

Annual report 2017-18



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



PART I - GENERAL INFORMATION ABOUT THE KVK

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

KVK Address	Telephone		E mail	Web Address
	Office	Fax		
ICAR-Krishi Vigyan Kendra, ICAR- Indian Institute of Spices Research, Peruvannamuzhi (P.O), Kozhikode, Kerala Pin-673 528	0496-2666041	0091-496-2666041	kvk.kozhikode@icar.gov.in kvk@spices.res.in kvkcalicut@gmail.com	www.kvkcalicut.gov.in

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

Address	Telephone		E mail	Web Address
	Office	Fax		
ICAR-Indian Institute of Spices Research, Post Bag No.1701, Marikunnu (P.O.) Kozhikode-673 012, Kerala.	0495-2731410	0091-495-2731187	mail@spices.res.in	www.spices.res.in

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

Name	Telephone / Contact		
	Residence	Mobile	Email
P. Ratha Krishnan	0496-2249099	8547544765	rathakrishnan@spices.res.in

1.4. Year of sanction:

1.5. Staff position as on 31 March 2018

Sl. No.	Sanctioned post	Name of the incumbent	Designation	M/F	Discipline	Highest Qualification (for PC, SMS and Prog. Asstt.)	Pay Scale	Basic pay	7 th Pay (Rs)	Date of joining KVK	Permanent /Temporary	Category (SC/ST/OBC/Others)
1.	Programme Coordinator	P Ratha Krishnan	Programme Coordinator	M	Forestry	Ph.D in Forestry	37400-67000+9000	49240	NA	19.08.15	Per.	OBC
2.	Subject Matter Specialist	P.S. Manoj	Subject Matter Specialist	M	Horticulture	Ph.D in Horticulture	15600-39100+7600	39680	116268	30.05.94	Per.	OBC
3.	Subject Matter Specialist	K.M. Prakash *	Subject Matter Specialist	M	Agronomy	PG in Agrl. Science	15600-39100+7600	38380	109100	10.12.96	Per.	Others
4.	Subject Matter Specialist	S. Shanmugavel	Subject Matter Specialist	M	Animal Husbandry	PG in Vet. Science	15600-39100+7600	36160	130400	03.08.95	Per.	SC
5.	Subject Matter Specialist	A. Deepthi	Subject Matter Specialist	F	Home Science	PG in Home Science	15600-39100+5400	22280	71800	08.03.10	Per.	SC
6.	Subject Matter Specialist	B. Pradeep	Subject Matter Specialist	M	Fisheries	Ph.D in Fisheries	15600-39100+5400	22280	71800	30.03.10	Per.	Others
7.	Subject Matter Specialist	Aiswariya K.K.	Subject Matter Specialist	F	Plant Protection	Ph.D in Agrl. Science	15600-39100+5400	22280	71800	26.04.10	Per.	OBC
8.	Programme Assistant (Lab Technician)	MariyaDainy M S	Programme Assistant	F	Soil Science	PG in Agrl Science	9300-34800+4200	13500	38700	30.06.14	Per.	OBC
9.	Programme Assistant (Computer)	C.K. Jayakumar	Programme Assistant	M	-	P G in Computer Science	5200-20200+2800	12060	41100	01.02.10	Per.	Others

10	Farm Manager	Vacant	Programme Assistant	-	-	-	-	-	-	-	-	-
11	Accountant/ Superintendent (Assistant)	Vacant	Accountant/ Superintendent (Assistant)	M	-	-	-	-	-	-	-	-
12	Stenographer Gr.III	K. Faisal	Stenographer Gr.III	M	-	-	9300-34800+4200	18000	52000	01.04.02	Per.	OBC
13	Driver-cum-Mechanic	T.C. Prasad	Driver-cum-Mechanic	M	-	-	5200-20200+2800	16030	49000	17.05.93	Per.	Others
14	Driver	P. Prakash**	Driver	M	-	-	5200-20200+2800	11400	37000	27.06.02	Per.	Others
15	Skilled Supporting staff	C.V. Ravindran	Skilled Supporting staff	M	-	-	4440-7440+1400	10570	32000	01.07.93	Per.	SC
16	Skilled Supporting staff	C. Ravindran	Skilled Supporting staff	M	-	-	4440-7440+1400	10100	32000	10.11.94	Per.	SC

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

S. No.	Item	Area (ha)
1	Under Buildings	0.60
2	Under Demonstration Units	3.60
3	Under Crops	0.25
4	Plantation crops	3.25
5	Under road, tree stands, newly developed vegetable cultivation area	4.80
6	Others including natural forest stand	7.80

1.7. Infrastructural Development:

A) Buildings

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1	Administrative Building	ICAR	4.12.98	552	46.44	-	-	-
2	Farmers Hostel	ICAR	4.12.98	466	39.44	-	-	-
3	Staff Quarters	-	-	-	-	-	-	-
4	Old KVK office building (Farm office)	ICAR	16.1.96	360 sq. ft.	1.83	-	-	-
5	Demonstration Units					-	-	-
	1. (Old Animal Clinic) –Mushroom unit *	ICAR SHM	16.1.96 (7.3.09)	358.31 358.31	1.00 0.84	-	-	-
	2.Poultry	ICAR	20.9.03	43.8	0.84	-	-	-
	3.Dairy	ICAR	25.10.06	39.32	1.83	-	-	-
	4.Vermiculture	ICAR	3.1.08	9.00	0.11	-	-	-
6	Rainwater harvesting system	ICAR	21.09.2013	2000m ³	9.62	-	-	-
7	Nursery with shed and fencing	ICAR	16.1.96	500.0	0.50	-	-	-
8	Shade house-Anthurium	ICAR	25.3.09	144.0	1.21	-	-	-
9	Goatary	ICAR	31.3.09	64.0	2.78	-	-	-
10	Training shed	SHM	25.11.08	90.0	2.69	-	-	-
11	Temporary vehicle shelter	ICAR	18.6.04	35.0	0.48	-	-	-
12	Water tank	ICAR	2.2.99	10,000	0.22	-	-	-

13	Pond with pump, storage tank etc.	ICAR	31.3.08	15X13M	8.44	-	-	-
14.	Bore well	ICAR	2013	90 m depth	0.25		-	-
15.	Water tank	ICAR	02.02.1999	10000	0.22	-	-	-
16	Hatchery shed	ICAR	04.01.2014	680	2.00			
17.	Black pepper polyhouse nursery	ICAR	31.3.2015	200 m2	3.96	-	-	-
18.	Entrance with arch	ICAR	31.3.2017	4.5m height x 6m width	0.995	-	-	-
19	Home Science Processing unit	ICAR	-	-	4.8 Lakhs	Feb, 2018	-	In progress
20	Mushroom production unit	ICAR	31.3.2018	4 x 3.6 m	0.45			

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Motor cycle Suzuki	2009	49,980	34701	Good
Mini bus DCM Toyota	1995	5,22,670	203876	Working with high maintenance cost
TATA Sumo Jeep	2004	4,98,642	228497	Condemned. Dispose off through Auction during Oct, 2017.
Power Tiller	2012	1,50,000	-	Good
Bolero	2017	4,75,000 (NDP)	12865	Good

C) Equipment & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
TV	1996	25800	Not working
VCP	1996	10850	Not working
Kettle	1996	1375	Good
Sewing machine (2 nos.)	1996	4800	“
1.5 HP pump	1997	8100	“
Grafting machine	1998	4950	“
Public address system	1999	30656	“
Water cooler	1999	13000	Not working
Water purifier	1999	2745	“
3.5 Hand compression sprayer	1999	1200	“
UPS (1 KVA)	2002	17250	Good
Refrigerator	2002	21308	“
7.5 KVA Generator	2003	56,950	Good
Computer with accessories	2003	61,175	“
Scanner	2003	13,400	“
Overhead projector	2004	32,095	“
Pressure cooker (22 l)	2004	3,047	“
LCD Projector	2004	73,210	“
Electronic physical balance	2005	6160	“
Chemical balance	2005	42162	“
PH meter	2005	14388	“
Video camera	2005	19,000	“
Oven	2005	15476	“
Water distillation still	2005	41340	“
Digestion and distillation system	2005	1,30,802	“
Hot plate	2005	4,120	“
Spectrophotometer	2005	55,230	“

Shaker	2005	48,038	“
Conductivity meter	2005	14,960	“
Flame photometer	2005	37,026	“
Refrigerator	2005	16,890	“
Grinder	2005	1,950	“
Fax machine	2006	7,500	“
PABX	2006	31,985	“
Digital Camera	2007	10,580	“
DLP Projector	2007	54,563	Not working
Computer	2007	37,600	“
DTH System with accessories	2007	4,165	good
Iron Box	2007	830	Not working
UPS	2008	27060	“
Stabilizer	2008	10920	Good
Laser fax	2009	14378	“
Printer	2009	5386	“
Digital camera	2009	14890	“
UPS	2009	6500	“
Weed Cutter	2010	34930	“
Chaff Cutter	2010	23800	“
Generator	2010	100000	Not working
Air conditioner 2 ton	2011	34000	Good
Stabilizer 5 KVA	2011	2900	“
Computer – 2 nos.	2012	65000	“
Power Tiller	2012	150000	“
PABX system	2012	50000	“
Double distillation unit	2012	63250	“
Electronic balance	2012	6800	“
Horizontal autoclave	2012	278615	“
BOD Incubator	2012	62790	Not working
Motorized Sieve	2012	44737	“
Laminar air flow	2012	45070	Good
Inkjet printer	2012	8,900	“
Water treatment plant	2013	59800	“
3KVA UPS	2013	27000	“
laptop	2013	54530	“
Mridaparikshak	2016	89775	“
Pulveriser	2016	40671	“
LED TV 43”	2017	48500	“
Desktop Computers (7 nos)	2017	194250	“
LCD Projector	2017	36000	“
Photostat Machine	2017	54500	“
All in one inkjet printer	2017	11800	“
Solar drier	2017	34000	“
Mridaparishak	2017	90300	“
Coconut climbing machine	2018	9400	”

1.8. Details of SAC meeting conducted during 2017-18

Date	Number of Participants	Salient Recommendations	Action taken	Remarks, if any
23-02-2018	-	Importance on doubling farmers income strategies, technologies, farmer producer organizations, etc may be attempted	In progress. Already attempted through the block level awareness programme “KisanKalyanYojana”.	
		Disease free planting materials of ginger, pepper may be used for multiplication and lateral spread	In progress	

		Farmer participatory seed production of vegetables, spices may be given importance to make the district as seed production hub of improved varieties.	“	
		More programmes with the association of Department of Animal Husbandry may be carried to reach all the part of the district with limited man power.	-	Will be followed
		Proposal for the establishment of layer chicks' parent stock may be submitted to NABARD for funding and ensure the continuous running of hatchery at KVK.	-	Will be followed
		More number of popular articles may be published. It is recommended to publish at least one article per month.	-	Will be followed
		Field problems of fish culture including pH management, species diversity, fingerlings supply may be attempted.	FLD got approved to implement during 2018-19	
		Honey based products development including branding of honey may be attempted. Honey producer company may be encouraged to farm.	-	
		Waste management / recycling programmes may be prioritized.	FLD got approved to implement during 2018-19	
		Value added products development on “Jack, Spices, banana” may be attempted in large scale.	-	
		A handy two page write up regarding planting and cultivation of pepper, nutmeg, Garcinia may be prepared and issue to the farmers purchasing the seedlings from KVK.	-	
		The presence of all discipline experts at this KVK is one such unique advantage. Hence, the Integrated Farming System model in KVK may be incorporated with poultry, pasture, annuals, fisheries, forestry components.	-	
		Presence of all the district level officers especially PD - ATMA, PAO and DGM -NABARD during the SAC may be ensured.	-	Will be followed
		The syllabus of all the training courses may be updated and presentation may be prepared accordingly by the experts. More emphasis may be given for practical training.	-	Will be followed
		Ornamental fish culture is one of the low cost and all age preferred hobby. Women empowerment programs with innovative themes like aquaponics may be attempted.	-	In progress
		Linkage programmes with Service cooperative bank, Kavunthara on nursery establishment, seed production, and seminars may be carried.	-	In progress

PART II - DETAILS OF DISTRICT

2.1 Major farming systems/enterprises (based on the analysis made by the KVK)

S. No	Farming system/enterprise
1	Homestead based farming system with coconut as the main crop. Intercrops cultivated are spices, fruits, vegetables and other plantation crops. Most homesteads also have other enterprises like poultry and dairy in small scales. Many farmers also practice goat rearing, pisciculture, piggery etc. Coconut based value added products by individuals and societies is the major enterprise activity

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

S. No	Agro-climatic Zone	Characteristics
1	West coast Plains & Ghats Zone (12)	This region extends over the Malabar and Konkan coasts and the Sahyadris and is

		covered by laterite and coastal alluvials. This is a humid region with annual rainfall above 200 cm and average temperatures of 26°C-32°C in July and 19°C-28°C in January. Rice, coconut, oilseeds, sugarcane, millets, pulses and cotton are the main crops. The region is also famous for plantation crops and spices which are raised along the hill slopes of the Ghats.
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S. No	Agro ecological situation	Characteristics
1.	Northern Mid lands V	Altitude: upto 500 m above (Low altitude zone-hot humid tropics, spread over the entire state) Rainfall: Poorly distributed rainfall; south west monsoon with July maximum and concentrated in 3-4 months. Northeast monsoon relatively weak (North of 11° N Latitude). Soil type: Laterite soil with well defined B horizon (Natural midlands) Topography: Valleys less extensive hills with moderate gradients and top with egg shaped hump, steep slopes.

2.3 Soil type/s

S. No	Soil type	Characteristics	Area in ha
1.	Laterite	All these soils are acidic with low water holding capacity and are poor in NPK and organic matter content. The laterite soil is generally suitable for most of the dry land crops. It is mainly cultivated with coconut, arecanut, banana, tapioca, pepper, vegetables, fruit crops etc. Liming is required for correcting soil acidity.	2,09,996

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

S. No	Crop	Area (ha)	Production (Metric tons)	Productivity (kg /ha)
1.	Coconut	120683	852 million nuts	6672 nos/ha
2.	Palmyra	149	NA	NA
3.	Rubber	21920	30800	NA
4.	Arecanut	10347	11177	1069
5.	Cocoa	759	386	586
6.	Cashew	1981	NA	305
7.	Paddy	3511	6575	1464
8.	Pulses	33	13	NA
9.	Jack	101371	20 million nuts	1913
10.	Mango	8380	27776	NA
11.	Banana	1938	12477	8139
12.	Pineapple	134	1042	NA

13	Papaya	2012	7001	NA
14.	Other fresh fruits	730		NA
15.	Tapioca	1583	40117	21732
16	Elephant foot yam	200	NA	NA
17	Colocasia	471	NA	NA
18	Yam	36	NA	NA
19	Sweet potato	13	2250	NA
20	Other tubers	72	NA	NA
21.	Drumstick	1514	427	NA
22.	Amaranthus	122	NA	NA
23.	Bitter gourd	74	NA	NA
24.	Snake gourd	30	NA	NA
25	Bhendi	46	NA	NA
26.	Brinjal	20	NA	NA
27.	Ash gourd	46	NA	NA
28.	Pumpkin	50	NA	NA
29.	Cucumber	85	NA	NA
30	Chillies green	116	107	NA
31	Other vegetables	223	NA	NA
32	Pepper	3332	615	180
33.	Betel	9	651	NA
34	Ginger	62	246	NA
35	Turmeric	328	732	NA
36	Cardamom	220	NA	NA
37	Tamarind	835	535	NA
38	Vanilla	7	NA	NA
39	Cloves	34	2	NA
40	Nutmeg	268	143	NA
41	Cinnamon	23	NA	NA
42	Fodder	64	NA	NA
43	Lemon grass	2	NA	NA
44	Medicinal plants	58	NA	NA

Source: Farm Information Bureau, Dept. of Agriculture, Govt. of Kerala, 2018.

NA- Not available

2.5. Weather data

Month	Rainfall (mm)		Temperature ° C		Relative Humidity (%)	
			Maximum	Minimum	Max. (Mean)	Min. (Mean)
January 2017	53	2	34.6	20.09	89.38	32.51
February	53	1	35.5	21.8	88.17	35
March	104.6	4	35.24	23.43	88.19	44
April	64	6	35.05	25.28	90.4	56.43
May	321	14	34.21	24.63	93.96	62.77
June	764	29	29.28	24.66	95.56	81.9
July	755.8	27	29.87	24.21	95.322	78
August	837.6	26	29.89	24.23	95.75	80.2
September	650.4	21	31.33	24.26	94.67	76.84
October	309.6	16	32.16	24.13	95.29	69.49
November	21	4	34.6	23.75	93.07	59.5
December	15.2	2	35	22	89.39	49.97
Total/ mean	3949.2	152	33.06	23.54	92.43	60.55

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

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

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

Source: Department of Animal Husbandry, Kerala, 2003.

Category	Area	Production	Productivity
Fish	317.97 ha*	268.911 tonnes*	845.7 Kg/ha
<i>Marine</i>	71 Km*	46000 tones#	
<i>Inland</i>	3800 ha*	5000 tones#	
Prawn	-	-	-
Scampi	-	-	-
Shrimp	46.46 ha*	50.37 tonnes*	1 ton/ha*

*Success story of "Matsyakeralam", 2009 of Fisheries Department.

#Economic Review 2017, State Planning Board, Thiruvananthapuram, Kerala, India

2.7 District profile has been Updated for 2017-18 Yes / No: Yes

2.8 Details of Operational area / Villages

Sl.No.	Taluk	Name of the block	Name of the village	How long the village is covered under operational area of the KVK (specify the years)	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Quilandy	Balusseri	Naduvannur, Ulliyeri	10 years	Coconut, banana, vegetables	Low productivity of turmeric, Low productivity of nendran banana, Low production of vegetables, Low income in coconut mono-cropping	Improving production of spices, Improving yield of fruits by INM, Improving income from coconut based cropping systems
2	Quilandy, Thamarassery	Balusseri, Perambra, Koduvally	Unnikulam, Thiruvambadi, Changaroth, Koothali	5 years	Coconut, arecanut, black pepper, banana, vegetables	Severe incidence of <i>Phytophthora</i> foot rot of black pepper	Growing of disease resistant grafted plants
3	Kozhikode	Kozhikode	Kozhikode city	10 years	Coconut, vegetables	Acute shortage of water in summer season	Improving water use efficiency

4	All taluks	All blocks	Different panchayaths	--	All horticultural crops	Unavailability of quality planting materials, Lack of knowledge about scientific cultivation practises	Quality planting material production, Improving production of horticultural crops
5	Quilandy	Balussery	Naduvannur, Ulliyeri	2 years	Banana	Severe attack of pseudo stem weevil	Pest management in banana using organic methods
6	Quilandy	Balussery	Naduvannur, Ulliyeri	2 years	Ginger	Yield loss due to diseases like soft rot	Production of healthy ginger seed
7	Quilandy	Balussery	Naduvannur, Ulliyeri	2 years	Bitter gourd	Yield loss due to pests and diseases	Integrated Pest and Disease Management in Bitter gourd
8	Koyilandi	Perambra	Narinada, Chakkittapara	-	Dairy, goatary,poultry in homesteads	Feeding, breeding and disease problems resulting loss to farmers	Feeding managements in dairy cattle
9	Koyilandi	Balusserry	Naduvannur	Two years	Dairy, goatary,poultry in homesteads	Non availability of improved layer chicks, poor laying performance, cannibalism etc	Feeding and health care management
10	Koyilandi, Vadakara, Kozhikode	Balussery, Perambra, Kozhikode, Koyilandi	Naduvannur, Meppayur, Thamarasserry, Kadalundi	-	-	-	-
11	Quilandy	Balusherry	Villages (Ulleyeri,,Chakittapara)	2	Fresh and brackishwater fishes	Non utilization of large water bodies for fish culture. Lower durability of PVC cages	Aquaculture
12	Koilandy	Balussery	Ulliyeri& Naduvannur	1	Banana	1.Rapid perishability. 2.Unavailability of suitable technology for processing of ripe banana	Value addition
13	Koilandy	Perambra	Chakkittapara	1	Jack	Low acceptability of Jack fruit jam due to off flavor developed during storage	Value addition
14	KoilandyBalussery	Kunnummal,Perambra	Muthukad ,Mukkam, Chakkittapara	1	coconut	Scarcity of coconut climbers	Farm mechanization

2.9 Priority thrust areas

S. No	Thrust area
1	Improving yield of fruits by INM
2	Improving the production of spices
3	Improving income from coconut based cropping systems
4	Improving water use efficiency
5	Quality planting material production
6	Improving production of horticultural crops
7	Growing of disease resistant grafted plants
8	Pest management in banana using organic methods
9	Production of healthy ginger seed
10	Integrated Pest and Disease Management in Bitter gourd
11	Feeding and breeding management in dairy cattle
12	Disease management in cows and goats
13	Feeding and health care management in poultry

14	Aquaculture
15	Value addition
16	Value addition
17	Farm mechanization

PART III - TECHNICAL ACHIEVEMENTS

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

OFT				FLD			
1				2			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
4	4	22	22	8	8	55	55

Training				Extension Programmes			
3				4			
Number of Courses		Number of Participants		Number of Programmes		Number of participants	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
80	103	2695	3983	4132	4794	7830	10473

Seed Production (Q)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
2	3.76	30000	31139

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
1,10,125 (layers)	59,521	Trichoderma - 6Qtl	28.665 Qtl
Ornamental fishes 3000	4872 (Guppy, platy, swordtail, moly, barb, gold fish, carp, fighter, gourami) worth Rs.29,230/-	Cuelure- 50	52
		MET-50	50
		Neem soap- 20 kg	39.75 kg
		Mushroom spawn-150 kg	269.45 kg
		Azolla -50kg	91.6

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 products		
													No.	Kg	
1.	Growing of disease resistant grafted plants	Black pepper	Severe incidence of <i>Phytophthora</i> foot rot of black pepper	Performance evaluation of grafted black pepper (started during 2014-15)		1	-	-	-	-	-	Grafted pepper-50 each	-	-	-

2	Improving yield of fruits by INM	Banana	Low productivity of nendran banana	-	Demonstration of soil application of banana micro-nutrient mixture viz. AYAR in nendran banana (2016-17)	1	-	-	1	-	-	-	Pseudomonas Nanma	15 kg 25 l
3	Improving production of vegetables by cultivation of high yielding varieties	Yard Long Bean	Low production of vegetables	Assessing the performance of Yard Long Bean varieties Lola, Vellayani Jyothika and Githika in Kozhikode district (2016-17)	-	1	-	-	-	Vegetable seeds- 3.5 kg	-	-	Pseudomonas Neem soap Trichoderma	30 kg 5 kg 22.5 kg
4	Improving yield of fruits by High Density Planting	Banana	Low productivity of nendran banana	Assessment of comparative performance of tissue culture plants and suckers of nendran banana under High Density Planting (2016-17)	-	1	-	-	1	-	TC banana-390 Banana suckers-425	-	Pseudomonas Beauveria Nanma	6 kg 15 kg 10 l
5	Improving production of spices	Turmeric	Low productivity of turmeric	-	Demonstration of a HYV of turmeric viz. IISR Pragati (2017-18)	1	-	-	1	-	Turmeric seed rhizomes- 100 kg	-	-	-
6	Improving income from coconut based cropping systems	Banana	Low income in coconut mono-cropping	-	Demonstration of Big Ebanga as an intercrop in coconut gardens (2017-18)	1	-	-	-	-	TC plants of Big Ebanga-660	-	-	-
7	Improving water use efficiency	Vegetables	Acute shortage of water in summer season	Assessing the performance of different micro-irrigation systems in grow bag cultivation of vegetables and spices (2017-18)	-	1	-	-	1	Protray raised vegetable seedlings	-	-	Pseudomonas Neem soap Trichoderma	4 kg 2 kg 5 kg

8	Pest management in banana using organic methods	Banana	Crop loss due to pseudo stem weevil attack	Assessment of organic methods for pseudo stem weevil management in banana (2017-18)	-	-	1	-	-	-	-	-	Pseudomonas Beauveria Metarrhizium Nanma	50 kg 20 kg 20 kg 10 litres
9	Production of healthy ginger seed	Ginger	-	-	Demonstration on production of healthy ginger seeds	1	-	-	-	-	Ginger seed rhizomes- 300 kg	-	Trichoderma	80 kg
10	Integrated Pest and Disease Management in Bitter gourd	Bitter gourd	-	-	Demonstration on Integrated Pest and Disease Management in Bitter gourd	-	-	-	-	-	-	-	Pseudomonas Beauveria Verticillium Neem soap Trichoderma	30 kg 10 kg 20 kg 2.5 kg 20 kg
11	Feeding and health care management	Poultry	Chick mortality, poor laying performance, cannibalism etc	Production performance of layer chicks under cage system of rearing	-	2	2	-	2	Layer chicks 60 nos	-	-	-	-
12	Feeding management in dairy cattle	Dairy	Scarcity of green fodder during summer resulting in poor milk yield, reproductive failure and economic loss to farmers	-	Hydroponic fodder production for dairy cattle	4	-	-	165	Established at kvk	-	-	-	-

13	Feeding management	dairy	Poor milk yield,infertility,long interval,eco nomic loss to the farmers	-	EDP on homemade Ration for dairy animals	1	-	-	-	Straw, Seeds of jack, Tapioca powder , Tamarin d, Husk of grams, Maize 50kgs Coconut cake 100kgs Wheat 100kgs Bran 100kgs Salt 20kgs	-	-	-	-
14	Aquaculture	Edible fishes	Non utilization of large water bodies for fish culture. Lower durability of PVC cages	-	Cage culture of pearlspot fish (2017-18) Progressing	-	1	-	-	-	-	1375 pearl spot fingerlings	-	-
15	Freshwater Aquaculture	Edible fishes	Poor growth and FCR for handmade feed. Leaching of feed and excess algal bloom formation .Increase in cost of rice bran and oil cake resulting in lower income for fish farmers	-	“Culture of fishes using formulated feed” FLD of 2016-17 completed in 2018	-	-	-	1(Field day)	-	-	-	-	-
16	Fisheries : Brackish water aquaculture	Brackish water edible fishes	Lack of knowledge of candidate species for fish culture. Non availability of quality seed for fish culture	-	Scientific farming of milkfish (<i>Chanos chanos</i>) in brackish water ponds OFT of 2016-17 completed in 2018	-	-	-	1 Field day	-	-	-	-	-
17	Value addition	Banana	1.Rapid perishability. 2.Unavailability of suitable technology for processing of ripe banana.	Evaluation of different techniques for the Production of Dehydrated banana	EDP- Training on Mechanized Coconut palm climbing using machine	2	6	1	3	-	-	-	-	-

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	Grafted black pepper	IISR, Kozhikode	Black pepper	1		1	
2	Micro-nutrient mixture application in banana	KAU, Thrissur	Banana	-	1	1	Method demonstration
3	HYVs of YLB	KAU, Thrissur	Yard Long Bean	1		1	
4	High Density Planting of suckers and TC plants of nendran banana	KAU, Thrissur	Banana	1		1	Method demonstration
5	High Yielding Variety of turmeric IISR Pragati	IISR, Kozhikode	Turmeric		1		Field day
6	Cultivation of Big Ebanga banana	KAU, Thrissur	Banana		1		
7	Micro irrigation systems	CWRDM Kozhikode and KVK Ernakulam	Vegetables	1			Method demonstration
8.	Assessment of organic methods for pseudo stem weevil management in banana	(Farmers' practice) ICAR-CTCRI KVK Malappuram KAU	Banana	1		1	
9	Production of healthy ginger seed	ICAR-IISR	Ginger	-	1	2	-
10	Integrated Pest and Disease Management in Bitter gourd	KAU	Bittergourd	-	1	-	-
11	Production performance of layer chicks under cage system of rearing	KVASU	Poultry	yes	-	4	2
12	Hydroponic fodder production for dairy cattle	KVASU	Dairy	-	yes	4	-
13	Cage culture of pearlspot fish	ICAR-Central Marine Fisheries Research Institute	pearlspot fish	-	1	1	-
14	Culture of fishes using formulated feed (2016-17) completed in 2018	Central Institute of Fisheries Education (CIFE)	Freshwater edible fishes	-	1	-	-
15	1. Mono culture of milkfish(2016-17) completed in 2018 2. Polyculture of milkfish with shrimp (<i>Penaeus monodon</i>) (2016-17) completed in 2018	1. Central Marine Fisheries Research Institute (CMFRI) 2. Central Institute of Brackishwater aquaculture (CIBA).	1. Brackishwater fish (milk fish) 2. Brackishwater fish (milk fish) and <i>Penaeus monodon</i> shrimp	1	-	-	-
16	Evaluation of different techniques for the Production of Dehydrated banana	Ripe banana dried under sunlight in other variety like poovan, nendran.(Farmers practice) Farmers' practice 2. Osmotic dehydration of ripe banana followed by drying at 65 ^o c-75 0c for 5 Hrs (KAU) 2. Fully riped banana treated with citric acid after peeling, then dried under temperature between 60 ^o c-70 ^o c for 8 hrs (CFTRI)	Banana	1	3	3	-

3.B2 contd..

No. of farmers covered															
OFT				FLD				Training				Others (Specify)			
General		SC/ST		General		SC/ST		General		SC/ST		General		SC/ST	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
5	-	-	-	-	-	-	-	18	4	-	-	-	-	-	-
-	-	-	-	14	-	1	-	36	2	-	-	36	2	-	-
14	1	-	-	-	-	-	-	20	-	3	1	-	-	-	-
2	-	-	-	-	-	-	-	36	2	-	-	36	2	-	-
-	-	-	-	4	1	-	-	-	-	-	-	18	5	0	1
-	-	-	-	2	3	-	-	-	-	-	-	-	-	-	-
1	3	-	-	-	-	-	-	-	-	-	-	1	3	-	-
5	0	0	0	-	-	-	-	25	3	2	0	-	-	-	-
-	-	-	-	9	1	0	0	79	13	3	1	-	-	-	-
-	-	-	-	5	0	0	0	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	104	23	17	5	-	-	-	-
-	-	-	-	1	-	-	-	113	32	18	14	-	-	-	-
-	-	-	-	2	0	-	-	10	1	1	1	-	-	-	-
-	-	-	-	10	0	-	-	-	-	-	-	-	-	-	-
2	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-
9	1	-	-	7	-	-	-	60	20	5	-	-	-	-	-

PART IV - On Farm Trial**4.A1. Abstract on the number of technologies assessed in respect of crops**

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management	-	-	-	-	-	-	-	-	-	-
Varietal Evaluation	-	-	-	-	1	-	-	-	-	1
Integrated Pest Management	-	-	-	-	-	1	-	-	-	-
Integrated Crop Management	-	-	-	-	-	1	-	1	-	2
Integrated Disease Management	-	-	-	-	-	-	-	-	-	-
Small Scale Income Generation Enterprises	-	-	-	-	-	-	-	-	-	-
Weed Management	-	-	-	-	-	-	-	-	-	-
Resource Conservation Technology	-	-	-	-	1	-	-	-	-	1
Farm Machineries	-	-	-	-	-	-	-	-	-	-
Integrated Farming System	-	-	-	-	-	-	-	-	-	-
Seed / Plant production	-	-	-	-	-	-	-	-	-	-
Value addition	-	-	-	-	-	-	-	-	-	-
Drudgery Reduction	-	-	-	-	-	-	-	-	-	-
Storage Technique	-	-	-	-	-	-	-	-	-	-
Mushroom cultivation	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	2	2	-	1	-	4

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	-	1	-	-	-	1
Feed and Fodder	-	-	-	-	-	-
Small Scale income generating enterprises	-	-	-	-	-	-
TOTAL	-	1	-	-	1	2

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 the Technological Options)
Varietal Evaluation	Yard Long Bean	Assessing the performance of Yard Long Bean varieties Lola, Vellayani Jyothika and Githika in Kozhikode district	15	15	1
Integrated Pest Management	Banana	Assessment of organic methods for pseudo stem weevil management in banana	5	5	0.12
Integrated Crop Management	Black pepper	Growing of disease resistant grafted plants	5	5	250 grafts
	Banana	High Density Planting of suckers and TC plants of nendran banana	2	2	0.4
Resource Conservation Technology	Vegetables	Assessing the performance of different micro-irrigation systems in grow bag cultivation of vegetables and spices	4	4	50 grow bags
Total			31	31	-

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	Milk fish (<i>Chanos chanos</i>)	Scientific farming of milkfish (<i>Chanos chanos</i>) in brackishwater ponds	3	3
Value addition	Banana	Evaluation of different techniques for the Production of Dehydrated banana	1	10
	Jack fruit	Quality testing of Jack fruit Jam	1	2
Production and management	Poultry	Production performance of layer chicks under cage system of rearing	6	3
Total			11	18

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

4.C1. Results of Technologies Assessed

Results of On Farm Trial

Crop/enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Source of technology	Yield	Unit of yield	Observations other than yield	Net Return Rs. / unit	BC Ratio	Remarks if any
1	2	3	4	5	6	7	8	9	10	11	12	13
Black pepper	Rainfed	Severe incidence of <i>Phytophthora</i> foot rot of black pepper	Assessing the performance of grafted black pepper under irrigation and without irrigation	5	T.O.1 (Farmer practice): Growing local varieties of black pepper	-	1.1 (green pepper)	Kg per vine	Disease incidence : 12 %	Yield started this year only	Yield started this year only	Economic yield can be realized after 5 – 6 years.
					T.O.2: Growing grafted pepper with irrigation	(ICAR-IISR)	1.2 (green pepper)	Kg per vine	Disease incidence : nil	Yield started this year only	Yield started this year only	Economic yield can be realized after 5 – 6 years.
					T.O.3: Growing grafted pepper without irrigation	(ICAR-IISR)	1.1 (green pepper)	Kg per vine	Disease incidence : nil	Yield started this year only	Yield started this year only	Economic yield can be realized after 5 – 6 years.
Yard Long Bean	Irrigated	Low production of vegetables in the State	Assessing the performance of Yard Long Bean varieties Lola, Vellayani Jyothika and Githika in Kozhikode district	15	T.O.1 (Farmer practice): Cultivation of local types like Kurutholapayar and Manjeri local		16.8	t/ha		336000 per ha	1.86	
					T.O.2: Recommended practice: Cultivation of a HYV of YLB viz. Lola as per PoP	KAU, Thrissur	17.4	t/ha		348000 per ha	1.92	
					T.O.3: Cultivation of a HYV of YLB viz. Vellayani Jyothika as per PoP	KAU, Thrissur	18.6	t/ha		372000 per ha	2.07	
					T.O.4: Cultivation of a HYV of YLB viz. Githika as per PoP	KAU, Thrissur	19.8	t/ha	More palatable.	396000 per ha	2.14	
Banana	Irrigated	Low yield of nendran banana	Assessment of comparative performance of tissue culture plants and suckers of nendran banana under High Density Planting	2	T.O.1 (Farmer practice): Cultivation of nendran banana using suckers with one sucker per pit		9.8	Kg per plant	Less height compared to TC plants grown under HDP	332500	1.63	
					T.O.2: Recommended practice: High Density Planting (2 m x 3 m) of nendran banana using TC plants with two plants per pit	KAU, Thrissur	16.4	kg per pit of two plants	Plants taller under HDP and are more prone to wind damage	811342	1.73	
					T.O.3: High Density Planting (2 m x 3 m) of nendran banana using suckers with two suckers per pit	KAU, Thrissur	24.2	kg per pit of two plants	Plants taller under HDP and are more prone to wind damage	406504	2.35	
Micro-irrigation system	Irrigated	Acute shortage of irrigation water	Assessing the performance of different micro irrigation systems in grow bag cultivation of vegetables and spices		T.O.1 (Farmer practice): Hose / water can irrigation of vegetables and spices grown in grow bags		Trial continuing			Trial continuing		
					T.O.2: Use of low cost micro-irrigation system (Irrigateasy)	KVK, Ernakulam	Trial continuing			Trial continuing		

					T.O.3: Use of wick irrigation system	CWRDM, Kozhikode	Trial continuing			Trial continuing		
Sigatoka - banana	Inter crop and pure crop	Yield reduction due to Sigatoka disease in banana	Assessment of organic management practices against Sigatoka leaf spot in banana (2016-17)		T.O.1: Farmer's practice - Incorrect use of chemical pesticides	Farmer's practice	131.2	Q/ha	Disease incidence -39.85%	81560/ha	1.19	
					T.O.2 : Phytosanitation + spraying of 10% cow urine, once the initial symptoms appear, 3-4 sprays at 15 days interval	KAU	143	Q/ha	Disease incidence -36.45%	143250/ha	1.33	
					T.O.3: Phytosanitation + spraying of 1% mineral oil, once the initial symptoms appear, 5-7 sprays at 20-25days interval	NRCB, Trichy	196.9	Q/ha	Disease incidence -23.98%	323050/ha	1.69	
					T.O.4: Phytosanitation + Use of 2% <i>Pseudomonas fluorescens</i> once the initial symptoms appear, 3-4 sprays at 15 days interval	KAU	214.25	Q/ha	Disease incidence -20.9%	403750/ha	1.9	
Banana	Pure crop	Crop loss due to pseudo stem weevil attack	Assessment of organic methods for pseudo stem weevil management in banana (2017-18)	5	T.O.1 (Farmer practice) : No specific management practice		Trial continuing					The crop is in 7- 8 month old stage. The treatments were imposed during respective months. The plants are in bunch maturation stage
					T.O.2: Phytosanitation+ Prophylatic spray of Nanma 5% on the pseudostem and leaf axil filling when the plants are at 5,6 and 7 month old stage	ICAR-CTCRI						
					T.O.3: Phytosanitation + Prophylatic	KVK Malappura						

					application of neem cake @50g/plant in the leaf axils of plants, when the plants are at 4 and 6 month old stage	m						
					T.O.:4 Phytosanitation + Spray application on pseudo stem and leaf axil filling with <i>Metarrhizium anisopliae</i> @ 20g/litre at 5,6 and 7 month old stage	KAU						
					T.O.:5 Phytosanitation + Spray application on pseudo stem and leaf axil filling with <i>Beauveria bassiana</i> @ 20g/litre at 5,6 and 7 month old stage	KAU						
Poultry	Poultry rearing under homestead alongwith coconut, banana, ginger and turmeric etc		Production performance of layer chicks under cage system of rearing		T.O.1: (Farmerpractice) farmers are rearing poultry birds under free range without scientific background	Kvasu	Trial is in progress					
					T.O.2:Rearing layer chicks in cages with concentrate, mineral mixture,dewormwer and vitamins							
					T.O.3:Rearing layer chicks in cages with concentrate, mineral mixture,dewormwer ,vitamins and red light during night in cages.							
Fisheries-Brackishwater fishes	Mostly shrimps and pearlspot fish cultured	Lack of knowledge of candidate species for brackishwater fish culture. Non availability of quality seed for fish culture.	Scientific farming of milkfish (<i>Chanos chanos</i>) in brackishwater ponds	3	T.O.1 Extensive shrimp farming in brackishwater ponds Stocking density 5/m ² (Farmer practice)	Farmers' practice	231.7	kg/ha	Avg. body weight of shrimp :25g Survival: 18.3%	31167	1.81	Extensive shrimp farming done with minimum management practice
					T.O.2 Mono culture of milkfish Stocking density @6250/ha	Central Marine Fisheries Research Institute	1044	kg/ha	Avg. size of milk fish:275g in 7 months and survival	100312	1.75	Low survival of milkfish was due to sudden drop in water pH at onset of

						(CMFRI)			61.5%			monsoon and higher cost was incurred for liming to correct water acidity.
					T.O.3 Polyculture of milkfish with shrimp (<i>Penaeus monodon</i>) Stocking density: Milk fish : 2000/ha & shrimp 2/m ²	Central Institute of Brackishwater aquaculture (CIBA)	377	kg/ha	Avg. body weight of shrimp :25g & Survival: 79.3%	58017	1.94	Milk fish poly culture could not be done due to non availability of seed during the shrimp farming season.
Banana	Homestead gardening	1.Rapid perishability. 2.Unavailability of suitable technology for processing of ripe banana	Evaluation of different methods for the production of dehydrated banana	10	Ripe banana dried under sunlight in other variety like poovan, nendran.(Farmers practice) 2. Osmotic dehydration of ripe banana followed by drying at 65 ^o c-75 ^o c for 5 Hrs (KAU) 3. Fully riped banana treated with citric acid after peeling, then dried under temperature between 70 ^o c-80 ^o c for 8 hrs (CFTRI	Keeping quality Cost effectiveness	Shelf life: 9 months	Colour:Light brown Texture:Hard Taste:Good Colour:Greyish brown Texture:Soft,and Rubbery Taste:good Colour:Golden brown Texture:Soft,and Rubbery Taste:good	- It is economically viable and energy saving equipment but it is useful only in summer season.	-	-	
Jack fruit	Homestead gardening	Low acceptability of Jack fruit jam due to off flavor developed during storage	Quality testing of Jack fruit Jam		T. O.1:Preparation of jam using jack fruit pulp only (Farmers' practice) T. O. 2: Preparation of jam using jack fruit pulp, mango and papaya pulp(KAU) T. O.3: Preparation of jam using jack fruit pulp and pine apple pulp(KVK, Calicut)	Acceptability Shelf life period	Shelf life:6 months	Dark yellow/orange colour. The product has bright yellow colour, good taste and pleasant flavor	Jack fruit and pine apple mix is good for the production of Jam and this combination reduces the off flavour developed during storage			

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

OFT 1

- 1 Title of Technology Assessed : Performance evaluation of grafted black pepper
- 2 Problem Definition : Severe incidence of Phytophthora foot rot of black pepper
- 3 Details of technologies selected for assessment:
 - T. O.1: Farmers practice: Growing local varieties
 - T. O. 2: Growing grafted pepper with irrigation
 - T. O.3: Growing grafted pepper without irrigation

- 4 Source of technology: ICAR-IISR, Kozhikode
- 5 Production system and thematic area: Improving production of spices
- 6 Performance of the Technology with performance indicators: By third year end, more than 92 per cent of grafts have established in all the plots and is growing satisfactorily. No incidence of *Phytophthora* foot rot was reported in any of the grafted plants. *Phytophthora* foot rot symptoms were noticed in 12 % local varieties.
7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques : Performance of Panniyur 1 grafts was better compared to Subhakara in terms of growth performance and incidence of viral diseases.
- 8 Final recommendation for micro level situation: By growing grafted pepper plants, we can totally eliminate *Phytophthora* foot rot. But irrigation of grafts is required especially in summer season.
- 9 Constraints identified and feedback for research: Pepper grafts of Subhakara variety was found to be more susceptible to virus disease compared to Panniyur 1.
- 10 Process of farmers' participation and their reaction: Grafted pepper technology is well popular among farmers to compact *Phytophthora* foot rot.

OFT 2

- 1 Title of Technology Assessed : Assessing the performance of Yard Long Bean varieties Lola, Vellayani Jyothika and Githika in Kozhikode district
- 2 Problem Definition : Low production of vegetables
- 3 Details of technologies selected for assessment:
T.O.1: Cultivation of local types like Kurutholapayar and Manjeri local
T.O.2: Cultivation of a HYV of YLB viz. Lola as per PoP
T.O.3: Cultivation of a HYV of YLB viz. Vellayani Jyothika as per PoP
T.O.4: Cultivation of a HYV of YLB viz. Githika as per PoP
- 4 Source of technology: KAU
- 5 Production system and thematic area: Improving production of vegetables
- 6 Performance of the Technology with performance indicators: The yield was highest in Githika (19.8 t/ha) followed by Vellayani Jyothika (18.6 t/ha), Lola (17.4 t/ha). The local check recorded the lowest yield (16.8 t/ha).
7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques : The varieties Githika and Vellayani Jyothika had good market demand. Both Githika and Vellayani Jyothika were more fleshy and palatable compared to other two.
- 8 Final recommendation for micro level situation: Performance of all the varieties is found to be superior in summer rice fallows compared to upland conditions.
- 9 Constraints identified and feedback for research: Pests like aphids, leaf miner, pod borers etc. were also more in shaded upland conditions compared to open fields.
- 10 Process of farmers' participation and their reaction: To extend cultivation to more areas, sufficient quantity of seeds should be made available in time.

OFT 3

- 1 Title of Technology Assessed : Assessment of comparative performance of tissue culture plants and suckers of nendran banana under High Density Planting
- 2 Problem Definition : Low yield of nendran banana
- 3 Details of technologies selected for assessment:

- T.O.1: Cultivation of nendran banana using suckers with one sucker per pit
- T.O.2: High Density Planting (2 m x 3 m) of nendran banana using TC plants with two plants per pit
- T.O.3: High Density Planting (2 m x 3 m) of nendran banana using suckers with two suckers per pit
- 4 Source of technology: KAU
- 5 Production system and thematic area: Improving production of fruits
- 6 Performance of the Technology with performance indicators: With the highest average yield of 24.2 kg per pit of two plants, the technological option tissue culture plants under high density was found to be superior compared to other two methods. This also recorded the highest BC ratio of 2.35 followed by suckers under HDP (1.73) and normal planting (1.63).
7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: Compared to normal planting, both suckers and TC plants were found to be taller under HDP and are more prone to wind damage. Hence they need strong support to protect from unexpected damages from strong winds.
- 8 Final recommendation for micro level situation: TC plants of nendran under HDP can be recommended to enhance the productivity of nendran banana to a greater extent.
- 9 Constraints identified and feedback for research: Both suckers and TC plants were found to be taller under HDP and are more prone to wind damage.
- 10 Process of farmers' participation and their reaction: TC plants of nendran are available only from limited sources in Kozhikode and hence should be made available from reliable sources.

OFT-4

- 1 Title of Technology Assessed : Assessment of organic management practices against Sigatoka leaf spot in banana (2016-17)
- 2 Problem Definition : Disease incidence in banana
- 3 Details of technologies selected for assessment:
- T.O.1: Farmer's practice - Incorrect use of chemical pesticides
- T.O.2 : Phytosanitation + spraying of 10% cow urine, once the initial symptoms appear, 3-4 sprays at 15 days interval (KAU)
- T.O.3: Phytosanitation + spraying of 1% mineral oil, once the initial symptoms appear, 5-7 sprays at 20-25days interval (NRCB, Trichy)
- T.O.4: Phytosanitation + Use of 2% *Pseudomonas fluorescens* once the initial symptoms appear, 3-4 sprays at 15 days interval (KAU).
- 4 Source of technology: KAU and NRCB Trichy
- 5 Production system and thematic area: Disease management in banana
- 6 Performance of the Technology with performance indicators: The treatment 2% *Pseudomonas fluorescens* reported only 20.93% disease incidence, with a bunch weight of 214.25 Q/ha and B:C ratio of 1.9, while 1% mineral oil recorded 23.98 % disease incidence, 196.95 Q/ha and B:C ratio of 1.7. Cow urine was found to be less effective with 36.45% disease incidence, 143 Q/ha yield and B:C ratio of 1.33, while control plot recorded 39.85 % disease incidence, 131.2 Q/ha yield and B:C ratio of 1.19.
7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques : The efficacy of *Pseudomonas* was weather dependent; while mineral oil was more responding and hence more preferred by the farmers.

- 8 Final recommendation for micro level situation: Mineral oil and Pseudomonas were reported to give better disease control compared to cow urine. Results showed that under organic method of Sigatoka management, Pseudomonas was performing better, provided there is a humid micro climate prevailing. 1% mineral oil was also found to be performing better for disease management. But mineral oil was not easily available in the district.
- 9 Constraints identified and feedback for research: For better performance of pseudomonas humid micro climate is required.
- 10 Process of farmers' participation and their reaction: The efficacy of Pseudomonas was weather dependent; while mineral oil was more responding and hence more preferred by the farmers.

OFT-5

- 1 Title of Technology Assessed: Assessed Production performance of layer chicks under cage system of rearing
- 2 Problem Definition: Non availability of quality layer chicks, low growth rate, poor laying performance and feather pecking
- 3 Details of technologies selected for assessment:
T.O.1: Improved cages
T.O.2: Domestic cage
- 4 Source of technology: TANUVAS
- 5 Production system and thematic area: Production performance under cage system of rearing
- 6 Performance of the Technology with performance indicators: Trial is in progress
7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: Safe to rear, safe from predators, less time is required, more number of birds can rear in less space, disease incidence is less etc.
- 8 Final recommendation for micro level situation: Though initial investment is higher, management is easy.
- 9 Constraints identified and feedback for research: -
- 10 Process of farmers' participation and their reaction: small farmers can meet the nutritional requirement of their children, provided extra income particularly to the farm women. Since the birds lay colored eggs fetched higher market value.

OFT-6

- 1 Title of Technology Assessed: Scientific farming of milkfish (*Chanos chanos*) in brackishwater ponds
- 2 Problem Definition: lack of knowledge of candidate species for fish culture, Non availability of quality seed for fish culture
- 3 Details of technologies selected for assessment:
T.O.1. Extensive shrimp farming (Farmers practice) @5/m²
T.O.2. Mono culture of milkfish @6250/ha Central Marine Fisheries Research Institute (CMFRI)
T.O.3. Polyculture of milkfish with shrimp (*Penaeus monodon*) Central Institute of Brackishwater Aquaculture (CIBA) Shrimp @2/m² & 2000/ha (Milk fish)
- 4 Source of technology: CMFRI & CIBA
- 5 Production system and thematic area: Brackish water aquaculture
- 6 Performance of the Technology with performance indicators: Mono culture of milk fish was only possible due to non-availability of milk fish seed during the shrimp farming season (Feb to May) hence poly culture could not be done.

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: Mono culture of milkfish is an alternate to shrimp farming in brackishwater areas where water is non acidic.
8. Final recommendation for micro level situation: Mono culture of milk fish was possible to assess.
9. Constraints identified and feedback for research: Water acidity during monsoon is a biggest constrain in many parts of Ulliyeri panchyath . Large quantity of liming is required in these areas for correction of water pH which the farmers are reluctant to do. So November to May is the only period which farmers can practice aquaculture and have to go for shrimp farming.
10. Process of farmers' participation and their reaction: Scientific mono culture of milkfish is an alternate to shrimp farming in brackishwater areas.

OFT-7

1. Title of Technology Assessed : Evaluation of different methods for the production of dehydrated banana.
2. Problem Definition : Rapid perishability of ripe banana. Unavailability of suitable technology for processing of ripe banana
3. Details of technologies selected for assessment:
 T1: (Farmers practice) This technology includes only the process of direct sun drying.
 T2: (KAU) osmotic dehydration of ripe banana followed by drying at 650c-75 0c for 5 Hrs is practiced under 67-70^oc Brix for 8hrs followed by drying at 650c for 5 hrs
 T3: Fully riped banana treated with citric acid after peeling, then dried under temperature between 700c-80 0c for 8 hrs
4. Source of technology: KAU and CFTRI
5. Production system and thematic area: Value addition
6. Performance of the Technology with performance indicators: Final product with 8 %moisture shows its shelf life period up to 9 months
7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques : It is both economically feasible and energy saving equipment but it is useful only in summer season. In monsoon season the temperature cannot be maintained at constant .So that the duration of dehydration will be increased.
8. Final recommendation for micro level situation: The technology is suitable during summer season.
9. Constraints identified and feedback for research: It is useful in summer season and a constant temperature cannot be maintained during the whole process of drying/monsoon season. So that the duration of dehydration will be increased.
10. Process of farmers participation and their reaction: It is economically viable and energy saving equipment. The technology is suitable to dry 10-20 kg of fruits and vegetables. So it is most appropriate for establishing micro level food processing unit.

OFT-8

1. Title of Technology Assessed: Quality testing of Jack fruit Jam
2. Problem Definition : Low acceptability of Jack fruit jam due to off flavor developed during storage
3. Details of technologies selected for assessment:
 Technology option 1: Preparation of jam using jack fruit pulp only
 Technology option 2: Preparation of jam using jack fruit pulp, mango and papaya pulp
 Technology option 3: Preparation of jam using jack fruit pulp and pine apple pulp
4. Source of technology: KAU

- 5 Production system and thematic area: Value addition
- 6 Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques : The mixed jam prepared by using jackfruit + pine apple pulp showed a bright yellow colour, taste and pleasant flavour its shelf life period up to 9 months
- 8 Final recommendation for micro level situation: Jack fruit and pine apple mix is good for the production of Jam and this combination reduces the off flavour developed during storage
- 9 Constraints identified and feedback for research: Nil
- 10 Process of farmers participation and their reaction: The production of mixed fruit jam by using pine apple pulp enhances the flavour, colour and taste which ultimately improves the consumer preference.

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

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
1	Vegetables	Pure crop, Inter crop in coconut gardens	January-April	Bitter gourd	Preethi	-	Integrated Pest and Disease Management	Integrated Pest and Disease Management package of bitter gourd in which entomopathogens, plant protection chemicals, pheromone traps, sticky traps, etc will be included (KAU)	0.2 ha	0.2 ha	-	5	5	-
2	Fruit	Irrigated	Summer	Banana	Nendran		Improving yield of fruits	Demonstration of banana micro-nutrient mixture containing Ca, Mg, Zn, B and S viz. AYAR + PoP (2016-17)	0.8 ha	0.8 ha	-	15	15	-
3	Fruit	Irrigated	Summer	Banana	Nendran		Improving yield of fruits	Demonstration of banana micro-nutrient mixture containing Ca, Mg, Zn, B and S viz. AYAR	1.5 ha	1.5 ha	-	10	10	-

								+ PoP (2017-18)							
4	Fruit	Irrigated	Summer	Banana	Big Ebanga	-	Improving income from coconut based cropping systems	Demonstration of Big Ebanga as an intercrop in coconut gardens (2017-18)	0.25 ha	0,25 ha	-	5	5	-	
5	Spices and condiments - Turmeric	Rainfed	Kharif	Turmeric	IISR Pragati	-	Improving yield of spices	Introduction of a HYV of turmeric viz. IISR Pragati (2017-18)	0.05 ha	0.05 ha	-	5	5	-	
6	Spices and condiments - Ginger	Intercrop in coconut garden	May-January-Feb	Ginger	Varada	-	Production of quality ginger seed	Soil solarisation, Seeds of Varada variety, Rhizome treatment with GAB107, drenching GAB 107 at 30, 45 and 60 DAP, ginger micronutrient spray (ICAR-IISR)	0.2 ha	0.2 ha	-	10	10	-	
7	Fodder	Semi intensive rearing of cows along with coconut, banana etc with cultivation of one to two cents of fodder	All season	Dairy and hydroponic fodder production	Cross bred	-	Feeding management in dairy cattle	Hydroponic fodder production for dairy cattle	1 unit	1 unit	Established at kvk	-	-	-	
8	Dairy	Semi intensive rearing of dairy animals along with other agricultural crops	All season	Dairy	Cross bred	-	Feeding and production management in dairy cattle	EDP on homemade Ration for dairy animals	1 unit	1 unit	2	6	-	Farm women	
9	Common carps	Feeding fishes with rice bran and groundnut oil cake leading to poor water quality and high FCR	August to June	Freshwater edible fishes	Pearlspot, Indian Major carps	No	Freshwater aquaculture	Culture of fishes using formulated floating feed	0.2ha	0.224 ha	0	10	10	0	
10	Common carps	Non utilization of large water bodies for fish culture. Lower durability of PVC	August to June	Edible fishes	Pearlspot,	No	Aquaculture :Cage culture	Cage culture of pearl spot fish (<i>Etroplus suratensis</i>) (2017-18) under progress	2 units (1 at KV K)	2 units	0	1	0	1	
11	Implementations	Pure crop		Coconut	-	-	Mechanized coconut palm climbing	Demonstration of coconut palm climbing	-	-	2	5	-	-	

Fruit - Banana	Demonstration of banana micro-nutrient mixture containing Ca, Mg, Zn, B and S viz. AYAR + PoP (2017-18)	Nendra n	-	Irrigate d	10	1.5	Demo continui ng	-	-	-	-	-	-	-	-	-	-	-	-
Fruit - Banana	Demonstration of Big Ebanga as an intercrop in coconut gardens (2017-18)	Big Ebanga	-	Irrigate d	5	0.25	Demo continui ng	-	-	-	-	-	-	-	-	-	-	-	-
Fruit - Banana	Management of pseudo stem weevil in banana using the entomopathogenic fungus <i>Beauveria bassiana</i> (2016-17)	Nendra n	-	Pure crop	10	0.4 ha	230	201.50	215.75	128.25	40.55	457250	874000	416750	1.91	381500	487350	105850	1.27
Spices and condiments	Introduction of a HYV of turmeric viz. IISR Pragati (2017-18)	Turneric – IISR Pragati	-	Rainfed	5	0.05	420	226	300.4	180	66.89	250000	608000	358000	2.43	230000	349600	119600	1.52
Spices and condiments - Ginger	Soil solarisation, Seeds of Varada variety, Seed treatment with <i>Pseudomonas</i> , ginger micronutrient spray (ICAR-IISR) (2017-18)	Varada	-	Inter crop in coconut gardens	10	0.2 ha	162.75	132.00	147.37	107.35	27.15	1218125	2251125	1033000	1.85	708125	751485	43360	1.06

* 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
Coconut-	Disease %- 13.33	Disease %- 41.77
Bitter gourd	Disease %- 12.6 Pest attack (%) -10.6	Disease %- 31.2 Pest attack (%) -37.8
Banana	Pest attack (%) -9.02	Pest attack (%) -30.5
Ginger	Disease %- 14.66 Pest attack (%) -8.8	Disease %- 35 Pest attack (%) - 14.2

5.B.2. Livestock and related enterprises

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Yield (kg/animal)			% Increase	*Economics of demonstration (Rs./unit)				*Economics of check (Rs./unit)			
					Demo		Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A									
Dairy	Hydroponic fodder production for dairy cattle	Crossbred	1	Established at kvk	5.8	4.4	5.1	-	22	40.8	18.8	1.85	-	-	-	-
Dairy(feed)	EDP on homemade Ration for dairy animals	Dairy(home made ration)	1	1	225 kgs	120 kgs	172.5	-	975 per 50 kgs	1250 per 50 kgs	275 per/50 kg	1.28	-	-	-	-

* 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.) : Nil

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

5.B.3. Fisheries

Type of Breed	Name of the technology demonstrated	Breed	No. of Demo	Units/Area (m ²)	Yield (q/ha)				% Increase	*Economics of demonstration (Rs./unit) or (Rs./m ²)				*Economics of check (Rs./unit) or (Rs./m ²)			
					Demo			Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Common carps	Culture of fishes using formulated floating feed (2016-17)	Pearl spot, Indian major carps	10	10 (2240 m ²)	48.17	11.01	25.93	24.88	4.23	26.06	55.95	29.89	2.15	21.46	41.95	20.49	1.95
Others (pl.specify)	Cage culture of pearl spot fish (<i>Etroplus suratensis</i>) 2017-18	pearl spot-demonstration under progress	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-

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

** BCR= GROSS RETURN/GROSS COST

H-High L-Low, A-Average

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

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check if any
Avg. size of pearlspot and IMC	250g, 600g	200g, 425g
Survival %	81.01	76.87

5.B.4. Other enterprises: Nil

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

5.B.5. Farm implements and machinery

Name of the implement	Cost of the implement in Rs.	Name of the technology demonstrated	No. of Demo	Area covered under demo in ha	Labour requirement in Mandays		% save	Savings in labour (Rs./ha)	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)				
					Demo	Check			Gross cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR	
Farm mechanization	9000	Demonstration of coconut palm climbing by using climbing machine	10		80 palms/day	50 palm/day	37 %	2800									

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

** BCR= GROSS RETURN/GROSS COST

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

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

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

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	5	89	
2	Farmers Training	31	946	
3	Media coverage	3	-	-
4	Training for extension functionaries	2	28	-
5	Method demonstration	3	86	

PART VI – DEMONSTRATIONS ON CROP HYBRIDS

Demonstration details on crop hybrids: Nil

Any other (pl.specify) cage culture of fishes	1	10	1	11	1	1	2	11	2	13
Aquaponics	2	82	3	95	5	3	8	87	16	103
Processing of fruits and vegetables	2	34	24	58	0	0	0	34	24	58
Farm mechanization	3	36	4	40	4	0	4	44	4	48
TOTAL	22	514	210	734	34	15	49	552	235	787

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
Processing of fruits and vegetables	1	56	4	60	0	0	0	56	4	60
Ornamental fisheries	1	22	0	22	0	0	0	22	0	22
Composite fish culture	1	32	7	39	1	0	1	33	7	40
Any other (pl.specify)	1	25	3	28	2	0	2	27	3	30
Plant Health Management										
Any other (pl.specify) aquaponics	1	34	4	38	0	0	0	34	4	38
TOTAL	5	169	18	187	3	0	3	172	18	190

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Organic cultivation	1	8	3	11	0	0	0	8	3	11
Health and Nutrition for children	1	1	29	30	0	0	0	1	29	30
Total	2	9	32	41	0	0	0	9	32	41

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
Any other (pl.specify) ornamental fish culture	1	6	2	8	0	0	0	1	14	15
Integrated fish farming	1	9	11	20	0	0	0	18	2	20
Total	2	15	13	28	0	0	0	19	16	35

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	-	-	-	-	-	-	-	-	-	-
2	Production and value addition	-	-	-	-	-	-	-	-	-	
3.	Soil health and fertility management	-	-	-	-	-	-	-	-	-	
4	Production of Inputs at site	-	-	-	-	-	-	-	-	-	
5	Methods of protective cultivation	-	-	-	-	-	-	-	-	-	
6.a	Others (pl.specify) Gardeners training programme*	1	10	5	15	2	3	5	12	8	20
6.b	Apiculture	1	52	12	64	2	0	2	54	12	66
6.c	Plant Health Management	-	-	-	-	-	-	-	-	-	-
7	Post harvest technology and value addition	-	-	-	-	-	-	-	-	-	-
8	Farm machinery	-	-	-	-	-	-	-	-	-	-
9.	Livestock and fisheries	-	-	-	-	-	-	-	-	-	-
10	Livestock production and management	-	-	-	-	-	-	-	-	-	-
11.	Home Science	-	-	-	-	-	-	-	-	-	-
12	Agricultural Extension										
	Total	2	62	17	79	4	3	7	66	20	86

Details of sponsoring agencies involved

1. Department of Agriculture
2. HORTICORP
3. LivoLink foundation, Bhuvaneswar

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	-	-	-	-	-	-	-	-	-	-
2	Post harvest technology and value addition	-	-	-	-	-	-	-	-	-	
3.	Livestock and fisheries										
3.a	Others (pl.specify) Ornamental fish culture-paid	2	53	7	60	10	1	11	63	8	71
4.	Income generation activities										
4.a.	Nursery, grafting etc.	1	6	20	26	0	1	1	6	21	27
4.b.	Gardeners training programme	1	10	5	15	2	3	5	12	8	20
4.c	Others (pl.specify) Apiculture	2	81	14	95	2	0	2	83	14	97
5	Agricultural Extension	-	-	-	-	-	-	-	-	-	-
6	Plant health management	4	152	47	199	4	3	7	156	50	206
7	Scientific production of pepper ginger and water management	1	20	2	22	0	2	2	20	4	24
	Grand Total	11	322	95	417	18	10	28	340	105	445

PART VIII – EXTENSION ACTIVITIES**Extension Programmes (including extension activities undertaken in FLD programmes)**

Nature of Extension Programme	No. of Programmes	No. of Participants (General)			No. of Participants SC / ST			No. of extension personnel		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	5	66	18	84	3	3	6	5	2	7
Kisan Mela	-	-	-	-	-	-	-	-	-	-
Kisan Ghosthi	-	-	-	-	-	-	-	-	-	-
Exhibition	2	800	600	1400	25	10	35	32	18	50
Film Show	41	593	737	1330	25	12	37	2	6	8
Method Demonstrations	29	222	85	317	3	1	4	14	16	30
Farmers Seminar	7	385	175	560	65	25	90	50	32	82
Workshop	-	-	-	-	-	-	-	-	-	-
Group meetings	5	70	23	93	3	1	4	2	2	4
Lectures delivered as resource persons	26	318	399	717	5	8	13	8	11	19
Newspaper coverage	62	-	-	1000s	-	-	-	-	-	-
Radio talks	3	-	-	“	-	-	-	-	-	-
TV talks	2	-	-	“	-	-	-	-	-	-
Popular articles	6	-	-	“	-	-	-	-	-	-
Extension Literature	3									
Advisory Services	1333	274	163	437	11	8	19	9	8	17
Scientific visit to farmers field	85	132	40	172	4	4	8	1	1	2
Farmers visit to KVK	12824	-	-	12824	-	-	-	-	-	-
Diagnostic visits	86	22	4	26	1	0	1	6	13	19
Exposure visits	7	154	67	222	12	12	24	84	15	99
Ex-trainees Sammelan	1	-	-	-	-	-	-	-	-	-
Soil health Camp	7	-	-	180	-	-	-	-	-	-
Animal Health Camp	1	98 animals were treated	-	40	-	-	-	-	-	-
Agri mobile clinic	-	-	-	-	-	-	-	-	-	-
Soil test campaigns	-	-	-	-	-	-	-	-	-	-
Farm Science Club Conveners meet	-	-	-	-	-	-	-	-	-	-
Self Help Group Conveners meetings	8	0	135	135	0	9	9	-	-	-
Mahila Mandals Conveners meetings	-	-	-	-	-	-	-	-	-	-
Celebration of important days (specify) World Honey Bee Day,	3	95	13	98	4	0	4	7	3	10

Fisheries day, Yoga day										
Help line	2867	-	-	-	-	-	-	-	-	-
Parasitic control measures in livestock	1401	-	-	-	-	-	-	-	-	-
Goat breeding programme	91	-	-	-	-	-	-	-	-	-
Artificial insemination in cows	71	-	-	-	-	-	-	-	-	-
Ksheerothsavom	2	-	-	-	-	-	-	-	-	-
Desmotomy operation	3 cows	-	-	-	-	-	-	-	-	-
Total	9285	3225	2467	22051	167	93	260	220	127	372

PART IX – PRODUCTION OF SEED, PLANT AND LIVESTOCK MATERIALS

9.A. Production of seeds by the KVKs

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	Ginger	IISR Varada		3.76	56400	Used for further seed multiplication
Fodder crop seeds	-	-	-	-	-	-
Fiber crops	-	-	-	-	-	-
Forest Species	-	-	-	-	-	-
Others (specify)						
Total	-	-	-	3.76	56400	-

9.B. Production of planting materials by the KVKs

Crop category	Name of the crop	Variety	Hybrid	Number	Value (Rs.)	Number of farmers to whom provided
Commercial	-	-	-	-	-	-
Vegetable seedlings	Cabbage seedlings	NS 183	-	2000	6000	136
	Cauliflower seedlings	NS 60 N	-	2145	6435	148
Fruits	Mango graft	Vellai Colomban	-	278	27800	188
	Rose apple rooted cuttings	Elite line	-	288	7200	138
Medicinal and Aromatic	-		-			
Plantation	Arecanut seedlings	Mohitnagar	-	3875	96875	138
Spices	Bush pepper	Sreekara Subhakara, Panniyur -1	-	2997	299700	387
	Black pepper	Subhakara, Panniyur -1, IISR Thevam, IISR Shakthi, IISR	-	14476	289520	380

		Girimunda, IISR Malabar Excel etc				
	Nutmeg graft	IISR Viswashree	-	2177	653100	236
	Nutmeg grafts	IISR Keralashree	-	366	109800	60
	Garcinia graft	Elite line	-	1395	139500	246
	<i>Piper colubrinum</i> rooted cuttings		-	814	16280	88
	<i>Piper chaba</i> rooted cuttings	Elite line	-	240	4800	86
	Black pepper grafts	Panniyur 1, Subhakara	-	23	3450	9
	Ginger sold as grow bags	IISR Varada	-	65	9750	54
Tuber	-	-	-	-	-	-
Fodder crop saplings	-	-	-	-	-	-
Forest Species	-	-	-	-	-	-
Others(specify) Ornementals	Crotons, anthurium		-	500	5000	10
Total				31639	1675210	2166

9.C. Production of Bio-Products

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	Number of farmers to whom provided
Bio Fertilizers	-	-	-	-
Bio-pesticide	Neemsoap	39.75 kg	15,900	255
Bio-fungicide	<i>Trichoderma</i>	2871 kg	2,87,100	1848
Bio Agents	-	-	-	-
Others (specify)				
	Cuelure traps	52	6500	40
	MET	50	5000	38
	Mushroom spawn	269.45 kg	32,334	100
	Azolla	91.6	5543	78
Total	-	-	3,52,377	2359

9.D. Production of livestock materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	Number of farmers to whom provided
Dairy animals				
Cows	Cross bred	2	55450	2
Artificial insemination	Crossbred	71	3195.00	71
Calves	-	-	-	-
Others (Pl. specify)	-	-	-	-
Poultry				
Broilers	-	-	-	-
Layers	Gramasree ,kalingabrown,Bv380 One day old layer chicks 45 days old layer chicks	57023 2111	12,54,506.00 2,11,100.00	744
Cockerels	Gramasree	219	35,600.00	172
Poultry litter	-	550cft	16,500.00	

Table and chipped eggs	Gramasree	1119	5938.00	356
Emu	-	-	-	-
Ducks	-	-	-	-
Others (Pl. specify)	-	-	-	-
Goatary				
Goat	Malabari	4	29,950.00	4
Powdered Goat manure	-	478 kgs	9,740.00	304
Goat manure	-	615 cft	30,750.00	
Goat breeding	Sirohi	91	6825.00	91
Fisheries				
Fingerlings (Ornamental fishes)	Guppy, platy, swordtail, moly, barb, gold fish, carp, fighter, gourami	4872	29,230	142
Total			16,88,784	1886

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

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

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

KVK News Letter Vol 10(1), 8p. (January-June2017), Half yearly, 50 copies distributed

(B) Literature developed/published

Item	Title	Authors name	Number
Research papers	Ratha Krishnan P. 2017. Quality planting material production options and potential towards drought mitigation. In: Drought mitigation and management. (Eds. Suresh Kumar, S.P.S. Tawar and Akath Singh) Scientific Publishers (India), Jodhpur, 218-228 p.	Ratha Krishnan P	-
	Ratha Krishna, P. 2017. Role of trees in microclimate modification for improving soil health and water use efficiency in drylands. In: Soil and water management strategies for drylands (Rds: Shamsudheen Mangalassery, Devi Dayal and Deepesh Machiwal), Kalyani Publishers, New Delhi, 117-125.	Ratha Krishnan P	-
	B. Pradeep, P. Ratha krishnan and Lijo Thomas. 2017. Analysis on farming and marketing of ornamental fishes in South India- A case study. Abstracts in Second KVK Symposium on Frontline Extension programmes for realizing higher productivity and profitability in farming. 7-8 March 2017, 136-137p.	B. Pradeep, P. Ratha Krishnan and Lijo Thomas.	-
	K.K. Aiswariya, K.M. Prakash and K. Jayarajan. 2017. Foot rot management of black pepper in Calicut district of Kerala. Abstracts in Second KVK Symposium on Frontline Extension programmes for realizing higher productivity and profitability in farming. 7-8 March 2017,110 p.	K.K. Aiswariya, K.M. Prakash and K. Jayarajan.	-

	Ratha Krishnan, P., Prakash, K.M. and Manoj, P.S. 2017. Innovations in household level ginger cultivation - Case study in Kozhikode district, Kerala. Abstract in :National seminar on “Natural resource management for horticultural crops under changing climatic conditions” held at CWRDM, Calicut during 16 & 17 March, 2017.	Ratha Krishnan, P., Prakash, K.M. and Manoj, P.S.	-
Technical reports	-	-	-
News letters	KVK Newsletter		Vol 10(1), 8p.
Technical bulletins	-	-	-
Popular articles	<i>Mannile pen thilakkam</i>	Mariya Dainy. M.S. and Aiswariya, K.K. 2017	Kerala karshakan 63(6): 58-59
	<i>Parambalil ninnoru vijayagaadha</i>	Aiswariya. K.K., Pradeep. B., Mariya Dainy M.S., Prakash K.M. 2018	Krishiyankanam 23(2): 40-41
	<i>Sookshma moolakangalude praadhaanyam pazham pachakkari vilakalil</i>	Mariya Dainy.M.S., Aiswarya, S. S. and Rachana, N.P. 2017	Krishiyankanam, 23(2): 34-35.
	Maayam Kalaraatha sugandhavum saundayavum ; Keralakarshakan	Deepthi.A	April -2017, Pp-56.
	Sugandhapooritham mezhukuthiri,Keralakarshakan April 2017,Pp 56	Deepthi A	April 2017,Pp 56 3.
	<i>Kamaneeyam Kera Bouquet.</i> Kerala Karshakan, 62(6):64	Deepthi A	April 2017,Pp 56 3.
Extension literature	Banana (Booklet). 2 nd Revised edition.	Manoj, P. S, and Mariya Dainy.	1000
	Booklet on freshwater ornamental fish culture. Pages 40.	Pradeep, B. Subal, N.M and Neethu V.S., 2017	1000
	Leaflet on freshwater ornamental fish diseases and their preventive measures in Malayalam. Pages 8	Pradeep, B. and Neethu V.S., 2017.	
	Leaflet-Value added products from Jack fruit.	Deepthi.A	
Training Manual	Training manual on “Plant propagation and nursery management	Manoj, P. S and Rathakrishnan, P	25
	Beekeeping	K K Aiswariya, P Rathakrishnan	100
TOTAL	17	-	-

10.B. Details of Electronic Media Produced

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

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

Impact of training on Plant Propagation Techniques and Nursery Management

Training programmes of one day to 180 days duration are organized by KVK in order to assist rural youth to start self employment units in planting material production and commercial agricultural nursery. The methodology adopted includes training emphasizing on “learning by doing”, exposure visits to well

established nurseries in both government and private sector, entrepreneurship development trainings, preparation of bankable projects, linking with institutions like SHM, NABARD, DASD etc. for financial support as well as accreditation, buy back by KVK for selected items after ensuring quality etc.

As a result of this important training programme about 13 nursery units were started by KVK trainees over a period of time. The income of these units ranges from Rs.10,000 to Rs.15 lakhs per year. A list of such successful units is furnished below.

1. Panakkavayal Agricultural Nursery, C/o Mr.George Thomas, Panakkvayal House, Koorachundu, Kozhikode - 673 527
2. Ms.Preeja Suresh and group (six members), Peruvannamuzhi engaged in KVK for planting material production
3. Mr.Jojo Jacob, Randuplackal Horticultural Nursery, Kadiyangadu, Kozhikode – fruits, bush pepper, ornamentals, plantation crops
4. Harithasree Karshika nursery, Mananpoyil, Balussery – 10 women under the leadership of Ms.Bindu
5. Jancy Thomas, Kunduthode, Kozhikode – bush pepper production
6. Buds and Blooms, Chalikkara, Kozhikode – fruits, plantation crops, ornamentals etc.
7. Buds and Blooms, Koothali, Kozhikode – fruits, plantation crops, ornamentals etc.
8. Mr. Hamza, Koyilandi, Kozhikode - fruits, plantation crops, ornamentals etc.
9. Mr.Muhammed, Poonoor, Balussery, Kozhikode – Bush pepper grafts
10. Saji Madathiparambil, Koorachundu, Kallanode – Vegetable seedlings, pepper rooted cuttings and vegetable seeds
11. Xavier, Vazhpally, Koorachundu, Kozhikode – Bush pepper grafts
12. Binu John, Peruvannamuzhi, Kozhikode – Bush pepper plants
13. Group nurseries under block panchayats – 10 Nos.- fruits, spices, forest species.

The programme of short and long duration training programmes in nursery management is being continued for creation more self employment units for rural youth.

Home Made Ration for Dairy Cattle

In Kerala, cattle play an important role for improving economy of rural population. More than 60 per cent of farmers rearing cattle as a subsidiary income as agriculture is the main source of income. About 42 per cent farm women living in rural villages are having land holding of 15 to 30 cents adopted cattle rearing as a primary source of income as co-operative milk societies play a key role for procurement of milk directly from the farmers. Training programmes were also organised to the members of milk producers for gaining knowledge for achieving sustainable milk production.

Though all these are giving boost to the dairy sector the dairy farmers are not able achieve sustainable milk production and to exploit the breeding potential of their milch cows due to lack of grazing land. The farmers cannot afford balanced nutrition to meet their daily requirement according to their milk yield. Hence the farmers are forced to feed more concentrate to retain milk production particularly during summer which causes development of chronic ruminal acidity resulting in low fat in milk, infertility, hoof eruption, emaciation and reduced production resulting in huge loss to the farmers. To maintain milk yield and reproductive efficiency the feed contain required nutrients including fiber in proper proportion and so kvk took the technology “Homemade ration for dairy cattle” under FLD. After successful conduct of FLD and in

order to popularize to more farmers field the programme was taken under EDP to make the ration available to more number of farmers of Kozhikode. Home made ration consist of ingredients like seeds of jack, tapioca, mangoseeds, coconut/groundnut cake, wheat, maize, rice/any cereal, gram/gram husk etc and straw available in the homesteads to formulate theration in the ratio of roughage and concentrate as 3:1 which provides all the required nutrients in proper proportion to maintain reproduction and milk production in dairy cattle.

A group consisting of eight farm women engaged to prepare homemade ration by using above mention feed ingredients (roughage and concentrate in the ratio of 3:1) by utilizing the facility at kvk and produced about 125kg to 275kgs per day and sold to the farmers @Rs25 per kgs and earning an amount of Rs 3125 to Rs 6875 with net profit of Rs 750 to 1650 per day investing Rs 950 per 50 kgs. Since the feed contain sufficient proportion of fiber to maintain ruminal PH resulting in to produce higher fat in milk, better conception rate, maintain normal flora and fauna which produce sufficient quantity of B.complex vitamins to maintain good health of high producing milch cows.

This will be considered only with suitable photos for further reporting/reference.

The Broad outline for the case study may be

Title

Background

Interventions

- Process
- Technology

Impact

- Horizontal Spread
- Economic gains
- Employment Generation

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

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

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

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

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

10.G. Field activities

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

10.H. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab : Functioning

1. Year of establishment : 2010
2. List of equipments purchased with amount :

Sl. No	Name of the Equipment	Qty.	Cost (Rs.)
1	Electronic physical balance	1	6160
2	Chemical balance	1	42162
3	pH meter	1	14388
4	Oven	1	15476
5	Water distillation still	1	41340
6	Digestion and distillation system	1	130802
7	Hot plate	1	4120
8	Spectrophotometer	1	55230
9	Shaker	1	48038
10	Conductivity meter	1	14960
11	Flame photometer	1	37026
12	Refrigerator	1	16890
13	Grinder	1	1950
14	Double distillation unit	1	63250
15	Electronic balance	1	6800
16	Mridaparishak	2	180000
Total		17	678592

Details of samples analyzed so far since establishment of SWTL:

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples	3201	1102	88	44600
Water Samples	104	104	18	2800
Plant samples	-	-	-	-
Manure samples	-	-	-	-
Others (specify)	-	-	-	-
Total	3305	1206	106	47400

Details of samples analyzed during the 2017-18 :

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples	214	286	15	20800
Water Sample (including DBT- project)	58	58	2	0
Plant samples	-	-	-	-
Manure samples	-	-	-	-
Others (specify)	-	-	-	-
Total	272	344	17	20800

Details of soil health cards issued during the 2017-18 :

Date (s)	Farmers participated	No. of Samples analyzed	Soil health cards issued	No. of Villages	Public representatives participated	
					MLA/Minister	Other Dignitaries/ Chief guests
5 th December 2018	150	100	100	-	1	1

10.I. Technology Week celebration during 2017-18 Yes/No, If Yes

Period of observing Technology Week: From 12 Feb to 17 Feb 2018
 Total number of farmers visited : 1500
 Total number of agencies involved : 17
 Number of demonstrations visited by the farmers within KVK campus : 12

Other Details

Types of Activities	No. of Activities	Number of Farmers	Related crop/livestock technology
Gosthies			
Lectures organized	6	400	Ginger, Dairy management, Ornamental fish, banana value addition
Exhibition	1	1000s	
Film show	6	400	
Fair	-	-	-
Farm Visit	-	-	
Diagnostic Practicals	-	-	-
Supply of Literature (No.)	2	500	
Supply of Seed (q)			Yes
Supply of Planting materials (No.)			Yes
Bio Product supply (Kg)			Yes
Bio Fertilizers (q)	5	-	Yes
Supply of fingerlings			Yes
Supply of Livestock specimen (No.)			Yes
Total number of farmers visited the technology week	1000s	1500	-

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

A. Introduction of alternate crops/varieties

State	Crops/cultivars	Area (ha)	Number of beneficiaries

B. Major area coverage under alternate crops/varieties

Crops	Area (ha)	Number of beneficiaries
Oilseeds		
Pulses		
Cereals		
Vegetable crops		
Tuber crops		
Total		

C. Farmers-scientists interaction on livestock management

State	Livestock components	Number of interactions	No. of participants
Total			

D. Animal health camps organized

State	Number of camps	No. of animals	No. of farmers
Total			

E. Seed distribution in drought hit states

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

F. Large scale adoption of resource conservation technologies

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

G. Awareness campaign

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

PART XI. IMPACT**11.A. Impact of KVK activities (Not 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)
Banana micro-nutrient mixture	45	98	Rs. 5.48 lakhs per ha	Rs. 6.96 lakhs per ha
Plant propagation techniques	30	24	Nil (New initiative)	Rs.24000 per person per year

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

11.B. Cases of large scale adoption

(Please furnish detailed information for each case with suitable photographs)

11.C. Details of impact analysis of KVK activities carried out during the reporting period**PART XII - LINKAGES****12.A. Functional linkage with different organizations**

Name of organization	Nature of linkage
ATMA	Assistance for Technology Week celebrations, ATMA managing committee meetings and MTA meetings, diagnostic visits
NABARD	Financial assistance for bankable projects of KVK beneficiary farmers
KAU	Technical support, supply of technological inputs
Department of Agriculture	As resource person for training programmes, beneficiary identification for various training programmes
NGO's, Farmers' clubs etc	As resource person for training programmes

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

12.B. List 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.)
Empowerment of rural women and youth in Kozhikode district through ornamental fish culture applying bio-technologies	March 2015-March 2018	Department of Biotechnology New Delhi	25,25677

12.C. Details of linkage with ATMA

a) Is ATMA implemented in your district Yes/ No: Yes

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

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	MTA meeting	8	-	--
02	Research projects	-	-	-	-
03	Training programmes	Training	10	-	
04	Demonstrations	-	-	-	-
05	Extension Programmes	-	-	-	-
	Kisan Mela	-	-	-	-
	Technology Week	-	-	1	-
	Exposure visit	-	5	-	-
	Exhibition	-	3	-	-
	Soil health camps	-	-	-	-
	Animal Health Campaigns	Animal health camp	2	-	-
	Others (Pl. specify)	-	-	-	-
	Diagnostic visit	Diagnostic visit	5	-	-
06	Publications	-	-	-	-
	Video Films	-	-	-	-
	Books	-	-	-	-
	Extension Literature	-	-	-	-
	Pamphlets	-	-	-	-
	Others (Pl. specify)	-	-	-	-
07	Other Activities (Pl. specify)	-	-	-	-
	Watershed approach	-	-	-	-
	Integrated Farm Development	-	-	-	-
	Agri-preneurs development	-	-	-	-

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

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Constraints if any
1	Training	Sponsored trainings	6 lakhs	6 lakhs	-

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

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

12.F. Details of linkage with RKVY

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

e									
Fruits									
Vegetables									
Others (specify)									

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

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1	Trichoderma	28.665 Qtl	57330	286650	-
2	Cuelure	52	2080	6500	-
3	MET	50	2000	5000	-
4	Neem soap	39.75 kg	8143	15900	-
5	Mushroom spawn	269.45 kg	12125.5	32334	-

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

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1	Layer chicks	Gramasree ,kalingabrown,B V380	Hatchery operation nursery production of layer chicks	59134	791650	1523644.00	Contract staff salary for maintenance is extra
2	Goatary	Malabari	Semi intensive	4	156024	77265.00	
3	Dairy	Crossbred	Semi intensive	2	Stock of KVK	58645.00	
4	Ornamental fish unit	Guppy, platy, swordtail, moly, barb, gold fish, carp, fighter, gourami	Fishes and aquatic plants	4872	Approximately 10000	29,230	

13.E. Utilization of hostel facilities

Accommodation available (No. of beds)

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
April 2017	43	14	-
May	12	8	-
June	5	3	-
July	1	1	-
August	26	21	-
September	40	13	-
October	14	14	-
November	28	12	-
December	31	13	-
January 2018	53	6	-
February	37	9	-
March	48	25	-

13.F. Database management

S. No	Database target	Database created
-	-	-

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

Amount sanction (Rs.)	Expenditure (Rs.)	Details of infrastructure created / micro irrigation system etc.	Activities conducted					Quantity of water harvested in '000 litres	Area irrigated / utilization pattern
			No. of Training programmes	No. of Demonstrations	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)		
10.00 lakhs	9.62 lakhs	Pond, Irrigation facility for KVK nursery	12	2	31139	548	29	200	1 ha
		Cage culture unit	1	1 (Cage culture of fishes) IFS unit	-	-	-	-	-

PART XIV - FINANCIAL PERFORMANCE**14.A. Details of KVK Bank accounts**

Bank account	Name of the bank	Location	Branch code	Account Name	Account Number	MICR Number	IFSC Number
With Host Institute	State Bank of India	Calicut	000861	ICAR Unit, IISR, Kozhikode	30302810771	673002001	SBIN0000861
With KVK	-	-	-	-	-	-	-

14.B. Utilization of KVK funds during the year 2017-2018 (Rs. in lakh)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	16368000	16368000	16143486
2	Traveling allowances	115000	115000	115000
3				Contingencies
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	355000	355000	708749
B	POL, repair of vehicles, tractor and equipments	225000	225000	185707
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	110000	110000	81738
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	70000	70000	47667
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	285000	285000	253702
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	86000	86000	84133
G	Training of extension functionaries	25000	25000	0
H	Maintenance of buildings	137000	137000	17000
I	Establishment of Soil, Plant & Water Testing Laboratory	35000	35000	22942
J	Library	7000	7000	6202
K	EDP (2 Nos.) / Innovative activities	20000	20000	8795
L	Farmers conclave, kvk conf	25000	25000	0

N	FFS	30000	30000	2200
TOTAL (A)		1555000	1555000	1521835
B. Non-Recurring Contingencies				
1	Works	-	-	-
2	Equipments including SWTL & Furniture	-	-	-
3	Vehicle (Four wheeler/Two wheeler, please specify)	-	-	-
4	Library (Purchase of assets like books & journals)	10000	0	0
TOTAL (B)		10000	0	0
C. REVOLVING FUND		-	-	-
GRAND TOTAL (A+B+C)		-	18038000	17780321

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

Year	Opening balance as on 1 st April	Income during the year	Expenditure during the year	Net balance in hand as on 1 st April of each year
April 2015 to March 2016	-2.67	42.37	34.29	5.42
April 2016 to March 2017	5.42	37.9	40.78	2.54
April 2017 to March 2018	2.54	34.8	32.10	5.24

15. Details of HRD activities attended by KVK staff

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
P.S.Manoj	SMS (Horticulture)	Training of Trainers on gardeners	SAMETI, Thiruvananthapuram	30.10.2017 to 1.11.2017
Dr. Pradeep.B	Subject Matter Specialist-Fisheries	Vocational training on Aquaponics and Hydroponics	Hitech Research and training unit Vellanikara Trichur, under Kerala Agricultural University	13.6.17 to 15.6.17
Dr. Pradeep.B	Subject Matter Specialist-Fisheries	Sensitization workshop on profitable technologies in brackishwater aquaculture for doubling of farmers'	ICAR- IISR organized by ICAR-CIBA	15.1.18 to 16.1.18

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

“Empowerment of rural women and youth in Kozhikode district through ornamental fish culture applying biotechnologies”

Under the project 25 backyard ornamental fish culture units have been established by rural women at their backward to provide them a sustainable livelihood. Two SHGs were formed under the project. A disease surveillance programme was done with rapid diagnostic kit developed by CIFA for bacterial disease identification was used A aquaponics demonstration unit was established at KVK under the project. A fish feed for ornamental fishes incorporating colouring pigments, probiotics and immunostimulants was being formulated.