ANNUAL REPORT 2019

ICAR - Krishi Vigyan Kendra, North Goa
ICAR - Central Coastal Agricultural Research Institute
Ela, Old Goa (Goa) - 403 402
Telefax : 0832-2285475, Email : pckvknorthgoa@gmail.com

ANNUAL REPORT 2019

Correct citation

Prabhu, H. R. C.,Talaulikar, S., Singh, M. S., Udharwar, S. V., Vishwakarma, S., Prajapati, V., 2020. ***Annual Report 2019***, ICAR - Krishi Vigyan Kendra, North Goa, C.C.A.R.I (ICAR), Ela, Old Goa, Goa, 89p.

Editors

Shri H. R. C. Prabhu
Smt Sunetra Talaulikar
Dr. Monica Suresh Singh
Dr. Sanjaykumar Udharwar
Shri Shashi Vishwakarma
Shri Vishwajeet Prajapati

Technical Assistance

Shri Vishwajeet Prajapati

Guidance

Dr. E. B. Chakurkar
Director (A)
ICAR - CCARI, Goa.

Published by

ICAR - Krishi Vigyan Kendra, North Goa
ICAR - Central Coastal Agricultural Research Insititute, Goa
Ela, Old Goa, Goa - 403 402

Published at

Sahyadri Offset
Corlim, Goa.

ICAR-ATARI, Pune
DETAILS OF ANNUAL PROGRESS REPORT OF KVKs DURING 2019
(1st January to 31st December 2019)

1. GENERAL INFORMATION ABOUT THE KVK

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

Address with PIN code	Telephone		E mail	Website address & No. of visitors (hits)
	Office	FAX		
Krishi Vigyan Kendra ICAR – Central Coastal Agricultural Research Institute Ela, Old Goa, Taluka –Tiswadi, Dist. – North Goa, Goa - 403 402	08322285475	08322285475	pckvknorthgoa@gmail.com kvknorthgoa@icar.gov.in pckvk.ccari@icar.gov.in	www.kvknorthgoa.icar.gov.in (53538 hits)

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

Address	Telephone		E mail	Website address
	Office	FAX		
ICAR – Central Coastal Agricultural Research Institute Ela, Old Goa, Taluka – Tiswadi, District – North Goa , Goa – 403 402	08322284677	08322285649	Director.ccari@icar.gov.in	www.ccari.res.in

1.3. Name of the Senior Scientist and Head with phone & mobile no.

Name	Telephone / Contact		
	Office	Mobile	Email
Shri H. R. C. Prabhu, PC I/C , SMS (Plant Protection)	08322285475	9423057548	pckvknorthgoa@gmail.com

1.4. Year of sanction: 1984

1.5. Staff Position (as on December 31, 2019)

				If Permanent, Please indicate			If Temporary, pl. indicate the consolidated amount paid (Rs./month)
Sl. No.	**Sanctioned post**	**Name of the incumbent**	**Discipline**	**Current Level**	**Current Index**	**Date of joining**	
1.	Senior Scientist and Head	Vacant	-	-	-	-	-
2.	Subject Matter Specialist	Vacant	Horticulture	-	-	-	-
3.	Subject Matter Specialist	Vacant	Agronomy	-	-	-	-
4.	Subject Matter Specialist	Mr.H.R. Chidananda Prabhu	Plant Protection	12	14	02-09-1995	Permanent
5.	Subject Matter Specialist	Mrs. Sunetra M.Talaulikar	Home Science	12	15	26-12-1987	Permanent
6.	Subject Matter Specialist	Dr. Monica Singh	Agril. Extension	11	2	18-03-2019	Permanent
7.	Subject Matter Specialist	Dr. Sanjaykumar Udharwar	Animal Science	10	8	02-09-2014	Permanent
8.	Programme Assistant	Mr. Shashi Vishwakarma	Soil Science	7	4	20-12-2010	Permanent
9.	Computer Programmer	Mr. Vishwajeet Prajapati	Computers	7	4	27–12-2010	Permanent
10.	Farm Manager	Vacant	Horticulture	-	-	-	-
11.	Accountant/Superintendent	Mr. Vishwas Sharma	B.E.	6	7	21-05-2012	Permanent
12.	Stenographer	Mrs. Shreya Barve	Stenography	4	9	20-12-2011	Permanent
13.	Driver 1	Mr.Irappa Chalwadi	-	6	13	29-06-1994	Permanent
14.	Driver 2	Mr. Dilkush Velip	-	4	4	26-03-2012	Permanent
15.	Supporting staff 1	Mr.Payak Jorgo Padkar	-	2	12	26-07-2007	Permanent
16.	Supporting staff 2	Ms. Sarita Zore	-	1	6	17-01-2014	Permanent

1.6. Total land with KVK (in ha) : 18 ha

S. No.	Item	Area (ha)
1	Under Buildings	2.00
2.	Under Demonstration Units	3.00
3.	Under Crops	1.00
4.	Horticulture	8.75
5.	Pond	0.50
6.	Nursery	1.00
7.	Fodder plot	1.75

1.7. Infrastructural Development:

A) Buildings

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Year	Plinth area (Sq.m)	Expenditure (Rs.)	Starting year	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	2005	495	43.79	-	-	Completed
2.	Farmers Hostel	ICAR	2001	134.275	23.55	-	-	Completed
3.	Staff Quarters (6)	-	-	-	-	-	-	-
4.	Demonstration Units (2)							
	1.Buffalo Unit	Host Institute	2006	100	08.32	-	-	Completed
	2. Goat Unit	Host Institute	2006	90	10.08	-	-	Completed
	3. Poultry Unit	Host Institute	2006	100	-	-	-	Completed
	4.Vermi compost Unit	Host Institute	2006	100	01.36	-	-	Completed
	5.Nursery Unit	Host Institute	2003	10000	-	-	-	Completed
	6. Roof water harvesting Unit	Host Institute	2006	761	-	-	-	Completed
	7. Polyhouse(2 nos.)	RKVY	2012	10000	19.977	-	-	Completed
	8. IATM	RKVY	2012	750	54.00	-	-	Completed
	9. VCO Production Unit	RKVY	2013		10.00	-	-	Completed
5	Fencing							
6	Rain Water harvesting system	KVK	2013	750	10.00	-	-	-
7	Threshing floor	-	-	-	-	-	-	-
8	Farm godown	-	-	-	-	-	-	-
9	ICT lab	-	-	-	-	-	-	-
10	Other	-	-	-	-	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Hero Honda - Splendor GA-07-G-0085	March, 2009	38,000	26126	Good
Chevrolet Tavera GA-07-G- 0211	May, 2010	5,81,537	214771	Needs Replacement

C) Equipments & AV aids

Name of the equipment / Implements	Year of purchase	Cost (Rs.)	Present status
SOIL SCIENCE LAB.EQUIPMENTS			
Spectro photometer	2005	48,828	To be replaced
pH meter	2005	14,500	To be condemned
Conductivity bridge	2005	11,284	To be condemned
Physical balance	2005	2,250	To be condemned
Chemical balance	2005	79,456	To be condemned
Water distillation still	2005	77,948	To be condemned
Kjeldahal digestion and distillation (two sets)	2005	76,856	To be condemned
Shaker (two)	2005	73,216	Good
Oven	2005	17,160	To be condemned
Hot plate	2005	2,967	To be condemned
Other minor equipments	2005	1,99,535	To be condemned
Flame Photometer	2012	49,992	Good
Atomic Absorption Spectrophotometer	2012	9,96,213	Good
Total		**16,50,205/-**	
OTHER EQUIPMENTS			
Xerox machine	2005	63,895	To be replaced
Computer	2006	46,000	To be condemned
Motor and pumps	2010	88,644	Good
LCD projector & Computer	2007	97,860	Computer -To be condemned
FAX machine	2009	15,000	Good
AUDIO VISUAL AIDS			
Slide Projector	1995	10,715	To be condemned
Overhead Projector	1995	12,300	To be condemned
Display boards (twenty) 36 x 48 inches	2008	24,323	Good
Whit boards (two) 48 x 72 inches	2008	6,222	Good
Black boards (two) 48 x 72 inches	2008	6,075	Good
Tri pod screen for slide / overhead / LCD projector	1996	4,780	To be condemned
Display board (one)	2009	1330	Good
Laser pointer	2009	1125	To be condemned
Collar mike	2009	1687	To be condemned
Tri pod screen (wall mounting spring loaded screen)	2009	9225	Good
Digital Camera	2009	8,990	To be condemned
Digital Camera	2010	24,990	To be condemned
Total		**423161/-**	

TRAINEE'S HOSTEL FURNITURE			
Beds / Cots (16)	2006	65,600	Good
Chairs (36)	2006	61,920	Good
Total		**1,27,520 / -**	

1.8. Details SAC meeting conducted in the year. 15th January, 2019

Date	Name and Designation of Participants	Salient Recommendations	Action taken
15-01-2019	1. Dr. E B Chakurkar, Director, ICAR – CCARI, Ela, Old Goa, Goa (403 402) 2. Dr. Lakhan Singh, Director, ATARI, Pune 3. Mr. Madhav Kelkar, Director, Directorate of Agriculture, Govt of Goa, Krishi Bhawan, Tonca, Panaji -Goa 4. Dr. Anil Phadte, Goa Dairy, Curti, Ponda 5. Mr. Nevil Alphonso, Programme Coordinator, KVK, South Goa 6. Ms. Deepa G L , Deputy Director, MSME 7. Ms. Megha Kerkar, Superintendent of Fisheries 8. Chandran S, Asstt Superintendent of Fisheries 9. Mr. Sunil Kumar,SMS, KVK, Kolhapur – II 10. Mr. K L Nayak, NABARD, Panaji, Goa 11. Mr. Senthil kumar, Branch Manager, Old Goa 12. Smt Fatima Pereira (Progressive Farm Women) 13. Ms. Madhavi Gawas (Progressive Farm Women), Taleigao, Goa 14. Mr. Suhas Hari Phadte (Progressive Farmer), Cumbarjuha	1. Identification of area and establishment of scion block of newly released cashew varieties of the institute to be done (Action: farm Manger & PC, KVK).	Area identified in Block C near IATM block. Soil testing has been done of the identified block.
		2. Efforts be made for Micro chipping of mango different mango varieties in scion block. (Action: farm Manger & PC, KVK).	Efforts are being made for micro chipping of mango different mango varieties in scion block in consultation with Dr. A. R. Desai, Principal Scientist (Horticulture), ICAR – CCARI, Goa.
		3. Number of soil samples to be increased (1500) and ensure timely distribution of soil health cards. (Action: Technical Officer – Soil Science)	Efforts are being made to collect and analyze 1500 Soil sampling for the year 2019-20.
		4. The established bee colonies be maintained and planting of flowering plants be taken up. (Action: PC, KVK, NG)	During monsoon season the flowering plants will be planted.
		5. Zero energy cool chamber unit should be at KVK North Goa and systematic data be recorded. (Action: SMS – Home Science)	Zero energy cool chamber unit will be installed at KVK North Goa and systematic data be recorded and presented during next SAC meeting.
		6. Training programme for White pepper production should be conducted during November, 2019. (Action: PC, KVK, NG)	Training programme for White pepper production will be conducted during November, 2019
		7. Economics of VCO unit be studied with full capacity production. (Action: SMS – Home Science)	Economics of VCO unit has been studied with full capacity production. Two units has been established at commercial unit in Goa
		8. Programme of KVK and success stories be sent to ICAR website. (Action: PC, KVK, NG)	Programme of KVK and success stories were sent to ICAR website through ICAR – ATARI, Pune.

	15. Mr. Shridhar Parvatkar, (Progressive Farmer) Neura, Goa 16. Mr. Prakash Naik, (Progressive Farmer) Pilar, Goa 17. Mr. Dhananjay Marathe, (Progressive Farmer) Sal, Bicholim, Goa 18. Mr. Omu Gawas, (Progressive Farmer) Pilar, goa 19. Ms. Anisha Samant, (Progressive Farmer) Tambose, Goa 20. Mr. Ashok Parab, Mopa, (Progressive Farmer) pernem, Goa 21. Mr. Pandurang Phadte, All India Radio, Altinho, Panaji, Goa 22. Dr. Manohara KK, Pr. Scientist, ICAR – CCARI, Ela, Old Goa 23. Dr. A R Desai, Pr. Scientist, ICAR – CCARI, Ela, Old Goa 24. Dr. Priyadevi, Sr. Scientist, ICAR – CCARI, Ela, Old Goa 25. Dr Mathala Gupta, Scientist, ICAR – CCARI, Ela, Old Goa 26. Dr. Gopal Mahajan, Scientist, ICAR – CCARI, Ela, Old Goa 27. Dr. Susitha Rajkumar, Scientist ICAR – CCARI, Ela, Old Goa 28. Dr. Maruthadurai, Scientist, ICAR – CCARI, Ela, Old Goa 29. Dr. Sreekant G B , Scientist, ICAR – CCARI, Ela, Old Goa 30. Dr. Gokuldas PP, Scientist, ICAR – CCARI, Ela, Old Goa 31. Dr. Nibedita Nayak, Scientist , ICAR – CCARI, Ela, Old Goa	9. The next SAC be conducted in the month of April, 2019. (Action: PC, KVK, NG)	The next SAC will be conducted in the month of July - August, 2019.
		10. A meeting with AIR officers be organized with Scientist and KVK staff to finalize the programme for radio talks. (Action: PC, KVK, NG).	A meeting with AIR officers will be organized with Scientist and KVK staff to finalize the programme for radio talks during July, 2019.
		11. Impact assessment of training programmes be done by organizing ex-trainees meeting. (Action: All SMS & PC, KVK, NG)	Impact assessment of training programmes is being done by organizing ex-trainees meeting.
		12. Awareness programme on jackfruit processing be organized along with Dr. Priyadevi, Pr. Scientist and Dr. Mathala Gupta. (Action: SMS – Home Science)	Awareness programme on jackfruit processing is being organized along with Dr. Priyadevi, Pr. Scientist and Dr. Mathala Gupta.
		13. A model nutrition garden be established at KVK. (Action: SMS – Home Science)	Establishment of A model nutrition garden at KVK is in progress.
		14. Fertility studies in bypass fed cattle be done. (Action: SMS – Animal Science)	Fertility studies in bypass fed cattle are being studied.
		15. Management practices be studied in Konkan Kanyal goat with focus on nutrient management. (Action: SMS – Animal Science)	Management practices in Konkan Kanyal goat with focus on nutrient management are being studied.
		16. A benchmark survey on hydroponics green fodder production technology to be done. (Action: SMS – Animal Science)	A benchmark survey on hydroponics green fodder production technology is in progress.
		17. Mobile advisories to the farmers and personalized advisories be sent. (Action: All SMS)	Mobile advisories to the farmers and personalized advisories are being sent.
		18. Training and demonstration on pest management be organized to the field staff of ATMA, North Goa. (Action: PC, KVK, NG)	Training and demonstration on pest management is being organized to the field staff of ATMA, North Goa.
		19. A training on banana cultivation be organized. (Action: PC, KVK, NG)	A training on banana cultivation will be organized during Sept, 2019
		20. The trials on newly released fodder varieties be studied for longer duration. (Action: SMS – Animal Science)	The trials on newly released fodder varieties is being studied

2. DETAILS OF DISTRICT

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

S. No	Farming system/enterprise
1	Rice–Rice/Groundnut/ Pulses (Cowpea, long bean)/Vegetables (brinjal, chilli, okra, amaranths, radish, cucurbits, sweet potato, knol khol, cluster bean, etc)
2	Hill Cucurbits during Kharif
3	Coconut mixed crop with spices (pepper, nutmeg, clove, cinnamon, ginger, turmeric), banana
4	Arecanut mixed crop with spices(pepper, nutmeg, clove, cinnamon)
5	Cashew + pineapple. Mango
6	Dairy, poultry, piggery, fishery

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

a) Soil type

Sl. No.	Agro-climatic Zone	Characteristics
1	Coastal	Hillock neighbouring Arabian sea

b) Topography

S. No.	Agro ecological situation	Characteristics
1	Rainfed	Laterite and sandy loam soil, Average rainfall 3000 mm

2.3 Soil Types

S. No	Soil type	Characteristics	Area in ha
1	Harmal	Very deep, light grey to brown sand surface soil	1.0728
2	Mandovi	Deep grayish brown to very dark grayish brown	1.027
3	Kolva	Deep dark yellowish brown to very dark yellowish brown	0.558
4	Panaji	Moderately deep, light brownish grey to dark grayish brown	0.641
5	Zuari	Deep, dark yellowish brown	21.772
6	Kalangute	Deep, very dark brown to dark grey	3.654
7	Padi	Moderately deep, brown to dark yellowish brown	0.105
8	Nagowa	Deep, reddish brown to dark reddish brown	11.698
9	Raya	Very shallow, strong brown to dark brown	6.159
10	Dabolom	Very shallow, brown to dark brown	10.114
11	Madgaon	Deep reddish brown to dark reddish brown	40.957

12	Chapora	Deep, brown to dark brown	19.901
13	Zaimola	Yellowish red to dark reddish brown	8.565
14	Zuari	Deep, dark yellowish brown	8.629
15	Batim	Deep yellowish brown to dark yellowish brown	8.537
16	Devabag	Shallow, dark yellowish brown	0.783
17	Gudi	Deep, light yellowish brown to dark yellowish brown	2.121
18	Netravali	Slightly deep dark reddish brown	11.394
19	Torse	Shallow, brown to dark brown	97.173
20	Darbandora	Moderately deep , brown to dark reddish brown	10.494
21	Metawada	Shallow, dark reddish brown	36.819
22	Bandoli	Deep yellowish red	44.073
23	Pali	Moderately deep, dark yellowish brown	6.996
24	Rock out crops	Builders of basal	0.161
25	Surla	Moderately deep brown to dark brown	1.686

2.4. Area, Production and Productivity of major crops cultivated in the district (2019-20)

S. No	Crop	Area (ha)	Production (MT.)	Productivity (Qt./ha)
1	Paddy	27219 (Kharif) 11301 (Rabi)	52.396 (Kharif) 21754 (Rabi)	19.25
2	Pulses	11477	11258937	981
3	Sugarcane	1034	56027290	54185
4	Coconuts	25545	127571730	4994
5	Arecanuts	1677	2666430	1590
6	Cashew nuts	55612	21966740	395
7	Mango	4494	18892776	4204
8	Banana	2398	23478818	9791
9	Vegetables	5547	56024700	10100
10	Groundnut	3720	6997320	1881

Source: District agriculture department.

2.5. Weather data (2019) DAMU Project

Month	Rainfall (mm)	Temperature 0 C		Relative Humidity (%)	
		Maximum	Minimum	Maximum	Minimum
January	0.0	34.6	18.2	80.2	37.7
February	0.0	35.0	18.9	90.5	42.3
March	0.0	35.8	21.7	89.5	49.8
April	0.0	37.4	23.9	89.8	51.6
May	13.5	37.0	24.6	87.7	63.1
June	758.4	33.4	21.9	91.0	71.8
July	1249.9	30.3	22.1	91.4	82.3
August	366.9	31.1	20.4	91.2	79
September	424.3	32.1	22.7	92.4	76.7
October	371	34.2	23.4	90.2	59.5
November	6.3	34.7	23	85.6	51.1
December	0	34.9	21.7	82.4	54.6

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

Category	Population	Production	Productivity
Cattle			
Crossbred	**9,604**	**59,000 t (State Production of all Milk animals)**	**1,326 kg / year (Avg. of all Lactating animals in the state)**
Indigenous	**27,808**		
Buffalo	**21,956**		
Sheep			
Indigenous	**116**		
Goats	**5,629**		
Pigs	**13,411**		
Crossbred	**895**		
Indigenous	**12,516**		
Rabbits	**744**		
Poultry			
Backyard poultry	**46,703**	149 million eggs (State production of all poultry birds)	95 eggs (Avg. state of all laying poultry birds)
Below 5 Months	**70,576**		
Layer / Boiler farm	**2,26,350**		
Hens	**13,497**		
Desi	**13,623**		
Improved	**1,259**		
Ducks	**188**		
Turkey and others	**46**		

2.7. Details of Operational area / Villages

Taluka	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
Tiswadi	Cumbharjua	Cumbharjua	Rice-cowpea, groundnut, Vegetables. Coconut, Cashew, Mango. Banana. Marigold, Dairy, poultry, Piggery, Goatery. Papad making, Crafts.	**SOIL** ▪ Acidic soil ▪ Poor soil health & waste land ▪ Soil fertility degradation. ▪ Soil and water erosion.	Soil reclamation through INM, organic farming. Conservation farming
Sattari	Nagargaon	Nagargaon			
Bardez	Nachinola	Nachinola			
Pernem	Mopa, Tambose	Mopa, Tambose			
Bicholim	Sal, Mayem	Sal, Mayem		**RICE** ▪ Monocropping, Fallow land ▪ Poor yielding varieties. ▪ Imbalanced nutrients use ▪ Leaf mold in rice	ICM IPM

				CASHEW ▪ TMB, CSRB pests ▪ Underutilization of interspaces' in newly plantations ▪ Lack of value addition & processing	 IPM Intercropping Value addition
				COCONUT ▪ Underutilization of interspaces' ▪ RPW, mite pests ▪ Post harvest losses	 Intercropping IPM Value addition
				MANGO ▪ Alternate bearing & Old plantation ▪ Imbalanced nutrition ▪ Post harvest losses	 ICM of improved grafted varieties INM Value addition
				VEGETABLES ▪ Low margin of profits from traditional vegetable crops/varieties & lack of diversification ▪ Lack of value addition & processing	 ICM of improved varieties/ High value crops/ technologies Value addition
				CHILLI • Root rot disease • Closer spacing	 IDM ICM of improved technologies
				BRINJAL ▪ Wilt disease ▪ Use of own seed	 IDM Quality seed production
				CUCURBITS ▪ Fruit fly pest & leaf spot disease ▪ Use of own seed	 IPM Quality seed production
				OKRA ▪ YVMV disease ▪ Use of own seed	 Disease management Quality seed production
				SWEET POTATO ▪ Sweet potato weevil ▪ Poor yielding local varieties	 IPM ICM of improved varieties

				ANIMALS	
				▪ Non availability of fodder round the year	High breed Napier grasses
				▪ Imbalanced nutrition	Nutrition management
				▪ Non descript local breeds	ICM of improved breeds/ cross breeds
				▪ Infertility in cattle	Fertility management
				▪ Unhygienic milk production	Quality milk production
				BIRDS	
				▪ Non descript local breeds	ICM of Vanraja / Grampriya birds for BYF
				▪ Imbalanced nutrition	Balanced feeding using locally available ingredients
				OTHERS	
				▪ Lack of awareness	Awareness programmes/ capacity building
				▪ Non utilization of leisure period	Entrepreneurship development
				▪ Poor income form agriculture	
				▪ Small holdings	Intensive farming/ improvement in production/ productivity & income.
				▪ Irrigation during rabi & summers	Water harvesting & management
				▪ High labour cost & its non availability & Drudgery in agricultural operations	Farm mechanization

2.8. Priority thrust areas:

S. No	Thrust area
1.	Introduction of Salt tolerant rice variety Goa Dhan – 1
2.	Introduction of high yielding fodder variety CO-5
3.	Management of Stem and root borer in cashew
4.	Introduction of High yielding cashew varieties Goa Cashew -1,2,3,4
5.	Management of Bud rot in coconut
6.	Introduction of High yielding tambadi bhaji var. Goa Tambadi Bhaji – 1
7.	Introduction of Dolicous bean var. Konkan Bhushan
8.	Introduction of backyard poultry var. Grampriya and CARI – Nirbheek

9.	Introduction of backyard poultry var. Srinidhi
10.	Low fat percentage in crossbreed animals
11.	Mastitis in dairy animals
12.	Introduction of Goat breed Konkan Kanyal
13.	Post Harvest and Value Addition of Jackfruit
14.	Post Harvest and Value Addition of Coconut

3. TECHNICAL ACHIEVEMENTS

3.1. 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
02	02	08	10	12	12	75	82

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
60	70	1200	1493	1500	1782	4000	8330

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
Nil	Nil	3000	4386

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
Vanaraja – 50	73	Vermicompost (2000 kg)	3030
Grampriya – 300	352	Earthworms (02 kg)	19.95
CARI Nirbheek – 350	397		
Eggs - 5000	5072		

3.1. B. Operational areas details during 2018-19

S.No.	Major crops & enterprises being practiced in cluster villages	Prioritized problems in these crops/ enterprise	Extent of area (Ha/No.) affected by the problem in the district	Names of Cluster Villages identified for intervention	Proposed Intervention (OFT, FLD, Training, extension activity etc.)*
6.1	Soil	• Acid / Saline soil • Poor soil health & waste land • Soil fertility degradation. • Soil and water erosion. • Mine reject soil	79908 ha of which 15-20%		Training / Demonstration
6.2	Rice	• Poor yielding local varieties. • Imbalanced nutrients use • Leaf mold in rice • Post harvest losses	26889 ha of which 25-30%		Training / Demonstration
6.3	Cashew	• TMB, CSRB pests • Underutilization of interspaces' in newly plantations till start of fruiting. • Lack of value addition & processing. • Old and Senile orchards	40586 ha of which 50-60%		Training / Demonstration
6.4	Coconut	• Underutilization of interspaces' • RPW, mite pests • Post harvest losses. • Old and saline orchard.	11310 ha of which 60-70%		Training / Demonstration
6.5	Mango	• Alternate bearing & Old plantation • Imbalanced nutrition • Post harvest losses. • Imbalanced nutrient. • Old and saline orchards. • Fruit fly • Loranthus	60-70 %		Training / Demonstration

6.6	Vegetables	• Low margin of profits from traditional vegetable crops/varieties. • Lack of diversification. • Lack of value addition & processing. • Improper nutrient. • Improper management.	3360 ha of which 50-55%		FLD, Training / Demonstration
6.7	Chilli	• Root rot disease • Closer spacing • Improper nutrient • Improper management • Low Yielding • Local Variety • Thrips and Viral Diseases	55-60 %		Training / Demonstration
6.8	Brinjal	• Wilt disease • Use of own seed • Improper nutrient • Improper management	50-55%		OFT, Training / Demonstration
6.9	Cucurbit	• Fruit fly pest & leaf spot disease • Use of own seed • Improper nutrient • Improper management	50-55%		Training / Demonstration
6.10	Onion	• Low yield local variety • Improper management • Improper nutrient management	50-55 %		Training / Demonstration
6.11	Okra	• YVMV disease • Use of own seed • Improper nutrient • Improper management	50-55%		Training / Demonstration
6.12	Sweet Potato	• Sweet potato weevil • Poor yielding local varieties • Improper nutrient • Improper management	50-55%		FLD, Training / Demonstration

6.13	Animals	• Non availability of fodder round the year • Imbalanced nutrition • Non descript local breeds	60-65%		FLD, Training / Demonstration
6.14	Birds	• Non descript local breeds • Imbalanced nutrition	50-55%		OFT, Training / Demonstration
6.15	Other	• Lack of awareness • Non utilization of leisure period • Poor income from agriculture and small holdings • Irrigation during rabi & summers. • High labour cost & its non availability. • Drudgery in agricultural operations. • Post harvest loses • Lack of value addition	50-55%		FLD, Training / Demonstration

3.2. Technology Assessment and Refinement

A1. Abstract on the number of technologies assessed in respect of crops

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

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

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

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

Thematic areas	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management					
Varietal Evaluation					
Integrated Pest Management					
Integrated Crop Management					
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					

Resource Conservation Technology					
Farm Machineries					
Integrated Farming System					
Seed / Plant production					
Value addition					
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total					

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

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
Evaluation of Breeds		1				1
Nutrition Management						
Disease of Management						
Value Addition						
Production and Management						
Feed and Fodder	1					1
Small Scale income generating enterprises						
TOTAL	1	1				2

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

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

B. Achievements on technologies Assessed and Refined

B.1. Technologies Assessed under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trail covering all the Technological Options)
Integrated Nutrient Management					
Varietal Evaluation					
Integrated Pest Management					
Integrated Crop Management					
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries					
Integrated Farming System					
Seed / Plant production					
Value addition					
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total					

B.2. Technologies Refined under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trail covering all the Technological Options)
Integrated Nutrient Management					
Varietal Evaluation					
Integrated Pest Management					
Integrated Crop Management					
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries					
Integrated Farming System					
Seed / Plant production					
Value addition					
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total					

B.3. Technologies assessed under Livestock and other enterprises

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Evaluation of breeds	Poultry	Assessment of improved poultry varieties – Grampriya & CARI Nirbheek birds	05	05
Nutrition management				
Disease management				
Value addition				
Production and management				
Feed and fodder	Hybrid Napier	Assessment of Hybrid Napier fodder varieties – CO-4 & CO-5	05	05
Small scale income generating enterprises				
Total			10	10

B.4. Technologies Refined under Livestock and other enterprises

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Evaluation of breeds				
Nutrition management				
Disease management				
Value addition				
Production and management				
Feed and fodder				
Small scale income generating enterprises				
Total				

C1. Results of Technologies Assessed

Results of On Farm Trial

OFT : 01 (2018-19)

Crop/ enterprise	Farming situation	**Problem definition**	Title of OFT	No. of trials
1	2	3	4	5
Poultry	Rice based farming system	Low egg and meat yield in deshi poultry birds	Assessment of improved poultry varieties	5

Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment
6	7	8	9
FP: Desi Birds RP: Grampriya Birds AP: CARI – Nirbheek Birds	1 Egg yield 2. Weight at 5 months 3. mortality	Egg production (no /year) Desi:54 Grampriya:171 CARI Nirbheek:159 Weight at (kg) 5 months Desi: Male 0.95 Kg & Female 0.79 Kg Grampriya: Male :1.6 Female: 1.45 CARI Nirbheek Male :1.32 Female:1.19	Farmers got more profit by maintaining Grampriya than CARI- Nirbheek and Desi birds with similar management

Feedback from the farmer	Any refinement needed	Justification for refinement
10	11	12
Farmers are very much satisfied by getting good weight at 4-5 months age and more number of brown colour of eggs from Grampriya which has high demand in the market than CARI – Nirbheek. Recommnded birds only performing well in egg yield and body weight	No	Not Applicable

Contd..

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)		Desi	1.Egg production per year:54 no. 2.Weight at 5 month old - Male :1.48 Kg Female:1.16 Kg 3.Survivability:92 %	524	1.7

Technology option 2	ICAR – CCARI	Grampriya	1.Egg production per year : 171 no 2.Weight at 5 month old - Male:3.65 Kg Female:2.21 Kg 3. Survivability:94%	1690	4.02
Technology option 3	ICAR – CARI, Izzatnagar	CARI Nirbheek	1.Egg production per year:159 no 2.Weight at 5 month old - Male:2.17 kg Female:1.75 Kg 3. Survivability:94%	1470	3.50

OFT : 02 (2018-19)

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials
1	2	3	4	5
Dairy	Rice based farming system	Non Availability of Green fodder	Assessment of hybrid Napier fodder varieties	5

Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment
6	7	8	9
FP: Local Grass RP: CO-4 AP: CO-5	1. Green Grass Yield 2. No of cuttings per year	Green grass yield Local grass : Karad : 18.60 t/ha / year Boro : 65.74 t/ha/ year CO4:321 t/ha / year CO5:340 t/ha / year No. of cuttings per year Both CO- 4 and CO-5 cuttings/ year. In local 2 cuttings/ year	Green grass yield wise CO5 fodder gives more yield than CO4 with same cuttings i.e. 6 cuttings / year . CO5 stem is more succulent than CO4 CO5 contains more CP% 14 than CO4 i.e 10.71%

Feedback from the farmer	Any refinement needed	Justification for refinement
10	11	12
Farmers are very much satisfied by getting good green grass yield round the year.	No	Not Applicable

Contd..

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)		Karad grass Boro grass	18.60 t/ha/Year 65.74 t/ha/Year	720 4148	1.24 1.46
Technology option 2	TNAU - Coimbatore	CO-4	321t/haYear	32469	1.53
Technology option 3	TNAU - Coimbatore	CO-5	340 t/ha/year	38240	1.59

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

1 **Title of Technology Assessed : Assessment of improved poultry varieties**

2 Problem Definition : Low egg yield in deshi poultry birds

3 Details of technologies selected for assessment : RP: Grampriya & AP: CARI Nirbheek Birds

4 Source of technology : ICAR – PDP Hyderabad, ICAR – CARI, Bariley

5 Production system and thematic area : Rice based farming system

6 Performance of the Technology with performance indicators :

Local Birds

1. Egg production per year:54 no.
2. Weight at 5 month old - Male :1.48 Kg, Female:1.16 Kg
3. Survivability:92 %

Grampriya

1. Egg production per year : 171 no
2. Weight at 5 month old - Male:3.65 Kg, Female:2.21 Kg
3. Survivability:94%

CARI - Nirbheek

1. Egg production per year:159 no
2. Weight at 5 month old - Male:2.17 kg, Female:1.75 Kg
3. Survivability:94%

7 Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques : Farmers found Grampriya more profitable then CARI – Nirbheek.

8 Final recommendation for micro level situation : Farmers are recommended to adopt Grampriya for dual purpose for higher income.

9 Constraints identified and feedback for research : Pecking habit in CARI – Nirbheek.

10 Process of farmers participation and their reaction : Farmers actively participated and accepted Grampriya


Assessment of improved poultry varieties Grampriya and CARI – Nirbheek

1 **Title of Technology Assessed : Assessment of hybrid Napier fodder varieties**
2 Problem Definition : Non Availability of Green fodder
3 Details of technologies selected for assessment : RP: CO-4 & AP: CO-5
4 Source of technology : TNAU, Coimbatore
5 Production system and thematic area : Rice base farming system
6 Performance of the Technology with performance indicators :
Karad : 18.60 T/ha/Year & Boro: 65.74 T/ha/Year
CO-4 : 321T/haYear
CO-5 : 340 T/ha/year
7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques : Farmers accepted the CO-5 over CO-4 due to less thorny spikes and more succulent leaves.
8 Final recommendation for micro level situation : Farmers are recommended to cultivate CO-5
9 Constraints identified and feedback for research : NIL
10 Process of farmers participation and their reaction : Farmers actively participated and accepted CO-5.

On Farm Trials:


Assessment of Hybrid Napier fodder varieties CO-4 and CO-5

D1. Results of Technologies Refined

Results of On Farm Trial

Crop/ enterprise	Farming situation	**Problem definition**	Title of OFT	No. of trials	Technology refined	Parameters of refined t	Data on the parameter	Results of refinement	Feedback from the farmer	Details of refinement done
1	2	3	4	5	6	7	8	9	10	11

Contd..

Technology Refined	Source of Technology for Technology Option1 / Justification for modification of assessed Technology Option 1	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
12	13	14	15	16	17
Technology Option 1 (best performing Technology Option in assessment)					
Technology Option 2 (Modification over Technology Option 1)					
Technology Option 3 (Another Modification over Technology Option 1)					

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

1. Title of Technology refined
2 Problem Definition
3 Details of technologies selected for refinement
4 Source of technology
5 Production system and thematic area
6 Performance of the Technology with performance indicators
7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques
8 Final recommendation for micro level situation
9 Constraints identified and feedback for research
10 Process of farmers participation and their reaction

3.3. FRONTLINE DEMONSTRATION

A. Follow-up for results of FLDs implemented during previous years

List of technologies demonstrated during previous year and popularized during 2018 and recommended for large scale adoption in the district

S. No	Crop/ Enterprise	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area in ha / No. of Units
1	Cashew	IPM	Management of Cashew Stem and Root Borer	Method Demonstration, Capacity building programme, Awareness programme	128	1315	986
2	Dairy	Nutrition Management	Popularization of Bypass Fat Technology	Method Demonstration, Capacity building programme, Awareness programme	152	760	760
3	Coconut	Value addition	Popularization of Virgin Coconut Oil Production technology	Method Demonstration, Capacity building programme, Awareness programme	20	221	03 – Commercial, 05 Home scale

B. Details of FLDs implemented during 2019 (Information is to be furnished in the following three tables for each category i.e. cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.)

Cereals

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year
1	Paddy	Varietal Evaluation	Goa Dhan -1	Kharif - 2019

Cond..

Crop	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
	Proposed	Actual	SC/ST	Others	Total	
Paddy	0.5	0.5	0	04	04	

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil		
				N	P	K
Paddy	Kharif 2019	RF	Sandy loam	220	8.5	135

Cond..

Crops	Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
Paddy	Fallow	19-06-2019	15-11-2019	3000	55

Technical Feedback on the demonstrated technologies

S. No	Feed Back
1	• The variety grows well in Coastal Saline Soils (pH < 8.5 and EC > 4 dSm^{-1}) • Grains are short bold type and preferred by the local farmers. • Crop matures in 135 days • No Lodging was observed in the demo plots.

Farmers' reactions on specific technologies

S. No	Feed Back
1	Farmers accepted the var. Goa Dhan -1 due to better yield.

Popularization of High yielding salt tolerant rice variety var. Goa Dhan - 1

Horticultural Crops

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year
1	Cashew	IPM	Management of Stem and Root Borer	Rabi 2019
2	Cashew	Varietal Evaluation	Popularization of High yielding multiple cashew varieties	Kharif 2019
3	Coconut	IDM	Management of Bud rot	Kharif 2019
4	Amaranthus	Varietal Evaluation	Popularization of Amaranthus var. Goa Tamabadi Bhaji - 1	Rabi 2019
5	Dolichos Beans	Varietal Evaluation	Popularization of Dolichos beans var. Konkan Bhushan	Rabi 2019

Cond..

Sl. No.	Crop	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
		Proposed	Actual	SC/ST	Others	Total	
1	Cashew	2.0	2.0		10	10	
2	Cashew	2.0	2.0		02	02	
3	Coconut	2.0	2.0		10	10	
4	Amaranthus	0.2	0.4		08	08	
5	Dolichos Beans	0.5	0.5		12	12	

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil		
				N	P	K
Cashew	Rabi 2019	RF	Lateritic	180	6.2	155
Cashew	Kharif 2019	RF	Lateritic	190	6.5	145
Coconut	Kharif 2019	RF	Lateritic	175	8.6	220
Amaranthus	Rabi 2019	Irrigated	Sandy loam	135	12.3	138
Dolichos Beans	Rabi 2019	Irrigated	Sandy loam	142	10.5	126

Cond..

Crops	Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
Cashew	Nil	-	-	3000	55
Cashew	Nil	14-07-2019		3000	55
Coconut	Nil	-	Throughout the year	3000	55
Amaranthus	Rice	07-11-2019	29-11-2019	3000	55
Dolichos Beans	Rice	03-11-2019	20-12-2019	3000	55

Technical Feedback on the demonstrated technologies

S. No	Feed Back
1. Cashew	Infestation was 2.52 % in treated plants compared to 12.61 % in check plants.
2. Cashew	-
3. Coconut	Disease incidence reduced to 2.58 % in treated plants compared to 21.33 % in check plants.
4. Amaranthus	Yield increase was 11.9 %
5. Dolichos Beans	Yield was 68.86 q/ha, Plant height was 74.48 cm., and pod length was 7 cm.

Farmers' reactions on specific technologies

S. No	Feed Back
1. Cashew	Infestation was 2.52 % in treated plants compared to 12.61 % in check plants.
2. Cashew	-
3. Coconut	Farmers adopted the technology as disease incidence reduced to 2.58 % in treated plants compared to 21.33 % in check plants.
4. Amaranthus	Farmers accepted the variety as yield increase was 11.9 %
5. Dolichos Beans	Variety was accepted by farmers as it fetched higher selling price.

Commercial Crops

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year

Cond..

Sl. No.	Crop	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
		Proposed	Actual	SC/ST	Others	Total	

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil		
				N	P	K

Cond..

Crops	Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days

Technical Feedback on the demonstrated technologies

S. No	Feed Back
1.	

Farmers' reactions on specific technologies

S. No	Feed Back
1.	

Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1	Field days	2			
2	Farmers Training	12			
3	Media coverage	04			
4	Training for extension functionaries	-	-	-	

C. Performance of Frontline demonstrations

FLD on Other crops

Category & Crop	Thematic Area	Name of the technology	No. of Farmers	Area (ha)	Yield (q/ha)				% Change in Yield
					Demo			Check	
					High	Low	Average		
Cereals									
Paddy	Varietal Evaluation	Popularization of High yielding salt tolerant rice variety	04	0.5	19.5	17.3	18.4	12.4	48.3
Fruit Crops									
Cashew	IPM	Management of Stem & Root Borer	10	02	11.3	9.74	10.52	6.21	69.4
Cashew	Varietal Evaluation	Popularization of High yielding multiple cashew varieties	02	2.0	-	-	-	-	-
Coconut	IDM	Management of Bud rot	10	2.0	16130	14860	15495	12220	26.8
Vegetables									
Amaranthus	Varietal Evaluation	Popularization of Amaranthus var. Tambadi Bhaji -1	8	0.4	116.1	112.3	114.2	102.7	11.9
Dolichos beans	Varietal Evaluation	Popularization of Dolichos bean var. Konkan Bhushan	12	0.5	69.1	68.62	68.86	0	0

Cond..

Category & Crop	Other Parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
	Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Cereals										
Paddy	4.88	3.23	41230	74894	33664	1.82	35480	45769	10289	1.29
Fruit crops										
Cashew	2.52	12.61	57324	115720	58396	2.02	47430	68310	20880	1.44
Cashew	-	-	-	-	-	-	-	-	-	-
Coconut	2.58	21.33	62500	139455	76955	2.23	55480	109980	54500	1.98
Vegetables										
Amaranthus	-	-	93700	246117	152417	2.62	92480	220140	127660	2.38
Dolichos beans	-	-	129630	354870	225240	2.73	0	0	0	0

Management of Stem and Root Borer in cashew

Popularization of High yielding multiple cashew varieties

Management of Bud rot in coconut

Popularization of Amaranthus var. Goa Tamabadi Bhaji - 1

Popularization of Dolichos beans var. Konkan Bhushan

FLD on Livestock

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of Units (Animal/ Poultry/ Birds, etc)
Dairy	Disease Management	Teat dip cup, Lactifense liquid, Phenyl liquid, Intra - mammary tube	10	02
	Animal Nutrition Management	Bypass fat	10	02
Goat	Evaluation of Breeds	Konkan Kanyal Goats	03	06
Poultry	Evaluation of Breeds	Srinidhi	05	05

Cond…

Category	Major parameters		% change in major parameter
	Demo	Check	
Dairy	1.Milk Yield (4 months): 1417 lit 2.Morbidity within 4 months rate (%): nil incidence	1.Milk Yield (4 months) : 1296 lit 2.Morbidity rate (%) : 15.59 % incidence	8.56 %
	1.Milk yield for 3 months 1349 lit 2. Average Fat % - 4.34	1.Milk yield for 3 months 1181 lit 2. Average Fat % - 3.68	1. 14.30 % 2. 17.77%
Goat	body weight at market age Male 28.25 Kg. Female 22.5 Kg.	body weight at market age Male 18.5 Kg. Female 16.0 Kg.	Male 52.7 % Female 40.62 %
Poultry	Avg Egg yield 138.2 Avg wt Male (kg) @ 5 months-2.15 Avg wt female (kg) @ 5 months – 1.8	Avg Egg yield 56.2 Avg wt Male (kg) @ 5 months-0.95 Avg wt female (kg) @ 5 months – 0.79	45.9% Avg Wt. increase – Male : 26.3% Female : 27.8%

Cond…

Category	Economics of demonstration (Rs.)				Economics of check (Rs.)			
	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Dairy	25200	56787	31587	2.25	23400	49251	25851	2.07
Dairy	20500	55484	34984	2.70	19500	46438	26938	2.38
Goat	3720	10925	7205	1.93	3510	7675	4165	1.18
Poultry	480	2058	1578	3.28	420	1031	611	1.45

Clean Milk Production in dairy cattle

Popularization of Bypass fat in dairy cattle

Popularization of Konkan Kanyal goat

Popularization of Srinidhi bird

FLD on Other enterprises

Category	Name of the technology demonstrated	No. of Farmer	No. of units	Major parameters		% change in major parameter
				Demo	Check	
Value Addition	Virgin Coconut Oil Production	02	02	05	-	-
Value Addition	Jackfruit Chips making	04	04	15	8	1.87

Cond…

Category	Other parameter		Economics of demonstration (Rs.) or Rs./unit				Economics of check (Rs.) or Rs./unit			
	Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Value Addition	-	-	2800	5500	2700	1.96	-	-	-	-
Value Addition	-	-	800	3500	2700	2.28	0	1400	1400	1.00

Virgin Coconut Oil Production

Jackfruit Chips Making

3.4. Training Programmes

Farmers' Training including sponsored training programmes (on campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management										

Soil & water conservatioin										
Integrated nutrient management										
Production of organic inputs										
Commercial production of vegetables	1	29	2	31	0	0	0	29	2	31
Plant propagation techniques	1	0	14	16	0	0	0	0	14	14
Total	**2**	**29**	**16**	**45**	**0**	**0**	**0**	**29**	**16**	**45**
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)										
Total (a)										
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)										
Total (b)										

c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl specify)										
Total (c)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
GT (a-g)										

III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total										
IV Livestock Production and Management										
Dairy Management	1	17	3	20	0	0	0	17	3	20
Poultry Management										
Piggery Management										
Rabbit Management Animal Nutrition Management										
Disease Management										
Feed & fodder technology	1	7	2	9	0	0	0	7	2	9
Production of quality animal products	3	27	0	27	6	14	20	33	14	47
Others (pl specify)										
Total	**5**	**51**	**5**	**56**	**6**	**14**	**20**	**57**	**19**	**76**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening										

Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify)										
Total										
VI Agril. Engineering										
Farm Machinary and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										

Post Harvest Technology										
Others (pl specify)										
Total										
VII Plant Protection										
Integrated Pest Management										
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total										
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total										
IX Production of Inputs at site										
Seed Production										
Planting material production										

Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production	3	7	43	50	0	0	0	7	43	50
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production										
Apiculture										
Organic Farming	1	35	32	67	0	0	0	35	32	67
Total	**4**	**42**	**75**	**117**	**0**	**0**	**0**	**42**	**75**	**117**
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths	2	30	10	40	0	0	0	30	10	40
WTO and IPR issues										
Feed and fodder Production	1	0	0	0	11	9	20	11	9	20
Total	**3**	**30**	**10**	**40**	**11**	**9**	**20**	**41**	**19**	**60**
XI Agro-forestry										
Production technologies										
Nursery management										

Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	**14**	**152**	**106**	**258**	**17**	**23**	**40**	**169**	**129**	**298**

Farmers' Training including sponsored training programmes (off campus)

Thematic area	**No. of courses**	**Participants**								
		Others			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
I Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil & water conservatioin										
Integrated nutrient management										
Production of organic inputs										
Others (pl specify)										
Total										
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										

Others (pl specify)										
Total (a)										
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)										
Total (b)										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl specify)										
Total (c)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d) **e) Tuber crops**										
Production and Management technology										
Processing and value addition										
Others (pl specify)										

Total (e)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
GT (a-g)										
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total										
IV Livestock Production and Management										
Dairy Management										
Poultry Management	3	28	19	47	0	0	0	28	19	47

Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Disease Management	5	32	25	57	7	4	11	39	29	68
Feed & fodder technology	6	69	18	87	18	4	22	87	22	109
Production of quality animal products										
Micro irrigation / irrigation	1	10	5	15	0	0	0	10	5	15
Total	**15**	**139**	**67**	**206**	**25**	**8**	**33**	**164**	**75**	**239**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	2	0	30	30	0	5	5	0	35	35
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	4	0	37	37	0	43	43	0	80	80
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify)										

Total	**6**	**0**	**67**	**67**	**0**	**48**	**48**	**0**	**115**	**115**
VI Agril. Engineering										
Farm Machinary and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										
Total										
VII Plant Protection										
Integrated Pest Management	4	43	49	92	0	0	0	43	49	92
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total	**4**	**43**	**49**	**92**	**0**	**0**	**0**	**43**	**49**	**92**
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and										

culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production	3	48	58	106	0	0	0	48	58	106
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production										
Apiculture										
Others (pl specify)										
Total	3	48	58	106	0	0	0	48	58	106
X Capacity Building and Group Dynamics										

Leadership development										
Group dynamics	1	0	0	0	9	9	18	9	9	18
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
Organic Farming	1	12	12	24	0	0	0	12	12	24
Feed and Fodder Technologies	1	0	0	0	4	13	17	4	13	17
Total	3	12	12	24	13	22	35	25	34	59
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	**29**	**242**	**253**	**495**	**38**	**78**	**116**	**280**	**331**	**611**

Farmers' Training including sponsored training programmes – CONSOLIDATED (On + Off campus)

Thematic area	**No. of courses**	**Participants**								
		Others			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
I Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil & water conservatioin										

Integrated nutrient management										
Production of organic inputs										
Commercial production of vegetables	1	29	2	31	0	0	0	29	2	31
Plant propagation techniques	1	0	14	16	0	0	0	0	14	14
Total	**2**	**29**	**16**	**45**	**0**	**0**	**0**	**29**	**16**	**45**
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)										
Total (a)										
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)										
Total (b)										
c) Ornamental Plants										

Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl specify)										
Total (c)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
GT (a-g)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
III Soil Health and Fertility Management										

Soil fertility management										
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total										
IV Livestock Production and Management										
Dairy Management	1	17	3	20	0	0	0	17	3	20
Poultry Management	3	28	19	47	0	0	0	28	19	47
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Disease Management	54	32	25	57	7	4	11	39	29	68
Feed & fodder technology	7	76	20	96	18	4	22	94	24	118
Production of quality animal products	3	27	0	27	6	14	20	33	14	47
Micro Irrigation / irrigation	1	10	5	15	0	0	0	10	5	15
Total	**20**	**190**	**72**	**262**	**31**	**22**	**53**	**221**	**94**	**315**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	2	0	30	30	0	5	5	0	35	35
Design and development of										

low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	4	0	37	37	0	43	43	0	80	80
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify)										
Total	**6**	**0**	**67**	**67**	**0**	**48**	**48**	**0**	**115**	**115**
VI Agril. Engineering										
Farm Machinery and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										

Total										
VII Plant Protection										
Integrated Pest Management	4	43	49	92	0	0	0	43	49	92
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total	**4**	**43**	**49**	**92**	**0**	**0**	**0**	**43**	**49**	**92**
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										

Bio-fertilizer production										
Vermi-compost production	6	55	101	156	0	0	0	55	101	156
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production										
Apiculture										
Organic Farming	1	35	32	67	0	0	0	35	32	67
Total	**7**	**90**	**133**	**223**	**0**	**0**	**0**	**90**	**133**	**223**
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics	1	0	0	0	9	9	18	9	9	18
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths	2	30	10	40	0	0	0	30	10	40
Organic farming	1	12	12	24	0	0	0	12	12	24
Feed and fodder technology	2	0	0	0	15	22	37	15	22	37
Total	**6**	**42**	**22**	**64**	**24**	**31**	**55**	**66**	**53**	**119**
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	**43**	**364**	**49**	**713**	**55**	**101**	**156**	**419**	**450**	**869**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production	1	10	8	18	0	0	0	10	8	18
Vermi-culture	1	15	5	20	0	0	0	15	5	20
Mushroom Production										
Bee-keeping	3	51	33	84	0	0	0	51	33	84
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition	7	27	43	70	19	102	121	46	145	191
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										

Fish harvest and processing technology										
Fry and fingerling rearing										
Integrated pest management	1	6	5	11	0	0	0	6	5	11
Production of bio control agents and bi pesticides	1	3	2	5	0	0	0	3	2	5
TOTAL	**14**	**112**	**96**	**208**	**19**	**102**	**121**	**131**	**198**	**329**

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

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture	2	14	37	51	0	14	37			
Mushroom Production	1	6	17	23	0	0	0	6	17	23
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products	3	0	0	0	21	29	50	21	29	50
Dairying										
Sheep and goat rearing										
Quail farming										

Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl.specify)										
TOTAL	**6**	**20**	**54**	**74**	**21**	**29**	**50**	**41**	**83**	**124**

Training for Rural Youths including sponsored training programmes – CONSOLIDATED (On + Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production	1	10	8	18	0	0	0	10	8	18
Vermi-culture	3	29	42	71	0	0	0	28	42	71
Mushroom Production	1	6	17	23	0	0	0	6	17	23
Bee-keeping	3	51	33	84	0	0	0	51	33	84
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition	7	27	43	70	19	102	121	46	145	191
Small scale processing										
Post Harvest Technology										

Tailoring and Stitching										
Rural Crafts										
Production of quality animal products	3	0	0	0	21	29	50	21	29	50
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Integrated pest management	1	6	5	11	0	0	0	6	5	11
Production of bio control agents and bio pesticides	1	3	2	5	0	0	0	3	2	5
TOTAL	**20**	**132**	**150**	**282**	**40**	**131**	**171**	**172**	**281**	**453**

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

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Productivity enhancement in field crops										
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs	**1**	**6**	**3**	**9**	**0**	**0**	**0**	**6**	**3**	**9**
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										

Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production	**1**	**5**	**2**	**7**	**0**	**0**	**0**	**5**	**2**	**7**
Household food security										
Processing and value addition	1	4	2	6	0	0	0	4	2	6
TOTAL	**3**	**15**	**7**	**22**	**0**	**0**	**0**	**15**	**7**	**22**

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

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

Training programmes for Extension Personnel including sponsored training – CONSOLIDATED (On + Off campus)

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Productivity enhancement in field crops										
Integrated Pest Management										

Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs	**1**	**6**	**3**	**9**	**0**	**0**	**0**	**6**	**3**	**9**
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production	**1**	**5**	**2**	**7**	**0**	**0**	**0**	**5**	**2**	**7**
Household food security										
Processing and value addition	1	4	2	6	0	0	0	4	2	6
TOTAL	**3**	**15**	**7**	**22**	**0**	**0**	**0**	**15**	**7**	**22**

Sponsored training programmes

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Crop production and management										
Increasing production and productivity of crops	3	0	0	0	21	29	50	21	29	50
Commercial production of vegetables										
Production and value addition										
Fruit Plants										
Ornamental plants										
Spices crops										
Soil health and fertility management										
Production of Inputs at site										
Methods of protective cultivation										
Others (pl. specify)										
Total										
Post harvest technology and value addition										
Processing and value addition	1	0	0	0	5	94	99	5	94	99
Others (pl. specify)										
Total										
Farm machinery										
Farm machinery, tools and implements										

Others (pl. specify)										
Total										
Livestock and fisheries										
Livestock production and management										
Animal Nutrition Management										
Animal Disease Management										
Fisheries Nutrition										
Fisheries Management										
Others (pl. specify)										
Total										
Home Science										
Household nutritional security										
Economic empowerment of women										
Drudgery reduction of women										
Others (pl. specify)										
Total										
Agricultural Extension										
Capacity Building and Group Dynamics										
Others (pl. specify)										
Total										
GRAND TOTAL	**4**	**0**	**0**	**0**	**26**	**123**	**149**	**26**	**123**	**149**

Details of vocational training programmes carried out by KVKs for rural youth

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Crop production and management										
Commercial floriculture										
Commercial fruit production										
Commercial vegetable production										
Integrated crop management										
Organic farming										
Others (pl. specify)										
Total										
Post harvest technology and value addition										
Value addition										
Others (pl. specify)										
Total										
Livestock and fisheries										
Dairy farming										
Composite fish culture										

Sheep and goat rearing										
Piggery										
Poultry farming										
Others (pl. specify)										
Total										
Income generation activities										
Vermicomposting										
Production of bio-agents, bio-pesticides,										
bio-fertilizers etc.										
Repair and maintenance of farm machinery										
and implements										
Rural Crafts										
Seed production										
Sericulture										
Mushroom cultivation										
Nursery, grafting etc.										
Tailoring, stitching, embroidery, dying etc.										
Agril. para-workers, para-vet training										
Others (pl. specify)										
Total										
Agricultural Extension										
Capacity building and group dynamics										
Others (pl. specify)										
Total										
Grand Total										

		
ASCI Training on Vermicompost Entrepreneur	**Training on Beekeeping**	**Training on CSRB Management**
		
Collaborative training on Jackfruit Processing	**Collaborative training on VCO Production**	**SCSP Training on Value addition**
		
Capacity building programme	**SCSP Programme on Silage Making**	**Capacity building programme**
		
ASCI Training on Dairy Entrepreneur	**Training on scientific goat farming**	**Training on backyard poultry**
		
Training on importance of soil testing	**Training on Vermicomposting**	**Training on soil sampling**

3.5. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	1539	1984	55	3578
Diagnostic visits	139	394	44	577
Field Day	2	85	8	95
Group discussions	5	185	5	195
Kisan Ghosthi				0
Film Show				0
Self -help groups	11	186	11	208
Kisan Mela				0
Exhibition	4	2308	256	2568
Scientists' visit to farmers field	59	108	35	202
Plant/animal health camps				0
Farm Science Club				0
Ex-trainees Sammelan	1	60	3	64
Farmers' seminar/workshop				0
Method Demonstrations				0
Celebration of important days	4	305	16	325
Special day celebration	18	486	14	518
Exposure visits				
Others (pl. specify)				
Total	**1782**	**6101**	**447**	**8330**

Celebration of World Soil Day

Organized Annual Zonal Review Workshop

Organized programme on Jal Shakti Mela

Conducted PRA at Adopted villages

Arranged Webcast

Organized workshop on Integrated Farming System

Details of other extension programmes

Particulars	Number
Electronic Media (CD./DVD)	2
Extension Literature	12
Newspaper coverage	15
Popular articles	1
Radio Talks	3
TV Talks	2
Animal health camps (Number of animals treated)	1700
Others (pl. specify)	
Total	**1735**

Publications

TV Show and Radio Talk

3.6. PRODUCTION OF SEED/PLANTING MATERIAL AND BIO-PRODUCTS

Production of seeds by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers
Cereals						
Oilseeds						
Pulses						
Commercial crops						
Vegetables						
Flower crops						

Spices						
Fodder crop seeds						
Fiber crops						
Forest Species						
Others						
Total						

Production of planting materials by the KVK

Crop	Name of the crop	Name of the variety	Name of the hybrid	Number	Value (Rs.)	Number of farmers
Commercial						
Vegetable seedlings						
Fruits	Cashew	Goa Cashew – 1,2,3,4	-	586	29300	146
	Mango	Mankurad, Amarpali, Kesar, Ratna	-	2050	153750	334
Ornamental plants	-	-	-	1532	45960	847
Medicinal and Aromatic	-	-	-	218	6540	119
Plantation						
Spices						
Tuber						
Fodder crop saplings						
Forest Species						
Others						
Total	**-**	**-**	**-**	**4386**	**235550**	**1146**

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	No. of Farmers
Bio Fertilisers	Vermicompost	3030	60600	310
	Earthworms	19.95	9975	57
Bio-pesticide				
Bio-fungicide				
Bio Agents				
Others				
Training fees			46500/-	
Total		**3049.95**	**117075/-**	**367**

Production of Value added products by the KVKs

Crop	Name of the crop	Name of the variety	Value (Rs)	Number of farmers
Value Added Products	Kokum	Amruta	85,800/-	24
	Coconut	Local		15
Training fee	-	-	63500/-	45
Total			**1,49,300/-**	**84**

Production of livestock materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers
Dairy animals				
Cows				
Buffaloes	Murrah	1	9500	1
	Milk	6815	340750	25
	Fodder Slips	11850	11850	107
Calves				
Others (Pl. specify)				
Poultry				
Broilers				
Layers	Vanaraja	73	21110	44
	Grampriya	352	30650	157
	CARI – Nirbheek	397	66890	161
	Eggs	5072	30432	454
Duals (broiler and layer)				
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				
Piggery				
Piglet				
Others (Pl.specify)				

Fisheries				
Indian carp				
Exotic carp				
Others (Pl. specify)				
Total		**12878**	**511350**	**871**

Discipline	**Number of trainings**	**Training Fees (Rs.)**
Plant Protection	6	46500
Animal Science	4	50600
Home Science	5	63500
	15	**160600/-**

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

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

B. Literature developed/published

Item	**Title**	**Authors name**	**Number**
Research papers	Adaptation of Murrah Cross buffalo towards heat stress by nutritional and managemental intervention at coastal climate of Goa.	Dr. S. K. Das and Dr. Sanjaykumar V. Udharwar	01
Technical reports	Action Plan, Annual Report, Etc.	PC Incharge	05
News letters	KVK Newsletter	PC Incharge	02
Technical bulletins			
Popular articles	Hydroponic fodder, Clean milk production, Bypass fat Green fodder cultivation.	Dr. Sanjaykumar V. Udharwar Dr. Chetankumar H. B. Dr. Eaknath B. Chakurkar	04
Extension literature	Leaflet	Dr. Sanjaykumar V. Udharwar	06
	Technical Folder	Shri H. R. C. Prabhu	01
	Technical Folder	Dr. Sanjaykumar V. Udharwar	01
	Technical Folder	Smt. Sunetra Talaulikar	03
Others (Pl. specify)			
TOTAL			23

C. Details of Electronic Media Produced

S. No.	**Type of media (CD / VCD / DVD/ Audio-Cassette)**	**Title of the programme**	**Number**
1	**CD**	**Guide to vermicomposting**	**20**

D. 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).

TITLE OF THE SUCCESS STORY – 01:

Augmentation in milk production and improving conception rate in cattle through bypass fat.

FARMER DETAILS :

Shri. Sundar Jalmi,
Kunkalye, Ponda, South Goa, Goa
Contact no. 7057071584

DETAILS OF SUCCESS STORY:

BACKGROUND:

Mr.Sundar Jalmi is a 50 year old tribal dairy farmer involve in dairy from last 6 years (September 2013) . He maintains both Holstein Frisian and Jersey cross breed cows, every year he has around 12-15 good yielding cows in his farm .Average milk yield of the animals is 10-12 litres a day. Shri. Sundar was very much satisfied with milk yield he used to get but he was not happy with the price of milk due to low fat percentage of HF crossbred animals i.e. 3.2-3.7 as dairy cooperative societies pay milk procurement rate based on fat percentage.

All the cows used to conceive regularly but late (4-5 months after delivery) than the standard period (2 -3 months after delivery). Delay in conception was due to stress on the animals i.e. generally up to 3-4 months after parturition , animals remains in negative energy balance due to different stress on the body such as loss of energy through calving , colostrum and high milk production. This type of predisposing factors of stress effects on reproduction of the animals hence animals conceive late. So the delay in conception and low fat percentage in the milk were two big problems for the farmer.

Shri. Sundar got training on ”feeding of bypass fat” under , Agricultural Skill Council Of India training on “Dairy Farmer- Entrepreneurship “ from ICAR- Krishi Vigyan Kendra, North Goa, ICAR –CCARI Goa in the year 2018 . After the training, he started giving bypass fat to his crossbred HF cows and found that his two big problems were no longer faced by him.

INTERVENTION PROCESS:

Bypass fat was fed along with other normal feed and fodder to five recently calved HF crossbred cows. Bypass fat was fed @ 100 grams / 10 litre of milk production for a period of 3.3 months. Fat and milk yield is recorded for this period.

INTERVENTION TECHNOLOGY:

Bypass fat technology is developed by ICAR CCARI Old Goa. Bypass fat should be feed @ 10-20 gram per litre of milk yield from 15 days before calving to 90 days after calving.

IMPACT HORIZONTAL SPREAD:

Other 10 farmers started to feed bypass fat feed supplement to their cows.

IMPACT ECONOMIC GAINS:

As price of the 1 kilogram bypass fat is 100 rupees. Farmer spent total of Rs. 1000 for purchase of 10 kilo Bypass Fat feed supplement. Bypass fat was fed @ 10 gram / lit of milk yield. It was seen that 10.99 % milk yield increased and 12.75% fat percentage increased from 3.72% to 4.2 %.

Total of 1153 litres of milk was recorded in check while in demo group it was 1280 litres milk. Shri. Sunder got average 127 litres more milk with an additional net income of Rs. 6709 /- per animal for the period of 3.3 months and all the five cows of demo group conceived within 3 months.

IMPACT ON EMPLOYMENT GENERATION:

By feeding of bypass fat to dairy cattle, Shri Sunder is getting extra income of Rs. 6709 per lactation hence any farmer if he maintains 10 cows and feed bypass fat to them then he can get additional of Rs 67,090/- per year. If we convert this in employment, he is generating 1 Employment sufficient for 5.5 months for maintaining of 10 animals. On an average Rs. 12,000 / labour is charged for maintenance of 10 cows / month.

GLIMPSES OF SUCCESS:

TITLE OF THE SUCCESS STORY – 02:

Bottle milk packaging technology

FARMER DETAILS :

Mr.Alirio Botelho,
Botelho Organic Farm, Parye, Sattari, North Goa, Goa
Contact no. 9819491015

DETAILS OF SUCCESS STORY:

BACKGROUND:

Mr.Alirio Botelho is an Electronics Engineer from GEC who has done his MBA finance from NMIMS MUMBAI and was a Corporate Banker before venturing into dairy farming. He started dairy farming in the year 2016 with 5 cows and as of now he has 30 cross bred cows with production of 240 liters of milk per day. He was getting fixed milk price from Milk Society as other co -farmers thus led to average profits .Then he started thinking in a different way regarding FSSAI Licensing and packaging of farm fresh milk with a brand name. He surveyed the marker and took FSSAI license and started own packaging and marketing in small scale in nearby town, Sanquelim with MAMA MOO brand.

INTERVENTION PROCESS:

Farmer started packaging his farm cow's milk in labeled glass bottles and chilling before delivered it to the customer at their home. All the qualities of the milk is preserved as Alirio is not pasteurizing or homogenizing the milk . He is chilling the milk in the freeze and delivering within 1-2 hour in nearby town Sanquelim and Bicholim.

Now he is selling only 55 liters of milk to 75 plus customers who have daily or alternate day subscription. After looking at the response from Sanquelim and Bicholim, he is planning on launching the brand in other cities.

INTERVENTION TECHNOLOGY:

As per the FSSAI guidelines, Alerio is packaging the milk and following other sanitary measures in packaging and marketing. He is a trainee of 200 hours ASCI training of "Dairy Farmer – Entrepreneur" conducted by ICAR _KVK-North Goa, in 2018 and during this training he got knowledge of packaging , processing and marketing of milk and also licencing procedure from FSSAI . This knowledge helped him lot to take this new initiative.

IMPACT HORIZONTAL SPREAD:

Other 10 farmers from his area are thinking to help him and start bottle milk packaging.

IMPACT ECONOMIC GAINS:

Goa Co-operative Dairy Society is giving almost average of Rs. 42 /- to one litre cow milk with average of 4 % Fat and 8.5 % SNF which includes 40% incentives per litre of milk produced as a

support price from the Goa Government. Farmer is getting additionally almost Rs.18 /- after packing the cow milk in bottles and selling directly to the customers. Thus farmer is selling his own branded m ilk with FSSAI licence Rs.60/- per litre At present he is selling only 55 litres off milk in the form of packed bottles and rest he is pouring in the Dairy Society .If in near future, he get good response and sale all the produce in packed form, he can get average additional income of Rs. 4320/- per day and 15.76 lakhs per year.

IMPACT ON EMPLOYMENT GENERATION:

Farmer can earn 15.76 lakhs per year if we convert this in employment; he is generating 10 Employment sufficient for 12 months for maintaining of 10 animals. On an average Rs. 12,000 / labour is charged for maintenance of 10 cows / month.

GLIMPSES OF SUCCESS:

TITLE OF THE SUCCESS STORY – 03:

Clean milk production by practicing dry cow therapy and post milking teat dipping.

FARMER DETAILS :

Mrs. Anisha Samanth,
Tambosem, Pernem Taluka , North Goa .
Contact no. 9881633845

DETAILS OF SUCCESS STORY:

BACKGROUND:

Mrs.Anisha Samanth , Age 44 years has total of 28 crossbred cows in her dairy farm. She maintained HF crossbred cows in her farm. Milk yield of the cows was good but every year 2-3 cows used to suffer with mastitis. The incidence of the mastitis was average 19 % in her farm. Thus she used to suffer losses in the form of loss of milk, income and value of the animal.

INTERVENTION PROCESS:

Clean Milk trial was started in two cows by keeping other animals as control. In this therapy intra- mammary tubes containing antibiotics were inserted in each teat at the time of drying of the cows when cows were in advance pregnancy stage (before 60 days of parturition). Later on after calving, Anisha was advised to do teat dipping with iodine solution after each and every milking i.e. morning and evening. She used to offer dry / green fodder after each milking so as to avoid sitting of the animals on floor.

INTERVENTION TECHNOLOGY:

1. Dry cow therapy with suitable antibiotics by using intra mammary tubes i.e. one in each teat with all antiseptic precautions before 60 days of parturition.
2. After calving, Post milking teat dipping by using suitable iodine preparation in correct proportion throughout the lactation.

IMPACT HORIZONTAL SPREAD:

Other 12 farmers started to use dry cow therapy and post milking teat dipping.

IMPACT ECONOMIC GAINS:

Two animals were kept as demo and rest all the animals were kept as check (Total twenty five cows). Total of Rs.1438 / was spent to purchase inputs for clean milk production i.e. towards purchase of teat dip cup, lacteous liquid (iodine liquid 1 litre x 2) -2lit and Intra mammary Tubes (four).

We have recorded prevalence rate (mastitis occurrence) and milk yield in both demo and check animals for a period of 4 months. Due to use of dry cow therapy and post milking teat dipping, nil incidences was recorded in demo animals while 3 animals were suffered with mastitis in check

(11.53 % incidence of mastitis) group. Total of 142 litres of more milk worth of 5401 /- was recorded in demo. Thus by the use of dry cow therapy and post milking teat dipping prevents animals from occurrence of mastitis and farmer and society can get clean milk.

IMPACT ON EMPLOYMENT GENERATION:

If we prevent incidence of mastitis in a cow, dairy farmer can earn Rs. 5401/- extra income per cow and if she is maintaining 25 animals then he get additional income of Rs. 1,35,025/- per year by selling clean milk. If we convert this in employment generation, he is generating 01 Employment sufficient for 11 months for maintaining of 10 animals. On an average Rs. 12,000 / labour is charged for maintenance of 10 cows / month.

GLIMPSES OF SUCCESS:

TITLE OF THE SUCCESS STORY – 04:

A young Engineer graduate turned into fodder grower cum entrepreneur.

FARMER DETAILS :

Mr.Alirio Botelho,
Botelho Organic Farm, Parye, Sattari, North Goa, Goa
Contact no. 9819491015

DETAILS OF SUCCESS STORY:

BACKGROUND:

Mr.Alirio Botelho is an Engineer but left the job and started organic dairy farming from 3 years. He struggled lot from inception of the dairy and undergone ASCI Training conducted by ICAR -KVK –North Goa, ICAR CCARI Goa and gathered all the information regarding importance of green fodder and cultivation practices of perennial hybrid Napier CO-5 Fodder. Then started plantation of CO5 in small area of 500 square meter and now he is growing in three acres of land .He has not only become self-sufficient in supply and feeding of green fodder to his own 30 crossbred cows but also selling fodder and fodder slips to other dairy farmers of Goa, Karnataka and Maharashtra .

INTERVENTION PROCESS:

ICAR –KVK North Goa is maintaining perennial Hybrid Napier, Co- 5 fodder demonstration unit. KVK creates awareness on importance of green fodder and cultivation practices of quality fodder through trainings and method demonstrations. Alirio has attended twenty five days Agricultural Skill Council of India training on "Dairy farmer-Entrepreneurship "from ICAR –KVK North Goa, ICAR CCARI Goa. After getting sufficient knowledge on fodder cultivation, he started growing fodder in small area of 500 square meters which he later expanded on 3 acres of land.

He started sale of green fodder from his fodder block to other nearby dairy farmers within Goa and sold 120 metric tons of green fodder at the rate of three rupees per kilo .in addition to this during planting season he sold forty thousand fodder slips as planting material at the rate of one rupee per slip to the farmers of Goa, Karnataka and Maharashtra .KVK helped him to establishment of the fodder unit and also in the sale of planting material.

INTERVENTION TECHNOLOGY:

Perennial Hybrid Napier, CO-5 fodder is a high yielding fodder variety developed by Tamilnadu Agricultural University, Coimbatore.

IMPACT HORIZONTAL SPREAD:

Other 54 farmers were started to cultivate Co-5 Hybrid Napier Fodder.

IMPACT ECONOMIC GAINS:

Alirio got total of 270 tons green fodder yield from three acres fodder land. He got total of six cuttings of green fodder in a year. He sold total of 120 Metric Tons of green fodder to other farmers @ Rs.3 /Kg. Farmer earned Rs.3, 60,000/- by selling green fodder. He also sold 40,000 number of

fodder slips to other farmers and earned Rs.40, 000 /- from planting material. Farmer spent total of Rs. 1, 32,000/- on cultivation and labour. Thus he earned net profit of Rs. 2,68,000/- by selling fodder and slips. Famer has total of 30 numbers of good yielding Holstein Frisian cows in his own dairy farm. Farmer offer 400 kilo green fodder to his milking cows and thus in terms of market price of green fodder, he is saved around 4,32,000/- (Four Lakh Thirty two thousand only) .

Department of Animal husbandry and Veterinary Services , Government of Goa gave 16,250/- (Sixteen Thousand two hundred Fifty only) as incentive for growing the fodder for one year . Thus net profit from growing fodder at farmers own farm was Rs.7, 16,250/-(Seven lakh Sixteen thousand two hundred fifty only) from three acres of land.

IMPACT ON EMPLOYMENT GENERATION:

If a farmer grows Hybrid Napier Co-5 perennial fodder at his own land, he can feed green fodder to his own animals round the year which improves animal's production and reproduction plus he can sell green fodder and fodder slips as planting material.

Farmer earned 7, 16,250/- (Seven lakh Sixteen thousand two hundred fifty only) by growing co-5 fodder and if we convert this in employment, he is generating 5 Employment sufficient for 12 months for maintaining of 50 cows. On an average Rs. 12,000 / labour is charged for maintenance of 10 cows/ month.

GLIMPSES OF SUCCESS:

TITLE OF THE SUCCESS STORY – 05:

Sustainable dairy farming with Gir Cows.

FARMER DETAILS :

Mrs. Diksha Deelip Narulkar,
Hankane, Pernem Taluka, North Goa, Goa
Contact no. 879484494

DETAILS OF SUCCESS STORY:

BACKGROUND:

Mrs. Diksha Deelip Narulkar is progressive women dairy farmer maintaining fifteen Gir cows at her dairy farm in Hankane village, Pernem Taluka of North Goa. Before starting of the Gir dairy farm, She has attended 200 hours ASCI training on Dairy farmer -Entrepreneurship from ICAR –KVK North Goa. During the training we had arranged exposure visit to Goshala and also lectures on value addition of cow urine and milk. Farm women gathered all the information regarding value addition of milk, packing technology and also indigenous cow urine distillation. Then she started packaging of farm fresh milk in plastic pouches by labelling as A2 milk and selling to selected consumers of Panjim and Mapusa towns. Also she has started cow urine distillation plant at her farm and processing 15 litres of cow urine daily .Out of 15 litres of urine, she is getting 09 litres of pure distilled Gomutra. She is packaging Gomutra in plastic bottles and started selling to the selected customers. Now her dairy farm is self-sustainable and easily manageable.

INTERVENTION PROCESS:

ICAR –KVK North Goa conducted ASCI training and gave exposure of value addition of urine like collection, distillation of cow urine and bottling of gomutra, making of floor cleaner and pest repellent liquids, value addition of cow dung like making of cow dung patties, dhoop etc. and also value addition of cow milk like making of dahi, ghee etc.

INTERVENTION TECHNOLOGY:

Indigenous cow urine distillation technology is promoted by National Institute of Ayurveda, Jaipur, and Rajasthan.

IMPACT HORIZONTAL SPREAD:

Other 5 farmers have started value addition of urine and packaging of milk.

IMPACT ECONOMIC GAINS:

Farm women is selling 20 litres of Gomutra @Rs.350 / litre and earning Rs.7000/- . She is selling 250 litres of distilled cow urine in loose @Rs.45/ litre and earning Rs. 11,250/- Thus farm women are getting net income of Rs.15, 250 /- month (excluding expenditure on processing like gas and miscellaneous of Rs. 3000/ month). She is getting average of 50 litres of milk / day .She is

packaging and selling 25 litres of milk in 1 litre pouch and selling at premium price Rs. 100 /Litre. Remaining 25 litres she sold to Goa cooperative dairy society where she is got average Rs.42 /-per litre which includes 40% incentive. She is preparing and selling 2 litres of Ghee per month @ Rs.4000 per kilo.

Thus she is getting Rs.1450/-per day additional income by packaging and selling milk at premium price than selling milk to dairy cooperative society thus she is getting additional income of 51,500/- month from selling of milk and Ghee. Thus by value addition and processing of milk and cow urine, farm women is getting net additional income of Rs. 66750/-per month.

IMPACT ON EMPLOYMENT GENERATION:

As farmer Women is earning additional net income of 66750/- by value addition of cow milk and dung, if we convert this in employment, she is generating 5.5 Employment sufficient for 01 month for maintaining of 50 cows. On an average Rs. 12,000 / labour is charged for maintenance of 10 cows/ month.

GLIMPSES OF SUCCESS:


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

F. 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

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

A. Practicing Farmers

i) PRA
ii) Problem identified from Matrix
iii) Field level observations
iv) Farmer group discussions
v) Input from line departments

B. Rural Youth

i) PRA
ii) Problem identified from Matrix
iii) Field level observations
iv) Farmer group discussions
v) Input from line departments

C. In-service personnel

i) Input from line departments
ii) Training need assessment

17. Indicate the methodology for identifying OFTs/FLDs

For OFT:

i) PRA
ii) Problem identified from Matrix
iii) Field level observations
iv) Farmer group discussions
v) Input from line departments

For FLD:

i) New variety/technology
ii) Poor yield at farmers level
iii) Existing cropping system
iv) Input from line departments

5.3. Field activities

i. Name of villages identified/adopted with block name (from which year) – 2019
Nagargaon, Sal, Pilar, Mopa, Cumbarjua,
ii. No. of farm families selected per village :20 Nos. each
iii. No. of survey/PRA conducted : 03 Nos.
iv. No. of technologies taken to the adopted villages : 18 nos.
v. Name of the technologies found suitable by the farmers of the adopted villages:
Management of Cashew Stem and root borer
Bypass fat for cattle.
Production technology Virgin coconut Oil.
vi. Impact (production, income, employment, area/technological– horizontal/vertical)

S. No	Technology demonstrated	Production	Income	Employment Generation	Horizontal spread of technology		
			Rs.	Man days / year	No. of villages	No. of farmers	Area in ha / No. of Units
1	Management of Cashew Stem and Root Borer	10.52 q/ha	115720/-	45	128	1315	986
2	Popularization of Bypass Fat Technology	1349 ltrs / 100 days / animal	55484/-	-	152	760	760
3	Popularization of Virgin Coconut Oil Production technology	18000 ltrs / year 1200 ltrs / year	18,00,000/- 1,20,000/-	900 80	20	221	03 – Commercial, 05 Home scale

vii. Constraints if any in the continued application of these improved technologies – Nil

18. LINKAGES

A. Functional linkage with different organizations

Name of organization	Nature of linkage
ATMA	Exhibitions / trainings, Meetings
Goa Dairy	Animal Health Camps, Meetings
Department Of AHVS	Animal Health Camps, Meetings
SAMETI	Trainings
Goa College of Home Science, Panaji	Training
Goa Chamber of Commerce and Industry, Panaji	Training
All India women's Conference	Training
Green Growth Institute, Sangolda	Training & Demonstration
CPCRI, Kasargod	Training, Workshop and Meeting
Directorate of Agriculture, Govt. of Goa	Training, NHM, RKVY, Diagnostic visits, Lectures, Roving survey
All India Radio	Agriculture Information Programme
Almeida High School, Ponda	Training
G.V.M College, Ponda	Training
Dempe College, Panaji	Training
Botanical Society of Goa	Fruit Festival
Goa Science Centre, Panaji	Agriculture Exhibition
Forest Department, Govt. of Goa	Training

19. 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.)
ASCI	**March, 2019**	**ASCI**	**3,54,800/-**
SCSP, STC	**March – May 2019**	**ICAR**	**5,50,000/-**
ATMA	**October, 2019**	**ATMA**	**48,600/-**
CPDO, Mumbai	**September, 2019**	**CPDO, Mumbai**	**27,900/-**
Zuari Agro	**November, 2019**	**Zuari Agro**	**18,500/-**
Department of Agriculture	**July, 2019**	**Department of Agriculture**	**6,500/-**

20. Details of linkage with ATMA

a) Is ATMA implemented in your district Yes

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

Coordination activities between KVK and ATMA

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks (if any)
01	**Meetings**	Meetings	05	04	
02	**Research projects**				
03	**Training programmes**	Trainings	08	05	
04	**Demonstrations**	Demonstrations on Dairy farming, VCO production, Income Generating Activities, IPM	05	05	
05	**Extension Programmes**				
	Kisan Mela				
	Technology Week				
	Exposure visit	Exposure visits	04	00	
	Exhibition	Vegetable Expo	02	00	
	Soil health camps	Soil Testing	06	06	
	Animal Health Campaigns	Animal Health Campaigns	01	00	
	Others (Pl. specify)				
06	**Publications**				
	Video Films				
	Books				
	Extension Literature				
	Pamphlets				
	Others (Pl. specify)				
07	**Other Activities** (Pl. specify)				
	Watershed approach				
	Integrated Farm Development				
	Agri-preneurs development				

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

E. Nature of linkage with National Fisheries Development Board : NA

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
1	Establishment of Integrated Agriculture Technology Model for sustainable Agriculture	Funding	54.00 lakhs	53,00,000	Project completed
2	Upgradation of training facilities for advanced trainings	Funding	59.00 Lakhs	30,00,000	Project completed
3	Strengthening of Soil Testing Laboratory as Central Soil Testing Laboratory for soil, plant, compost and water analysis	Funding	43.92 Lakhs	30,00,000	Project completed
4	Production of Virgin Coconut Oil.	Funding	52.94 Lakhs	30,00,000	Project completed

21. Convergence with other agencies and departments:

A. Innovator Farmer's Meet

Sl.No.	Particulars	Details
1	Have you conducted Farm Innovators meet in your district?	No
2	Brief report in this regard	

B. Farmers Field School (FFS) : Nil

S. No	Thematic area	Title of the FFS	Budget proposed in Rs.	Brief report

C.1. Technical Feedback of the farmers about the technologies demonstrated and assessed:

1. Farmers found Grampriya more profitable than CARI – Nirbheek.
2. Farmers accepted the CO-5 over CO-4 due to less thorny spikes and more succulent leaves.
3. Salt Tolerent Variety Goa Dhan – 1
    a. The variety grows well in Coastal Saline Soils (pH < 8.5 and EC > 4 dSm^{-1})
    b. Grains are short bold type and preferred by the local farmers.
    c. Crop matures in 135 days
    d. No Lodging was observed in the demo plots.
4. Cashew – Infestation was 2.52 % in treated plants compared to 12.61 % in check plants.
5. Coconut – Disease incidence reduced to 2.58 % treated plants compared to 21.33 % in check plants.
6. Amaranthus : Yield increase was 11.9 %
7. Dolichos Beans : Variety was accepted by farmers as it fetched higher selling price.
8. Mastitis Management : Farmers observed Nil incidence of mastitis in treatment group
9. Bypass fat: Farmers observed increase of 0.5-1.0% of fat percentage and 14.3% milk yield.
10. Goat : Farmers observed higher body wt. gain during marketable age (10 months).

11. Poultry: Farmers accepted Srinidhi birds due to high egg laying and higher body wt. at 05 months.
12. VCO – Technology is getting popularity in Goa as it is having medicinal value, still awareness is required for marketing of product due to its higher cost in domestic market. 04 Commercial units has been established in Goa. There is scope for export.
13. Jackfruit – This technology is gaining importance since lot of jackfruit gets waste in villages and it's a simple technology which can give good income to farm women

C.2. Technical Feedback from the KVK Scientists (Subject wise) to the research institutions/universities: Nil

D. Technology Week celebration during 2019: No.

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

Other Details

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

22. Interventions on drought mitigation (if the KVK included in this special programme)

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												

23. Impact

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

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Management of Stem and root borer in cashew	10	86	20,880/-	1,01,800/-
Production of Virgin Coconut Oil	05	54	-	20250/- per month
Soil test based nutrient management	1500	92		
Popularization of Vermicomposting	110	84	10500/-	25400/-
Value addition in Jackfruit	41	62	1,400/-	2,700/- per day
Popularization of Mushroom Cultivation	24	65	600/-	3,500/-
Popularization of Beekeeping	36	45	-	4,800/-
Popularization of Grampriya Birds				
Popularization of Fodder Varieties CO-5 (Hybrid Napier)	30	90	640/-	39,000/-
Feeding of Bypass fat	23	85	30000/-	39000/-
Mastitis control measures in cattle	44	90	26000/-	32000/-

24. Cases of large scale adoption

(Please furnish detailed information for each case)

S. No	Crop / Enterprise	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area in ha / No. of Units
1	Cashew	IPM	Management of Cashew Stem and Root Borer	Method Demonstration, Capacity building programme, Awareness programme	128	1315	986
2	Dairy	Nutrition Management	Popularization of Bypass Fat Technology	Method Demonstration, Capacity building programme, Awareness programme	152	760	760
3	Coconut	Value addition	Popularization of Virgin Coconut Oil Production technology	Method Demonstration, Capacity building programme, Awareness programme	20	221	03 – Commercial, 05 Home scale

25. Details of impact analysis of KVK activities carried out during the reporting period :

26. Kisan Mobile Advisory Services – 2019

Month	No. of SMS sent	No. of farmers to which SMS was sent	No. of feedback / query on SMS sent
February	03	619	0
September	01	542	0
November	01	34	0
Total	**05**	**1195**	**0**

27. PERFORMANCE OF INFRASTRUCTURE IN KVK

28. Performance of demonstration units (other than instructional farm)

Sl. No.	Demo Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	
1	Nursery	2000	01	Grafts	3798	1750 Nos.	52,500/-	34,125/-	

29. Performance of instructional farm (Crops) including seed production: NA

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Cereals									
Pulses									
Oilseeds									
Fibers									
Spices & Plantation crops									
Floriculture									
Fruits									
Cashew			4.50	Local	Planting material & Nuts	586 Nos. 800 kgs	83720	209300	
Mango			3.50	Mancurad	Planting material & Fruits	2050 Nos. 3200 Kgs	101500	253750	
Coconut			0.75	Local	Nuts	5874 Nuts	20570	58750	
Vegetables									
Others (specify)									

Fodder			1.75	CO-4 & CO-5	Fodder and Slips	5250 qtl	70000	131250	
Nursery			1.0	Ornamental &Medicinal	Planting Material	1750 Nos.	18375	52500	

30. 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	Vermicompost	3030	24710	70575	
	Earthworms	19.95			

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	Buffalo	Murrah	Buffalo milk	9283.5 lit	6,67,322/-	4,60,291/-	
2	Poultry Birds	Khadaknath	Khadaknath	05	1,10,540/-	1,50,466/-	
		Srinidhi	Srinidhi	247			
		vanaraja	vanaraja	599			
		Grampriya	Grampriya	105			
		CARI Nirbheek	CARI Nirbheek	210			
			Eggs	5296			
			Poultry Manure	250 Kgs			

E. Utilization of hostel facilities

Accommodation available (No. of beds): 16 nos. Revenue Generated : Rs. 70,108/-

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
January	25	35	NA
February	44	18	NA
March	26	25	NA
April	16	33	NA
May	49	8	NA
June	55	10	NA
July	43	40	NA
August	20	20	NA
September	20	31	NA
October	40	31	NA
November	19	18	NA
December	30	36	NA

F. Database management

S. No	Database target	Database created
1	Farmers Details	1500 farmers data created

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 irrigate / utilization pattern
			No. of Training programmes	No. of Demonstrations	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)		

31. FINANCIAL PERFORMANCE

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	Canara Bank	Old Goa	000321	ICAR Research Complex for Goa	0321201000277	403015014	CNRB0000321
With KVK							

32. Utilization of KVK funds during the year 2019 (Rs. In lakh) – 31st December, 2019

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Salary				
1	**Pay & Allowances**	12000000	9300000	9966272
B. General				
2	**Traveling allowances**	200000	125000	106014
3	**Office Contingencies**	1000000	650000	519827
4	**Technical Programme**	1200000	375000	304919
5	**HRD**	100000	50000	9000
Total General		2500000	1200000	939760
GRAND TOTAL (A+B+C)		14500000	10500000	10906032

33. Status of revolving fund (Rs. In lakh) for the three years : Not Applicable

Year	Opening balance as on 1st April	Income during the year	Expenditure during the year	Net balance in hand as on 1st April of each year
April 2017 to March 2018				
April 2018 to March 2019				
April 2019 to March 2020				

34. Details of HRD activities attended by KVK staff during year

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
Dr. Monica Suresh Singh	SMS (Ag. Extn.)	TOT	KVK Jalna-1	4-6 Dec, 2019
		Programme on organic farming, nutrient and pest management and organic certification system	Krishi Bhawan, Tonca	17-18 Oct, 2019
		Annual Zonal Workshop for KVK- Zone VIII	ICAR – CCARI, Goa.	14-16 Jun, 2019
Mrs. Sunetra Talaulikar	SMS (Home Sci.)	TOT	KVK Jalna-1	4-6 Dec, 2019

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

S. No.	Name of the award	Given by	Nature of award	Given for
A	KVK Awards			
1	Best Presentation Award Zonal Review Meeting – 2019	ICAR – ATARI, Pune	Certificate	Best oral Presentation
2	Best Employee Award Dr. Sanjaykumar Udharwar Shri Vishwajeet Prajapati	ICAR – CCARI, Goa	Certificate and Memento	Outstanding performance
3	Best Oral Presentation Shri Shashi Vishwakarma	Sanquelim Mohatsav, Agri. Dept	Memento	Oral Presentation

APR SUMMARY

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	41	419	450	869
Rural youths	20	172	281	453
Extension functionaries	3	13	09	22
Sponsored Training	4	26	123	149
ASCI Training	02	22	18	40
Total	**70**	**630**	**863**	**1493**

2. Frontline demonstrations

Enterprise	No. of Farmers	Area (ha)	Units/Animals
Oilseeds			
Pulses			
Cereals	4	0.5	-
Vegetables	20	0.9	-
Plantation crops	22	6	-
Hybrid crops			
Total	**46**	**7.4**	-
Livestock & Fisheries	28	-	56
Other enterprises	06	-	06
Total	**34**		62
Grand Total	**80**	**7.4**	**62**

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops			
Livestock	01	05	05
Various enterprises	01	05	05
Total			
Technology Refined	**02**	**10**	**10**
Crops			
Livestock			
Various enterprises			
Total			
Grand Total	**02**	**10**	**10**

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	1782	8830
Other extension activities	1735	-
Total	**3517**	**8830**

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Market-ing	Awar e-ness	Other enterprise	Total
North Goa	Text only	-	-	-	-	-	05	05
	Total Messages	-	-	-	-	-	**05**	**05**
	Total farmers Benefitted	-	-	-	-	-		**1195**

6. Seed, Planting Material Production and Value Addition

	Quintal/Number	Value Rs.
Planting material (No.)	4386 nos.	2,35,550/-
Bio-Products (kg)	3049.95 kgs	70,575/-
Livestock Production (No.)	12878 nos.	5,11,350/-
Value addition	85.5 ltrs	85,800/-
Training Fees	13 nos.	1,60,600/-
Total		**10,63,875/-**

7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil	941	Nil
Water	-	-
Plant	-	-
Total	**941**	**-**

8. HRD and Publications

Sr. No.	Category	Number
1.	Workshops	1
2.	Meetings	1
3.	Trainings for KVK officials	1
4.	Book published	-
5.	Training Manual	-
6.	Book chapters	-
7.	Research papers	-
8.	Extension folder	12
9.	Proceedings	02