management in Cabbage	IIHR	Cabbage	0	05	01	02
15.	Bio- intensive pest and disease management in cowpea	ICAR-NBAIR	Cowpea	0	5	02	0
16.	Bio- intensive pest and disease management in Bitter Gourd	KAU	Bitter gourd	0	5	01	0
17.	Bio- intensive pest management of root knot nematode and soft rot in carrot.	ICAR-IIHR	Carrot	0	5	02	0
18.	Implementation of homestead garden, easy availability of nutritional plants	KAU	All suitable nutritive plants	0	05	04	07
19.	Demonstration of acrid free variety of Gajendra of Amorphophallus in high ranges.	CTCRI	Amorphophallus	0	05	01	05
20.	Demonstration on ethno veterinary (EVM) for bloat in dairy cattle	VUTRC, Tanjavur	Dairy Cattle	0	05	02	03
21.	Mastiguard germicidal teat product spary for preventing common mastitis bacteria from entering teat canal and extended antimicrobial protection	TANUVAS	Dairy Cattle	0	05	02	08

22.	Demonstration on estrous synchronization in cattle	TANUVAS	Dairy Cattle	0	05	01	03

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
0	5	0	0	0	0	0	0	0	7	0	0	2	28	0	0
0	0	3	0	0	0	0	0	0	0	0	0	0	0	12	0
2	0	0	0	0	0	0	0	0	0	0	0	18	2	5	1
1	0	0	0	0	0	0	0	25	15	0	0	0	0	0	0
2	0	0	0	0	0	0	0	10	0	0	0	10	1	0	0
2	0	0	0	0	0	0	0	18	12	0	0	0	0	0	0
0	0	0	3	0	0	0	0	35	30	26	31	0	0	0	0
0	0	0	0	4	1	0	0	29	15	0	0	46	43	0	0
0	0	0	0	5	0	0	0	10	1	0	0	58	11	0	0
0	0	0	0	0	0	2	1	0	0	27	14	0	0	5	2
0	0	0	0	5	0	0	0	27	2	0	0	16	0	0	0
0	0	0	0	5	0	0	0	10	0	0	0	30	19	0	0
0	0	0	0	5	0	0	0	14	0	0	0	13	0	0	0
0	0	0	0	0	0	5	0	0	0	8	12	0	0	9	2
0	0	0	0	5	0	0	0	16	10	0	0	0	0	0	0
0	0	0	0	0	0	0	0	21	11	0	0	0	0	0	0
0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	5	0	0	0	49	0	0	1	85
0	0	0	0	5	0	0	0	5	5	0	0	42	18	0	0
0	0	0	0	2	3	0	0	7	25	0	0	28	39	0	0
0	0	0	0	0	5	0	0	19	30	0	0	47	88	0	0
0	0	0	0	0	5	0	0	2	13	0	0	15	21	0	0

PART IV - On Farm Trial (2019)

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	2
Varietal Evaluation	1									1
Integrated Pest Management	0	0	0	2	0	0	0	0	0	2
Integrated Crop Management										
Integrated Disease Management										
Small Scale Income Generation Enterprises										
Weed Management										
Resource Conservation Technology										
Farm Machineries										
Integrated Farming System										
Seed / Plant production								1		1
Value addition										
Drudgery Reduction										
Storage Technique										
Mushroom cultivation										
Total	**1**			**2**		**1**		**1**	**1**	**6**

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

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

Thematic areas	Cattle	Poultry	Piggery	Rabbit	Fisheries	TOTAL
Evaluation of Breeds		1				1
Nutrition Management						
Disease of Management						
Value Addition						
Production and Management						
Feed and Fodder						
Small Scale income generating enterprises						
TOTAL		**1**				**1**

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

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 trial covering all Technological Options in a farm)
Integrated Nutrient Management	Tuber crop	Assessing the effect of customized fertilizer formulation for Cassava and Elephant Foot Yam intercropped in coconut garden	05	05	0.02
	Passion Fruit	Assessment of micro-nutrient sprays for mitigating irregularities in passion fruit	02	02	1.0
Varietal Evaluation	Finger Millet	Assessment of finger millet varieties in tribal belts of Idukki district	03	03	1.0
Integrated Pest Management	Plantation crop	Assessment of different innovative technologies for deterring crop raiding wild elephants	01	01	1.0
	Small cardamom	Assessment of different biological control agents for the management of thrips in small cardamom	02	02	1.0
Integrated Crop Management					
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries					
Integrated Farming System					
Seed / Plant production	Black pepper	Assessment of different potting mixture to produce healthy planting material of black pepper	02	02	2 unit
Value addition					
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total			**15**	**15**	**4.02 & 2 units**

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

4.B.3. Technologies assessed under Livestock and other enterprises

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Evaluation of breeds	Poultry	Assessment of production performance of different breeds of poultry under homesteads in Idukki districts	03	03
Nutrition management				
Disease management				
Value addition				
Production and management				
Feed and fodder				
Small scale income generating enterprises				
Total			**03**	**03**

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

4.C1.Results of Technologies Assessed

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Source of technology	Yield	Unit of yield	Observations other than yield	Gross Return Rs. / unit	Net Return Rs. / unit	BC Ratio (Gross income/ Gross Cost)
1	2	3	4	5	6	7	8	9	10	11	12	13
Finger Millet	Irrigated	Lodging and Shattering losses	Assessment of finger millet varieties in tribal belt of Idukki district.	03	**T.O.1** (Farmers practice- Local Variety)	-	Ongoing-tillering stage					
					T.O.2 – CO 15	TNAU						
					T.O.3 – GPU-67	UAS, Bengaluru						
Passion Fruit	Irrigated	High fruit drop, Malformed/shriveled fruits	Assessment of micronutrient spray for mitigating irregularities in passion fruit	02	**T.O.1** (Farmers practice - Basal application of FYM and complex fertilizers + secondary nutrients)	-	Ongoing-vegetative stage					
					T.O.2 – FYM @ 10 kg, N-20g, P- 20 g and K- 15 g per plant + Boron spray	TNAU						
					T.O.3 – FYM @ 10 kg, N-110g, P- 60 g and K- 110 g per plant + Micronutrient spray	IIHR						
					T.O.4 – FYM @ 10 kg, N-110g, P- 60 g and K- 110 g per plant + Ayar	KAU						
Small cardamom	Irrigated	Crop raiding by elephants targeting field , pose serious socio economic and conservation problems in Idukki district	Assessment of different innovative technologies for deterring crop raiding wild elephants	01	**T.O.1** (Farmers practice) Nil	-	0.38	t/ha	1.No.of wild elephants raids. 2.Percentage of crop damage 3.B:C ratio	Small cardamom	Irrigated	Crop raiding by elephants targeting field , pose serious socio economic and conservation problems in Idukki district
					T.O.2 - Place of 10 units (Krishi	Kerala State Forest	0.65	t/ha	1.No.of wild elephants			

					Rakshak) per acre to keep the light units at 8 feet height for the wild elephants.	Department-2017			raids. 2.Percentage of crop damage 3.B:C ratio			
					T.O.3 - Spray Panchagavya based Herbal Extract @ 100ml/ L of water (20-days intervals).	TNAU-2018	0.59	t/ha	1.No.of wild elephants raids. 2.Percentage of crop damage 3.B:C ratio			
					T.O.4 - Place of 10 bee boxes with colonies per acre.	TNAU-2017	0.41	t/ha	1.No.of wild elephants raids. 2.Percentage of crop damage 3.B:C ratio			
Black Pepper	Irrigated	Low recovery of planting material due to disease in nursery	Assessment of different potting mixture to produce healthy planting material in black pepper	02	**T.O.1** (Farmers practice-	-	Ongoing-vegetative stage					
					T.O.2 – Coir pith compost + soil + Trichoderma	KAU						
					T.O.3 – Arka fermented cocopeat+ Soil+ cow dung	IIHR						
Small cardamom	Irrigated	Panicles become stunted. Shedding of flowers and immature capsules thus reducing the total number of capsules formed. Infestation causes formation of corky encrustation on pods resulting in their malformed and shriveled condition	Assessment of different biological control agents for the management of thrips in small cardamom	02	**T.O.1** (Farmers practice) Recommended Insecticides		0.41	t/ha	1.Per cent reduction over control 2.Yield	1189000	629000	2.12
					T.O.2 - spray of *Lecanicillium psalliotae* @ 10 ml/L of water during March, April, May, August, September and December	IISR-2018	0.67	t/ha		1943000	1268000	2.87
					T.O.3 - Spray of *Steinernema sp* @ 3g/L of water during March, April, May , August, September and December	NBAIR-2015	0.54	t/ha		1566000	891000	2.32
Tapioca	irrigated	Secondary and micronutrient deficiency	Assessing the effect of customized fertilizer formulation in Tapioca and Amorphophallus intercropped in coconut gardens.	05	**T.O.1** (Farmers practice- indiscriminate use of fertilizers)		10.11	t/ha	1.Weight of tubers/plant 2. Number of tubers/plant	303300.00	63300.00	1.26
					T.O.2 – Recommended	KAU	12.89	t/ha	1.Weight of tubers/plant	386700.00	122348.00	1.46

					POP				2. Number of tubers/plant			
					T.O.3 – Customized Fertilizer-1 @ 500 kg/ha	CTCRI	15.82	t/ha	1.Weight of tubers/plant 2. Number of tubers/plant	474600.00	264495.00	2.25
					T.O.4 - Customized Fertilizer-2 @ 625 kg/ha	CTCRI	14.23	t/ha	1.Weight of tubers/plant 2. Number of tubers/plant	426900.00	195000.00	1.84
Poultry	Homestead	Non availability of quality layer chicks.	Assessment of different breeds of Poultry under homestead in Idukki District.	03	**T.O.1** (Farmers practice)- Rearing of non descript breeds	-	Ongoing					
					T.O.2 – Rearing of Bv-380 chicks	CPDO, Bengaluru						
					T.O.3 – Rearing of Kalinga Brown	CPDO, Bengaluru	Ongoing					
					T.O.4 – Rearing of Krishi Bro	DPR, Hyderabad						

4.C2. Details of Successfully completed / concluded technology assessment (support with necessary summary of data and photographs)

1)

1. Title of Technology Assessed: Assessing the effect of customized fertilizer formulation in Tapioca and Amorphophallus intercropped in coconut gardens.

2. Performance of the Technology on specific indicators: Customized fertilizer-1 gave better result in respect of yield, managing deficiency symptoms in Tapioca,

3. Specific Feedback from farmers: Customized fertilizer-1 @ 500 kg/ha showed better result in respect of growth in Tapioca, Yield increased, Deficiency symptoms were corrected, Good cooking quality

4. Specific Feedback from Extension personnel and other stakeholders: Customized fertilizer-1 should be made available through KVK so that it can reach to more farming community.

5. Feedback to Research System based on results and feedback received: Technology should be commercialized so that it can be made available to the farming community through KVK

2)

1. Title of Technology Assessed: **Assessment of different innovative technologies for deterring crop raiding wild elephants**

2. Performance of the Technology on specific indicators: Krishi Rakshak, Panchagavya based Herbal Extract and Bee box

3. Specific Feedback from farmers: Krishi Rakshak LED light placed area of small cardamom plantation was observed crop raiding wild elephant not entered in the field.

4. Specific Feedback from Extension personnel and other stakeholders: Nil

5. Feedback to Research System based on results and feedback received: Nil

3)

1. Title of Technology Assessed: **Assessment of different biological control agents for the management of thrips in small cardamom**

2. Performance of the Technology on specific indicators:

3. Specific Feedback from farmers: Spray of *Lecanicillium psalliotae* applied field of small cardamom was observed less population of thrips when compare with *Steinernema* field.

4. Specific Feedback from Extension personnel and other stakeholders: Nil.

5. Feedback to Research System based on results and feedback received: Nil.

4.D1. Results of Technologies Refined: Nil.

4.D.2. Details of Technologies refined: Nil.

1. Title of Technology Refined

2. Performance of the Technology on specific indicators

3. Specific Feedback from farmers

4. Specific Feedback from Extension personnel and other stakeholders

5. Feedback to Research System based on results/feedback received

PART V - FRONTLINE DEMONSTRATIONS (2019)

5.A. Summary of FLDs implemented

Sl. No.	Category	Farming Situation	Season	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		Farmers (No.)		Farmers (No.)	
									Proposed	Actual	SC/ST	Others	Small/ Marginal	Others

	Oilseeds													
	Pulses													
	Cereals	irrigated	Kharif	Paddy	Sreyas	-	Integrated Nutrient management	Demonstration of Fine Silica in paddy.	2 ha	2 ha	0	05	05	0
		irrigated	Kharif	Paddy	Akshaya	-	Varietal popularization	Demonstration of Akshaya variety of Paddy	2 ha	2 ha	0	05	05	0
	Millets													
	Vegetables	Irrigated	Rabi	Vegetable cowpea	-	Lola	Integrated Nutrient Management	Enhancing Productivity and Nitrogen Use efficiency in cowpea	1 ha	1 ha	0	05	05	0
		Irrigated	Rabi	Vegetable cowpea	-	Lola	Integrated Pest and Disease management	Bio- intensive pest and disease management in cowpea	2 ha	2ha	0	05	05	0
		Irrigated	Rabi	cabbage	-	Quisor	Integrated Nutrient Management	Integrated Nutrient Management in Cabbage.	2 ha	2 ha	05	0	05	0
		Irrigated	Rabi	Bitter Gourd	-	-	Integrated Pest and Disease management	Bio- intensive pest and disease management in Bitter Gourd	2 ha	2 ha	0	05	05	0
		Irrigated	Rabi	Carrot	-	-	Integrated Pest and Disease management	Bio- intensive pest management of root knot nematode and soft rot in carrot.	1 ha	1 ha	05	0	05	0
		irrigated	Rabi	Pepino	-	-	Crop introduction	Cultivation of Pepino (sweet cucumber, melon pear) as an exotic salad vegetables.	0.25 ha	0.25	0	05	05	0
	Flowers													
	Ornamental													
	Fruit	irrigated	Kharif	Banana	Nendran	-	Integrated Nutrient management	Integrated Nutrient management in Banana	1 ha	1ha	0	05	05	0
		irrigated	Perinnial	Kiwi	-	Bruno	Crop introduction	Cultivation of Kiwi Fruit which requires relatively less chilling period.	0.5 ha	0.5 ha	03	0	03	0
	Spices and condiments													
	Commercial													
	Medicinal and aromatic													
	Fodder													

	Plantation													
	Fibre													
	Dairy	Homestead	Throughout the year	Livestock-cattle	Cross bread Jersey & HF-	Cross bread Jersey & HF-	Disease Management	Masti Guard Germicidal Teat protect spray for preventing common Mastitis Bacteria from entering Teat canal and extended Anti-Microbial protection	5	5	0	5	5	0
	Dairy	Homestead	Throughout the year	Livestock-cattle	Cross bread Jersey & HF-	Cross bread Jersey & HF-	Disease Management	Demonstration on Ethno Veterinary medicine for bloat in Dairy cattle	5	5	0	5	5	0
	Dairy	Homestead	Throughout the year	Livestock-cattle	Cross bread Jersey & HF-	Cross bread Jersey & HF-	Disease Management	Demonstration on Estrus Synchronization in Cattle	5	5	0	5	5	0
	Poultry													
	Rabbitry													
	Piggery													
	Sheep and goat													
	Duckery													
	Common carps													
	Mussels													
	Ornamental fishes													
	Oyster mushroom													
	Button mushroom													
	Vermicompost													
	Sericulture													
	Apiculture													
	Implements													
	Other (Amorphophallus)	Irrigated	Summer	Gajendra	-	-	Varietal popularization	Demonstration of acrid free variety of Gajendra in high ranges	0.02	0.02	0	05	05	0
	Others Nutritional garden)	irrigated	Rabi	All suitable Nutritive	-	-	Organic Farming	Implementation of homestead garden, easy	0.2 ha	0.2 ha	05	0	05	0

				vegetables				availability of nutritional plants						

5.A. 1. Soil fertility status of FLDs plots, if analysed

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Season and year	Status of soil			Previous crop grown
										N	P	K	
	Oilseeds												
	Pulses												
	Cereals	Irrigated	Kharif and 2019	Paddy	Sreyas	-	Integrated Nutrient management	Demonstration of fine silica in paddy	Kharif and 2019	H	H	M	Paddy
		Irrigated	Kharif and 2019	Paddy	Akshaya	-	Varietal popularization	Demonstration of Akshaya variety in paddy	Kharif and 2019	H	H	M	Paddy
	Millets												
	Vegetables	Irrigated	Summer 2020	Pepino	Local		Crop introduction	Cultivation of pepino (sweet cucumber, melon pear) as an exotic salad vegetable	Summer 2020	H	H	M	Pepino
		Irrigated	Rabi 2019	Cowpea	-	Lola	INM	Enhancing productivity and nitrogen use efficiency in cowpea	Rabi 2019	H	H	M	Cowpea
		Irrigated	Rabi 2019	Cabbage	-	Quisor	INM	Integrated nutrient management in cabbage	Rabi 2019	H	H	L	Cabbage
		Irrigated	Rabi 2019	Cowpea		Lola	IPDM	Bio-intensive pest and disease management in cowpea	Rabi 2019	H	H	M	Cowpea
		Irrigated	Rabi 2019	Bitter gourd	Local		IPDM	Bio-intensive pest and disease management in bitter gourd	Rabi 2019	H	H	M	Bitter gourd
		Irrigated	Rabi 2019	Carrot	-		IPDM	Bio-intensive pest management of root knot nematode and soft rot in carrot	Rabi 2019	H	H	L	Carrot
	Flowers												
	Ornamental												
	Fruit	Irrigated	Kharif 2019	Banana	Nendran	-	INM	INM in banana	Kharif 2019	H	H	M	Banana
		Irrigated	Perennial	kiwi	Bruno	-	Crop introduction	Cultivation of kiwi fruit which require relatively less chilling period	Perennial	H	H	L	kiwi
	Spices and condiments												
	Commercial												
	Medicinal and aromatic												
	Fodder												
	Plantation												
	Others (Tuber crops)	Irrigated	Summer 2019	Amorphophallus	Gajendra	-	Varietal Popularization	Demonstration of acrid free variety of Gajendra of Amorphophallus in high ranges	Summer	H	H	L	Amorphophallus
	Others	Irrigated	Rabi 2019	All suitable	-	-	Organic farming	Implementation of	Rabi	H	H	L	All suitable

	(Nutritional garden)			nutritive crops				homestead garden, easy availability of nutritional plants							nutritive crops

5.B. Results of FLDs

5.B.1. Crops

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo.	Area (ha)	Yield (q/ha)				% Increase	Economics of demonstration (Rs./ha)			Economics of Check (Rs./ha)		
							Demo			Check		Gross Return	Net Return	BCR	Gross Return	Net Return	BCR
							H	L	A								
Oilseeds																	
Pulses																	
Cereals	Demonstration on the effect of fine silica in iron toxic soils of paddy	Sreyas	-	Irrigated	5	2 ha	680	590	680	510	25	367857	232857	2.72		167800	2.31
	Demonstration on Akshaya variety of paddy	Akshya	-	Irrigated	5	2 ha	710	960	700	511	27	397500	257500	2.83	298910	158910	2.13
Millets																	
Vegetables	Enhancing productivity and nitrogen use efficiency in cowpea	-	Lola	Irrigated	5	1 ha	-	-	-	-	-	Ongoing-flowering stage	-	-	-	-	-
	Bio-intensive pest and disease management in cowpea	-	lola	Irrigated	5	2 ha	-	-	-	-	-	Ongoing-flowering stage	-	-	-	-	-
	INM in cabbage	-	Quisor	Irrigated	5	2 ha	-	-	-	-	-	Ongoing-vegetative stage	-	-	-	-	-
	Bio-intensive pest and disease management in bitter gourd	local	-	Irrigated	5	2 ha	-	-	-	-	-	Ongoing-flowering stage	-	-	-	-	-
	Bio-intensive pest management of root knot nematode and soft rot in carrot	Local		Irrigated	5	1 ha	85	70	75	60	20	112500	72500	2.80	90000	50000	2.25
	Cultivation of pepino (sweet cucumber, melon pear) as an exotic salad vegetable	local	-	Irrigated	5	0.25 ha	-	-	-	-	-	Ongoing-vegetative stage	-	-	-	-	-
Flowers																	
Ornamental																	
Fruit	INM in banana	Nendran	-	Irrigated	5	1 ha	-	-	-	-	-	Ongoing-vegetative stage	-	-	-	-	-
	Cultivation of kiwi fruit which require relatively less chilling period	Bruno	-	Irrigated	3	0.5 ha	-	-	-	-	-	Ongoing-vegetative stage	-	-	-	-	-
Spices and condiments																	

Commercial																	
Fibre crops like cotton																	
Medicinal and aromatic																	
Fodder																	
Plantation																	
Fibre																	
Others (Tuber crops)	Demonstration of acrid free variety of Gajendra in Amorphophallus	Gajendra	-	Irrigated	5	0.02	3500	2900	3000	2500	16	900000	520000	2.4	560000	210000	1.6
Others (Nutrition)	Implementation of homestead garden, easy availability of nutritional plants	All suitable nutritive plants	-	Irrigated	5	0.2 ha	-	-	-	-	-	**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
H – Highest Yield, L – Lowest Yield A – Average Yield

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

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demo**	**Check**
1.Demo on fine silica in paddy		
a. % reduction in iron toxicity	33 %	0
b. Number of Panicles /hill	23 numbers	18 numbers
c. Number of productive tillers/hill	23 numbers	18 numbers
d. Number of grains /panicle	136 numbers	105 numbers
e. pH	3.5	5.9
f. % Chaffiness	15%	35%
g. % of root rot incidence	10 %	25%
2.Demonstration of Akshaya Variety in Paddy		
a. Number of productive tillers/hill	24 numbers	19 numbers
b. Number of Panicles /hill	24 numbers	18 numbers
c. Number of grains /panicle	158 numbers	120 numbers
h. Test weight	29.5 g	25.0 g
1.Demo of acrid free variety of Gajendra in Amorphophallus		
a. Weight of corms/plant	15 kg	10 kg
b. Consumer acceptability	5 in scale unit	4 in scale unit

5.B.2. Livestock and related enterprises

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Name of the parameter with unit	Yield (kg/animal)				% Increase	*Economics of demonstration Rs./unit)			*Economics of check (Rs./unit)		
						Demo			Check if any		Gross Return	Net Return	** BCR	Gross Return	Net Return	** BCR
						H	L	A								

Dairy	Demonstration on ethno veterinary (EVM) for bloat in dairy cattle	Cross bred Jersey &HF	5	5	Milk Yield (l)	7773	4589	4175.2	3417.89	18.13	152981.68	65982	1.85	125240.8	47840.82	1.67
	Masti Guard germicidal teat product spray for preventing common mastitis bacteria from entering teat canal and extended antimicrobial protection	Cross bred Jersey & HF	5	5	Milk Yield (l)	6304.05	3049	3381.50	2586.35	24	118236.64	52236.64	1.77	90349.62	35749.62	1.59
	Demonstration on estrous synchronization in cattle	Cross bred Jersey & HF	5	5	ongoing											
Poultry																
Rabbitry																
Pigerry																
Sheep and goat																
Duckery																
Others (pl.specify)																

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

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

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demo**	**Check if any**
1.Demonstration on ethno veterinary (EVM) for bloat in dairy cattle		
a. Treatment Duration (Days)	1.5	3
b. Days of Recovery (Days)	2	3.5
2.Mastiguard germicidal teat product spray for preventing common mastitis bacteria from entering teat canal and extended antimicrobial protection		
a. Quantity of Milk production (l)	957.84	728
b. Quality- Fat (%)	3.89	3.28
c. Quality- SNF (%)	7.75	7.34
d. Incidence of Mastitis (%)	0	14

5.B.3. Fisheries: Nil.

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

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

5.B.4. Other enterprises: Nil.

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

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

Sl. No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	6	176	-
2	Farmers Training	33	549	-
3	Media coverage	8	Mass	-
4	Training for extension functionaries	1	51	-
5	Others (Extension Activities)	98	724	-

PART VI – DEMONSTRATIONS ON CROP HYBRIDS (2019): Nil

PART VII. TRAINING (2019)

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/Irrigation										
Seed production										
Nursery management	1	19	10	29	8	12	20	27	22	49
Integrated Crop Management	1	59	5	64	2	0	2	61	5	66
Soil and Water Conservation										
Integrated Nutrient Management	2	41	0	41	11	0	11	52	0	52
Production of organic inputs										
Others (pl.specify)										
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (Organic farming)	7	384	92	476	46	54	100	430	146	576
Others (pl.specify)										
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										

Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl.specify)										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl.specify)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
f) Spices										
Production and Management technology	2	130	14	144	0	0	0	130	14	144
Processing and value addition										
Others (pl.specify)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl.specify)										
Soil Health and Fertility Management										
Soil fertility management	2	41	10	51	14	16	30	55	26	81
Integrated water management										
Integrated nutrient management	1	10	0	10	0	0	0	10	0	10
Production and use of organic inputs										
Management of Problematic soils	2	7	1	8	34	17	51	41	18	59
Micro nutrient deficiency in crops	1	12	5	17	7	2	9	19	7	26
Nutrient use efficiency	1	9	4	13	5	12	17	14	16	30
Balanced use of fertilizers	1	20	2	22	0	0	0	20	2	22
Soil and water testing										
Others (pl.specify)										
Livestock Production and Management										

Dairy Management	1	2	13	15	0	0	0	2	13	15
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Animal Disease Management										
Feed and Fodder technology										
Production of quality animal products										
Others (pl.specify)										
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking	1	23	28	51	3	3	6	26	31	57
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	1	0	7	7	0	0	0	0	7	7
Women empowerment										
Location specific drudgery production										
Rural Crafts										
Women and child care										
Others (pl.specify)										
Agril. Engineering										
Farm machinery and its maintenance	1	44	0	44	0	0	0	44	0	44
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl.specify)										
Plant Protection										
Integrated Pest Management	2	76	9	85	5	0	5	81	9	90
Integrated Disease Management	1	40	0	40	0	0	0	40	0	40
Bio-control of pests and diseases	1	27	0	27	0	0	0	27	0	27
Production of bio control agents and bio pesticides	2	48	0	48	28	6	34	76	6	82
Others (pl.specify)										
Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										

Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl.specify)										
Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production	1	5	0	5	17	21	38	22	21	43
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production	2	19	6	25	25	19	44	44	25	69
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production										
Apiculture										
Others (pl.specify)										
CapacityBuilding and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
Others (pl.specify)										
Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (Pl. specify)										
TOTAL	**34**	**1016**	**206**	**1222**	**205**	**162**	**367**	**1221**	**368**	**1589**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/Irrigation										
Seed production										
Nursery management	1	1	0	1	3	7	10	4	7	11
Integrated Crop Management	1	39	0	39	0	0	0	39	0	39
Soil and Water Conservation										
Integrated Nutrient Management	1	24	27	51	0	0	0	24	27	51
Production of organic inputs										
Others (pl.specify)										
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop	1	50	0	50	0	0	0	50	0	50
Off-season vegetables	2	0	0	0	24	17	41	24	17	41
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (Specify)										
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit	1	0	0	0	27	14	41	27	14	41
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl.specify)										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										

Others (pl.specify)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
f) Spices										
Production and Management technology	4	156	85	241	0	0	0	156	85	241
Processing and value addition										
Others (Organic farming)	3	118	15	133	7	4	11	125	19	144
Others (pl.specify)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl.specify)										
Soil Health and Fertility Management										
Soil fertility management	4	69	18	87	0	0	0	69	18	87
Integrated water management										
Integrated nutrient management	1	21	12	33	0	0	0	21	12	33
Production and use of organic inputs										
Management of Problematic soils	1	3	30	33	0	0	0	3	30	33
Micro nutrient deficiency in crops										
Nutrient use efficiency	1	33	0	33	6	2	8	39	2	41
Balanced use of fertilizers	2	5	5	10	23	3	26	28	8	36
Soil and water testing	2	51	2	53	0	0	0	51	2	53
Others (pl.specify)										
Livestock Production and Management										
Dairy Management	5	30	50	80	88	39	127	118	89	207
Poultry Management	3	20	25	45	41	36	77	61	61	122
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Animal Disease Management	5	30	56	86	38	2	40	68	58	126
Feed and Fodder technology										
Production of quality animal products										
Others (Goat)	1	3	28	31	0	3	3	3	31	34
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	2	0	0	0	1	24	25	1	24	25

Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs	1	2	20	22	0	0	0	2	20	22
Storage loss minimization techniques										
Value addition	5	33	101	134	1	4	5	34	105	139
Women empowerment										
Location specific drudgery production										
Rural Crafts	35	0	328	328	0	236	236	0	564	564
Women and child care										
Others (pl.specify)										
Agril. Engineering										
Farm machinery and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl.specify)										
Plant Protection										
Integrated Pest Management	2	66	27	93	0	0	0	66	27	93
Integrated Disease Management										
Bio-control of pests and diseases	1	20	0	20	0	0	0	20	0	20
Production of bio control agents and bio pesticides										
Others (pl.specify)										
Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl.specify)										

Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production										
Apiculture	2	0	0	0	230	100	330	230	100	330
Others (pl.specify)										
CapacityBuilding and Group Dynamics										
Leadership development	1	40	0	40	0	0	0	40	0	40
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital	1	39	0	39	0	0	0	39	0	39
Entrepreneurial development of farmers/youths										
Others (Extension methods and Rural credit)	2	77	3	80	0	0	0	77	3	80
Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (Pl. specify)										
TOTAL	**91**	**930**	**832**	**1762**	**489**	**491**	**980**	**1419**	**1323**	**2742**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production	1	19	10	29	8	12	20	27	22	49
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl.specify)										
TOTAL	**1**	**19**	**10**	**29**	**8**	**12**	**20**	**27**	**22**	**49**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs	1	29	5	34	0	0	0	29	5	34
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl.specify)										
TOTAL	**1**	**29**	**5**	**34**	**0**	**0**	**0**	**29**	**5**	**34**

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

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

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs	1	40	0	40	0	0	0	40	0	40
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization	1	20	5	25	0	0	0	20	5	25
Information networking among farmers										
Capacity building for ICT application	1	77	3	80	0	0	0	77	3	80
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify)										
Total	**3**	**137**	**8**	**145**	**0**	**0**	**0**	**137**	**8**	**145**

7.G. Sponsored training programmes conducted

S.No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	**Crop production and management**										
1.a.	Increasing production and productivity of crops										
1.b.	Commercial production of vegetables	3	75	15	90	35	17	52	110	32	142
2	**Production and value addition**										
2.a.	Fruit Plants										
2.b.	Ornamental plants										
2.c.	Spices crops										
3.	**Soil health and fertility management**	1	25	9	34	0	0	0	25	9	34
4	**Production of Inputs at site**										
5	**Methods of protective cultivation**										
6	**Others (pl.specify)**										
7	**Post harvest technology and value addition**										
7.a.	Processing and value addition	2	0	0	0	0	28	28	0	28	28
7.b.	Others (pl.specify)										
8	**Farm machinery**										
8.a.	Farm machinery, tools and implements										
8.b.	Others (pl.specify)										
9.	**Livestock and fisheries**										
10	**Livestock production and management**										
10.a.	Animal Nutrition Management	1	9	1	10	39	19	58	48	20	68
10.b.	Animal Disease Management										
10.c	Fisheries Nutrition										
10.d	Fisheries Management										
10.e.	Others (pl.specify)										
11.	**Home Science**										
11.a.	Household nutritional security										
11.b.	Economic empowerment of women										
11.c.	Drudgery reduction of women										
11.d.	Others (pl.specify)										
12	**Agricultural Extension**										
12.a.	CapacityBuilding and Group Dynamics										
12.b.	Others (pl.specify)										
	Total	**7**	**109**	**25**	**134**	**74**	**64**	**138**	**183**	**89**	**272**

Details of sponsoring agencies involved

1. Department of Agriculture - Vegetable Development Programme (VDP)
2. IFFCO
3. Coffee Board
4. DIC, Idukki
5. Oxfam, Thadiyampadu

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

S.No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	**Crop production and management**										
1.a.	Commercial floriculture										
1.b.	Commercial fruit production										
1.c.	Commercial vegetable production										
1.d.	Integrated crop management										
1.e.	Organic farming										
1.f.	Others (pl.specify)										
2	**Post harvest technology and value addition**										
2.a.	Value addition										
2.b.	Others (pl.specify)										
3.	**Livestock and fisheries**										
3.a.	Dairy farming										
3.b.	Composite fish culture										
3.c.	Sheep and goat rearing										
3.d.	Piggery										
3.e.	Poultry farming										
3.f.	Others (pl.specify)										
4.	**Income generation activities**										
4.a.	Vermi-composting										
4.b.	Production of bio-agents, bio-pesticides, bio-fertilizers etc.										
4.c.	Repair and maintenance of farm machinery and implements	1	16	12	38	0	0	0	16	12	38
4.d.	Rural Crafts										
4.e.	Seed production										
4.f.	Sericulture										
4.g.	Mushroom cultivation										
4.h.	Nursery, grafting etc.										
4.i.	Tailoring, stitching, embroidery, dying etc.										
4.j.	Agril. para-workers, para-vet training										
4.k.	Others (pl.specify)										
5	**Agricultural Extension**										
5.a.	Capacity building and group dynamics										
5.b.	Others (pl.specify)										
	Grand Total	**1**	**16**	**12**	**38**	**0**	**0**	**0**	**16**	**12**	**38**

7.I. Details of Skill Training Programmes carried out by KVKs under ASCI

S. No.	Name of Job Role	Date of Start	Date of Close	Total Participants	No. of Participants									Date of Assessment	No of Participants passed assessment
					General			SC/ST			Grand Total				
					Male	Female	Total	Male	Female	Total	Male	Female	Total		
1.	Mushroom Grower	18-02-2019	20-03-2019	20	5	8	13	2	5	7	7	13	20	21-03-2019	15
2.	Beekeeper	21-01-2019	27-03-2019	20	18	1	19	1	0	1	19	1	20	27-03-2019	20

PART VIII – EXTENSION ACTIVITIES (2019)

8.1. Extension Programmes (including extension activities undertaken in FLD programmes)

Nature of Extension Programme	No. of Programmes	No. of Participants (General)			No. of Participants SC / ST			No. of extension personnel		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	6	88	57	145	10	5	15	10	6	**16**
Kisan Mela	0	0	0	0	0	0	0	0	0	**0**
Kisan Ghosthi	0	0	0	0	0	0	0	0	0	**0**
Exhibition	1	4	117	121	0	0	0	13	7	**20**
Film Show	0	0	0	0	0	0	0	0	0	**0**
Method Demonstrations	40	365	113	478	19	13	32	13	0	**13**
Farmers Seminar & Workshop	4	79	13	358	16	39	55	16	2	**18**
Group meetings	29	40	196	236	41	139	180	4	54	**58**
Lectures delivered as resource persons	1	21	10	31	2	2	4	2	0	**2**
Newspaper coverage	8	0	0	0	0	0	0	0	0	**0**
Radio talks	1	0	0	0	0	0	0	0	0	**0**
TV talks	0	0	0	0	0	0	0	0	0	**0**
Popular articles	0	0	0	0	0	0	0	0	0	**0**
Extension Literature	0	0	0	0	0	0	0	0	0	**0**
Advisory Services	66	302	95	397	35	20	55	13	3	**16**
Scientific visit to farmers field	73	184	64	248	5	38	43	0	0	**0**
Farmers visit to KVK	561	1472	222	1694	213	184	397	37	7	**44**
Diagnostic visits	39	58	11	69	2	0	2	3	0	**3**
Exposure visits	1	50	0	50	0	0	0	3	0	**3**
Ex-trainees Sammelan	2	48	11	59	0	0	0	2	0	**2**
Soil health & Test Campaign	6	259	72	331	41	11	52	4	2	**6**
Animal Health Camp	0	0	0	0	0	0	0	0	0	**0**
Agri mobile clinic	0	0	0	0	0	0	0	0	0	**0**
Farm Science Club Conveners meet	2	110	12	122	2	2	4	4	2	**6**
Self Help Group Conveners meetings										
Mahila Mandals Conveners meetings	0	0	0	0	0	0	0	0	0	**0**
Celebration of important days	7	119	64	183	50	21	71	7	1	**8**
Any Other (Formation of SHGs)	3	0	13	13	0	14	14	0	5	**5**
Any Other (Bimonthly Meeting)	1	0	0	0	0	0	0	66	0	**66**
Total	**851**	**3199**	**1070**	**4535**	**436**	**488**	**924**	**197**	**89**	**286**

8.2 Special Extension Programmes

Nature of Extension Programme	Date(s) conducted	No. of farmers (General)			No. of farmers SC / ST			No. of extension personnel		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Jal Shakti Abhiyan	-	0	0	0	0	0	0	0	0	0
Fertilizer Use Awareness Campaign	22-10-2019	110	73	183	0	0	0	6	1	7
National Animal Disease Control Programme	11-09-2019	54	13	67	0	0	0	3	1	4
Tree Plantation Campaign	17-09-2019	20	15	35	0	0	0	6	5	11
Any other (Swachhta Pakhwada)	16-12-2019 to 31-12-2019	132	640	772	0	0	0	29	24	53

PART IX – PRODUCTION OF SEED, PLANT AND LIVESTOCK MATERIAL (2019)

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

Crop category	Name of the crop	Name of the Variety	Name of the Hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers to whom provided
Cereals (crop wise)						
Oilseeds						
Pulses						
Commercial crops						
Vegetables						
Flower crops						
Spices						
Fodder crop seeds						
Fiber crops						
Forest Species						
Others (specify)						
Total						

9.B. Production of planting material by the KVKs

Crop category	Name of the crop	Variety	Hybrid	Number	Value (Rs.)	Number of farmers to whom provided
Commercial						
Vegetable seedlings						
Fruits	Kadaplavu	Local	-	4	640	4
	Cashew	Local	-	4	1700	4
	Butter fruit	Avacado	-	4	2000	4
	Rambuttan	E35	-	4	1850	4
	Chaamba	Roseapple	-	7	2100	7
	Ari Nelli	Local	-	4	200	4
	Papaya	Redlady	-	5	390	5
	Sweet Athi	-	Fig sweet	5	780	5
	Jack	Maleshian	-	5	1250	5
	Orange	Local	-	5	750	5
	Mango	Tayland	-	2	500	2
	Mangostin	Local	-	2	800	2
	Chaamba	Small Local	-	1	600	1
	Lime	Local	-	2	280	2
	Apple Green	Local	-	2	700	2
	Custard	Mullatha	-	2	200	2
Ornamental plants	Arali	Miniature	-	3	300	2
	Chenbagam	Local	-	2	400	3
	Chrysanthemum	Local	-	9	820	6
	Chethi	Local	-	3	300	1
	Poinsettia	Local	-	7	1400	7
	Petunia	Local	-	1	250	1
	Orchid	Local	-	1	250	1
	Shrub	Local	-	1	150	1
	Bush	Local	-	1	150	1
	Fern	Local	-	2	120	2

	Mayuuri	Local	-	1	120	1
	Balsam	Local	-	10	20	2
	Bougainville	Local	-	3	450	3
	Rose	Local	-	7	700	10
	Rose	Miniature	-	1	150	1
	Gerbera	Big	-	2	200	2
	Creepers	Violet	-	1	40	1
	Duranda	Local	-	1	80	1
	Marigold	Local	-	2	160	2
Medicinal and Aromatic						
Plantation						
Spices	Black Pepper	Karimunda	-	1866	25222	65
		Panniyoor-1	-	2040	21980	58
		Kottakodiyan	-	182	2040	15
		Panniyoor- 5	-	1302	15624	50
	Small cardamom	Njallany	-	170	8500	2
	Clove	Local	-	16	1240	16
	Curry Leaf	Local	-	2	120	2
	Red chilly	Local	-	1	60	1
Tuber						
Fodder crop saplings						
Forest Species						
Others(specify)						
Total				**5695**	**95586**	**315**

9.C. Production of Bio-Products

Bio Products	**Name of the bio-product**	**Quantity (q)**	**Value (Rs.)**	**Number of farmers to whom provided**
Bio Fertilizers	VAM	17.85	178450	395
	Arka microbial consortium	13.94	197050	298
	Phosphobacteria (Solid form)	6.99	103100	181
	Potash bacteria	7.84	104450	210
	Vermi compost	0.31	465	5
	Azospirillum (Solid form)	9.25	109500	194
Bio-pesticide	Metarhizium	6.06	82845	268
	Beauveria	6.82	91105	363
	EPN	2.00	152700	193
	Neem	6.99	136400	284
Bio-fungicide	*Trichoderma viride*	14.27	187170	406
	Paecilomyces	6.15	172500	377
Bio Agents	Pseudomonas	18.14	250920	521
	Decomposer	0.69	20700	19
	PPFM	2.22	66600	65
	EM-Solution	8.01	187600	301
Others (Mushroom Spawn)	Oyster Mushroom spawn	0.23	3790	8
Total		**127.8**	**2045345**	**4088**

9.D. Production of livestock: Nil.

Particulars of Livestock	Name of the breed	Number	Value (Rs.)	Number of farmers to whom provided
Dairy animals				
Cows				
Buffaloes				
Calves				
Others (Pl. specify)				
Poultry				
Broilers				
Layers				
Duals (broiler and layer)				
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				
Piggery				
Piglet				
Others (Pl.specify)				
Fisheries				
Fingerlings				
Others (Pl. specify)				
Total				

PART X – PUBLICATIONS, SUCCESS STORY, INNOVATIVE METHODOLOGY, ITK, TECHNOLOGY WEEK

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

(A) KVK Newsletter:
Date of start:_6-12-2018 Periodicity: Annual Copies printed in each issue:500

(B) Literature developed/published

Item	Number
Research papers- International	0
Research papers- National	0
Technical reports	0
Technical bulletins	4
Popular articles - English	0
Popular articles – Local language	0
Extension literature	17
Others (Pl. specify)	
TOTAL	**21**

10.B. Details of Electronic Media Produced

S. No.	Type of media	Title	Details
	CD / DVD	-	-
	Mobile Apps	-	-
	Social media groups with KVK as Admin	Karshaka Koottayma KVK IDK Cardamom group	Whatsapp group with 29 participants of Idukki cardamom growers started on 04.05.2017 Whatsapp group with 183

			participants of Idukki cardamom growers started on 15.07.2019
		PKVY Group KVK Idukki	Whatsapp group with 50 participants of Idukki organic farmers started on 13.12.2019
		Naalikera Karshakar KVK Santhanpara	Whatsapp group with 43 participants of Idukki coconut growers started on 11.12.2019
		DAESI group 2020	Whatsapp group with 48 participants of Idukki Agri. Input dealers started on 10.01.2020
	Face book account name	ICAR KVK Santhanpara, Idukki	Face book account with 394 friends were KVK activities are updated
	Instagram account name	-	-
	You tube channel name	ICAR-KrishiVigyan Kendra BSS, Santhanpara, Idukki	You tube channel created on 15.12.2019

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

1. Title of the success stories: Biological Control of Cardamom Root Grub Management with Entomo Pathogenic Nematodes (EPN)

Details of success stories:

1.Background

Cardamom, well deservingly known as the 'Queen of spices' is one of the biggest revenue generator for the Kerala state, and Idukki is one of the largest cardamom markets in the world. As the largest producer and exporter of cardamom in India, the district has created an assiduous industry around the spice. Cardamom plays a distinct role in Kerala culture and its powder form are used as flavoring agents around the world in everything from baked foods and confectionaries to savory dishes. However, just like every other crop, cardamom is susceptible to the attack of pests and diseases. Cardamom root grub, *Basileptafulvicorne Jacoby* is a major pest of cardamom widely noticed in nurseries and main fields of Kerala. It is a serious pest damaging cardamom roots, causing 70% yield loss under various levels of infestation. The grubs feed and damage roots and portions of rhizomes; sometimes the entire root system is eaten away. The pest has been managed with chemical pesticides *viz.* Chlorpyrifos or Phorate. Due to the highly toxic nature, the Government of Kerala has now imposed a ban on these pesticides.

In such a scenario, KVK Santhanpara, has come up with a novel initiative of controlling this damaging pest with the help of Entomo Pathogenic Nematodes (EPN). Entomo Pathogenic Nematodes are a group of nematodes (thread worms), causing death to insects. They carry symbiotic bacteria and represent one of the best non chemical strategies for pest management. The program which had its inception in the year 2011, continued till 2019 and proved to be successful in controlling the most dreaded pest of cardamom in Idukki.

2.Source of Technology : ICAR- NBAIR

3.Intervention process

- Availability of all the basic input resources
- Project formulation and onward submission to District Panchayat for grant.

- Hands-on training on EPN production and usage
- Timely intervention on different stages of growth of cardamom.
- Advisory services.
- Follow-up visits and technical support as and when required.

3.Intervention Technology

- Created a platform, where farmers could understand the various stages of the pest attack and the mode of application of EPN.
- The technology was initiated in the year 2011 in 690 ha of small cardamom benefiting more than 13070 farmers.
- Between 2011 and 2019, several trainings, On Farm Trials and Field Demonstrations were organized by the KVK to make the farmers skilled and proficient in biological control of Cardamom root grub by EPN.
- Timely intervention was provided not just for farming activities, but also for allied support inventory.

4.Impact - Horizontal Spread

KVK intervention to increase the utilization of EPN among the farmers saw a tremendous rise in the area under EPN technology. In Senapathy, the area under EPN technology has increased from 2ha to 50 ha after KVK intervention. Similarly, the area has increased from 35 to 160 ha in Konnthady, 100 to 345 ha in Bison Valley, 180 to 690 ha in Nedumkandam and in Santhanpara, the area has remained the same. Over the years, the number of farmers who adopted the technology for the pest control also increased steadily. This has reduced the cost of cultivation at the farmers end, making the demand increase every year.

5. Impact- Vertical spread.

The impact of EPN on the control of cardamom root borer is reflected in the production and productivity of cardamom during the trial period. From the year 2011, the cardamom production and productivity increased steadily. During the year 2011-12, the production and productivity of cardamom was 824 kg/ha and 3.94 q/ha respectively. It increased to 912 kg/ha and 4.68 q/ha in 2012-13, 1022 kg/ha and 4.90 q/ha in 2013-14 and 1120kg/ha and 5.50 q/ha in 2014-15. However, the production and productivity declined to 904 kg/ha and 4.38 q/ha in 2015-16 due to erratic climatic conditions like increased day temperature and acute drought. When the climatic conditions became favorable, the production and productivity again increased to 1175 kg/ha and 5.61 q/ha in 2016-17 and 1282 kg/ha and 5.72 q/ha in 2017-18. The production faced a steep decline in 2018- 19 due to the worst floods we have seen in this century.

6.Impact - Economic Gains

An economic analysis was conducted to study the impact of adoption of EPN over the economic returns of the farmers. It was found that, there was a 98% reduction in root grub attack in EPN adopted fields when compared to the fields with chemical application. The gross returns obtained per ha by the adoption of EPN was 7,76,000 rupees and it was only 4,88,000 with chemical application. Even though the cost of application was higher compared to the local practice with chemicals, the Benefit Cost ratio was higher in the case of EPN demonstration (2.16) than in the case of chemical application (1.57)

Conclusion

Soil application of EPN infected *Galleria* cadavers implanted @ 4 cadavers /plant was effective in controlling cardamom root grub and the technology is well accepted by the farmers in Idukki district of Kerala. The identified potential of the EPN indicated the scope for utilization of EPN as a bio-control agent for Cardamom root grub management

Steps for Scaling –up:

- Large Scale demonstrations in convergence with State Department of Agriculture will be conducted
- The KVK will ensure that the majority of the growers are benefited by such programmes.
- EPN used for plant protection will be supplied to the marginal, financially weak and small growers on credit basis and that too at a subsidized rate.




2. Title of the success stories: Control of Cardamom Stem borer/ Capsule borer/Panicle borer Management with different bio-pesticides and parasites

Details of success stories:

1.Background

High Ranges of Kerala is famous for its variety of spices. Cardamom is one of the main spices produced here. It is one of the most exotic and highly priced spices and Indian cardamom has a history as old as human civilisation. Cardamom is often named as the third most expensive spice in the world after saffron and vanilla. In Kerala, Idukki district provides all the favorable conditions for the growth of cardamom. Differential cultivation patterns make Idukki cardamom highly unique in the national and international markets**.**

Unfortunately, presence of high level of pesticide residues has decreased the export of cardamom by 80% from India and the analytical test reports from Pesticide Residue Research and Analytical Laboratory, College of Agriculture, Vellayani, Thiruvananthapuram have justified the occurrence of such residues.

The crop is prone to infestation by various insect pests like cardamom stem borer, which deteriorate the quality of the produce and this necessitates frequent application of pesticides even at 15-20 days interval towards the capsule bearing spikes. Current agricultural practices for intensive cardamom production focus on boosting cardamom yields by adequate supply of nutrients and blanket application of available pesticides for tackling insect pests. Moreover, the farmers are unaware of the various aspects of pesticide application including dosages, time of application, precautions to be taken, methods of storage and disposal of containers. Spraying pesticides resulted in large-scale environmental pollution, mortality of bees, and other pollinators and birds besides animal and human health problems.

Considering the gravity of the situation**,** the KVK Santhanpara, has decided to take up the management of Cardamom Stem borer with different bio-pesticides and parasites. The major objective of such an initiation was to reduce the trend of pesticide application among the farmers by making them aware regarding the ill effects of pesticide usage and its consequences on health and environment.

2. Source of Technology: ICAR-NBAIR & Indian Cardamom Research Institute

3.Intervention process

- Accessibility to the technology and availability of all basic resources
- Project formulation and onward submission to District Panchayat for grant.
- Hands-on training on bio pesticide production and usage
- Identification and culture of beneficial parasites
- Timely intervention on different stages of growth of cardamom.
- Advisory services.
- Follow-up visits and technical support as and when required.

3.Intervention Technology

- Provided an opportunity, where farmers could understand the various methods of production of organic pesticides.
- The technology was initiated during the years 2015-16 in 365 ha of small cardamom benefiting more than 1260 farmers.
- Between 2015 and 2018, in order to popularise these organic methods of pest control among the farmers, KVK has conducted more than 10 On Farm Trials, 50 Field Level Demonstrations and 1200 trainings.
- During the period of trial and applications, the major interventions that were taken up includes spraying of *Bacillus thuringiensis* @ 2g/L of water at First - instar larvae stage, spraying of *Beauveria bassiana* @ 5g/L of water at 3rd& 4th instar larvae and Adult stage, releasing of *Apantele sp.* @ 20000 Larval parasites /ha at 2nd& 3rd instar larvae and releasing of Friona sp @ 20000 Larval parasites /ha in effective control of stem borer and thrips.
- Timely intervention, was provided not just for farming activities, but also for allied support inventory.

4.Impact - Horizontal Spread

Before the intervention of KVK, only nominal farmers were adopting bio control methods in pest management. However after the well needed intervention of KVK, the area under bio intensive pest management took a positive hike. In Senapathy, the area has increased from 0 ha to 15 ha after KVK intervention. Similarly, the area has increased from 0 to 52 ha in Parathode, 04 to 69 ha in Santhanpara, 25 to 94 ha in Kattappana and 08 to 125 ha in Udumbanchola. The positive impact of the KVK intervention is visible from the data which shows the increase in area under bio control.

5. Impact - Vertical spread.

In this case, the popular notion that only commercial chemical pesticides can effectively control the pests has been proved otherwise. The data of production and productivity during the years 2015 to 2019 reveals that bio intensive pest management if put into proper use can give us good yield, returns and a less poisonous environment. Even though the farming community suffered decreased production and productivity during the year 2015-16 due to climatic vagaries, the production and productivity steadily increased to 1065 kg/ha and 4.71 q/ha in 2016- 17 and 1104kg/ha and 4.81 q/ha during 2017-18. The production again took a negative turn during 2018-19, due to the deadly Kerala floods of 2018 and 19.

6.Impact - Economic Gains

Every project and program is incomplete without an economic appraisal and it is not viable if it fails to provide economic returns to the farmer. As per the economic analysis conducted it was found that even in this first phase of application of bio pesticides, there was a 30% reduction in stem borer infestation. The gross costs incurred per ha by the adoption of bio pesticides was only 2, 69,000 rupees which is less when compared to the 390000 rupees incurred for the chemical application. Moreover, the gross returns obtained by the farmer is 6,45,000 rupees per ha which is much higher when compared to the revenue obtained by chemical application at the cost of deteriorating environment. With a BC ratio of 2.39 when compared to 1.46 BC ratio of chemical application, we can strongly recommend this bio intensive pest management as a viable and eco-friendly alternative.

Conclusion

*Bacillus thuringiensis var kurstaki*was found to be effective when used in combination with *Beauveria bassiana*. *Bacillus thuringiensis var kurstaki* sprays in combination with the releases of parasites *Apantele* sp. and *Friona* sp. gave effective control of stem and capsule borer and the technology is well accepted by the farmers in Idukki district of Kerala. With the advent and popularization of these technologies, the number of farmers who adopted the bio intensive pest management has increased and the number of chemical pesticides in use has decreased from 14 to 6, thereby paving the way for a healthy and resilient farming system.

Steps for Scaling – up:

- Large Scale demonstrations will be conducted in convergence with ATMA-Idukki.
- The KVK will ensure that the majority of the growers are benefited by such programmes.
- Trainings for popularizing such eco- friendly, bio control methods will be organized frequently
- Brochures and other literary works will be published to give the farmers a quick summary
- Feedback will be obtained and their constraints will be met on a timely basis

3. Title of the success stories: Doubling Income of Small Cardamom Farmer of Idukki District, Kerala through Pollination Service by *Apiscerna indica Colonies* and Value Addition of bee products

Details of success stories:

1. Background

Spices are important as earners of foreign exchange, as employer of labour, as a provider of revenue to the State and Central Government and as the most progressive of agricultural sectors in India. Among the various spices,

cardamom, occupies a place of indubitable importance. Small cardamoms or green cardamoms are the 'true' dried cardamom and are sweetly fragrant with a slightly pungent flavour and they are cultivated on a large scale in Idukki district of Kerala. Unfortunately, cardamom cultivation is uneconomical on account of low productivity and fluctuating prices. Even then, farmers are compelled to stick on to this crop because the terms of lease or permit does not allow them to divert to other profitable crops or they are unaware regarding the alternative livelihood options. The major reason identified for low productivity in Cardamom was inadequate pollination and inadequate pollination in crops is due to several factors including lack of adequate number and diversity of pollinators.

When, KVK Santhanpara identified these problems of Small Cardamom cultivation, they came up with such a solution that can rectify the two problems of low productivity and absence of viable livelihood option, i.e. Bee keeping. Apiculture in small cardamom plantations can provide adequate number of pollinators and it can also generate additional revenue to the farmers.

Training programmes were organized during 2013-14 for bee farming and value addition of bee products. Of the many participants, Mr. Raju from Rajakumari, adopted this venture on a large scale and is one of the most successful bee farmers of the District. Mr. Raju learnt bee-farming and value addition with the technical support of KVK and he started beekeeping in 2007 with the financial support from KVK. He started with an initial investment of Rs.10, 000 and twenty boxes to rear the bees. Even though the initial years were of struggle and hardships, Raju now earns about one lakh rupee per month, and rears bees in more than 22,000 boxes and also runs a High range Beekeeping Society in Idukki. His marketing network is extended to all the 14 districts in Kerala and he has become a familiar face of Bee keeping across the country.

2. Intervention process

- Feasibility assessment of the site earmarked for bee keeping
- Availability of all the basic input resources
- Project formulation and onward submission to District Panchayat for grant.
- Hands-on training on bee farming and value addition of bee products.
- Intervention for getting adequate sales tenders
- Advisory services.
- Follow-up visits and technical support as and when required.

3. Intervention Technology

- Created a platform, where farmers could conduct a SWOT analysis, and identify the areas of strength and opportunities.
- Farmers with entrepreneurial urge and vision is supported both technically and financially to promote result oriented agri-business concepts.
- Timely intervention, not just for farming activities, but also for allied support inventory.
- Corrective deliberations and fool proof measures in all the stages of entrepreneurial development.

4.Impact - Horizontal Spread

The high range bee keeping society, is now providing newer employment opportunities and sources of additional income for the farmers. This is evident from the increase in the number of bee colony frames that has been sold over the years from 2014 to 2019.

5.Impact Economic Gains

An economic gain of around Rs. 67.56 lakhs per annum is now being realized on an average from the sale of honey and bee colonies alone.. Moreover an annual income of Rs. 27.16 lakhs is obtained from the value added products of honey namely amla honey, Honey with Garlic & Ginger, Honey with Pomegranate, Pollen, Royal Jelly and Bee Wax

6.Impact on Employment Generation

Agriculture is now being progressively considered as an uneconomical venture and the younger generation is hesitant to take up agriculture as a livelihood option. This is mainly due to the decreased productivity, uncertain climatic

conditions, and low prices. But this situation can be changed, if there are alternative livelihood options in agriculture. In such a scenario, one such major sector that demands attention is value addition. In this case bee farming along with value addition of bee products is providing employment opportunities to many. Those benefitted through these ventures are indirectly getting hands on experience also to be independent at a point of time. It also acts as a knowledge hub of bee keeping and processing, that will ultimately benefit the farming community of the district.

Conclusion:

Bee farming, even though an age old practice its potential is still not exploited on a large extent. Through the demonstration practices conducted by the KVK, it was found that, it is not only a profitable enterprise but can also boost the production of small carsamom by acting as a source of pollinators. The unknown vistas of apiculture or bee farming need to be researched upon as it can be a viable livelihood option for many.

Scaling up:

- Frequent demonstrations regarding setting upmof bee hives, honey harvesting and production of value added products will be conducted.
- Active participation of farm women and youth will be ensured to provide them a stable souurce of income.
- Trainings will be conducted for the dissemination of new information and upgradation of the old
- Brochures and other literary works will be published to give the farmers a quick summary
- Feedback will be obtained and their constraints will be met on a timely basis

4. Title of the success stories: Revitalization of rice farming in Idukki District with high yielding Akshaya variety of rice

Details of success stories:

1. Background

The agriculture in Kerala has undergone significant structural changes in the form of decline in the share of Gross State Domestic Product and commercialization of agriculture. The gross cropped area and the net sown area in the state have declined over a period of time. During 1999-2000, and 2017-18 districts like, Idukki, Ernakulum,

Palakkad, Wayanad and Kannur districts have shown declining growth rate in area under paddy cultivation which is less than the state average. Idukki, known as the spice bowl of the state have shown declining trends in both area and production.

To bring about a change in this negative trend, and to create an awareness regarding the importance of rice cultivation in maintaining ecological balance, KVK, Idukki has started a demonstration on cultivation of Akshaya variety of rice in 2019-20. Akshaya (PTB-62), is developed from the two varieties of Pranav and Chettadi by Regional Agricultural Research station, Pattambi. Akshaya with a better yield than Uma, Swetha and Karuna will help to bring back the lost glory of Idukki in rice cultivation

2. Source of Technology: Regional Agricultural Research station, Pattambi

3.Intervention process

- Accessibility to the technology and availability of all basic resources
- Timely intervention on different stages of growth of Rice
- Advisory services.
- Follow-up visits and technical support as and when required.

3.Intervention Technology

- The demonstration was initiated during the years 2019-20 in 2 ha of area with a broad vision to bring back the farmers to rice cultivation.
- Between 2019 and 2020, in order to educate the farmers regarding the various requisites of rice production, KVK has conducted numerous trainings regarding the production practices of Akshaya variety of Rice.
- Timely intervention, was provided not just for farming activities, but also for allied support inventory.

4.Impact - Horizontal Spread

Before the intervention of KVK, rice cultivation was almost getting wiped away from the agricultural map of Idukki. After the demonstration farming on 2ha of land, the number of farmers who are interested to take up rice farming has increased. This is evident from the increased requests for more trainings and planting materials.

5. Impact- Vertical spread.

During the period 1980-81 to 2011-12, Idukki, have lower negative cumulative growth rate in area compared to the state average. But through this demonstration farming, KVK was able to obtain a better grain yield of 7 t/ ha and a straw yield of 14 t/ha. This will surely prove to be an eye opener for the farmers, that rice cultivation can also be profitable in their local conditions.

6.Impact - Economic Gains

On the basis of costs incurred and revenue generated an economic analysis was conducted and we obtained a Benefit Cost ratio of 2.8. The ratio point towards the popular myth that only cash crop cultivation is profitable.

Conclusion

Akshaya variety of rice when cultivated on 2ha of land was successful with good grain and straw yield. This initiative of KVK, will throw light upon the forgotten rice cultivation history of the district.

Steps for Scaling – up:

- Large Scale demonstrations will be conducted in convergence with line departments of Idukki.
- The KVK will ensure that the majority of the growers are benefited by such programmes.
- Trainings will be conducted to popularize rice framing among the farmers.
- Brochures and other literary works will be published to give the farmers a quick summary.
- Feedback will be obtained and their constraints will be met on a timely basis.




4. Title of the success stories: Effect of IIHR Black Pepper Special on yield potential and reduction of nutritional disorders in Black Pepper

Details of success stories:

1. Background

Black pepper (*Piper nigrum L.)*, christened as the 'King of Spices', is one of the important agricultural commodities of commerce and trade in India since pre-historic period. The crop is the major source of income and employment for rural households in the predominantly pepper growing state of Kerala where more than 2.5 lakh farm families are involved in pepper cultivation. Idukki district is a major producer of black pepper in the state. Over the years, the share of modern varieties of black pepper in cultivation is found to increase.

Major problem faced by pepper growers is the soil acidity. Nutrient disorders and deficiencies are often encountered in the field of pepper leading to their decreased yield and productivity. Malnutrition often pre-disposes the pepper plants to diseases and deficiencies of nutrients like P and K have also been indicated as the reason for diseases. But applying chemical fertilizers is not viable as they pose threats to both environment and health of the people. It is in such a scenario, where the KVK Idukki has decided to conduct a trial with a Micronutrient mixture, developed by IIHR Bangalore known as IIHR Black Pepper Special and this has achieved wide spread attention and appreciation from the farmers

2. Source of Technology: Indian Institute of Horticultural Research, Bangalore

3. Intervention process

- Ensuring the availability of adequate Black Pepper special for the trial period
- Timely intervention on different stages of growth of Black pepper
- Timely diagnosis of deficiencies and diseases of black pepper.
- Advisory services.
- Follow-up visits and technical support as and when required.

3. Intervention Technology

- The black pepper cultivation utilizing this technology was conducted during the years 2018-19 in 2 ha of area
- The program aimed at reducing the deficiency disorders of black pepper and diseases caused due to the deficiencies.
- Between 2018 and 2019, KVK has conducted several field visits, field tours and trainings to popularise the technology and to educate the farmers regarding the mode of application.
- Timely intervention was provided not just for farming activities, but also for allied support inventory.

4.Impact - Horizontal Spread

Problems such as High Soil Acidity, Potassium, Magnesium micronutrient deficiency, reduced growth, interveinal chlorosis of immature and recently matured leaves, malformation of young leaves, and interveinal chlorosis are commonly found in the pepper vines of Idukki district. After the inculcation of IIHR- Black pepper special in the cultivation practices of pepper, there is a huge decrease in the deficiency disorders and the same is reflected in the increased yield obtained during this time period.

5. Impact- Vertical spread.

Pepper farmers of Idukki, has always been concerned regarding the low productivity of pepper as a result of deficiency disorders. But after the adoption of this technology, the farmers were able to obtain an increased yield of 1200kg/ha

6.Impact - Economic Gains

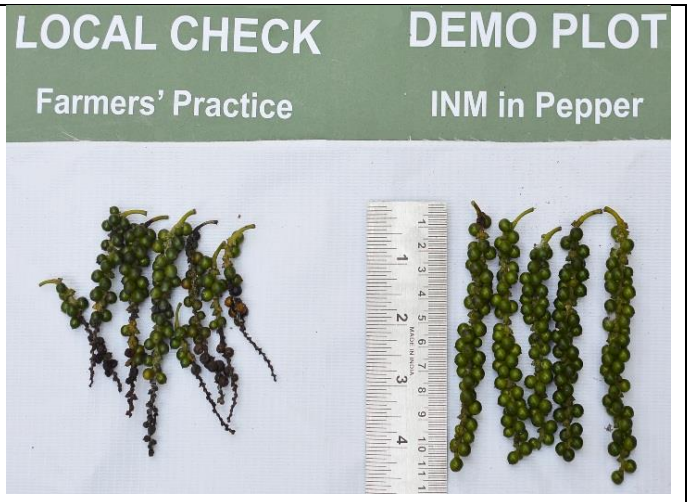
An economic analysis was conducted, on the basis of costs incurred and revenue generated. The pepper cultivation with the application of IIHR Black pepper technology gave a Benefit Cost ratio of 2.33 which shows that it is both feasible and profitable.

Conclusion

IIHR Black pepper special when applied in two sprays to the pepper at vine setting and vine maturation stages, helped the crops to meet its nutritional requirements and major nutritional disorders found in pepper were absent when applied with IIHR Black pepper special. The spike length increased as compared to normal spike. Berry formation was found uniform and fungal diseases were found decreased. As a result, the farmers have accepted this technology on a wide scale and the demand is increasing day by day.

Steps for Scaling –up:

- More demonstration plots will be made under this technology
- The technology will be made available to the farmers at reduced rates.
- Trainings will be conducted to popularize the technology among the farmers
- Brochures and other literary works will be published to give the farmers a quick summary
- Feedback will be obtained and their constraints will be met on a timely basis



10.D. Give details of Innovative Methodology or Innovative Approach of Transfer of Technology developed and used during the year: Nil.

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

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

10 F. Technology Week celebration during 2019: **Nil.**

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

Other Details

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

10 E. Recognition and Awards:

1. Best stall awarded by ATMA, Idukki

PART XI – SOIL AND WATER TEST

PART XI – SOIL AND WATER TEST

11.1 Soil and Water Testing Laboratory:

A. 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	Status
1.	LPG Cylinder	1	4600.00	working
2.	Water bath WDB-2 350’400’100mm 12 holes	1	4815.00	working
3.	Machinery for Homogensing (khan shaker) Model LKS2 platform size 75cmx43cmx10cm	1	20,880.00	Not working
4.	Rotary Shaker	1	16,200.00	Not working
5.	Machinery for drying (Hot air oxen) with digital temperature control, size 455’455’455’	1	13,725.00	Not working
6.	Conductivity meter (PH meter Eutech 510)	1	21,935.00	Not working
7.	Genesis 20 visible Spectrophotometer meter	1	1,12,499.00	Not working
8.	CITIZEN Physical Balance Model CTL-600	1	8,991.00	Not working
9.	Micro processor based conductivity	1	13,500.00	Not working
10.	Micro Processor Based Flame Photometer with N, K &Ca FILTERS & Compressor	1	45,000.00	Not working
11.	Electronic Automatic KEL PLUS Micro processor Based Twelve Place Micro Block Digestion System	1	97,043.00	Not working
12.	Electronic Balance Model: CP 2245 Srl.No.18606016	1	1,00,000.00	Not working
13.	Hot plate	1	5,400.00	Not working
Total		**12**	**4,64,588.00**	

B. Details of samples analyzed since establishment of SWTL:

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages
Soil Samples	33954	1955	20
Water Samples	0	0	0
Plant samples	0	0	0
Manure samples	0	0	0
Others (specify)	0	0	0
Total	**33954**	**1955**	**20**

C. Details of samples analyzed during the 2019:

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages
Soil Samples	308	186	40
Water Samples	0	0	0
Plant samples	0	0	0

Manure samples	0	0	0
Others (specify)	0	0	0
Total	**308**	**186**	**40**

11.2 Mobile Soil Testing Kit

A. Date of purchase and current status

Mobile Kits	**Date of purchase**	**Current status**
1.Two Mridaparikshak Kits	21-06-2017	working
2.		

B. Details of soil samples analyzed during 2019 and since establishment with Mobile Soil Testing Kit:

	Progress during 2019	**Cumulative progress**
Samples analyzed (No.)	308	1152
Farmers benefited (No.)	186	740
Villages covered (No.)	40	62

11.3 Details of soil health cards issued based on SWTL & Mobile Soil Testing Kit during 2019:

Particulars	**Date (s)**	**Villages (No.)**	**Farmers (No.)**	**Samples analyzed (No.)**	**Soil health cards issued (No.)**
SWTL	0	0	0	0	0
Mobile Soil Testing Kit	01-01-2019 to 31-12-2019	40	186	308	308

11.4 World Soil Health Day celebration

Sl. No.	**Farmers participated (No.)**	**Soil health cards issued (No.)**	**VIPs (MP/ Minister/MLA attended (No.)**	**Other Public Representatives participated**	**Officials participated (No.)**	**Media coverage (No.)**
1.	80	25	0	2	3	2

PART XII. IMPACT

12.A. Impact of KVK activities (Not 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)**
EPN	1600	70	305000/ha	423000/ha
VAM	220	22	130000/ha	175000/ha
Microbial Consortium	460	80	280000/ha	460000/ha
Neem Soap	320	39	165000/ha	256000/ha
EM Decomposer	1250	48	280000/ha	410000/ha
Cardamom special	525	65	324100/ha	402000/ha
Pepper Special	312	32	45538/ha	122226/ha
Banana Special	250	24	570000/ha	630000/ha
Vegetable Special	175	15	335000/ha	440000/ha
Protray production of vegetable seedlings	55	50	150000/1 acre	450000/1acre

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

12.B. Cases of large scale adoption (Please furnish detailed information for each case with suitable photographs): Nil.

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

PART XIII - LINKAGES

13A. Functional linkage with different organizations

Name of organization	Nature of linkage
Vegetable Development Programme	MDDT and Field Visits
ATMA	MDDT, Field Visits, Trainings, EAP and Demonstrations
Department Of Animal Husbandry	Field Visits, Trainings, Demonstrations
Department of Forestry	Tribal Development Projects, Trainings
Department of agriculture	Field Visits, Trainings, Demonstrations
VFPCK	MDDT, Field Visits, Trainings
Coffee Board	Trainings, Field Visits and Demonstrations
Spices Board	Trainings, Field Visits
VOSARD Agency	Trainings
NABARD	FPO formation and related activities
Kerala state cooperative bank	Relation with Farmer club formation
MANAGE	DAESI programme
DIC	Trainings, Demonstrations
VHSC	Trainings
District Kudumbasree Mission	Group formation, Training and demonstrations
FAI	Workshop, Seminar and Soil Health campaign
NLC	Technology trial (Humic acid)
IFFCO	Soil Health awareness campaign
SPIC	Soil Health awareness campaign
Tribal Development Board	Training and technology sharing
Social Development Department	Training
Block and District panchayat	Training

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

13B. List of 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.)
Value addition of vegetables & Fruits	27-03-2019	Department of Agriculture	9,500
DAESI Programme	11-04-2019	MANAGE-ATMA-IDUKKI	16,00,000
PKVY	29-07-2019	ATARI	3,30,000
Tree planting programme	16-09-2019	ATARI	10,000
ASCI (RKVY)	24-10-2019	ATARI	2,99,200
NADCP of vaccination for FMD & Brucellosis	03-01-2020	ATARI	15,000
Swachhta action plan	20-01-2020	ATARI	37,500
Biennial Fertilizer Application awareness programme	13-01-2020	ATARI & IFFCO	1,00,000

13C. Details of linkage with ATMA

Coordination activities between KVK and ATMA

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks (if any)
01	Meetings	Meetings	Monthly Technology meetings	-	Due to lack of fund
02	Research projects	Research projects	-		
03	Training programmes	Low cost production of bio inputs	2	2	-
		Micro-nutrient deficiency	1	1	-
04	Demonstrations	Soil sampling methods	1	1	-

		PPFM	1	1	-
		Hanseniaspora	2	1	-
05	Extension Programmes				
	Kisan Mela	Technology Week (Thalir-2019)	1	1	-
	Exposure visit	DAESI	2	0	-
	Exhibition		1	0	-
	Soil health camps	Soil Test Campaign	2	2	-
	Others (Pl. specify)				
		Publications	0	0	-
		Video Films	0	0	-
		Books	0	0	-
		Extension Literature	0	0	-
		Pamphlets	0	0	-
		Others (Pl. specify)	0	0	-
	Other Activities (Pl.specify)				
		Watershed approach	0	0	-
		Integrated Farm Development	0	0	-
		Agri-preneurs development	0	0	-

13D. Give details of programmes implemented under National Horticultural Mission: Nil.

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

13E. Nature of linkage with National Fisheries Development Board: Nil.

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

13F. Details of linkage with RKVY

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks
1	Bee Keeper	Skill Training	Yes, Rs.133600.00	-	-
2	Bee Keeper	Skill Training	Yes, Rs.133600.00	-	-

13G. Kisan Mobile Advisory Services

Month	Message type (Text/Voice)	SMS/voice calls sent (No.)						Total SMS/Voice calls sent (No.)	Farmers benefitted (No.)
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprises		
January	-	-	-	-	-	-	-	-	
February	-	-	-	-	-	-	-	-	
March	-	-	-	-	-	-	-	-	
April	-	-	-	-	-	-	-	-	
May	-	-	-	-	-	-	-	-	
June	-	-	-	-	-	-	-	-	
July	-	-	-	-	-	-	-	-	

August	Text	2	-	-	-	-	-	-	1710
September	Text	1	-	-	-	-	-	-	855
October	Text	3	1	-	-	-	-	-	3420
November	Text	4	2	-	-	-	-	-	5330
December	Text	5	-	-	-	-	-	-	5475
Total		**14**	**2**	**1**	**-**	**-**	**-**	**-**	**16790**

PART XIV- PERFORMANCE OF INFRASTRUCTURE IN KVK

14A. Performance of demonstration units (other than instructional farm): Nil.

Sl. No.	Demo Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	

14B. Performance of instructional farm (Crops) including seed production: Nil.

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Cereals									
Pulses									
Oilseeds									
Fibers									
Spices & Plantation crops									
Floriculture									
Fruits									
Vegetables									
Others (specify)									

14C. Performance of production Units (bio-agents / bio pesticides/ bio fertilizers etc.,)

Sl. No.	Name of the Product	Qty (Qtl.)	Amount (Rs.)		Remarks (No. of farmers benefitted)
			Cost of inputs	Gross income	
1.	VAM	17.85	171348	178450	395
2.	Arka microbial consortium	13.94	139400	197050	298
3.	Phosphobacteria (Solid form)	6.99	69900	103100	181
4.	Potash bacteria	7.84	78400	104450	210
5.	Vermi compost	0.31	217	465	5
6.	Azospirillum (Solid form)	9.25	92500	109500	194
7.	Metarhizium	6.06	48480	82845	268
8.	Beauveria	6.82	54560	91105	363
9.	EPN	2.00	92000	152700	193

10.	Neem	6.99	111840	136400	284
11.	*Trichoderma viride*	14.27	114160	187170	406
12.	Paecilomyces	6.15	61500	172500	377
13.	Pseudomonas	18.14	145120	250920	521
14.	Decomposer	0.69	5520	20700	19
15.	PPFM	2.22	22200	66600	65
16.	EM-Solution	8.01	80100	187600	301
17.	Oyster Mushroom spawn	0.23	1380	3790	8

14D. Performance of instructional farm (livestock and fisheries production): Nil.

14E. Utilization of hostel facilities: Nil.

14F. Database management

S. No	Database target	Database created
1.	Farmers database (FLD, OFT, DBT, KMAS, Training)	Database for (2019-20)

14G. Details on Rain Water Harvesting Structure and micro-irrigation system: Nil.

PART XV – SPECIAL PROGRAMMES

15.1 Paramparagath Krishi Vikas Yojana (PKVY)

Sl. No.	Name of cluster village	Initial soil fertility status (Average of cluster village)				Facilities created for organic source of manure	Name of Crops cultivated	Variety	Organic inputs applied including bio-agents and botanicals treatment	Yield (q/ha)	Economics	
		Aval. N	Aval. P	Aval. K	OC %						Cost of cultivation (Rs/ha)	Net returns (Rs/ha)
1	1. Sandoz SC Colony (KDH Village - Vattavada)	346.6	19.9	496.2	1.91	Vermicompost, VAM, Organic compost, Neem cake	Vegetables – Cabbage	Quisor	Pseudomonas, Trichoderma, Azospirillum, Phospho bacteria	(On going)	-	-
	2.						Carrot	Kuroda				
	3.											
	4.											
	5.											
2	1.											
	2.											
	3.											
	4.											
	5.											

15.2 District Agriculture Meteorological Unit (DAMU): Nil.

15.3 Fertilizer awareness programme 2019

State	Name of KVK	Details of Activities/programme Organised	Number of Chief Guests	No. of Farmers attended program	Total participants
Kerala	Idukki	Biennial fertilizer application awareness programme	07	183	190
Kerala	Idukki	Demonstration on Humic acid spray for Cardamom, Pepper and Nutmeg	3	30	33

15.4 Seed Hub: Nil.

15.5 CFLD on Oilseed : As per the excel sheet enclosed: **Nil.**

15.6 Seed on Pulses : As per the excel sheet enclosed: **Nil.**

15.7 Krishi Kalyan Abhiyan: Nil.

15.8 Micro-Irrigation: Nil.

PART XVI - FINANCIAL PERFORMANCE

16A. 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	Nil						
With KVK (KVK General Fund Account)	State Bank of India	Rajakumary	70453	Bapooji Sevak samaj Krishi Vigyan Kendra	57060836995	6850002932	SBIN0010453
With KVK (Revolving Fund Account)	State Bank of India	Rajakumary	70453	Bapooji Krishi Vigyan Kenrda (Revolving Fund)	67155078042	6850002932	SBIN0010453

16B. Utilization of KVK funds during the year 2019-20 (Rs. in lakh) – (April'19 – Dec.'19)

S. No.	Particulars	Sanctioned BE	Released	Expenditure
A. Recurring Contingencies				
1	**Pay & Allowances**	123.98	**102.65**	102.65
2	**Traveling allowances**	1.0		0.60
3	**Contingencies**	8.86	**7.395**	
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	2.0		1.31
B	POL, repair of vehicles, tractor and equipments	1.50		0.97
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	1.0		0.56
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	0.35		0.35
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	1.93		1.83
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	0.80		0.67
G	Training of extension functionaries	0.25		0.0
	Extension Activities	0.25		0.12
	Farmers Field School	0.25		0.10
H	Maintenance of buildings	0.0		0.0
I	Establishment of Soil, Plant & Water Testing Laboratory	0.25		0.24
	Nutri Garden	0.25		0.20
J	Library	0.03		0.017
TOTAL (A)		**133.84**		**109.62**
B. Non-Recurring Contingencies				
1	**Works**	0.0		0.0
2	**Equipment including SWTL & Furniture**	0.0		0.0
3	**Vehicle** (Four wheeler/Two wheeler, please specify)	0.0		0.0
4	**Library** (Purchase of assets like books & journals)	0.0		0.0
TOTAL (B)		0.0		0.0
C. REVOLVING FUND		0.0		0.0
GRAND TOTAL (A+B+C)		**133.84**	**110.046**	**109.62**

16C. Status of revolving fund (Rs. in lakh) for the last three years

Year	Opening balance as on 1st April	Income during the year	Expenditure during the year	Net balance in hand as on 1st April of each year
April 2017 to March 2018	410526.00	2453736.00	1522669.00	1341593.00
April 2018 to March 2019	1341593.00	3033360.00	3022873.00	1352080.00
April 2019 to Dec. 2019 (including stock value)	1352080.00	4214026.00	3963498.00	1602608.00 (Opening balance on January 2020)

17. Details of HRD activities attended by KVK staff

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
Sudhakar. S	Subject Matter Specialist (Plant Protection)	Mass culturing of Bio agents	ICAR – NBAIR, Bengaluru.	16.7.2019 - 17.7.2019
Ashiba. A	Subject Matter Specialist (Agronomy)	Farm Mechanization	ICAR – KVK, Malappuram	18.07.2019
Ashiba. A	Subject Matter Specialist (Agronomy)	Orientation training	ICAR – KVK, CPCRI, Kasargode	23.09.2019 – 27.09.2019
Preethu K Paul	Subject Matter Specialist (Agrl. Extension	Orientation training	ICAR – KVK, CPCRI, Kasargode	23.09.2019 – 27.09.2019
Jayisy joseph	Programme Assistant (Home science)	Workshop on Nutri Graden	DE, KAU Mannuthy	24.10.2019

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