ICAR-ATARI, Pune
DETAILS OF ANNUAL PROGRESS REPORT OF KVKs DURING 2018-19
(1st April 2018 to 31st March 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, Junagadh Agricultural University Nana-Kandhasar-363 520 **Dist: Surendranagar**	(02751) 294120	02751 280121	surendranagar.kvk@gmail.com	NA

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

Address	Telephone		E mail	Website address
	Office	FAX		
Junagadh Agricultural University, Junagadh – 360 002	0285-2672080-90	0285-2672653	dee@jau.in	-

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

Name	Telephone / Contact		
	Office	Mobile	Email
Mr. M. F. Bhoraniya	--	094282 97863	surendranagar.kvk@gmail.com

1.4. Year of sanction: October, 2005

1.5. Staff Position (as on March 31, 2018)

Sl. No.	Sanctioned post	Name of the incumbent	Discipline	If Permanent, Please indicate		Date of joining	If Temporary, pl. indicate the consolidated amount paid (Rs./month)
				Current Pay Band	Current Grade Pay		
1.	Senior Scientist and Head	-	-	-	-	-	-
2.	Subject Matter Specialist	Mr. M. F. Bhoraniya	Plant Protection	15600-39100	6000/-	18-09-2012	-
3.	Subject Matter Specialist	Dr. B. C. Bochalya	Extension Education	15600-39100	7000/-	23-08-2006	-
4.	Subject Matter Specialist	Dr. R. P. Kalma	Animal Science	15600-39100	6000/-	07-12-2016	-
5.	Subject Matter Specialist	Mr. D. A. Patel	Horticulture	15600-39100	6000/-	20-01-2017	-
6.	Subject Matter Specialist	-	Agronomy	-	-	-	-
7.	Subject Matter Specialist	-	Home Science	-	-	-	-
8.	Programme Assistant	Mr.A.K.Vala	B. Sc. (Agri)	38090 Fix	-	10-08-2018	-
9.	Computer Programmer	Mr. P. T. Patel	Computer Science	39300-126600	-	30-12-2008	-
10.	Farm Manager	Mr. M. N. Patel	B. Sc. (Agri)	38090 Fix	-	27-07-2018	-
11.	Accountant/Superintendent	Mr. R. P. Vagadiya	O.S. cum Accountant	39300-126600	-	01-12-2011	-
12.	Stenographer	Mr. S. H. Shukla	Junior Steno	25500-81100	-	19-11-2013	-
13.	Driver 1	-	-	-	-	-	-
14.	Driver 2	-	-	-	-	-	-
15.	Supporting staff 1	Mr. A. M. Dhadvi	Peon	15700-50000	-	01-10-2015	-
16.	Supporting staff 2	-	-	-	-	-	-

1.6. Total land with KVK (in ha) :

S. No.	Item	Area (ha)
1	Under Buildings	03.56
2.	Under Demonstration Units	00.34
3.	Under Crops	17.56
4.	Horticulture	02.96
5.	Pond	00.23
6.	Under Road	01.70
	Total	**26.35**

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	23/7/09	595	30,20,600	-	-	-
2.	Farmers Hostel			296	20,74,700	-	-	-
3.	Staff Quarters (6)			--	30,55,000	-	-	-
4.	Demonstration Units (2)			78	6,16,000	-	-	-
5	Fencing	RKVY	1/4/10	77	3,00,000	-	-	-
6	Rain Water harvesting system			191	13,94,500	-	-	-
7	Threshing floor			198	15,72,000	-	-	-
8	Farm godown			71	5,00,000	-	-	-
9	ICT lab	-	-	-	-	-	-	-
10	Other	-	-	-	-	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Jeep (Bolero)	2006-07	4,96,000	374000	Working but requires costly repairs
Splender Bike	2010-11	42,980	53000	Working

C) Equipments & AV aids

Name of the equipment / Implements	Year of purchase	Cost (Rs.)	Present status
Computer	2006-07	49968	Working Cond.
Copier Machine	2006-07	49816	Working Cond.
Automatic Seed Drill	2006-07	31500	Working Cond.
Tractor mounted Sprayer (200ltr)	2007-08	43000	Working Cond.
Shredder	2007-08	43000	Working Cond.
Dibbler	2007-08	900	Working Cond.
Cotton stock puller	2007-08	1200	Working Cond.
Digital copier with network	2008-09	115300	Working Cond.
Rain gun	2007-08	19800	Working Cond.
LCD projector	2008-09	89985	Working Cond.
Rotavator	2008-09	96000	Working Cond.
Laptop	2008-09	47500	Working Cond.
Harrow cum cultivator (2)	2008-09	75000	Working Cond.
Groundnut Decorticator	2008-09	96530	Working Cond.
Mobile seed processing unit	2008-09	1685000	-
Thresher	2008-09	114000	Working Cond.
Zero till drill	2008-09	66700	Working Cond.
Air assisted blower type sprayer	2008-09	98750	Working Cond.
Digital Camera	2008-09	23600	Not working
Plasma TV	2008-09	73750	Working Cond.
Power Tiller	2010-11	1,15000	Working Cond.
Mini Tractor (Mahindra)	2011-12	1,98,000	Working Cond.
Trinocular Microscope	2012-13	2,90,000	Working Cond.
B.O.D. Incubator	2012-13	1,14,000	Working Cond.
Laminar Air Flow	2012-13	1,99,000	Working Cond.
Batch top centrifuge	2012-13	46,524	Working Cond.
Electronic Balance	2012-13	19,905	Working Cond.
TDS meter	2012-13	6,333	Working Cond.
Temp & humidity indicator & controller	2012-13	33,071	Working Cond.
Digital Hot Air Oven	2012-13	46,333	Working Cond.
Deep Fridge	2012-13	47,571	Working Cond.
Computer -2	2012-13	72,618	Working Cond.
Vertical Autoclave	2012-13	27,900	Working Cond.
Computer-3	2016-17	34115	Working Cond.
Kyan	2016-17	130000	Working Cond.
Copier Machine	2016-17	144391	Working Cond.
RO System	2016-17	79900	Working Cond.
20 HP/10 STG Pump Set Falcon	2017-18	71750	Working Cond.
HP 280 G4 MT-Core i5 Computer-2	2018-19	98,888	Working Cond.
20 HP 13 Stage Sub-Marshible Pumo	2018-19	86436	Working Cond.
Nikon D5600 Digital Camera	2018-19	49,977	Working Cond.
Microtek Online UPS-2	2018-19	25,600	Working Cond.
Water Motor Pump Mono	2018-19	8870	Working Cond.

1.8. **Details SAC meeting conducted in the year**

The 14th(fourteenth) Scientific Advisory Committee Meeting of Krishi Vigyan Kendra, JAU, Surendranagar was held at seminar hall of KVK, Nana Kandhasar (Surendranagar) on 6th December, 2018. Following members were remained present in the meeting.

Sr. No.	Name & Designation	Position
1.	**Dr. V. P. Chovatia** Director of Research, JAU, Junagadh	Chairman
2.	**Dr. Lakhan Singh** Director ATARI Zone-VIII, Pune (Maharastra)	Member
3.	**Dr. P. V. Patel** Director of Extension Education, JAU, Junagadh	Member
4.	**Shri H. D. Vadi** District Agriculture Officer, Surendranagar	Member
5.	**Shri H. B. Parmar** Horticulture Officer, Dept. of Hort. (Représentative of Dy. Director, Horticulture)	Member
6.	**Dr. Bakarali Akabarali Rabdi** Veterinary Officer, Chotila, Surendranagar (Representative of Dy. Director, Animal Husbandry)	Member
7.	**Shri Yogendrasigh M. Barad** Assistant Director of Agriculture,(Representative of Deputy Director of Agriculture (Ext.) and Project Director (ATMA)	Member
8.	**Shri K. S. Bhuva** DPD, ATMA, (Representative of Project Director (ATMA), Surendranagar	Member
9.	**Shri. Punabhai Laljibhai Chauhan** Progressive Farmer, Village : Karmad,Taluka : Chuda, Dist. : Surendranagar	Member
10.	**Shri Khodabhai J. Sabhani** Progressive Dairy Farmer, Village : Vakhatpar, Taluka : Sayla, Dist. : Surendranagar	Member
11.	**Smt. Jashuben D. Meniya** Village:Navagam, Taluka :Sayla, Dist. : Surendranagar	Farm women Member
12.	**Smt. Chahun Minaben Sunilbhai** Village: Nani Moldi, Taluka: Chotila, Dist. : Surendranagar	Farm women Member
13.	**Shri Mohbatbhai Amarsangbhai Kathiya** Progressive Farmer, Village: Ramdevgadh, Taluka: Chuda, Dist. : Surendranagar	Special invitee
14.	**Shri Khumansang Valajibhai Solanki** Progressive Farmer, Village: Ramdevgadh, Taluka: Chuda, Dist. : Surendranagar	Special invitee
15	**Shri Hamirsinh Parmar** Progressive Farmer, Village : Gautamgadh, Taluka : Muli, Dist. : Surendranagar	Invitee Farmer
16.	**Mr. M. F. Bhoraniya** Scientist- Plant Protection & (I/c) Sr. Scientist and Head, KVK, JAU, Surendranagar	Member-Secretary
17.	**Dr. B. C. Bochalya** Scientist - Extension Education, KVK, JAU, Surendranagar	Participant

18.	**Dr. R. P. Kalma** Scientist - Animal Science, KVK, JAU, Surendranagar	Participant
19.	**Shri D. A. Patel** Scientist - Horticulture, KVK, JAU, Surendranagar	Participant
20.	**Dr. H. C. Chhodvadia** Associate Extension Educationist, JAU, Junagadh	Participant
21.	**Dr. A. M. Polara** Assistant Extension Educationist, JAU, Junagadh	Participant

The meeting was chaired by Dr. V. P. Chovatia, Director of Research, JAU, Junagadh and Chairman of SAC meeting and Dr. Lakhan Singh**,** Director ATARI Zone-VIII, Pune (Maharastra) was remained present in SAC meeting. Dr. P. V. Patel, Director of Extension Education, JAU, Junagadh welcomed Hon'ble Chairman and all the members of the Scientific Advisory Committee.

Mr. M. F. Bhoraniya, (I/c) Senior Scientist and Head, KVK, JAU, Surendranagar presented action taken report on suggestions made during 13th SAC meeting and summerized progress report of KVK, Surendranagar for the period of April, 2018 to November, 2018 & action plan for the period of April-2019 to March- 2020. Detailed discipline wise progress reports for the period of April-2018 to November-2018 & action plan for the period of April-2019 to March-2020 were presented by Dr. B. C. Bochalya (Agronomy and Extension Education), Mr. M.F.Bhoraniya (Plant Protection), Mr. D. A. Patel (Horticulture) and Dr. R. P. Kalma (Animal Husbundry & Home Science) Scientist, KVK, JAU, Surendranagar. House approved the same with some suggestions.

Dr. V. P. Chovatia, Director of Research, JAU, Junagadh and Chairman of SAC meeting and Dr. Lakhan Singh, Director ATARI Zone-VIII, Pune (Maharastra) gave the presidential speech and made valuable suggestions. Dr. V. P. Chovatia, Director of Research, JAU, Junagadh emphasized on promoting and popularizing organic farming in the Surendranagar district through training and the house discused advantages and disadvantages of organic crop growers.

During discussion, Chairman and members of SAC made some suggetions for strengthening activities for improving KVK performance.

COMMITTEE MADE THE FOLLOWING SUGGESTIONS AFTER ACTIVE INTERACTION

- The organic farming should be popularized in Surendranagar district through training and other extension activities.
- Number of training programmes (On and Off campus one days or need based duration) should be increased in a calendar year, so more information about new technologies can be provided to the farmers, farm woman and youth.
- The training on value addition in horticulture should be organized.
- The detail information should be given about disease, pest, location specific problems during diagnostic visit with state department or by KVK team.
- Clarify the reason for OFT taken.
- Specify the need based inputs for the FLDs.
- Photographs should be clear and visible during the presentation of the reports.
- Remaining trainings on Home Science should be organized in the month of January and February with the help of nearest KVK Home Science experts or local experts.
- During horticultural trainings, training material should be made available to the participants.
- The demonstration on nutrition gardening according to season should be made throughout the year, so that farmers and other visitors can get information.

- The boards displaying cluster FLDs should be permanent instead of showing hand holds by the farmers.
- The training on kitchen gardening and nutritional security should be organized.
- The crop cafeteria should be maintained according the season at KVK.
- In FLDs of animal science result of milk yield per day should be shown.
- During the diagnostic visit of animal science the place and disease of the animal should be specified.
- In Home Science training entitled "Hand stitching and embroidery for income generation'' decrease the time duration and reschedule it according to need based.

The meeting was ended with suggestion by Dr. Lakhan Singh, Director ATARI- Pune, gave the speech and stressed on proper follow of extension procedure and also emphasized to ensure optimum use of ICT among the clientele farmers. He appriciated about progress made by KVK. Dr. P. V. Patel, Director of Extension Education, JAU, Junagadh emphased on secondary agricultural activites especially on value addition so the farmers can get higher income and also said that Intergrated farming is the need of hours, so the farmers may sustain their income in adverse weather condtions. He complemented KVK team for better performanceand said that KVK, Surendranagar is doing very good work and it should be continued for betterment of farming community. Vote of thanks was extended by Dr. B. C. Bochalya, Scientist, KVK, JAU, Surendranagar.

2. DETAILS OF DISTRICT

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

S. No	Farming system/enterprise
1	The district Surendranagar mainly falls in north Saurashtra agro-climatic zone. The district located in India at 22.30° to 23.45° North latitude and 71.00° to 72.15° East longitude. Surendranagar district is bounded in north by Gulf of Kutch and Mehasana district, in the south by Bhavnagar and part of Ahmedabad district, on the east by part of Ahmedabad and west by Rajkot district. The average annual rainfall is 585 mm. The average temperature of the district ranges with 41°C maximum to 11°C minimum. The soil is mostly medium black, shallow to moderately deep and calcareous in nature, therefore cotton is the major crop of the district. Some patches of saline soil found in Dasada and Lakhtar talukas, calcareous sandy soil found in some part of Chotila, Sayla, Thangadh & Dhrangdhra taluka and loamy soil is found in some part of Dhrangdhra taluka. The pH of the soil is alkaline and underground water is non saline in nature. The district covers 10.45 lakh ha geographical area out of which 6.49 lakh ha under cultivation, of which only 0.62 lakh ha is irrigated. Major area comes under rainfed farming. The main sources of irrigation are wells, tube wells, ponds and canals. The major crops of this region are cotton, sesame & pearl millet and others are sorghum, wheat, chick pea, groundnut, mustard, cumin, green gram, black gram, onion, garlic and vegetables. The fruit orchard area is very less.

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

PROFILE OF THE
NORTH SAURASTRA AGRO - CLIMATIC ZONE VI - GUJARAT

NORTH SAURASTRA AGRO - CLIMATIC ZONE

1.	Total geographical area	: 35.02 lakh ha.
2.	Area under forest	: 1.47 lakh ha.
3.	Area under non agricultural use	: 2.10 lakh ha.
4.	Barren and uncultivated land	: 2.52 lakh ha.
5.	Permanent pasture	: 2.45 lakh ha
6.	Current fallows	: 1.70 lakh ha
7.	Net sown area	: 22.17 lakh ha
8.	Total cropped area	: 25.77 lakh ha
9.	Area sown more than one	: 3.61 lakh ha
10.	Climate	: Arid and semi arid
11.	Average rainfall	: 542.14 mm
12.	Soil type	: Black to brown & Shallow to moderately deep soil

13. Cropping pattern :

Crop		Area (lakh ha.)
Kharif cereals	:	5.58
Khrif pulses	:	0.23
Kharif oil seeds	:	12.14
Cash crops	:	4.00
Rabi cereals	:	1.57
Rabi pulses	:	0.56
Others	:	1.69

14. Major croped area (%)

a) Kharif		
Groundnut	:	40
Cotton	:	15
Pearmillet	:	12
Sorghum	:	10
Sesamum	:	3
Others	:	20
b) Rabi		
Wheat	:	5
Chickpea	:	2
Cumin	:	3

15. Crop sequence:

Crop
Groundnut - -
Groundnut - Wheat
Groundnut - Mustard
Groundnut - Cumin
Groundnut - Chickpea
Pearl millet - Groundnut
Pearl millet- Green gram
Pearl millet- Cumin
Pearl millet- Mustard
Pearl millet - Garlic
Cotton - -
Cotton - Groundnut
Cotton - Sorghum

b) Topography

S. No.	Agro ecological situation	Characteristics
North Saurashtra agro-climatic zone-VI, Gujarat Eight agro-climatic zones have been identified in Gujarat. The North Saurashtra Agro climatic Zone-VI falls in Saurashtra region. The influence area of North Saurashtra Agro climatic Zone is spread among five districts of Saurashtra region viz., Amreli (9 talukas out of 11), Bhavnagar (6 talukas out of 10), Jamnagar (all the 6 talukas), Rajkot (11 talukas out of 11), Morbi (all the 5 talukas) and Surendranagar (7 talukas out of 10) covering 44 talukas in all. It is bounded in the north by the gulf of Kutch and parts of Rajkot as well as Surendranagar district, in the east by the Ahmadabad district and coastal part of Bhavnagar district, on the south by the Junagadh district and parts of Amreli as well as Rajkot district, to the west by Arabian sea. The farming situation of the district Surendranagar is *Rainfed*.		

2.3 Soil Types

S. No	Soil type	Characteristics	Area in ha
1	Medium black	Wadhwan & Muli	
2	Saline & Alkaline soils	Dasada & Lakhtar	
3	Shallow calcareous sandy soil	Dhranghadhra	
4	Red Loamy soil	Dhanghdhra	
5	Low land soils	Limbdi, Lakhtar	
6	Calcareous Sandy soil	Chotila, Thangadh, Sayla	

2.4. Area, Production and Productivity of major crops cultivated in the district (2015-16)

Sr. No	Crop	Area (ha)	Production (MT)	District Productivity (Qtl/ha)	State Productivity (Qtl/ha)
1	Cotton (Irrigated)	206986	864812 (Lint)	7.10 (Lint)	5.29 (Lint)
2	Cotton (*Rainfed*)	164027	420171	4.34	3.44
3	Sesame	18265	4765	2.61	3.62
4	Groundnut	8690	23226	26.73	14.28
5	Wheat	29815	93094	31.22	27.42
6	Cumin	84590	63087	7.46	6.92
7	Funnel	16625	24992	15.03	15.03
8	Bajara	7181	13553	18.87	16.23
9	Gram	11019	9874	8.96	8.86
10	Green gram	1557	1001	6.43	5.05
11	Guar Seed	10831	6697	6.18	6.11

Source: District agriculture department.

2.5. Weather data (2018-19)

Sr. No.	Date	Rainfall (mm)
1	03-07-2018	01.0
2	10-07-2018	01.0
3	11-07-2018	02.4
4	13-07-2018	09.2
5	14-07-2018	17.0
6	18-08-2018	06.0
7	15-07-2018	12.0
8	16-07-2018	200.0
9	19-07-2018	04.4
10	21-07-2018	11.3
11	17-08-2018	89.0
Total rainy days: 8		**353.3**

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

Category	Population	Production	Productivity
Cattle			
Crossbred	3345	54,61,197 lit	-
Indigenous	600280	-	-
Buffalo	379240	-	-
Sheep			
Crossbred	461	-	-
Indigenous	77285	-	-
Goats	157611	-	-
Pigs		-	-
Crossbred	-	-	-
Indigenous	-	-	-
Rabbits	104	-	-
Poultry-	**8599**		
Hens	-	-	-
Desi	-	-	-
Category		Production (Q.)	Productivity
Fish (Reservoir)	-	-	-

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
Chotila	Chotila	Lakhchokiya	Cotton, Bajra, Sesame, Pulses, Dairy Farming	Uncertain and scattered rainfall, pink bollworm in cotton, Reddening in cotton, Wild animals, Lower milk production.	Dry farming technology Awareness for vaccination & artificial insemination of animals
		Bhimora	Cotton, Bajra, Groundnut, Sesame, Pulses Dairy Farming,	Uncertain and scattered rainfall, infestation of pink boll worm in cotton, sucking pest in vegetables, HS disease	Dry farming technology Awareness for vaccination & artificial insemination of animals
		Rajawad	Cotton, Cumin, Groundnut, Sesame, Pulses, Vegetables Dairy Farming,	Lack of irrigation facility, Uncertain and scattered rainfall, Lower milk production, HS disease	Dry farming technology, Awareness for vaccination & artificial insemination of animals
		Sanosara	Cotton, Bajra, Cumin, Wheat, Sesame, Dairy Farming,	Uncertain and scattered rainfall, Injudicious use of fertilizers & Pesticides, Black quarter disease	Adoption of organic farming, Bio-fertilizers & Vermi-compost Dry farming technologies Awareness for vaccination & artificial insemination of animals
Sayla	Sayla	Hadala	Cotton, Groundnut, Cumin, Wheat, Sesame, Dairy Farming	Lack of knowledge of modern dry land technologies, lack of Awareness for vaccination & artificial insemination of animals	Awareness for vaccination & artificial insemination of animals
		Chorvira	Cotton, Castor, G'nut, Wheat Dairy Farming,	Lack of knowledge of modern dry land technologies, FMD	Dry farming technologies, Awareness for vaccination & artificial insemination of animals
		Mangalkui	Cotton, Wheat, Cumin, Sesame, Bajra	Lack of knowledge of modern dry land technologies, Injudicious use of fertilizers & Pesticides	Dry farming technologies
		Dharadungari	Cotton, Bajra, Sesame, Wheat, Cumin, Dairy Farming,	Lack of knowledge about weed, pest and diseases & nutrient management HS disease, Trypanosomesis disease	To motivate farmers to grow arid and semi arid horticultural crops. Awareness for vaccination & artificial insemination of animals
Chuda	Chuda	Karmad	Dairy Farming, Cotton, G'nut, Sesame, Wheat, Cumin, Bajra, Gram	Soil salinity, poor drainage system FMD, Lack of knowledge of modern dry land technologies, INM,I PM etc	Irrigated farming technology, Awareness for vaccination & artificial insemination of animals
		Ramdevgadh	Dairy Farming, Cotton, G'nut, Sesame, Wheat, Gram, Cumin, Bajra	Soil salinity, Awareness for vaccination & artificial insemination of animals	Irrigated farming technology, Awareness for vaccination & artificial insemination of animals
		Melapur	Dairy Farming, Cotton, G'nut, Sesame, Gram, Wheat, Cumin, Bajra	Soil salinity, low knowledge of scientific cultivation of crops ,HS disease, Injudicious use of fertilizers & Pesticides	Irrigated farming technology, Awareness for vaccination & artificial insemination of animals
		Chhatariyala	Dairy Farming, Cotton, G'nut, Sesame, Gram, Wheat, Cumin, Bajra	Soil salinity, poor water quality for irrigation, , low knowledge about INM, IPM , in crops,	Irrigated farming technology, Awareness for vaccination & artificial insemination of animals

2.8. Priority thrust areas:

Crop/Enterprise	Thrust area
Cotton	✓ Increase productivity of the crops by adopting recommended practices of integrated pest management (Pink boll worm in Bt-cotton (IPM) and INM in cotton ✓ Recycling of the cotton stalk by cotton shredder
Groundnut, Sesame Castor and Wheat	✓ Increase productivity of the crops by adopting recommended dry farming technologies, newly released varieties and INM in sesame
Cumin	✓ Integrated Diseases Management and IPM
Chickpea	✓ Increase productivity of the crops by newly released varieties and storage grain for seed purpose to farmers for next year.
Horticulture (Pomegranate, Lemon, Guava and chilly	✓ Value addition in fruits and vegetables, INM, training and pruning orchard and promote the farmers to adopting arid horticulture crops
Agriculture	✓ Providing information and create interest to young generation for agriculture as a profession.
Farm waste	✓ Recycling of the warm waste through composting, Vermi-composting and green manuring.
Micro Irrigation	✓ Effective use of water by micro irrigation system, water harvesting structure and water harvesting techniques.
Animal Science	✓ Increase productivity of the milk by adopting scientific feeding and breeding technologies and to create awareness about clean milk production.
Post Harvesting Technology (PHT)	✓ Create awareness for proper storage and reduce post harvest losses.

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
7	7	26	26	200	200	200	200

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
38	36	-	829	120	132	-	19405

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
-	63.75	-	8425

Livestock, poultry strains and fingerlings (No.)		Bio-products Selling (Kg)	
7		8	
Target	Achievement	Target	Achievement
-	-	-	17,055 kg- *Beauveria*
			22,373 kg- *Trichoderma*

3.1. B. Operational areas details during 2018-19

Sr. 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	Intervention (OFT, FLD, Training, extension activity etc.)*
1	Lakhchokiya	Cotton, Bajra, Sesame, Pulses, Diary Farming	Uncertain and scattered rainfall, pink bollworm in cotton, Reddening in cotton, Wild animals, Lower milk production.	--	--
2	Bhimora	Cotton, Bajra, Groundnut, Sesame, Pulses Diary Farming	Uncertain and scattered rainfall, infestation of pink boll worm in cotton, sucking pest in vegetables, HS disease	--	--
3	Rajawad	Cotton, Cumin, Groundnut, Sesame, Pulses, Vegetables Diary Farming	Lack of irrigation facility, Uncertain and scattered rainfall, Lower milk production, HS disease	--	--
4	Sanosara	Cotton, Bajra, Cumin, Wheat, Sesame, Diary Farming	Uncertain and scattered rainfall, Injudicious use of fertilizers & Pesticides, Black quarter disease	--	--
5	Hadala	Cotton, Groundnut, Cumin, Wheat, Sesame, Diary Farming	Lack of knowledge of modern dry land technologies, lack of Awareness for vaccination & artificial insemination of animals	--	--
6	Chorvira	Cotton, Castor, G'nut, Wheat Dairy Farming	Lack of knowledge of modern dry land technologies, FMD	--	--
7	Mangalkui	Cotton, Wheat, Cumin, Sesame, Bajra	Lack of knowledge of modern dry land technologies, Injudicious use of fertilizers & Pesticides	--	--
8	Dharadungari	Cotton, Bajra, Sesame, Wheat, Cumin, Dairy Farming	Lack of knowledge about weed, pest and diseases & nutrient management HS disease, Trypanosomesis disease	--	--
9	Karmad	Dairy Farming, Cotton, G'nut, Sesame, Wheat, Cumin, Bajra, Gram	Soil salinity, poor drainage system FMD, Lack of knowledge of modern dry land technologies, INM,I PM etc	--	--
10	Ramdevgadh	Dairy Farming, Cotton, G'nut, Sesame, Wheat, Gram, Cumin, Bajra	Soil salinity, Awareness for vaccination & artificial insemination of animals	--	--
11	Melapur	Dairy Farming, Cotton, G'nut, Sesame, Gram, Wheat, Cumin, Bajra	Soil salinity, low knowledge of scientific cultivation of crops ,HS disease, Injudicious use of fertilizers & Pesticides	--	--
12	Chhatariyala	Dairy Farming, Cotton, G'nut, Sesame, Gram, Wheat, Cumin, Bajra	Soil salinity, poor water quality for irrigation, , low knowledge about INM, IPM , in crops,	--	--

* Support with problem-cause and interventions diagram

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	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management	1	0	0	0	0	0	0	0	0	1
Varietal Evaluation	0	0	0	0	1	0	0	0	0	1
Integrated Pest Management	0	1	0	0	0	0	0	0	0	1
Integrated Crop Management	0	0	0	1	0	0	0	0	0	1
Integrated Disease Management	0	0	0	0	0	0	0	0	0	0
Small Scale Income Generation Enterprises	0	0	0	0	0	0	0	0	0	0
Weed Management	0	0	0	0	0	0	0	0	0	0
Resource Conservation Technology	0	0	0	0	0	0	0	0	0	0
Farm Machineries	0	0	0	0	0	0	0	0	0	0
Integrated Farming System	0	0	0	0	0	0	0	0	0	0
Seed / Plant production	0	0	0	0	0	0	0	0	0	0
Value addition	0	0	0	0	0	0	0	0	0	0
Drudgery Reduction	0	0	0	0	0	0	0	0	0	0
Storage Technique	0	0	0	0	0	0	0	0	0	0
Mushroom cultivation	0	0	0	0	0	0	0	0	0	0
Others (Pl. Specify)	0	0	0	1	0	0	0	0	0	1
Total	1	1	0	2	1	0	0	0	0	5

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

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management	0	0	0	0	0	0	0	0	0	0
Varietal Evaluation	0	0	0	0	0	0	0	0	0	0
Integrated Pest Management	0	0	0	0	0	0	0	0	0	0
Integrated Crop Management	0	0	0	0	0	0	0	0	0	0
Integrated Disease Management	0	0	0	0	0	0	0	0	0	0

Small Scale Income Generation Enterprises	0	0	0	0	0	0	0	0	0	0
Weed Management	0	0	0	0	0	0	0	0	0	0
Resource Conservation Technology	0	0	0	0	0	0	0	0	0	0
Farm Machineries	0	0	0	0	0	0	0	0	0	0
Integrated Farming System	0	0	0	0	0	0	0	0	0	0
Seed / Plant production	0	0	0	0	0	0	0	0	0	0
Value addition	0	0	0	0	0	0	0	0	0	0
Drudgery Reduction	0	0	0	0	0	0	0	0	0	0
Storage Technique	0	0	0	0	0	0	0	0	0	0
Mushroom cultivation	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0

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

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
Evaluation of Breeds	0	0	0	0	0	0
Nutrition Management	2	0	0	0	0	2
Disease of Management	0	0	0	0	0	0
Value Addition	0	0	0	0	0	0
Production and Management	0	0	0	0	0	0
Feed and Fodder	0	0	0	0	0	0
Small Scale income generating enterprises	0	0	0	0	0	0
TOTAL	2	0	0	0	0	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	0	0	0	0	0	0
Nutrition Management	2	0	0	0	0	2
Disease of Management	0	0	0	0	0	0

Value Addition	0	0	0	0	0	0
Production and Management	0	0	0	0	0	0
Feed and Fodder	0	0	0	0	0	0
Small Scale income generating enterprises	0	0	0	0	0	0
TOTAL	2	0	0	0	0	2

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	Wheat	Assessment of response of Bio fertilizers to wheat crop yield	1	3	1.2
Varietal Evaluation	Brinjal	Varietal assessment of Brinjal GJHB-4 in Surendranagar district	1	4	1.0
Integrated Pest Management	Sesame	Management of sesame leaf webber under rainfed condition.	1	3	1.2
	Cumin	Management of wilt in cumin.	1	3	1.2
Other (Pls Specify)	Cotton	Assessment of high density planting in Cotton.	1	3	1.2
Total			5	16	5.8

B.2. 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	0	0	0	0
Nutrition management	Buffalo	2	4	10
Disease management	0	0	0	0
Value addition	0	0	0	0
Production and management	0	0	0	0
Feed and fodder	0	0	0	0
Small scale income generating enterprises	0	0	0	0
Total			4	10

C1. Results of Technologies Assessed
Results of On Farm Trial

Crop/ enterprise	Farming situation	**Problem definition**	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Sesame	Dry farming	1. Lack of knowledge about the use of particular pesticide 2. Less adoption of recommended practices. 3. Farmers follows instruction given by the local pesticides retailer.	Management of sesame leaf webber under rainfed condition.	3	Management of sesame leaf webber under *Rainfed* condition.	1. Yield 2. No. of leaf webber/Plant, 3. Gross cost 4. Net Return 5. B:C Ratio	Yield, No. of leaf webber/Plant	Leaf webber infestation was observed minimum in T_2 (Recommended practices), seed yield was increased by 15.43 per cent in T_2 over T_1 treatment and net return Rs. 5950 high then T_2 over T_1 treatment.	Better results obtained from in recommended practices then farmer's practices.	-	-

Cumin	Irrigated	1. Lack of knowledge about the use of particular pesticides 2. Less adoption of recommended practices. 3. Farmers follows instruction given by the local pesticides retailer.	Management of wilt in cumin	3	Management of wilt in cumin	1. Yield 2. Per cent Disease Incidence (PDI) 3. Gross-cost 4. Net Return 5. B:C Ratio	Yield, Per cent Disease Incidence (PDI)	Wilt disease infestation was observed minimum in T_2 (Recommended practices), seed yield was increased by 14.73 per cent in T_2 over T_1 treatment and net return Rs. 13090 high then T_2 over T_1 treatment.	More return obtained from recommended practices then local practices.	-	-

Wheat	Irrigated	1. Low adoption of recommended practice 2. Farmers follows instruction given by the local pesticides retailer 3. Lack of knowledge about the required of specific dose of fertilizer.	Assessment of Response of Bio fertilizers to wheat yield	3	Response of bio fertilizers to wheat yield	1. Grain Yield (kg/ha) 2. Cost of Production (Rs/ha) 3. Gross return: (Rs/ha) 4. Net return: (Rs/ha) 5. B: C Ratio	Yield	Maximum grain yield was was observed in T_3 (Recommended practices), seed yield was increased by 5.81 and 2.10 over T_1 and T_2. Net return Rs. 1600 high then T_3 over T_2 treatment.	BC ratio is higher in recommended dose of fertilizer	-	-

Cotton		1. Low yield of cotton. 2. Less optimum plant population per unit area.	Assessment of high density planting in Cotton.	3	Assessment of high density planting in Cotton.	1. Yield, 2. Lint production/ boll 3. No. of bolls/plant 4. Cost of production 5. Gross-Net Return 6. B:C Ratio	Yield, Lint production/boll, No. of bolls/plant	Maximum seed cotton yield was observed in T_3. 10 per cent higher in intervention then (T_2) recommended practices. More net return Rs. 6087/ha was obtained from (T_3)sowing of cotton at spacing 90 x 30 cm. (37037 plants/)	-	-	-

Brinjal	Irrigated	1. Less adoption of recommended Variety 2. Low knowledge about improved variety 3. Use of loose seed or old variety for production	Varietal assessment of Brinjal GJHB-4 in Surendranagar district	4	Varietal assessment of Brinjal GJHB-4 in Surendranagar district	1. Yield 2. Cost of production 3. Gross cost 4. Net Return 5. B:C Ratio	Yield	Data in the table observed that maximum fruit yield was obtained in T_2 (GJBH-4). 51.47 per cent higher then T_1 (local) variety. More net return Rs. 836/ha was obtained from (T_2) GJHB-4 variety.	BC ratio is higher in recommended variety GJBH-4 and good for market due to size and shape of the fruit	-	-

Buffaloes		1. Low milk production due to improper nutrient management of milch animals 2. Infertility and reproductive problems in animals.	Assessment of effect of mineral mixture and by pass protein supplement in increasing milk production in buffaloes	2	Assessment of effect of mineral mixture and by pass protein supplement in increasing milk production in buffaloes	1. Milk Yield 2. No. of inseminati on for conception 3. heat regularity			Use of Mineral mixture and by pass protein increase milk yield and decrease number of insemination for conception and thereby helpful for farm economics	-	-
Buffaloes		1. Low milk production 2. high mortality in dairy buffaloes	Assessment of use of probiotic in buffaloes of Surendranagar district	2	Assessment of use of probiotic in buffaloes of Surendranagar district	1. Milk Yield 2. Mortality rate in per cent			Use of probiotic increase milk yield and decrease diseases incidence thereby decrease mortality		

Contd..

	Technology Assessed	Source of Technology	Production (Seed Yield q/ha)	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
1. Sesame	Technology option 1 (Farmer's practice)	DFRS, JAU, Targhadiya	292	kg/ha	22433	2.60
	Technology option 2		337	kg/ha	28383	3.07
2. Cumin	Technology option 1 (Farmer's practice)	Department of Plant Pathology, CoA, JAU, Junagadh-2015	645	kg/ha	62845	3.29
	Technology option 2		740	kg/ha	75915	3.74
3. Wheat	Technology option 1 (Farmer's practice)	Dept. Agronomy, JAU, Junagadh	27.5	q/ha	38500	3.33
	Technology option 2		28.5	q/ha	39800	3.31
	Technology option 3		29.1	q/ha	41400	3.46
4. Cotton	Technology option 1 (Farmer's practice)	Cotton Research Station, JAU, Junagadh	11.8	q/ha	36825	2.38
	Technology option 2		12.9	q/ha	41838	2.52
	Technology option 3		14.2	q/ha	47925	2.68
5. Brinjal	Technology option 1 (Farmer's practice)	Vegetabl Research Station, JAU, Junagadh	214.81	q/ha	23785	2.65
	Technology option 2		325.38	q/ha	36825	3.21
6. Buffaloes	Technology option 1 (Farmer's practice)	AAU, Anand	3050	Lit/animal/year	6000	1.25
	Technology option 2		4575	Lit/animal/year	12000	1.36
7. Buffaloes	Technology option 1 (Farmer's practice)	SAU, Gujarat	3050	Lit/animal/year	25560	2.31
	Technology option 2		3965	Lit/animal/year	36460	2.65

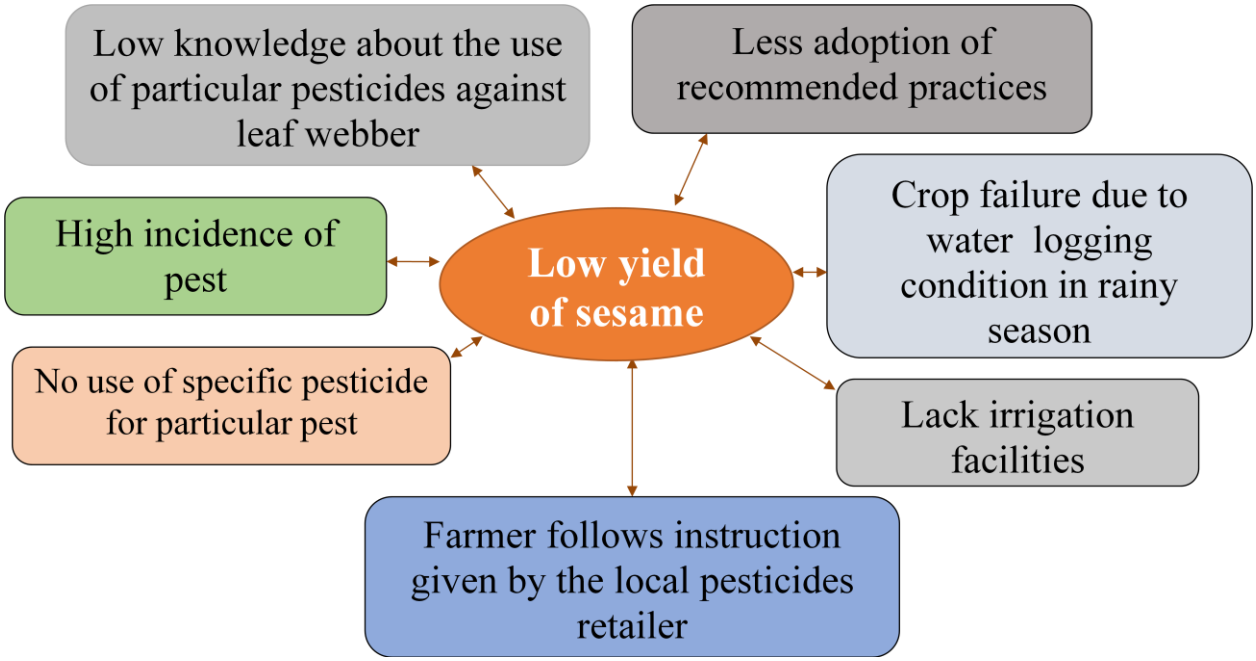
C2. Details of each On Farm Trial for assessment to be furnished in the following format separately as per the following details

❖ **OFT No : 1**

1. Title of Technology:- **Assessed Management of sesame leaf webber under rainfed condition.**
2. Problem Definition:-

Sesame (Sesamum indicum,L) is an oil seed crop grown mainly for its seeds that contain approximately 50% oil and 25% protein (Rheenen, 1973). Sesamum cultivation is being practiced in Surendranagar District in *Kharif* season. This is oilseed crop. Leaf webber cause 10-15 % yield loss in crop. Farmers got low yield due to 1. Lack of knowledge about the use of specific pesticide for effective management of leaf webber in sesame. 2. No adoption of recommended practices.

Problem Cause Diagram



3. Details of technologies selected for assessment **:** T_1.Farmers practice(Acephate 40gm/15 lt, Quinalphos 40 ml/15 lt,, Monocrotophos 35 ml/15 lt water after infestation)
T_2. Recommended practices Application of the insecticide will be start at pest infestation occurred. Cartap hydrochloride 50% S.P. @ 15 gm/10 Litre of water at the time of infestation.

4. Source of technology **:** Dry Farming Research Station,JAU,Targhadia-2014

5. Production system and thematic area **:** Rainfed and Dry farming condition

6. Performance of the Technology with performance indicators :

Technology Assessed / Refined	Average of 10 plants/treat of three different date observations	% Increase in yield over farmer's practice	Yield (kg/ha)	Net retune (Rs/ha)	BCR
T_1	0.52	--	292	14025	22433
T_2	0.29	15.43	337	13700	28383

Results : Leaf webber infestation maximum observed in T_1 (Farmer's practices) treatment. Minimum infestation in T_2 (Recommended practices) treatment. Seed yield was high in Cartap hydrochloride 50% S.P. @ 15 gm/10 Litre of water at the time of infestation. The yield was increased by 15.43 per cent in T_2 over T_1 treatment and More net return Rs. 5950/ha obtained from recommended practices then local.

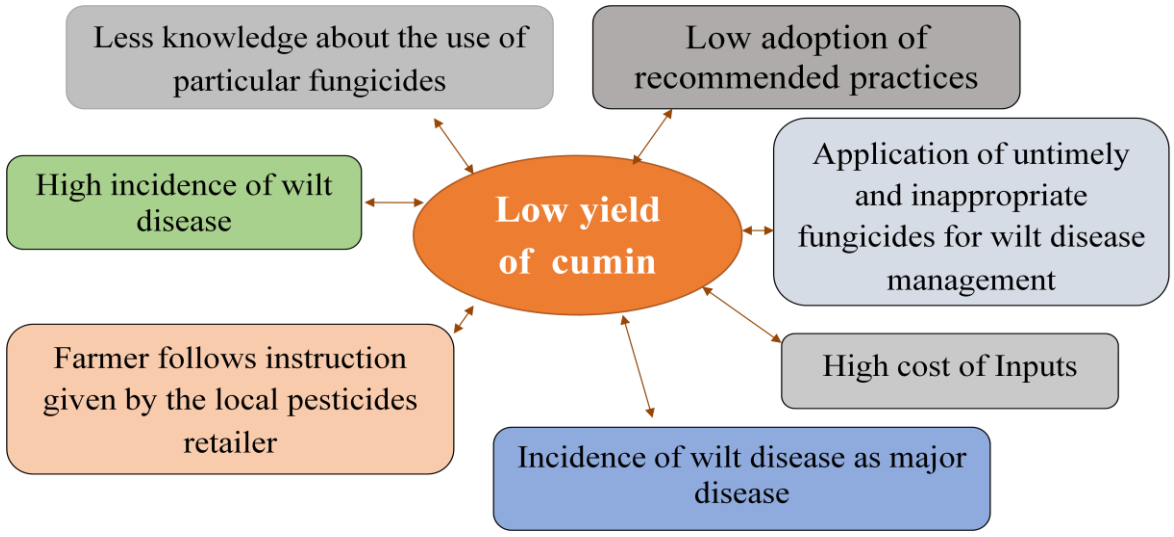
7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques : Nil
8. Final recommendation for micro level situation : Nil
9. Constraints identified and feedback for research : Nil
10. Process of farmers participation and their reaction : Nil

❖ **OFT No : 2**

1. **Title of Technology: Management of wilt in cumin**
2. **Problem Definition:**

Gujarat, which was the biggest producer of spices in the country, has slipped to third rank. Now, Andhra Pradesh tops in spice production with Rajasthan ranked second. Spice output, including that of coriander and cumin seeds, has dropped by 20% in Gujarat. In 2015-16 a disease had hit production of cumin and coriander in the state. Productivity of cumin crop first rank in India as well Asia in the world. Now a day productivity reduced and quality point of view suffering dueto incidence of diseases and pest. Farmers are practicing excess use fungicides without followed recommended dose as prescribed by concerned scientist. Therefore cost of cultivation inevitably increase and some time, crop get failure due to inappropriate and excessive use of fungicides. Application of recommended dose for the control of wilt disease in the cumin crop is being undertaken for OFT. This OFT traces the transformation in the cumin production through recommended technology in the Surendranagar district.

- **Problem Cause Diagram**



3. Details of technologies selected for assessment **:** T_1-Farmers practice (Use of mancozeb, copper oxychloride and sulphuretc fungicides after infestation).
T_2-Recommended practices Application of the *Trichoderma harzianum* ($2x10^6$cfu/gm) @ 5.0 kg mixed in 1000kg of FYM/ha at the time of sowing.

4. Source of technology **:** Department of Plant Pathology, CoA, JAU, Junagadh-2015

5. Production system and thematic area **:** Irrigated in *Rabi* season

6. Performance of the Technology with performance indicators : 2018-19

Technology Assessed / Refined	Disease Intensity (%)	% Yield increase over farmer's practice	Seed Yield (Qt/ha)	Net Return (Profit) in Rs. / unit	BC Ratio
T_1	11.0	--	6.45	62825	3.29
T_2	00.0	14.72	7.40	75915	3.74

***** Data indicated Disease Intensity in per cent before harvest the crop.

Results : Data in the table revealed maximum wilt disease intensity was observed in T_1 ie. 11.00. Seed yield was higher in recommended practices. More net return Rs. 13090/ha obtained from recommended practices of application of the *Trichoderma harzianum* ($2x10^6$cfu/gm) @ 5.0 kg mixed in 1000kg of FYM/ha at the time of sowing.

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

8. Final recommendation for micro level situation **:** Nil

9. Constraints identified and feedback for research **:** Nil

10. Process of farmers participation and their reaction **:** Nil

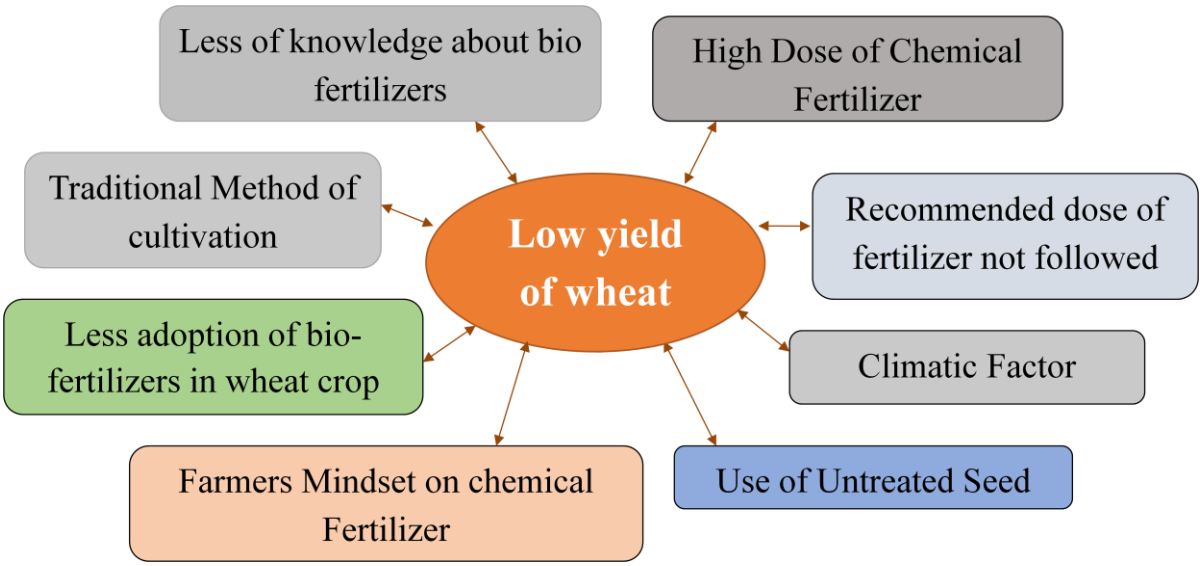
❖ OFT : 3

1. **Title of Technology Assessed:- Assessment of response of Bio fertilizers to wheat crop yield**

2. **Problem Definition :**

In Rabi season the area of wheat cultivation in Surendranagar district is higher after cumin crops as compare to other crops. Due to canal facilities increased in this area the area under wheat crop also increased. But the continuous use of chemical fertilizer in this crops the productivity is stagnate day by day and cost of cultivation increased. High uses of chemical fertilizer in crops the soil fertility also reduced. In this situation the KVK decide to increase uses of bio-fertilizers to reduce cost of cultivation and increase soil fertility as well as quality and quantity of wheat yield.

Problem Cause Diagram:



3. Details of technologies selected for assessment **:** T_1- Farmer's practice: - 125- kg DAP & 190- Kg Urea /ha
T_2- Recommended dose of fertilizer: 132Kg DAP + 206 Kg Urea (120-60-00).
T_3-75 percent RDF+ *Azotobacter* & PSB 100- Kg DAP+156- Kg Urea+3.0 lit *Azotobacter* + 3.0 lit. PSB

4. Source of technology **:** Dept. Agronomy, JAU, Junagadh -2015

5. Production system and thematic area **:** Irrigated in *Rabi* season

6. Performance of the Technology with performance indicators : 2018-19

Technology Option	Yield (kg/ha)	Total Cost (Rs/ha)	Gross return / ha	Net Return (Profit) in Rs. / ha	BC Ratio
T_1- Farmer's practice:	2750	16500	55000	38500	3.33
T_2- Recommended	2850	17200	57000	39800	3.31
T_3- Recommended	2910	16800	58200	41400	3.46

Results : Data in the table revealed maximum grain yield was observed in T_3. Rs. 1600/ha more net return was obtained from (T_3) 75 percent RDF+ *Azotobacter* & PSB 100- Kg DAP+156- Kg Urea+3.0 lit *Azotobacter* + 3.0 lit. PSB with 3.46 BCR.

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

8. Final recommendation for micro level situation **:** Nil

9. Constraints identified and feedback for research **:** Nil

10. Process of farmers participation and their reaction **:** Nil

❖ OFT : 4

1 Title of Technology Assessed:- Assessment of high density planting in Cotton.

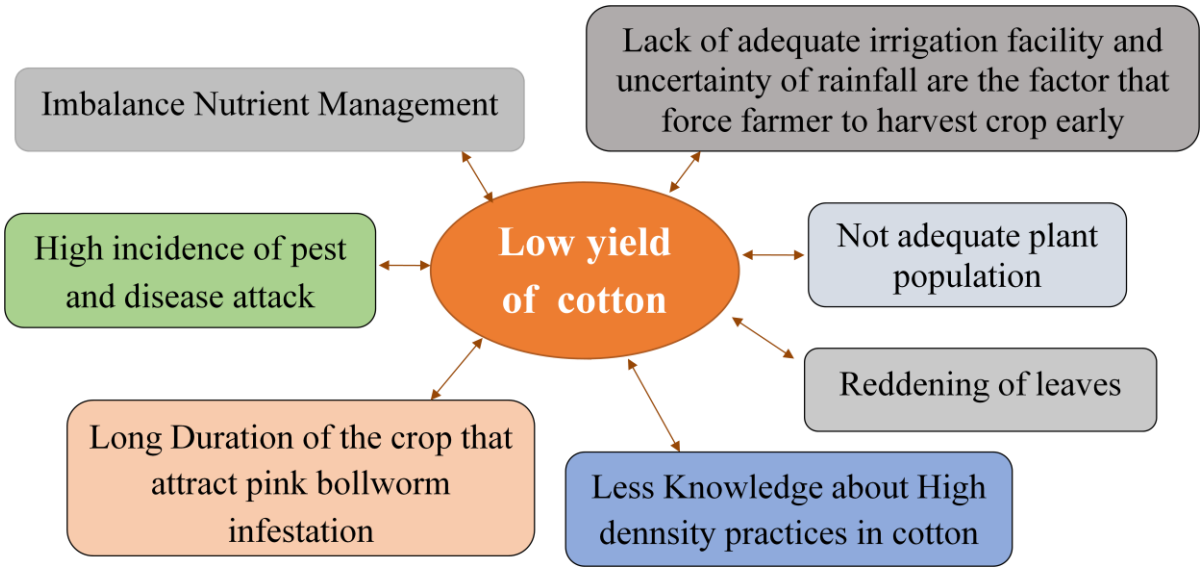
2 Problem Definition :

Surendranagar district ranks first in total cotton production of the state (22 %), followed by Rajkot (16.6 %), Bhavnagar (15.8 %) respectively. Thus cotton is very important crop of the district for sustainability point of view.

Since last two to three years, infestation of pink bollworm in cotton, uncertainty of rainfall and scattered rain and changing climatic condition, now farmers are forced to harvest crop as against they assumed for 180 to 240 days period. Ultimately this resulted in low production due to inadequate plant population and less no. of bolls per plant and per unit area.

The manipulation of plant density and crop geometry is a time tested agronomic technique for achieving high crop yield. Several leading cotton producing countries like USA, Australia, Brazil, Uzbekistan and China have developed suitable plant types to accumulate plant densities varying from 1 lakh to 2.5 lakh plants/ha with using narrow and ultra narrow row spacing. This OFT traces the transformation in the cotton production in the district.

Problem Cause Diagram:



3. Details of technologies selected for assessment **:** T_1-Farmer practice : Sowing of cotton at spacing 120 x 45 cm and 150 x 45 cm (14814 to 18,518 plants / ha)
T_2-Intervention: Sowing of cotton at spacing 60 x 30 cm. (55,555 plants / ha)
T_3-Intervention: Sowing of cotton at spacing 90 x 30 cm. (37037 plants / ha)

4. Source of technology **:** CRS, JAU, Junagadh

5. Production system and thematic area **:** Irrigated

6. Performance of the Technology with performance indicators : 2018-19

Technology Option	Yield (kg/ha)	Total Cost (Rs/ha)	Gross return / ha	Net Return (Profit) in Rs. / ha	BC Ratio
T_{-1} : Sowing of cotton at spacing 150 x 45 cm (14875) plants/ha	1180	26600	63425	36825	2.38
T_{-2} : Recommendation: sowing of cotton at spacing 120 x 45 cm. (18,518 plants/ha)	1290	27500	69338	41838	2.52
T_{-3} : Intervention: Sowing of cotton at spacing 90 x 30 cm. (37037 plants/)	1420	28400	76325	47925	2.68
Results : Data in the table revealed Maximum seed cotton yield was observed in T_3. 10 per cent higher in intervention then (T_2) recommended practices. More net return Rs. 6087/ha was obtained from (T_3)sowing of cotton at spacing 90 x 30 cm. (37037 plants/)					

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques : Nil
8. Final recommendation for micro level situation : Nil
9. Constraints identified and feedback for research : Nil
10. Process of farmers participation and their reaction : Nil

❖ **OFT : 5**

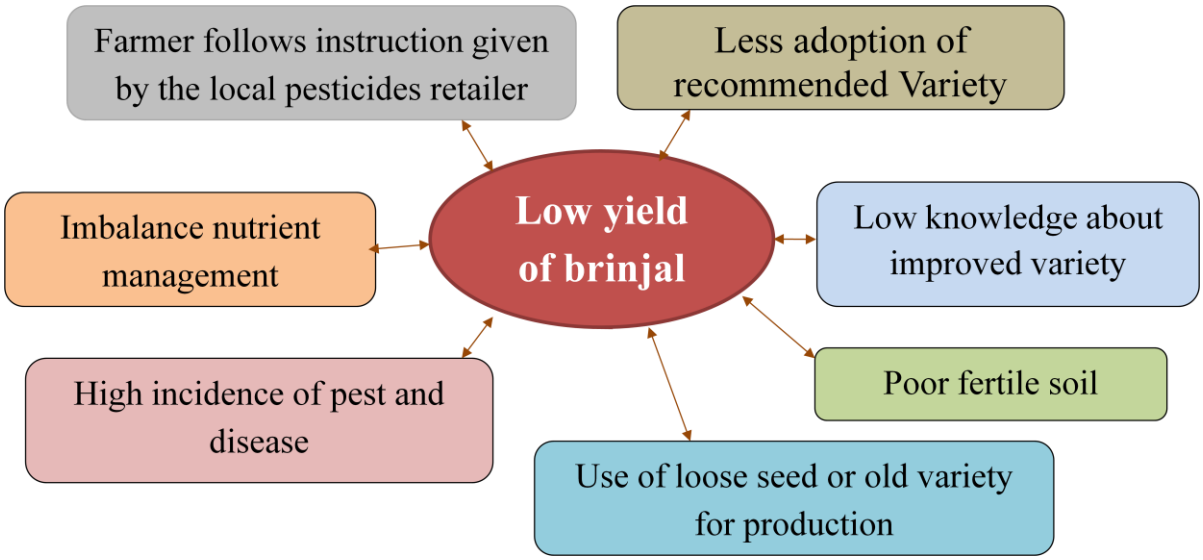
1 Title of Technology:- Varietal assessment of Brinjal GJHB-4 in Surendranagar district

2 Problem Definition :-

Brinjal or eggplant (*Solanum melongena*L.) is an important solanaceous crop of sub-tropics and tropics. In India, it is one of the most common, popular and principal vegetable crops grown throughout the country except higher altitudes. It is a versatile crop adapted to different agro-climatic regions and can be grown throughout the year. It is a perennial but grown commercially as an annual crop. Brinjal cultivation in India is estimated to cover about 8.14% vegetable area with a contribution of 9% to total vegetable production. The crop is largely grown in small plots or as inter crop both for cash and domestic consumption by farmers all over India. The major brinjal producing states are West Bengal, Orissa, Gujarat, and Maharashtra. The state has a great potential for brinjal production for domestic and exports markets but the yield of this crop is relatively low especially in rainy season due to lack of improved varieties as well as resistance to insect-pest and disease of economic importance and suitability to changing climatic conditions.

Brinjal variety GJHB-4 found suitable for cultivation in North Saurashtra Region of Gujarat. This variety resistance to jassid and fruit borer were less compared to local checks.

- **Problem Cause Diagram**



3. Details of technologies selected for assessment **:** T1-Variety: Local
T2-Variety: GJBH-4 -50 gm and Beauveria-2.0 kg

4. Source of technology **:** T2-VRS, JAU, Junagadh, 2015

5. Production system and thematic area **:** Rainfed and Dry Farming

6. Performance of the Technology with performance indicators : 2018-19

Technology Assessed / Refined	**yield (Qt/ha)**	**Total Cost (Rs/ha)**	**Gross return / ha**	**Net Return (Profit) in Rs. / ha**	**BC Ratio**
T_{-1} : Variety: Local	214.81	8955	23785	14830	2.65
T_{-2} :Variety: GJBH-4	325.38	10463	33653	23190	3.21
Results : Data in the table observed that maximum fruit yield was obtained in T_2 (GJBH-4). 51.47 per cent higher then T_1 (local) variety. More net return Rs. 836/ha was obtained from (T_2) GJHB-4 variety.					

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

8. Final recommendation for micro level situation : Nil

9. Constraints identified and feedback for research: Nil

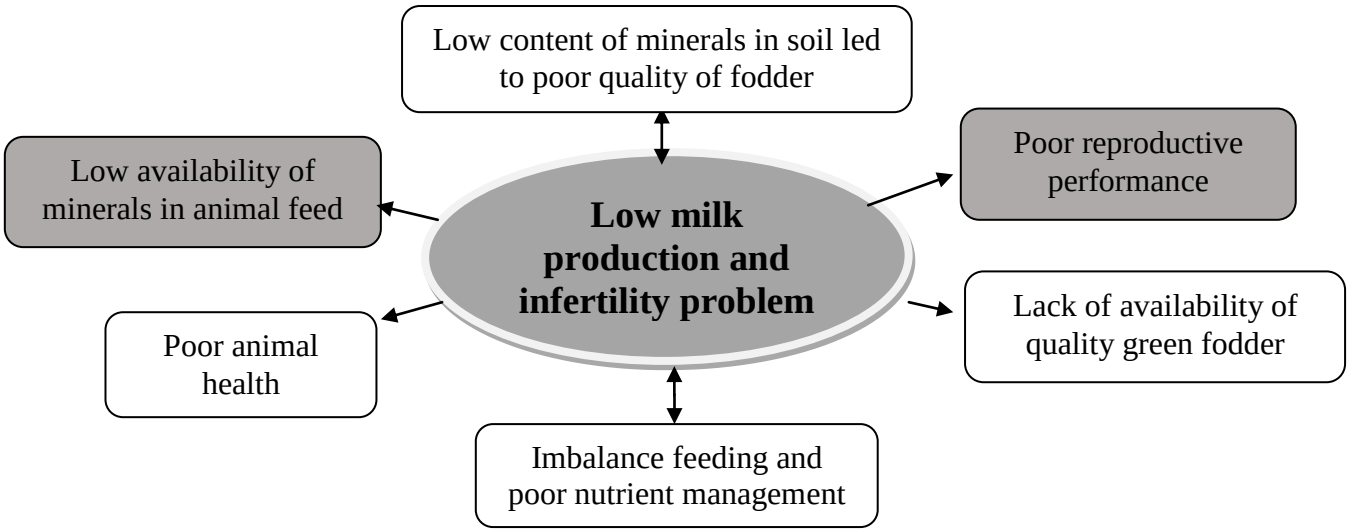
10. Process of farmers participation and their reaction: Nil

❖ **OFT : 6**

1. Title of Technology Assessed: - Effect of mineral mixture and by pass protein supplement in increasing milk production in buffaloes
2. Problem Definition:

Low availability of required minerals in animal feed causes productive and reproductive problems in animals. Infertility in dairy buffalo is one of the problems in the region. It causes loss in milk production. By supplementation of mineral mixture, deficiency of these minerals can be fulfilled. Mineral mixture is beneficial to improve milk production, fat percentage and reproductive parameters in animals which enhance overall returns to the dairy farmers.

Problem Cause Diagram



3. Details of technologies selected for assessment **:** T_1: Farmer practice (No use of mineral mixture and by pass protein)
T_2: Mineral mixture 30gm/animal/day + By pass protein supplement 800 gm/animal/day for 60 days

4. Source of technology **:** AAU, Anand

5. Production system and thematic area **:** --

6. Performance of the Technology with performance indicators : 2018-19

Technology Option	Milk Yield (Lit/day/animal)	Number of insemination for conception	Gross Cost (Rs)	Gross return (Rs/)	Net Return (Rs.)	BC Ratio
T_1	10	4	24000	30000	6000	1.25
T_2	15	2	33000	45000	12000	1.36

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques : Use of Mineral mixture and by pass protein increase milk yield and decrease number of insemination for conception and thereby helpful for farm economics

8. Final recommendation for micro level situation : Nil

9. Constraints identified and feedback for research: Nil

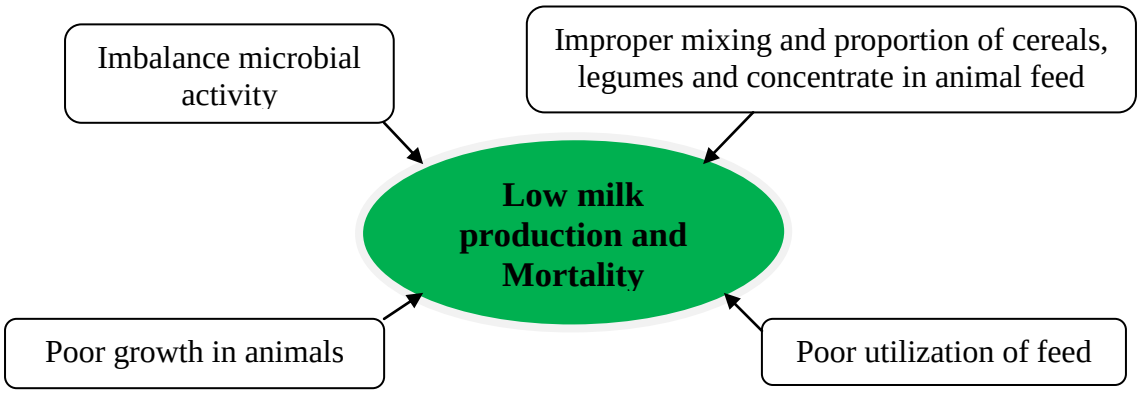
10. Process of farmers participation and their reaction: Nil

❖ **OFT : 7**

1. Title of Technology Assessed: - Assessment of use of probiotic in buffaloes of Surendranagar district.
2. Problem Definition:

The efficiency of ruminants to utilize such a wide variety of feeds is due to highly diversified rumen microbial ecosystem. The rumen harbours a dense and complex microbial population responsible for 60-70 % of total digestion. Improper mixing and proportion of cereals, legumes and concentrate in animal feed leads to imbalance microbial activity and result in to low digestibility which leads to decrease milk production. Modern animal production requires the use of safe and effective feed additives as rumen manipulators to increase animal productivity. The use of probiotics culture in ruminants has been appreciated for the improvement in feed intake and nutrient utilization. Probiotics enhances body weight gains and increased milk production in livestock.

Problem Cause Diagram



3. Details of technologies selected for assessment : T_1 : Farmer practice (No use of probiotic)
   T_2: Probiotic supplement @50 gm/animal/day for 90 days
4. Source of technology : SAU, Gujarat
5. Production system and thematic area : --
6. **Performance of the Technology with performance indicators : 2018-19**

Technology Option	Milk Yield (Lit/day/animal)	Mortality rate (%)	Gross Cost (Rs)	Gross return (Rs/)	Net Return (Rs.)	BC Ratio
T_1	10	10	19440	45000	25560	2.31
T_2	13	0	22040	58500	36460	2.65

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques : Use of probiotic increase milk yield and decrease diseases incidence thereby decrease
8. Final recommendation for micro level situation : Nil
9. Constraints identified and feedback for research: Nil
10. Process of farmers participation and their reaction: Positive

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 2018-19 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
1	Wheat	CP	GW – 366	FLD, Field Day & Training	29	3120	2380
2	Cumin	PP	G Cumin-4				
3	Gram	CP	GJG-3				
4	Moong	CP	GM-4				
5	Sesame	CP	G Til-3				
6	G'nut	PP	DM				
7	G'nut-Bio agent	PP	*Trichoderma harzianum*				
8	Cotton	CP	INM				
9	Groundnut (NMOOP)	CP	GJG-9/GJG-31/GJG-22				
10	Chick pea (NFSM)	CP	GJG-3/GG-5				

B. Details of FLDs implemented during 2018-19 (Information is to be furnished in the following **three tables** for **each category** i.e. **cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops**.)

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
1	Wheat	CP	GW – 463	*Rabi*-2018-19	08	08	3	17	20	-
2	Cumin	PP	DM	*Rabi*-2018-19	08	08	6	14	20	-
3	Gram	CP	GJG-6	*Rabi*-2018-19	04	04	2	8	10	-
4	Sesame	CP	G Til-4	*Kharif*-2018-19	04	04	3	7	10	-
5	G'nut	PP	DM	*Kharif*-2018-19	04	04	4	6	10	-
6	G'nut-Bio	PP	*Trichoderma harzianum*	*Kharif*-2018-19	02	02	0	5	05	-
7	Cotton	CP	INM	*Kharif*-2018-19	08	08	7	13	20	-
8	Brinjal	CP	GJHB-4	*Kharif*-2018-19	01	01	2	8	10	-
9	Onoin	CP	GJRO-11	*Rabi*-2018-19	01	01	3	7	10	-
10	Guava	IPM	Fruit Fly Trap	*Rabi*-2018-19	04	04	3	7	10	-
11	Lucern	CP	Anand Lucern-3	*Rabi*-2018-19	01	01	4	6	10	-
12	Goat	LPM	Albendazole	*Rabi*-2018-19	-	-	2	8	10	-
13	Buffalo	ALM	Mineral mixture	*Rabi*-2018-19	-	-	2	3	05	-
14	Groundnut (NMOOP)	CP	Bio Product of JAU	*Kharif*-2018-19	20	20	4	21	25	-
15	Chick pea (NFSM)	CP	GJG-6	*Rabi*-2018-19	20	20	9	16	25	-

Details of farming situation

Crop	Season	Farming situation	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Wheat	*Rabi* 18-19	Irrigated	Medium black	L	M	H	G'nut	15-Nov-18	20-Mar-19	**353**	**8**
		Irrigated		L	M	H	G'nut	18-Nov-18	18-Mar-19		
		Irrigated	--"--	L	M	H	Sesame	20-Nov-18	21-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	22-Nov-18	20-Mar-19		
		Irrigated	--"--	L	M	H	Sesame	23-Nov-18	24-Mar-19		
		Irrigated	--"--	L	M	H	Juwar	20-Nov-18	20-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	25-Nov-18	19-Mar-19		
		Irrigated	--"--	L	M	H	Cotton	14-Nov-18	13-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	18-Nov-18	15-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	19-Nov-18	19-Mar-19		
		Irrigated	--"--	L	M	H	Sesame	22-Nov-18	21-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	24-Nov-18	26-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	21-Nov-18	20-Mar-19		
		Irrigated	--"--	L	M	H	Cotton	22-Nov-18	16-Mar-19		
		Irrigated	--"--	L	M	H	Juwar	20-Nov-18	19-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	23-Nov-18	17-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	18-Nov-18	16-Mar-19		
		Irrigated	--"--	L	M	H	Sesame	21-Nov-18	20-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	20-Nov-18	17-Mar-19		
		Irrigated	--"--	L	M	H	Sesame	26-Nov-18	26-Mar-19		
Cumin	*Rabi* 18-19	Irrigated	--"--	L	M	H	G'nut	12-Nov-18	01-Mar-19		
		Irrigated	--"--	L	M	H	Juwar	28-Oct-18	24-Feb-19		
		Irrigated	--"--	L	M	H	Cotton	8-Nov-18	02-Mar-19		
		Irrigated	--"--	L	M	H	Cotton	15-Nov-18	10-Mar-19		
		Irrigated	--"--	L	M	H	Sesame	13-Nov-18	28-Feb-19		
		Irrigated	--"--	L	M	H	Juwar	8-Nov-18	03-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	26-Oct-18	22-Feb-19		
		Irrigated	--"--	L	M	H	Cotton	9-Nov-18	02-Mar-19		
		Irrigated	--"--	L	M	H	Juwar	14-Nov-18	06-Mar-19		
		Irrigated	--"--	L	M	H	Sesame	7-Nov-18	25-Feb-19		
		Irrigated	--"--	L	M	H	Juwar	11-Nov-18	04-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	19-Nov-18	15-Mar-19		
		Irrigated	--"--	L	M	H	Cotton	30-Oct-18	25-Feb-19		
		Irrigated	--"--	L	M	H	G'nut	12-Nov-18	10-Mar-19		
		Irrigated	--"--	L	M	H	Juwar	8-Nov-18	04-Mar-19		
		Irrigated	--"--	L	M	H	Sesame	15-Nov-18	01-Mar-19		
		Irrigated	--"--	L	M	H	Juwar	6-Nov-18	24-Feb-19		
		Irrigated	--"--	L	M	H	G'nut	6-Nov-18	28-Feb-19		
		Irrigated	--"--	L	M	H	Cotton	4-Nov-18	05-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	14-Nov-18	12-Mar-19		
Gram	*Rabi* 18-19	Irrigated	--"--	L	M	H	G'nut	15-Nov-18	20-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	18-Nov-18	18-Mar-19		
		Irrigated	--"--	L	M	H	Sesame	20-Nov-18	21-Mar-19		
		Irrigated	--"--	L	M	H	Juwar	22-Nov-18	20-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	23-Nov-18	24-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	20-Nov-18	20-Mar-19		

		Irrigated	--"--	L	M	H	Sesame	25-Nov-18	19-Mar-19		
		Irrigated	--"--	L	M	H	Cotton	14-Nov-18	13-Mar-19		
		Irrigated	--"--	L	M	H	G'nut	18-Nov-18	15-Mar-19		
		Irrigated	--"--	L	M	H	Sesame	19-Nov-18	19-Mar-19		
Sesame	*Kharif 18-19*	Rainfed	--"--	L	M	H	G'nut	18-Jul-18	1-Oct-18		
		Rainfed	--"--	L	M	H	Gram	19-Jul-18	3-Oct-18		
		Rainfed	--"--	L	M	H	Wheat	18-Jul-18	29-Sep-18		
		Rainfed	--"--	L	M	H	G'nut	20-Jul-18	5-Oct-18		
		Rainfed	--"--	L	M	H	Wheat	17-Jul-18	2-Oct-18		
		Rainfed	--"--	L	M	H	G'nut	20-Jul-18	8-Oct-18		
		Rainfed	--"--	L	M	H	Gram	19-Jul-18	3-Oct-18		
		Rainfed	--"--	L	M	H	Wheat	18-Jul-18	30-Sep-18		
		Rainfed	--"--	L	M	H	Wheat	21-Jul-18	5-Oct-18		
		Rainfed	--"--	L	M	H	Gram	19-Jul-18	1-Oct-18		
G'nut	*Kharif 18-19*	Rainfed	Medium black	L	M	H	Gram	19-Jul-18	20-Oct-18		
		Rainfed		L	M	H	Cumin	18-Jul-18	15-Oct-18		
		Rainfed	--"--	L	M	H	Gram	20-Jul-18	9-Oct-18		
		Rainfed	--"--	L	M	H	Wheat	17-Jul-18	22-Oct-18		
		Rainfed	--"--	L	M	H	Gram	19-Jul-18	11-Oct-18		
		Rainfed	--"--	L	M	H	Cotton	17-Jul-18	23-Oct-18		
		Rainfed	--"--	L	M	H	Cotton	17-Jul-18	8-Oct-18		
		Rainfed	--"--	L	M	H	Wheat	21-Jul-18	18-Oct-18		
		Rainfed	--"--	L	M	H	Gram	20-Jul-18	25-Oct-18		
		Rainfed	--"--	L	M	H	Gram	18-Jul-18	10-Oct-18		
Bio-agent	*Kharif 18-19*	Rainfed	Medium black	L	M	H	Wheat	19-Jul-18	25-Oct-18		
		Rainfed		L	M	H	G'nut	20-Jul-18	28-Oct-18		
		Rainfed	--"--	L	M	H	Cumin	18-Jul-18	20-Oct-18		
		Rainfed	--"--	L	M	H	Wheat	19-Jul-18	22-Oct-18		
		Rainfed	--"--	L	M	H	Cotton	20-Jul-18	26-Oct-18		
Cotton	*Kharif 18-19*	Irrigated	Medium black	L	M	H	Wheat	18-Jul-18	25-Nov-18		
		Irrigated		L	M	H	Wheat	19-Jul-18	15-Nov-18		
		Irrigated	--"--	L	M	H	Cotton	20-Jul-18	2-Dec-18		
		Irrigated	--"--	L	M	H	Cotton	18-Jul-18	20-Dec-18		
		Irrigated	--"--	L	M	H	Wheat	17-Jul-18	15-Dec-18		
		Irrigated	--"--	L	M	H	Wheat	18-Jul-18	5-Dec-18		
		Irrigated	--"--	L	M	H	Cotton	20-Jul-18	10-Dec-18		
		Irrigated	--"--	L	M	H	Cotton	17-Jul-18	25-Dec-18		
		Irrigated	--"--	L	M	H	Cumin	18-Jul-18	4-Dec-18		
		Irrigated	--"--	L	M	H	Wheat	21-Jul-18	25-Nov-18		
		Irrigated	--"--	L	M	H	Wheat	19-Jul-18	15-Dec-18		
		Irrigated	--"--	L	M	H	Cotton	20-Jul-18	30-Nov-18		
		Irrigated	--"--	L	M	H	Cumin	18-Jul-18	23-Dec-18		
		Irrigated	--"--	L	M	H	Gram	21-Jul-18	28-Dec-18		
		Irrigated	--"--	L	M	H	Wheat	18-Jul-18	27-Nov-18		
		Irrigated	--"--	L	M	H	Sesame	19-Jul-18	20-Nov-18		
		Irrigated	--"--	L	M	H	G'nut	17-Jul-18	4-Dec-18		
		Irrigated	--"--	L	M	H	Cotton	21-Jul-18	16-Dec-18		
		Irrigated	--"--	L	M	H	Wheat	18-Jul-18	30-Dec-18		
		Irrigated	--"--	L	M	H	Cumin	19-Jul-18	30-Nov-18		

C. Performance of Frontline demonstrations

Frontline demonstrations on oilseed crops

Crop	Thematic Area	technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	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)
						High	Low	Average										
Groundnut																		
	DM	Fungicides	GJG-9	10	4	16.38	6.25	11.29	9.98	13.10	28102	42328	14226	1.51	26982	37425	10443	1.39
	IDM	Bio-Agent	GG-20	5	2	5.25	3.13	3.98	3.74	6.28	27702	14906	-12796	0.54	25952	14025	-11927	0.54
Sesame																		
	CP	Variety	GT-4	10	4	4.38	3.00	3.63	3.13	15.81	14100	45313	31213	3.21	14025	39125	25100	2.79

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

** BCR= GROSS RETURN/GROSS COST

Frontline demonstration on pulse crops

Crop	Thematic Area	technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	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)
						High	Low	Average										
Chickpea																		
	CP	Variety	GJG-6	10	4	22.63	16.75	18.96	16.55	14.58	20980	75850	54870	3.62	20660	66200	45540	3.20

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

** BCR= GROSS RETURN/GROSS COST

FLD on Other crops

Category & Crop	Thematic Area	Name of the technology	No. of Farmers	Area (ha)	Yield (q/ha)				% Change in Yield	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)
					High	Low	Average										
Cereals																	
Wheat																	
GW-463	CP	Varietal	20	8	75.00	38.13	59.01	50.35	17.19	23140	118013	94873	5.10	22740	100700	77960	4.43
Cumin																	
GC-4	DM	Fungicides	20	8	14.63	10.25	12.12	11.00	10.17	27475	172692	145217	6.29	27255	156750	129495	5.75
Cotton																	
Bt cotton	INM	INM	20	8	15.50	5.75	9.69	8.97	8.00	28660	52070	23410	1.82	29200	48214	19014	1.65
Lucerne																	
Fodder crop	Fodder crop	Anand lucerne-3	10	1	310	140	450	360	25	15000	72339	57339	4.82	12500	57871	45371	4.62
Vegetables																	
Brinjal																	
GJHB-4	CP	Varietal	10	1	368.85	283.27	314.13	269.93	16.52	10371	35322	24951	3.40	9528	25553	16025	2.68
Onion																	
GJRO-11	CP	Varietial	10	1	Result Awaited												
Guava																	
Fruit Fly Trap	IPM	Fruit Fly Trap	10	1	Result Awaited												

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

FLD on Livestock

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of Units (Animal/ Poultry / Birds, etc)	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.)				Economics of check (Rs.)			
					Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Sheep & Goat					Milk yield (Lit./animal/day	Milk yield (Lit./animal/day											
Goat	LPM	Dewormer	10	10	1.9	1	90	-	-	980	5130	4150	5.23	540	2700	2160	5
Buffalo					Milk yield (Lit./animal/day	Milk yield (Lit./animal/day											
	ANM	Mineral Mixture	5	5	13	11	18.18	-	-	65880	198250	132370	3.0	63040	167750	104710	2.6

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

D. Performance of Cluster Frontline Demonstrations (CFLD)

CFLD on Oilseed crops

Crop	Thematic Area	Technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	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)
						High	Low	Average										
Groundnut																		
CFLDs-Oilseeds	CP	Bio products	-	25	20	24.00	8.45	17.59	15.05	16.86	27502	65972	38470	2.40	27267	56453	29186	2.07

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

CFLD on Pulse crops

Crop	Thematic Area	Technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	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)
						High	Low	Average										
Chickpea																		
CFLDs Pulse	CP	Variety	GJG-6	25	20	24.60	14.00	17.54	14.65	19.74	22180	70160	47980	3.16	20980	58592	37612	2.79

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

3.4 Training Programmes

- **ON CAMPUS**
- Training (including Vocational, Sponsored and FLD training)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
(A) Farmers & Farm Women										
I Crop Production										
Weed Management	0	0	0	0	0	0	0	0	0	0
Resource Conservation Technologies	0	0	0	0	0	0	0	0	0	0
Cropping Systems	2	33	4	37	5	1	6	38	5	43
Crop Diversification	0	0	0	0	0	0	0	0	0	0
Integrated Farming	0	0	0	0	0	0	0	0	0	0
Micro Irrigation/irrigation	1	19	0	19	3	0	3	22	0	22
Seed production	0	0	0	0	0	0	0	0	0	0
Nursery management	0	0	0	0	0	0	0	0	0	0
Integrated Crop Management	6	321	0	321	19	0	19	340	0	340
Soil & water conservatioin	0	0	0	0	0	0	0	0	0	0
Integrated nutrient management	0	0	0	0	0	0	0	0	0	0
Production of organic inputs	1	20	0	20	2	0	2	22	0	22
Others (pl specify)	1	17	5	22	2	0	2	19	5	24
Total	**11**	**410**	**9**	**419**	**31**	**1**	**32**	**441**	**10**	**451**
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops	0	0	0	0	0	0	0	0	0	0
Off-season vegetables	0	0	0	0	0	0	0	0	0	0
Nursery raising	0	0	0	0	0	0	0	0	0	0
Exotic vegetables	0	0	0	0	0	0	0	0	0	0
Export potential	0	0	0	0	0	0	0	0	0	0

vegetables										
Grading and standardization	0	0	0	0	0	0	0	0	0	0
Protective cultivation	2	110	0	110	21	0	21	131	0	131
Others Kitchen Garden And Commercial Cultivation	6	247	29	276	35	3	38	282	32	314
Total (a)	**8**	**357**	**29**	**386**	**56**	**3**	**59**	**413**	**32**	**445**
b) Fruits										
Training and Pruning	0	0	0	0	0	0	0	0	0	0
Layout and Management of Orchards	0	0	0	0	0	0	0	0	0	0
Cultivation of Fruit	0	0	0	0	0	0	0	0	0	0
Management of young plants/orchards	3	193	0	193	14	0	14	207	0	207
Rejuvenation of old orchards	0	0	0	0	0	0	0	0	0	0
Export potential fruits	0	0	0	0	0	0	0	0	0	0
Micro irrigation systems of orchards	0	0	0	0	0	0	0	0	0	0
Plant propagation techniques	0	0	0	0	0	0	0	0	0	0
Value addition	2	89	179	268	0	18	18	89	197	286
Total (b)	**5**	**282**	**179**	**461**	**14**	**18**	**32**	**296**	**197**	**493**
c) Ornamental Plants										
Nursery Management	0	0	0	0	0	0	0	0	0	0
Management of potted plants	0	0	0	0	0	0	0	0	0	0
Export potential of ornamental plants	0	0	0	0	0	0	0	0	0	0
Propagation techniques of Ornamental Plants	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (c)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
d) Plantation crops										
Production and Management	0	0	0	0	0	0	0	0	0	0

technology										
Processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (d)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
e) Tuber crops										
Production and Management technology	0	0	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (e)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
f) Spices										
Production and Management technology	0	0	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (f)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
g) Medicinal and Aromatic Plants										
Nursery management	0	0	0	0	0	0	0	0	0	0
Production and management technology	0	0	0	0	0	0	0	0	0	0
Post harvest technology and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (g)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GT (a-g)	**13**	**639**	**208**	**847**	**70**	**21**	**91**	**709**	**229**	**938**
III Soil Health and Fertility Management										
Soil fertility management	4	212	0	212	21	0	21	233	0	233
Integrated water management	0	0	0	0	0	0	0	0	0	0
Integrated Nutrient Management	0	0	0	0	0	0	0	0	0	0
Production and use of organic inputs	0	0	0	0	0	0	0	0	0	0
Management of Problematic soils	0	0	0	0	0	0	0	0	0	0

Micro nutrient deficiency in crops	0	0	0	0	0	0	0	0	0	0
Nutrient Use Efficiency	0	0	0	0	0	0	0	0	0	0
Balance use of fertilizers	0	0	0	0	0	0	0	0	0	0
Soil and Water Testing	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**4**	**212**	**0**	**212**	**21**	**0**	**21**	**233**	**0**	**233**
IV Livestock Production and Management										
Dairy Management	1	0	19	19	0	5	5	0	24	24
Poultry Management	0	0	0	0	0	0	0	0	0	0
Piggery Management	0	0	0	0	0	0	0	0	0	0
Rabbit Management	0	0	0	0	0	0	0	0	0	0
Animal Nutrition Management	3	0	63	63	0	23	23	0	86	86
Disease Management	4	41	108	149	11	15	26	52	123	175
Feed & fodder technology	3	39	145	184	0	17	17	39	162	201
Production of quality animal products	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	2	0	46	46	0	16	16	0	62	62
Total	**13**	**80**	**381**	**461**	**11**	**76**	**87**	**91**	**457**	**548**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	3	0	139	139	0	19	19	0	158	158
Design and development of low/minimum cost diet	0	0	0	0	0	0	0	0	0	0
Designing and development for high nutrient efficiency diet	0	0	0	0	0	0	0	0	0	0
Minimization of nutrient loss in	0	0	0	0	0	0	0	0	0	0

processing										
Processing and cooking	0	0	0	0	0	0	0	0	0	0
Gender mainstreaming through SHGs	0	0	0	0	0	0	0	0	0	0
Storage loss minimization techniques	0	0	0	0	0	0	0	0	0	0
Value addition	0	0	0	0	0	0	0	0	0	0
Women empowerment	1	0	19	19	0	3	3	0	22	22
Location specific drudgery reduction technologies	0	0	0	0	0	0	0	0	0	0
Rural Crafts	1	0	137	137	0	0	0	0	137	137
Women and child care	0	0	0	0	0	0	0	0	0	0
Solar cooker use and advantages	0	0	0	0	0	0	0	0	0	0
Total	**5**	**0**	**295**	**295**	**0**	**22**	**22**	**0**	**317**	**317**
VI Agril. Engineering										
Farm Machinary and its maintenance	0	0	0	0	0	0	0	0	0	0
Installation and maintenance of micro irrigation systems	0	0	0	0	0	0	0	0	0	0
Use of Plastics in farming practices	0	0	0	0	0	0	0	0	0	0
Production of small tools and implements	0	0	0	0	0	0	0	0	0	0
Repair and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0
Small scale processing and value addition	0	0	0	0	0	0	0	0	0	0
Post Harvest Technology	0	0	0	0	0	0	0	0	0	0
Use of farm implements	3	217	0	217	11	0	11	228	0	228
Total	**3**	**217**	**0**	**217**	**11**	**0**	**11**	**228**	**0**	**228**
VII Plant Protection										

Integrated Pest Management	1	18	1	19	6	0	6	24	1	25
Integrated Disease Management	2	35	4	39	0	3	3	35	7	42
Bio-control of pests and diseases	1	20	0	20	3	0	3	23	0	23
Production of bio control agents and bio pesticides	0	0	0	0	0	0	0	0	0	0
Others (pl specify) Pink Ball Warm	6	161	134	295	10	6	16	171	140	311
Total	**10**	**234**	**139**	**373**	**19**	**9**	**28**	**253**	**148**	**401**
VIII Fisheries										
Integrated fish farming	0	0	0	0	0	0	0	0	0	0
Carp breeding and hatchery management	0	0	0	0	0	0	0	0	0	0
Carp fry and fingerling rearing	0	0	0	0	0	0	0	0	0	0
Composite fish culture	0	0	0	0	0	0	0	0	0	0
Hatchery management and culture of freshwater prawn	0	0	0	0	0	0	0	0	0	0
Breeding and culture of ornamental fishes	0	0	0	0	0	0	0	0	0	0
Portable plastic carp hatchery	0	0	0	0	0	0	0	0	0	0
Pen culture of fish and prawn	0	0	0	0	0	0	0	0	0	0
Shrimp farming	0	0	0	0	0	0	0	0	0	0
Edible oyster farming	0	0	0	0	0	0	0	0	0	0
Pearl culture	0	0	0	0	0	0	0	0	0	0
Fish processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
IX Production of Inputs at site										

Seed Production	0	0	0	0	0	0	0	0	0	0
Planting material production	0	0	0	0	0	0	0	0	0	0
Bio-agents production	0	0	0	0	0	0	0	0	0	0
Bio-pesticides production	0	0	0	0	0	0	0	0	0	0
Bio-fertilizer production	0	0	0	0	0	0	0	0	0	0
Vermi-compost production	2	59	0	59	11	0	11	70	0	70
Organic manures production	0	0	0	0	0	0	0	0	0	0
Production of fry and fingerlings	0	0	0	0	0	0	0	0	0	0
Production of Bee-colonies and wax sheets	0	0	0	0	0	0	0	0	0	0
Small tools and implements	0	0	0	0	0	0	0	0	0	0
Production of livestock feed and fodder	0	0	0	0	0	0	0	0	0	0
Production of Fish feed	0	0	0	0	0	0	0	0	0	0
Mushroom Production	0	0	0	0	0	0	0	0	0	0
Apiculture	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**2**	**59**	**0**	**59**	**11**	**0**	**11**	**70**	**0**	**70**
X Capacity Building and Group Dynamics										
Leadership development	0	0	0	0	0	0	0	0	0	0
Group dynamics	0	0	0	0	0	0	0	0	0	0
Formation and Management of SHGs	0	0	0	0	0	0	0	0	0	0
Mobilization of social capital	0	0	0	0	0	0	0	0	0	0
Entrepreneurial development of farmers/youths	0	0	0	0	0	0	0	0	0	0
WTO and IPR issues	0	0	0	0	0	0	0	0	0	0
Global Worming	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
XI Agro-forestry										

Production technologies	0	0	0	0	0	0	0	0	0	0
Nursery management	0	0	0	0	0	0	0	0	0	0
Integrated Farming Systems	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GRAND TOTAL	**61**	**185 1**	**1032**	**2883**	**174**	**129**	**303**	**202 5**	**1161**	**3186**

- **OFF CAMPUS**

Training (including Vocational, Sponsored and FLD training)										
Thematic area	**No. of course s**	**Participants**								
		Others			**SC/ST**			**Grand Total**		
		Mal e	**Femal e**	**Tota l**	**Mal e**	**Femal e**	**Tota l**	**Mal e**	**Femal e**	**Tota l**
(A) Farmers & Farm Women										
I Crop Production										
Weed Management	1	15	4	19	2	0	2	17	4	21
Resource Conservation Technologies	0	0	0	0	0	0	0	0	0	0
Cropping Systems	0	0	0	0	0	0	0	0	0	0
Crop Diversification	0	0	0	0	0	0	0	0	0	0
Integrated Farming	0	0	0	0	0	0	0	0	0	0
Micro Irrigation/irrigation	1	15	3	18	4	0	4	19	3	22
Seed production	0	0	0	0	0	0	0	0	0	0
Nursery management	0	0	0	0	0	0	0	0	0	0
Integrated Crop Management	0	0	0	0	0	0	0	0	0	0
Soil & water conservatioin	0	0	0	0	0	0	0	0	0	0
Integrated nutrient management	1	18	2	20	0	0	0	18	2	20
Production of organic inputs	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**3**	**48**	**9**	**57**	**6**	**0**	**6**	**54**	**9**	**63**

II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops	0	0	0	0	0	0	0	0	0	0
Off-season vegetables	0	0	0	0	0	0	0	0	0	0
Nursery raising	1	20	0	20	2	0	2	22	0	22
Exotic vegetables	0	0	0	0	0	0	0	0	0	0
Export potential vegetables	0	0	0	0	0	0	0	0	0	0
Grading and standardization	0	0	0	0	0	0	0	0	0	0
Protective cultivation	1	18	2	20	0	0	0	18	2	20
Others (pl specify) Commercial Cultivation and Irrigation	2	32	5	37	5	0	5	37	5	42
Total (a)	**4**	**70**	**7**	**77**	**7**	**0**	**7**	**77**	**7**	**84**
b) Fruits										
Training and Pruning	0	0	0	0	0	0	0	0	0	0
Layout and Management of Orchards	0	0	0	0	0	0	0	0	0	0
Cultivation of Fruit	0	0	0	0	0	0	0	0	0	0
Management of young plants/orchards	0	0	0	0	0	0	0	0	0	0
Rejuvenation of old orchards	0	0	0	0	0	0	0	0	0	0
Export potential fruits	0	0	0	0	0	0	0	0	0	0
Micro irrigation systems of orchards	0	0	0	0	0	0	0	0	0	0
Plant propagation techniques	0	0	0	0	0	0	0	0	0	0
Value addition	0	0	0	0	0	0	0	0	0	0
Total (b)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
c) Ornamental Plants										
Nursery Management	0	0	0	0	0	0	0	0	0	0
Management of potted plants	0	0	0	0	0	0	0	0	0	0

Export potential of ornamental plants	0	0	0	0	0	0	0	0	0	0
Propagation techniques of Ornamental Plants	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (c)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
d) Plantation crops										
Production and Management technology	0	0	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (d)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
e) Tuber crops										
Production and Management technology	0	0	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (e)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
f) Spices										
Production and Management technology	0	0	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (f)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
g) Medicinal and Aromatic Plants										
Nursery management	0	0	0	0	0	0	0	0	0	0
Production and management technology	0	0	0	0	0	0	0	0	0	0
Post harvest technology and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (g)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GT (a-g)	**4**	**70**	**7**	**77**	**7**	**0**	**7**	**77**	**7**	**84**
III Soil Health and Fertility Management										

Soil fertility management	0	0	0	0	0	0	0	0	0	0
Integrated water management	0	0	0	0	0	0	0	0	0	0
Integrated Nutrient Management	0	0	0	0	0	0	0	0	0	0
Production and use of organic inputs	0	0	0	0	0	0	0	0	0	0
Management of Problematic soils	0	0	0	0	0	0	0	0	0	0
Micro nutrient deficiency in crops	0	0	0	0	0	0	0	0	0	0
Nutrient Use Efficiency	0	0	0	0	0	0	0	0	0	0
Balance use of fertilizers	0	0	0	0	0	0	0	0	0	0
Soil and Water Testing	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
IV Livestock Production and Management										
Dairy Management	0	0	0	0	0	0	0	0	0	0
Poultry Management	0	0	0	0	0	0	0	0	0	0
Piggery Management	0	0	0	0	0	0	0	0	0	0
Rabbit Management	0	0	0	0	0	0	0	0	0	0
Animal Nutrition Management	1	13	5	18	2	0	2	15	5	20
Disease Management	1	21	4	25	0	0	0	21	4	25
Feed & fodder technology	1	20	0	20	3	0	3	23	0	23
Production of quality animal products	0	0	0	0	0	0	0	0	0	0
Others (Infertility management in cow and bufflow)	1	0	17	17	0	3	3	0	20	20
Total	**4**	**54**	**26**	**80**	**5**	**3**	**8**	**59**	**29**	**88**
V Home Science/Women empowerment										

Household food security by kitchen gardening and nutrition gardening	0	0	0	0	0	0	0	0	0	0
Design and development of low/minimum cost diet	0	0	0	0	0	0	0	0	0	0
Designing and development for high nutrient efficiency diet	0	0	0	0	0	0	0	0	0	0
Minimization of nutrient loss in processing	0	0	0	0	0	0	0	0	0	0
Processing and cooking	0	0	0	0	0	0	0	0	0	0
Gender mainstreaming through SHGs	0	0	0	0	0	0	0	0	0	0
Storage loss minimization techniques	0	0	0	0	0	0	0	0	0	0
Value addition	0	0	0	0	0	0	0	0	0	0
Women empowerment	0	0	0	0	0	0	0	0	0	0
Location specific drudgery reduction technologies	0	0	0	0	0	0	0	0	0	0
Rural Crafts	0	0	0	0	0	0	0	0	0	0
Women and child care	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
VI Agril. Engineering										
Farm Machinary and its maintenance	0	0	0	0	0	0	0	0	0	0
Installation and maintenance of micro irrigation systems	0	0	0	0	0	0	0	0	0	0
Use of Plastics in farming practices	0	0	0	0	0	0	0	0	0	0
Production of	0	0	0	0	0	0	0	0	0	0

small tools and implements										
Repair and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0
Small scale processing and value addition	0	0	0	0	0	0	0	0	0	0
Post Harvest Technology	0	0	0	0	0	0	0	0	0	0
Water Harvest Technology	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
VII Plant Protection										
Integrated Pest Management	2	44	0	44	8	0	8	52	0	52
Integrated Disease Management	1	19	0	19	4	0	4	23	0	23
Bio-control of pests and diseases	1	20	3	23	1	0	1	21	3	24
Production of bio control agents and bio pesticides	0	0	0	0	0	0	0	0	0	0
Pink Ball Warm in cotton	2	35	6	41	9	0	9	44	6	50
Total	**6**	**118**	**9**	**127**	**22**	**0**	**22**	**140**	**9**	**149**
VIII Fisheries										
Integrated fish farming	0	0	0	0	0	0	0	0	0	0
Carp breeding and hatchery management	0	0	0	0	0	0	0	0	0	0
Carp fry and fingerling rearing	0	0	0	0	0	0	0	0	0	0
Composite fish culture	0	0	0	0	0	0	0	0	0	0
Hatchery management and culture of freshwater prawn	0	0	0	0	0	0	0	0	0	0
Breeding and culture of ornamental fishes	0	0	0	0	0	0	0	0	0	0
Portable plastic	0	0	0	0	0	0	0	0	0	0

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

Group dynamics	0	0	0	0	0	0	0	0	0	0
Formation and Management of SHGs	0	0	0	0	0	0	0	0	0	0
Mobilization of social capital	0	0	0	0	0	0	0	0	0	0
Entrepreneurial development of farmers/youths	0	0	0	0	0	0	0	0	0	0
WTO and IPR issues	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
XI Agro-forestry										
Production technologies	0	0	0	0	0	0	0	0	0	0
Nursery management	0	0	0	0	0	0	0	0	0	0
Integrated Farming Systems	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GRAND TOTAL	**17**	**290**	**51**	**341**	**40**	**3**	**43**	**330**	**54**	**384**

- **ON+OFF Campus**

Training (including Vocational, Sponsored and FLD training)										
Thematic area	**No. of courses**	**Participants**								
		Others			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
(A) Farmers & Farm Women										
I Crop Production										
Weed Management	1	15	4	19	2	0	2	17	4	21
Resource Conservation Technologies	0	0	0	0	0	0	0	0	0	0
Cropping Systems	2	33	4	37	5	1	6	38	5	43
Crop Diversification	0	0	0	0	0	0	0	0	0	0
Integrated Farming	0	0	0	0	0	0	0	0	0	0
Micro Irrigation/irrigation	2	34	3	37	7	0	7	41	3	44

Seed production	0	0	0	0	0	0	0	0	0	0
Nursery management	0	0	0	0	0	0	0	0	0	0
Integrated Crop Management	6	321	0	321	19	0	19	340	0	340
Soil & water conservatioin	0	0	0	0	0	0	0	0	0	0
Integrated nutrient management	1	18	2	20	0	0	0	18	2	20
Production of organic inputs	1	20	0	20	2	0	2	22	0	22
Others (pl specify)	1	17	5	22	2	0	2	19	5	24
Total	**14**	**458**	**18**	**476**	**37**	**1**	**38**	**495**	**19**	**514**
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops	0	0	0	0	0	0	0	0	0	0
Off-season vegetables	0	0	0	0	0	0	0	0	0	0
Nursery raising	1	20	0	20	2	0	2	22	0	22
Exotic vegetables	0	0	0	0	0	0	0	0	0	0
Export potential vegetables	0	0	0	0	0	0	0	0	0	0
Grading and standardization	0	0	0	0	0	0	0	0	0	0
Protective cultivation	3	128	2	130	21	0	21	149	2	151
Others (pl specify)	8	279	34	313	40	3	43	319	37	356
Total (a)	**12**	**427**	**36**	**463**	**63**	**3**	**66**	**490**	**39**	**529**
b) Fruits										
Training and Pruning	0	0	0	0	0	0	0	0	0	0
Layout and Management of Orchards	0	0	0	0	0	0	0	0	0	0
Cultivation of Fruit	0	0	0	0	0	0	0	0	0	0
Management of young plants/orchards	3	193	0	193	14	0	14	207	0	207
Rejuvenation of old orchards	0	0	0	0	0	0	0	0	0	0
Export potential fruits	0	0	0	0	0	0	0	0	0	0
Micro irrigation	0	0	0	0	0	0	0	0	0	0

systems of orchards										
Plant propagation techniques	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	2	89	179	268	0	18	18	89	197	286
Total (b)	**5**	**282**	**179**	**461**	**14**	**18**	**32**	**296**	**197**	**493**
c) Ornamental Plants										
Nursery Management	0	0	0	0	0	0	0	0	0	0
Management of potted plants	0	0	0	0	0	0	0	0	0	0
Export potential of ornamental plants	0	0	0	0	0	0	0	0	0	0
Propagation techniques of Ornamental Plants	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (c)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
d) Plantation crops										
Production and Management technology	0	0	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (d)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
e) Tuber crops										
Production and Management technology	0	0	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (e)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
f) Spices										
Production and Management technology	0	0	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (f)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
g) Medicinal and Aromatic Plants										

Nursery management	0	0	0	0	0	0	0	0	0	0
Production and management technology	0	0	0	0	0	0	0	0	0	0
Post harvest technology and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (g)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GT (a-g)	**17**	**709**	**215**	**924**	**77**	**21**	**98**	**786**	**236**	**1022**
III Soil Health and Fertility Management										
Soil fertility management	4	212	0	212	21	0	21	233	0	233
Integrated water management	0	0	0	0	0	0	0	0	0	0
Integrated Nutrient Management	0	0	0	0	0	0	0	0	0	0
Production and use of organic inputs	0	0	0	0	0	0	0	0	0	0
Management of Problematic soils	0	0	0	0	0	0	0	0	0	0
Micro nutrient deficiency in crops	0	0	0	0	0	0	0	0	0	0
Nutrient Use Efficiency	0	0	0	0	0	0	0	0	0	0
Balance use of fertilizers	0	0	0	0	0	0	0	0	0	0
Soil and Water Testing	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**4**	**212**	**0**	**212**	**21**	**0**	**21**	**233**	**0**	**233**
IV Livestock Production and Management										
Dairy Management	1	0	19	19	0	5	5	0	24	24
Poultry Management	0	0	0	0	0	0	0	0	0	0
Piggery Management	0	0	0	0	0	0	0	0	0	0
Rabbit Management	0	0	0	0	0	0	0	0	0	0
Animal Nutrition Management	4	13	68	81	2	23	25	15	91	106
Disease	5	62	112	174	11	15	26	73	127	200

Management										
Feed & fodder technology	4	59	145	204	3	17	20	62	162	224
Production of quality animal products	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	3	0	63	63	0	19	19	0	82	82
Total	**17**	**134**	**407**	**541**	**16**	**79**	**95**	**150**	**486**	**636**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	3	0	139	139	0	19	19	0	158	158
Design and development of low/minimum cost diet	0	0	0	0	0	0	0	0	0	0
Designing and development for high nutrient efficiency diet	0	0	0	0	0	0	0	0	0	0
Minimization of nutrient loss in processing	0	0	0	0	0	0	0	0	0	0
Processing and cooking	0	0	0	0	0	0	0	0	0	0
Gender mainstreaming through SHGs	0	0	0	0	0	0	0	0	0	0
Storage loss minimization techniques	0	0	0	0	0	0	0	0	0	0
Value addition	0	0	0	0	0	0	0	0	0	0
Women empowerment	1	0	19	19	0	3	3	0	22	22
Location specific drudgery reduction technologies	0	0	0	0	0	0	0	0	0	0
Rural Crafts	1	0	137	137	0	0	0	0	137	137
Women and child care	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**5**	**0**	**295**	**295**	**0**	**22**	**22**	**0**	**317**	**317**
VI Agril. Engineering										
Farm Machinary	0	0	0	0	0	0	0	0	0	0

and its maintenance										
Installation and maintenance of micro irrigation systems	0	0	0	0	0	0	0	0	0	0
Use of Plastics in farming practices	0	0	0	0	0	0	0	0	0	0
Production of small tools and implements	0	0	0	0	0	0	0	0	0	0
Repair and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0
Small scale processing and value addition	0	0	0	0	0	0	0	0	0	0
Post Harvest Technology	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	3	217	0	217	11	0	11	228	0	228
Total	**3**	**217**	**0**	**217**	**11**	**0**	**11**	**228**	**0**	**228**
VII Plant Protection										
Integrated Pest Management	3	62	1	63	14	0	14	76	1	77
Integrated Disease Management	3	54	4	58	4	3	7	58	7	65
Bio-control of pests and diseases	2	40	3	43	4	0	4	44	3	47
Production of bio control agents and bio pesticides	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	8	196	140	336	19	6	25	215	146	361
Total	**16**	**352**	**148**	**500**	**41**	**9**	**50**	**393**	**157**	**550**
VIII Fisheries										
Integrated fish farming	0	0	0	0	0	0	0	0	0	0
Carp breeding and hatchery management	0	0	0	0	0	0	0	0	0	0
Carp fry and fingerling rearing	0	0	0	0	0	0	0	0	0	0
Composite fish culture	0	0	0	0	0	0	0	0	0	0

Hatchery management and culture of freshwater prawn	0	0	0	0	0	0	0	0	0	0
Breeding and culture of ornamental fishes	0	0	0	0	0	0	0	0	0	0
Portable plastic carp hatchery	0	0	0	0	0	0	0	0	0	0
Pen culture of fish and prawn	0	0	0	0	0	0	0	0	0	0
Shrimp farming	0	0	0	0	0	0	0	0	0	0
Edible oyster farming	0	0	0	0	0	0	0	0	0	0
Pearl culture	0	0	0	0	0	0	0	0	0	0
Fish processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
IX Production of Inputs at site										
Seed Production	0	0	0	0	0	0	0	0	0	0
Planting material production	0	0	0	0	0	0	0	0	0	0
Bio-agents production	0	0	0	0	0	0	0	0	0	0
Bio-pesticides production	0	0	0	0	0	0	0	0	0	0
Bio-fertilizer production	0	0	0	0	0	0	0	0	0	0
Vermi-compost production	2	59	0	59	11	0	11	70	0	70
Organic manures production	0	0	0	0	0	0	0	0	0	0
Production of fry and fingerlings	0	0	0	0	0	0	0	0	0	0
Production of Bee-colonies and wax sheets	0	0	0	0	0	0	0	0	0	0
Small tools and implements	0	0	0	0	0	0	0	0	0	0
Production of livestock feed and fodder	0	0	0	0	0	0	0	0	0	0
Production of	0	0	0	0	0	0	0	0	0	0

Fish feed										
Mushroom Production	0	0	0	0	0	0	0	0	0	0
Apiculture	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**2**	**59**	**0**	**59**	**11**	**0**	**11**	**70**	**0**	**70**
X Capacity Building and Group Dynamics										
Leadership development	0	0	0	0	0	0	0	0	0	0
Group dynamics	0	0	0	0	0	0	0	0	0	0
Formation and Management of SHGs	0	0	0	0	0	0	0	0	0	0
Mobilization of social capital	0	0	0	0	0	0	0	0	0	0
Entrepreneurial development of farmers/youths	0	0	0	0	0	0	0	0	0	0
WTO and IPR issues	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
XI Agro-forestry										
Production technologies	0	0	0	0	0	0	0	0	0	0
Nursery management	0	0	0	0	0	0	0	0	0	0
Integrated Farming Systems	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GRAND TOTAL	**78**	**2141**	**1083**	**3224**	**214**	**132**	**346**	**2355**	**1215**	**3570**

- **ON CAMPUS**

(B) RURAL YOUTH										
Nursery Management of Horticulture crops	0	0	0	0	0	0	0	0	0	0
Training and pruning of orchards	0	0	0	0	0	0	0	0	0	0
Protected cultivation of vegetable crops	0	0	0	0	0	0	0	0	0	0
Commercial fruit production	0	0	0	0	0	0	0	0	0	0
Integrated farming	0	0	0	0	0	0	0	0	0	0
Seed production	0	0	0	0	0	0	0	0	0	0
Production of organic inputs	0	0	0	0	0	0	0	0	0	0
Planting material production	0	0	0	0	0	0	0	0	0	0
Vermi-culture	0	0	0	0	0	0	0	0	0	0
Mushroom Production	0	0	0	0	0	0	0	0	0	0
Bee-keeping	0	0	0	0	0	0	0	0	0	0
Sericulture	0	0	0	0	0	0	0	0	0	0
Repair and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0
Value addition	0	0	0	0	0	0	0	0	0	0
Small scale processing	0	0	0	0	0	0	0	0	0	0
Post Harvest Technology	0	0	0	0	0	0	0	0	0	0
Tailoring and Stitching	0	0	0	0	0	0	0	0	0	0
Rural Crafts	0	0	0	0	0	0	0	0	0	0
Production of quality animal products	0	0	0	0	0	0	0	0	0	0
Dairying	0	0	0	0	0	0	0	0	0	0
Sheep and goat rearing	0	0	0	0	0	0	0	0	0	0
Quail farming	0	0	0	0	0	0	0	0	0	0
Piggery	0	0	0	0	0	0	0	0	0	0
Rabbit farming	0	0	0	0	0	0	0	0	0	0
Poultry production	0	0	0	0	0	0	0	0	0	0
Ornamental fisheries	0	0	0	0	0	0	0	0	0	0
Composite fish culture	0	0	0	0	0	0	0	0	0	0
Freshwater prawn culture	0	0	0	0	0	0	0	0	0	0
Shrimp farming	0	0	0	0	0	0	0	0	0	0
Pearl culture	0	0	0	0	0	0	0	0	0	0
Cold water fisheries	0	0	0	0	0	0	0	0	0	0
Fish harvest and processing technology	0	0	0	0	0	0	0	0	0	0
Fry and fingerling rearing	0	0	0	0	0	0	0	0	0	0
ICT in Agriculture	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

- **OFF CAMPUS**

(B) RURAL YOUTH										
Nursery Management of Horticulture crops	0	0	0	0	0	0	0	0	0	0
Training and pruning of orchards	0	0	0	0	0	0	0	0	0	0
Protected cultivation of vegetable crops	0	0	0	0	0	0	0	0	0	0
Commercial fruit production	0	0	0	0	0	0	0	0	0	0
Integrated farming	0	0	0	0	0	0	0	0	0	0
Seed production	0	0	0	0	0	0	0	0	0	0
Production of organic inputs	0	0	0	0	0	0	0	0	0	0
Planting material production	0	0	0	0	0	0	0	0	0	0
Vermi-culture	0	0	0	0	0	0	0	0	0	0
Mushroom Production	0	0	0	0	0	0	0	0	0	0
Bee-keeping	0	0	0	0	0	0	0	0	0	0
Sericulture	0	0	0	0	0	0	0	0	0	0
Repair and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0
Value addition	0	0	0	0	0	0	0	0	0	0
Small scale processing	0	0	0	0	0	0	0	0	0	0
Post Harvest Technology	0	0	0	0	0	0	0	0	0	0
Tailoring and Stitching	0	0	0	0	0	0	0	0	0	0
Rural Crafts	0	0	0	0	0	0	0	0	0	0
Production of quality animal products	0	0	0	0	0	0	0	0	0	0
Dairying	0	0	0	0	0	0	0	0	0	0
Sheep and goat rearing	0	0	0	0	0	0	0	0	0	0
Quail farming	0	0	0	0	0	0	0	0	0	0
Piggery	0	0	0	0	0	0	0	0	0	0
Rabbit farming	0	0	0	0	0	0	0	0	0	0
Poultry production	0	0	0	0	0	0	0	0	0	0
Ornamental fisheries	0	0	0	0	0	0	0	0	0	0
Composite fish culture	0	0	0	0	0	0	0	0	0	0
Freshwater prawn culture	0	0	0	0	0	0	0	0	0	0
Shrimp farming	0	0	0	0	0	0	0	0	0	0
Pearl culture	0	0	0	0	0	0	0	0	0	0
Cold water fisheries	0	0	0	0	0	0	0	0	0	0
Fish harvest and processing technology	0	0	0	0	0	0	0	0	0	0
Fry and fingerling rearing	0	0	0	0	0	0	0	0	0	0
Any other (pl.specify)	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

- **ON+OFF CAMPUS**

(B) RURAL YOUTH										
Nursery Management of Horticulture crops	0	0	0	0	0	0	0	0	0	0

Training and pruning of orchards	0	0	0	0	0	0	0	0	0	0
Protected cultivation of vegetable crops	0	0	0	0	0	0	0	0	0	0
Commercial fruit production	0	0	0	0	0	0	0	0	0	0
Integrated farming	0	0	0	0	0	0	0	0	0	0
Seed production	0	0	0	0	0	0	0	0	0	0
Production of organic inputs	0	0	0	0	0	0	0	0	0	0
Planting material production	0	0	0	0	0	0	0	0	0	0
Vermi-culture	0	0	0	0	0	0	0	0	0	0
Mushroom Production	0	0	0	0	0	0	0	0	0	0
Bee-keeping	0	0	0	0	0	0	0	0	0	0
Sericulture	0	0	0	0	0	0	0	0	0	0
Repair and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0
Value addition	0	0	0	0	0	0	0	0	0	0
Small scale processing	0	0	0	0	0	0	0	0	0	0
Post Harvest Technology	0	0	0	0	0	0	0	0	0	0
Tailoring and Stitching	0	0	0	0	0	0	0	0	0	0
Rural Crafts	0	0	0	0	0	0	0	0	0	0
Production of quality animal products	0	0	0	0	0	0	0	0	0	0
Dairying	0	0	0	0	0	0	0	0	0	0
Sheep and goat rearing	0	0	0	0	0	0	0	0	0	0
Quail farming	0	0	0	0	0	0	0	0	0	0
Piggery	0	0	0	0	0	0	0	0	0	0
Rabbit farming	0	0	0	0	0	0	0	0	0	0
Poultry production	0	0	0	0	0	0	0	0	0	0
Ornamental fisheries	0	0	0	0	0	0	0	0	0	0
Composite fish culture	0	0	0	0	0	0	0	0	0	0
Freshwater prawn culture	0	0	0	0	0	0	0	0	0	0
Shrimp farming	0	0	0	0	0	0	0	0	0	0
Pearl culture	0	0	0	0	0	0	0	0	0	0
Cold water fisheries	0	0	0	0	0	0	0	0	0	0
Fish harvest and processing technology	0	0	0	0	0	0	0	0	0	0
Fry and fingerling rearing	0	0	0	0	0	0	0	0	0	0
Any other (pl.specify)	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

- **ON CAMPUS**

(C) Extension Personnel										
Productivity enhancement in field crops	0	0	0	0	0	0	0	0	0	0
Integrated Pest Management	0	0	0	0	0	0	0	0	0	0
Integrated Nutrient management	0	0	0	0	0	0	0	0	0	0
Rejuvenation of old orchards	0	0	0	0	0	0	0	0	0	0
Protected cultivation technology	0	0	0	0	0	0	0	0	0	0
Production and use of organic inputs	0	0	0	0	0	0	0	0	0	0
Care and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0
Gender mainstreaming through	0	0	0	0	0	0	0	0	0	0

SHGs										
Formation and Management of SHGs	0	0	0	0	0	0	0	0	0	0
Women and Child care	0	0	0	0	0	0	0	0	0	0
Low cost and nutrient efficient diet designing	0	0	0	0	0	0	0	0	0	0
Group Dynamics and farmers organization	0	0	0	0	0	0	0	0	0	0
Information networking among farmers	0	0	0	0	0	0	0	0	0	0
Capacity building for ICT application	1	0	25	25	0	4	4	0	29	29
Management in farm animals	0	0	0	0	0	0	0	0	0	0
Livestock feed and fodder production	0	0	0	0	0	0	0	0	0	0
Household food security	0	0	0	0	0	0	0	0	0	0
Organic Farming	4	241	127	368	21	12	33	262	139	401
TOTAL	**5**	**241**	**152**	**393**	**21**	**16**	**37**	**262**	**168**	**430**

- **OFF CAMPUS**

(C) Extension Personnel										
Productivity enhancement in field crops	0	0	0	0	0	0	0	0	0	0
Integrated Pest Management	0	0	0	0	0	0	0	0	0	0
Integrated Nutrient management	0	0	0	0	0	0	0	0	0	0
Rejuvenation of old orchards	0	0	0	0	0	0	0	0	0	0
Protected cultivation technology	0	0	0	0	0	0	0	0	0	0
Production and use of organic inputs	0	0	0	0	0	0	0	0	0	0
Care and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0
Gender mainstreaming through SHGs	0	0	0	0	0	0	0	0	0	0
Formation and Management of SHGs	0	0	0	0	0	0	0	0	0	0
Women and Child care	0	0	0	0	0	0	0	0	0	0
Low cost and nutrient efficient diet designing	0	0	0	0	0	0	0	0	0	0
Group Dynamics and farmers organization	0	0	0	0	0	0	0	0	0	0
Information networking among farmers	0	0	0	0	0	0	0	0	0	0
Capacity building for ICT application	0	0	0	0	0	0	0	0	0	0
Management in farm animals	0	0	0	0	0	0	0	0	0	0
Livestock feed and fodder production	0	0	0	0	0	0	0	0	0	0
Household food security	0	0	0	0	0	0	0	0	0	0
Any other (pl.specify) Organic Farming	1	19	0	19	1	0	1	20	0	20
TOTAL	**1**	**19**	**0**	**19**	**1**	**0**	**1**	**20**	**0**	**20**

- **ON+OFF Campus**

(C) Extension Personnel										
Productivity enhancement in field crops	0	0	0	0	0	0	0	0	0	0
Integrated Pest Management	0	0	0	0	0	0	0	0	0	0
Integrated Nutrient management	0	0	0	0	0	0	0	0	0	0
Rejuvenation of old orchards	0	0	0	0	0	0	0	0	0	0
Protected cultivation technology	0	0	0	0	0	0	0	0	0	0
Production and use of organic inputs	0	0	0	0	0	0	0	0	0	0
Care and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0
Gender mainstreaming through SHGs	0	0	0	0	0	0	0	0	0	0
Formation and Management of SHGs	0	0	0	0	0	0	0	0	0	0
Women and Child care	0	0	0	0	0	0	0	0	0	0
Low cost and nutrient efficient diet designing	0	0	0	0	0	0	0	0	0	0
Group Dynamics and farmers organization	0	0	0	0	0	0	0	0	0	0
Information networking among farmers	0	0	0	0	0	0	0	0	0	0
Capacity building for ICT application	1	0	25	25	0	4	4	0	29	29
Management in farm animals	0	0	0	0	0	0	0	0	0	0
Livestock feed and fodder production	0	0	0	0	0	0	0	0	0	0
Household food security	0	0	0	0	0	0	0	0	0	0
Any other (pl.specify)	5	260	127	387	22	12	34	282	139	421
TOTAL	**6**	**260**	**152**	**412**	**22**	**16**	**38**	**282**	**168**	**450**

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	6	321	0	321	19	0	19	340	0	340
Commercial production of vegetables	4	227	0	227	32	0	32	259	0	259
Production and value addition										
Fruit Plants	3	193	0	193	14	0	14	207	0	207
Ornamental plants	0	0	0	0	0	0	0	0	0	0
Spices crops	0	0	0	0	0	0	0	0	0	0
Soil health and fertility management	4	212	0	212	21	0	21	233	0	233
Production of Inputs at site	2	59	0	59	11	0	11	70	0	70
Methods of protective cultivation	2	110	0	110	21	0	21	131	0	131
Others (pl. specify) PBW	5	161	111	272	10	0	10	171	111	282
Total	26	1283	111	1394	128	0	128	1411	111	1522
Post harvest technology and value addition										
Processing and value addition	2	89	179	268	0	18	18	89	197	286
Others (pl. specify)	0	0	0	0	0	0	0	0	0	0

Total	2	89	179	268	0	18	18	89	197	286
Farm machinery										
Farm machinery, tools and implements	3	217	0	217	11	0	11	228	0	228
Others (pl. specify)	0	0	0	0	0	0	0	0	0	0
Total	3	217	0	217	11	0	11	228	0	228
Livestock and fisheries										
Livestock production and management	2	0	46	46	0	16	16	0	62	62
Animal Nutrition Management	2	0	45	45	0	19	19	0	64	64
Animal Disease Management	3	41	88	129	11	12	23	52	100	152
Fisheries Nutrition	0	0	0	0	0	0	0	0	0	0
Fisheries Management	0	0	0	0	0	0	0	0	0	0
Others (pl. specify) Feed and Fodder Production	2	39	117	156	0	15	15	39	132	171
Total	9	80	296	376	11	62	73	91	358	449
Home Science										
Household nutritional security	0	0	0	0	0	0	0	0	0	0
Economic empowerment of women	1	0	137	137	0	0	0	0	137	137
Drudgery reduction of women	0	0	0	0	0	0	0	0	0	0
Others (pl. specify) Kitchen Garden	3	0	139	139	0	19	19	0	158	158
Total	4	0	276	276	0	19	19	0	295	295
Agricultural Extension										
Capacity Building and Group Dynamics	0	0	0	0	0	0	0	0	0	0
Others Organic Farming	4	241	127	368	21	12	33	262	139	401
Total	4	241	127	368	21	12	33	262	139	401
Grand total	**48**	**1910**	**989**	**2899**	**171**	**111**	**282**	**2081**	**1100**	**3181**

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	0	0	0	0	0	0	0	0	0	0
Commercial fruit production	0	0	0	0	0	0	0	0	0	0
Commercial vegetable production	0	0	0	0	0	0	0	0	0	0
Integrated crop management	0	0	0	0	0	0	0	0	0	0
Organic farming	0	0	0	0	0	0	0	0	0	0
Others (pl. specify)	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Post harvest technology and value addition										
Value addition	0	0	0	0	0	0	0	0	0	0

Others (pl. specify)	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Livestock and fisheries										
Dairy farming	0	0	0	0	0	0	0	0	0	0
Composite fish culture	0	0	0	0	0	0	0	0	0	0
Sheep and goat rearing	0	0	0	0	0	0	0	0	0	0
Piggery	0	0	0	0	0	0	0	0	0	0
Poultry farming	0	0	0	0	0	0	0	0	0	0
Others (pl. specify)	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Income generation activities										
Vermicomposting	0	0	0	0	0	0	0	0	0	0
Production of bio-agents, bio-pesticides,	0	0	0	0	0	0	0	0	0	0
bio-fertilizers etc.	0	0	0	0	0	0	0	0	0	0
Repair and maintenance of farm machinery	0	0	0	0	0	0	0	0	0	0
and implements	0	0	0	0	0	0	0	0	0	0
Rural Crafts	0	0	0	0	0	0	0	0	0	0
Seed production	0	0	0	0	0	0	0	0	0	0
Sericulture	0	0	0	0	0	0	0	0	0	0
Mushroom cultivation	0	0	0	0	0	0	0	0	0	0
Nursery, grafting etc.	0	0	0	0	0	0	0	0	0	0
Tailoring, stitching, embroidery, dying etc.	0	0	0	0	0	0	0	0	0	0
Agril. para-workers, para-vet training	0	0	0	0	0	0	0	0	0	0
Others (pl. specify)	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Agricultural Extension										
Capacity building and group dynamics	0	0	0	0	0	0	0	0	0	0
Plant Protection (Honey Bee Rearing)	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

- **Details of trainings organized under ASCI**

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Organic Grower	1	0	20	20	0	0	0	0	20	20
Quality Seed Grower	1	0	20	20	0	0	0	0	20	20
TOTAL	2	0	40	40	0	0	0	0	40	40

3.5 Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	Total
Advisory Services	29	53532	01	1523428
Diagnostic visits	5	28	22	50
Field Day	9	329	4	333
Group discussions	7	163	17	180
Kisan Ghosthi	1	117	3	120
Film Show	17	1358	-	1358
Self -help groups	-	-	-	-
Kisan Mela	5	3383	30	3413
Exhibition	12	3314	13	3327
Scientists' visit to farmers field	33	701	13	714
Lectures delivered	193	7060	-	7060
Plant/animal health camps	1	127	1	128
Farmer's Meeting	4	91	6	97
Telephonic information to Farmers	-	6793	-	6793
Farmers' seminar/workshop	1	6	1	7
Method Demonstrations	12	1172	31	1203
Celebration of important days				
World Soil Health Day	1	111	7	118
Mahila Krishi Diwas	2	246	8	254
Special day celebration				
International Women Day	1	53	2	55
Swachhta Hi Sewa Diwas	1	15	2	17
Others				
Celebration of Technology Week (17^{th} to 21^{st} September 2019)	1	672	23	695
Swachhta Pakwada	2	236	4	240
Mahila Saktikaran Pakhvadiyu	1	79	5	84
Live Conference (Farm Men)	1	97	3	100
Live Conference (Farm Women)	1	88	5	93
Pradhanmantri Kisan Sanman Nidhi Yojna	1	106	3	109
Kishan Diwas	1	52	3	55
Scientist Participate in Seminar/Workshop	9	-	9	9
Exposure visits	2	40	2	42
14^{th} SAC Meeting	1	28	2	30
Total	**354**	**79997**	**220**	**1549974**

Details of other extension programmes

Particulars	Number
Electronic Media (CD./DVD)	-
Extension Literature	-
Newspaper coverage	16
Popular articles	-
Radio Talks	-
TV Talks	1
Animal health amps (Number of animals treated)	-
Others (pl. specify) Telephonic Conference	5
Total	**22**

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
Oilseeds						
	Sesamum	GT-3 (Breeder)	-	6.30	1,46,790	-
	Groundnut	GJG-31 (Breeder)	-	18.00	2,79,000	-
		GJG-31 (TF)	-	18.90	1,07,087	-
		GJG-9 (Breeder)	-	17.25	2,67,375	-
		GJG-9 (TF)	-	3.30	18,698	-
			Total	**63.75**	**8,18,950**	-
Vegetables						
	Seed Packets	-	-	669	6690	-
			Total	669	6690	-
Others						
Fruit	Sapota	Kalipatti	-	1.779	44475	-
	Mango	Kesar	-	2.27	4540	-
	Gunda		-	0.12	240	-
			Total	**16.049**	**49255**	**-**

University products made available to farmers:-

Sr. No.	Name of product	Quantity (In kg or No.)	Provided to No. of farmers	Value (Rs.)
1	*Beauveria bassiana*	17055	2847	25,58,250
2	*Trichoderma*	22373	2794	15,66,110
3	Pheromone traps (for pink bollworm control)	801	114	16,020
4	Lure of pink bollworm	2164	209	37,640
5	Vegetable packets	669	428	66,90
6	Fruit Fly Trap	2	1	60
7	Lure of fruit fly	10	1	100
8	Bio fertilizers:			
	Rhizobium (500ml Bottle)	103	34	6,180
	Azotobacter (500ml Bottle)	526	96	31,560
	PSM (500ml Bottle)	531	93	31,850
		Total	**6617**	**42,54,460**

- **Farm Product**

Sr. No.	Product	Selling
1	Eggs	337
2	Milk (Goat)	-----

- **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	Tomato	JT-3	-	2455	-	137
	Brinjal	GJHB-4	-	3000	-	101
	Onion	GJRO-11	-	1500	-	150
		GJWO-3	-	1000	-	100
	Chilli	*Wadhwani*	-	170		17
Fruits	Papaya		-	300	-	30
Others	-		-	-	-	-
Total	-	-	-	**8425**	-	**535**

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	No. of Farmers
Bio Fertilisers	-	-	-	-
Bio-pesticide	-	-	-	-
Bio-fungicide	-	-	-	-
Bio Agents	-	-	-	-
Others	-	-	-	-
Total	-	-	-	-

Production of livestock materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers
Dairy animals				
Cows	Male	2	-	-
	Female	1	-	-
Goat	Male	2	-	-
	Female	2	-	-
	Kids	1	-	-
Poultry			-	-
Layers	-	-	-	-
Total	-	**8**	-	-

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	-	-	-
Technical reports	ZREAC *(Kharif)*	Mr. M. F. Broraniya, Mr.D. A. Patel, Dr. R. P. Kalma and Dr. B. C. Bochalya	-
	ZREAC *(Rabi)*		
	AGRESCO		
	SAC		
	Annual Progress Report		
News letters	Quaterly	Mr. M. F. Broraniya, Dr. R.P.Kalma, Mr.D.A.Patel and Dr. B. C. Bochalya,	4
	e-news letter		4
Technical bulletins	-	-	-
Popular articles	-	-	-
Extension literature	-	-	-
Others (Pl. specify)	-	-	-
TOTAL			

C. Details of Electronic Media Produced

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

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).

High income by producing chickpea crop seed

1.Profile of Farmer:

Name	**:**	KathiyaMohbat Sangh Amar Sangh
Village	**:**	Ramdevgadh
Taluka	**:**	Chuda
Age	**:**	60-Year (Birth Date: 30-12-1958)
District	**:**	Surendranagar (Gujarat)
PIN	**:**	363 410
Mobile No.	**:**	9429647381
Education	**:**	7th Pass
Land : Holding		Total 10 Acre :
Farming : Experience		42
Crops Grown	**:**	Cotton, Groundnut, Chilli, Chick-Pea, Wheat and Lucerne
Cropping System	**:**	Sole crop, Intercrop
Livestock	**:**	Total : 13 Animal (4 Cow + 4 Calf +5 Buffalo)

2. Situation analysis/Problem statement :-

In Ramdevgadh village, major crops grown in *Kharif* are cotton, sesame and bajara and in *Rabi* season wheat, cumin and chickpea crops. Farmer generally sows chickpea and groundnut crops by using loose seed (indigenous). Mohbatsangh was also doing the same. The result in low remuneration due to low yield of the crop. He grown chickpea crop for home consumption only. Mostly farmers grows local varieties , so this crop is not profitable in consideration of farmer.

3. Plan, Implement and Support :-

In the year 2016-17, KVK, JAU, Surendranagar has been provided chick pea's improved crop variety GJG - 3 in CFLD under NFSM project for 20 ha area covering 25 farmers. Mohbatsangh also one of them.

4. Details of technology demonstrated-

Improved management practices of crop. Under demonstration, *Trichoderma harzinum* 4 kg for soil application and seed treatment purpose, *Beauveria bassiana 2 kg, Rhizobium* Culture: 1.0 lit, PSB-Culture: 1.0 lit were given to farmers under demonstration.

5. Performance of technology vis-à-vis local check (increase in productivity and returns)

Improved technology performed well 30.00 q/ha over control 21.75 with increased in yield by 37.9 % over local check.

6. Out Come:

After seeing the performance of this variety many farmers of this village and from neighboring villages sought the seed demand from him for next coming season as seed (for

the *Rabi* 2018 - 19). He sown in 2 ha land and got 60 quintal production from same area. Out of it he stored 40 quintal seed of GJG-3 crop variety properly for selling. He provided 40.0 quintal seed material to the 23 interested farmers as seed input. This action not only fetched good price for him but it also ensured the availability of good quality of seed at their locality with less price as compare to market. He sold his chickpea seed @ Rs. 6000/- per quintal. He earned gross income of 3.30 lakh from 2 ha area. Both of them (he himself and buyers) got benefited and it was win - win situation for both of them.

- **Details are given below:**
  - **Market price : Rs. 4500 per quintal**
  - **Price fetched by sold as seed to other farmer : Rs. 6000 per quintal**

Chickpea Crop sown Area (In ha)	Crop Variety	Cost of cultivation (2 ha)	Total Production	Quantity sold as seed (In qtl.)	Comparison of price fetched (In Rs.)		Total Benefit (In Rs.) over market price
					As per market	As seed sold (240000 +90000)	
2.00	GJG-3	41360	60 qtl	40qtl	270000	330000	60000

- **Impact:**

Mohabat sangh is a Sarpanch of the village. he always keeps his influence on villager in development activities and keen interested in agricultural development. farmers of village also interested in these activities..

Gram seed for drying in sunlight for selling

KVK Scientist visited chick pea crop field of KathiyaMohbat Sangh Amar Sangh at Ramdevgadh village of Chuda taluka (Surendranagar)

Success of Ashwinbhai through Integrated Farming

1. Farmers Profile:

Name	**:**	Rathod Ashwinbhai Devjibhai
Village	**:**	Sangani
Taluka	**:**	Chotila
Age	**:**	38-Year (DOB: 31-01-1980)
District	**:**	Surendranagar (Gujarat)
PIN	**:**	363 520
Mobile No.	**:**	9909401489
Land : Holding		Total : 1.6ha
Crops Grown	**:**	Cotton, brinjal, Wheat, Lucern, Green methi, Radish etc
Cropping System	**:**	Sole crop, Intercrop
Livestock	**:**	Total : 3 Animal (2Cow + 1Calf +1 Buffalo)

The success story of Ashwinbhai who is earning a net annual income of 4.8 lakh from 2.5 acres by adopting Integrated Farming Practices could well be the right signal for farmers of Surendranagar facing the scenario of low yield and income coupled with unpredictable rainfall.

The synergistic integration and optimal utilisation of resources by Shri. Aswin hailing from Sangani village of Chotila taluka of Surendranagar District is a role model for the impoverished farmers of the State. His traditional farming included only cotton,wheat cumin and seasame.. The technical support from Krishi Vigyan Kendra (KVK), Surendranagar helped him to shore up and integrate his farming through introduction of improved varieties / hybrids in field crops, adoption of horticulture crops and vegetable crops. The most crucial intervention is the introduction of lemon orchard with integration of drumstics as inter crop followed by cultivation of vegetable crops viz., brinjal radish, green methi, palak etc as i in 2.5 acre land

Earlier, the only source of income for Aswin was from the 2.5 acre land fetching him a net income of Rs.1,45,000/-only. Now he sells brinjal, drum stics, short duration green methi, Redish in the nearby market earning Rs.800-1000 per day. He has started practicing inter-cropping system wherein in between lemon he is growing drum-stics

During the last three seasons of the year, he has earned Rs.3,40,000/-from the vegetables (Brinjal, green methi, Radish and tomato) alone

Ashwinbhai has developed his farm with a combination of Agri+Horti + animal husbandary system of cultivation. He has two gir cows and one buffalo. He recycles farm waste into a healthy manure through compost unit. His practice of integrated farming meets over 75% of nutrient requirement through recycling of bio-mass available within the farm itself. In a short span of time, KVK could able to meet the demand and help the entrepreneur to establish successful lively hood options.

Ashwinbhai earns a net annual income of about Rs. 4.8 lakh through his praise worthy Integrated Farming Practices as compared to that of Rs.1,45,000/- two years ago. His adoptable practices would be a **Role Model** for other small farmers across the district.

The successful farming by Ashwinbhai has already drawn the attention of numbers of farmers within and outside the district. Moved by his progress, the farmer himself has intuition to further synergistically integrate his farming through improved practices

KVK Scientist visited Inter cropping Cluster bean + Brinjal crop field of Rathod Ashwinbhai Devjibhai at Sangani village

Inter cropping lemon + Lucerne crop field of Rathod Ashwinbhai Devjibhai at Sangani village

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

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: Nil
5.2. Indicate the methodology for identifying OFTs/FLDs :Nil
5.3. Field activities :Nil

6. LINKAGES

A. Functional linkage with different organizations

Name of organization	Nature of Linkage
State department of Agriculture	Technology backstoping
Dy. Director of Agriculture (Extension)	Technology backstoping
Dy. Director of Horticulture	Technology backstoping
Dy. Director of Animal husbandry	Technology backstoping
Dy. Director of Soil Conservation	Technology backstoping
Dy. Director of Social Forestry	Technology backstoping
Dy. Director of Fisheries	Technology backstoping
NABARD	Technology backstoping
Jilla Udyog Kendra	Technology backstoping
Milk Co-operative Society	Technology backstoping
State bank of India (Lead bank)	Technology backstoping
Doordarshan Kendra	Technology backstoping
All India Radio	Technology backstoping
ATMA, Surendranagar	Technology backstoping
NHRDF	Technology backstoping
Farmers Training Centre	Technology backstoping
Information department, Surendranagar	Technology backstoping
RSETI, Surendranagar	Technology backstoping

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

B. List special programmes undertaken by the KVK and operational now, which have been financed by State Govt./Other Agencies

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
-	-	-	-

C. Details of linkage with ATMA

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

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

Coordination activities between KVK and ATMA

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks (if any)
01	**Meetings**	-	-	-	-
02	**Research projects**	-	-	-	-
03	**Training programmes**	37	5	-	-
04	**Demonstrations**	-	-	-	-
05 Extension Programmes					
	Kisan Mela	3	5	-	Collaboration
	Technology Week	1	4	-	Collaboration
	Exposure visit	-	-	-	-
	Exhibition	3	5	-	Collaboration
06	**Publications**				
07	**Other Activities**	-	-	-	-

D. Give details of programmes implemented under National Horticultural Mission

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

E. Nature of linkage with National Fisheries Development Board

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

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
-	-	-	-	-	-

7. Convergence with other agencies and departments:

Name of organization
State department of Agriculture
Dy. Director of Agriculture (Extension)
Dy. Director of Horticulture
Dy. Director of Animal husbandry
Dy. Director of Soil Conservation
Dy. Director of Social Forestry
Dy. Director of Fisheries
NABARD
Jilla Udyog Kendra
Milk Co-operative Society
State bank of India (Lead bank)
Doordarshan Kendra
All India Radio
ATMA, Surendranagar
NHRDF
Farmers Training Centre
Information department, Surendranagar
RSETI, Surendranagar
AKRSP

8. Innovator Farmer's Meet

Sl.No.	Particulars	Details
	Have you conducted Farm Innovators meet in your district?	Yes/ **No**
	Brief report in this regard	No

9. Farmers Field School (FFS)

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

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

Chickpea : -GJG-6	• It is good variety over local variety for all parameters. • Farmer demanded seeded varieties for vegetable purpose in both irrigated & non irrigated conditions. • Average 2-3 grains per pod is found in GJG6 variety whereas in local variety only 1-2 grains were observed. • In nutshell, farmers preferred GJG-6 variety due to High Yielding character, bold seeded size and prominent to wilt resistant. • Grain size of this variety is also of bold than local variety, hence may fetch good market price.
Cumin :- GC-4	• High yielder and wilt resistance but delayed germination observed. • Farmer demanded blight resistant variety.
Wheat : GW-463	• Yield better than Lok-1 and GW-496, baking quality observed good.
Sesame	GT-4 is higher yielder over local varieties and early maturity period
Cotton	*Azotobacter*, PSB and Micro mix grade IV are low cost input gave good response in cotton crop.
Sawaj *Beauveria*	This product of JAU, locally known as "*Kandhasar Powder*" very popular in the district. This low cost technology very effective against specially cotton pests. Farmers are used this product in large quantity.
Sawaj *Trichoderma*	Very popular and low cost as comparison to private companies product. Effective against groundnut (Stem rot) and cumin (Wilt) soil borne disease control.
Brinjal (GJLB-4)	✓ Higher yielder over local varieties. ✓ Less infection observed fruit borer and white fly
Tomato (JT-3)	✓ Higher yielder over all local varieties

10.2. Technical Feedback from the KVK Scientists (Subject wise) to the research institutions/universities: NIL

11. Technology Week celebration during 2018-19 Yes/No, If Yes

Period of observing Technology Week: From: **17-9-2019 to 21-9-2019**
Total number of farmers visited : 672
Total number of agencies involved : 2
Number of demonstrations visited by the farmers within KVK campus: 11 (Eleven)

Other Details :

Types of Activities	**No. of Activities**	**Number of Farmers**	**Related crop/livestock technology**
Gosthies	5	672	Cultivation of *Kharif* and *Rabi* crops and their scientific management and seed production technologies of different crops, organic farming, integrated farming system, cultivation practices for rainfed farming, agricultural entrepreneurship, women empowerment etc. Visit of farm's *kharif* crop farm field and crop cafeteria, integrated farming system demo unit, fodder demo unit, vermicompost demo unit, Agril. Demo unit, mother ochard demo unit, KVK Museum, Renewable energy demo unit, solar water lifting devices demo unit.
Lectures organized	25	672	
Exhibition	5	672	
Film show	5	672	
Fair	0	0	
Farm Visit	5	672	
Diagnostic Practicals	2	339	
Supply of Literature (No.)	4321	672	
Supply of Seed (q)	0	0	
Supply of Planting materials (No.)	0	0	
Bio Product supply (Kg)	0	0	
Bio Fertilizers (q)	0	0	
Supply of fingerlings	0	0	
Supply of Livestock specimen (No.)	0	0	
Total number of farmers visited the technology week	-	672	

12. 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
-	-	-
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
Gujarat	**0**	**0**	**0**
Total	**0**	**0**	**0**

E. Seed distribution in drought hit states

State	Crops	Quantity (qtl)	Coverage of area (ha)	Number of farmers
Gujarat	**0**	**0**	**0**	**0**
Total	**0**	**0**	**0**	**0**

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 (Pink bollworm control in cotton crop" from KVK, Nana kandhasar to farmers and NGO staff)

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
Gujarat	11	594	-	-	-	-	-	-	-	-	-	-
Total	**11**	**594**	**-**	**-**	**-**	**-**	**-**	**-**	**12**	**3224**	**17**	**1358**

13. IMPACT

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

- **Project-1**

Title : Knowledge and adoption of improved cumin production technology of Surendranagar District

Investigators

1. Dr. B. C. Bochalya ,Scientist (PI)
2. Mr. M. F. Bhoraniya, Scientist (Associate)
3. Dr.P.V. Patel, Director Extension Education (Associate)

Year of the Study : 2018-19

Location: Surendranagar district

Methodology:

Present study was carried out in Surendranagar district. Surendranagar district has 10 talukas. Out of 10 talukas, two talukas were selected purposively having highest cumin crop area for conducting the present investigation. Six villages were further selected from each selected taluka by randomly and village-wise cumin growing farmers' list was prepared. From each village, ten cumin growing farmers were selected by random sampling method. Accordingly, 120 cumin growing farmers were selected for the study. For measurement of knowledge and adoption, an interview schedule was developed and data were collected by personal interview method. The collected data were quantified, categorized and tabulated. Analysis was carried out by using frequencies and percentages.

Introduction

Cumin (Cuminum cyminum L.), the king of seed spices, is a member of family Apiaceae and grown in arid and semi arid regions of India especially Rajasthan and Gujarat. Annually, it is grown in about 507850 hectares area producing about 314220 tonnes (Anonymous, 2012). In surendranagar district, area under cumin crop is approximately 86000 ha and ranked 1st in Gujarat in area. Average national productivity of this crop is remaining very less (619 kg/ha) in spite of making so many efforts by the research developmental agencies. The major factors responsible for low productivity are low level of awareness among the farming community about area specific recommended package of practices, lower adoption of recommended plant production and protection technologies. Introduction of high yielding varieties, farm mechanization with application of appropriate quantity of seed and fertilizers at right time along with other recommended practices (irrigation and intercultural operations etc.) play an important role with respect to the productivity of cumin. Besides these, effective management of biotic and a-biotic stresses at crucial time with the help of available chemicals and organic means is also very crucial to increase the productivity and production of the crop, which ultimately enhanced the net returns and benefit cost ratio of the growers.

Cumin is important spice crop, however, its production is most uncertain and fluctuates violently from year to year due to extreme variations in climatic conditions and occurrence of number of pest and fungal diseases namely powdery mildew, Blight and wilt. The uncertainty in production of this crop causes wide variation in the income of the cumin growers. The average yield of the cumin found low in farmers field conditions as compare to its potential yield. This may be lack of knowledge and low adoption of recommended

technologies among the farmers. Many hurdles also faced by the farmers in cumin cultivation. Keeping the above facts in mind the research study undertaken.

Objective

1. To study the personal and socio-economic characteristics of the cumin growers.
2. To find out the knowledge level of farmers about improved cumin production technology.
3. To find out the adoption level about improved cumin production technology among cumin growers
4. To identify the constraints faced by farmers in adoption of improved cumin production technology.
5. To seek suggestion from the cumin growers to overcome the constraints.

RESULT AND DISCUSSION:

1. Profile of the respondents :

The data pertaining to the selected background information of farmers have been presented in this section *i.e.* age, education, size of land holdings family income, social participation, extension participation, size of land holdings, mass media exposures, animals possesses *etc*.

Age:

In present study, farmers are categorized in the three age groups. Perusal of results of table 1shows that majority of the respondents (54.16%) were found in the middle age group of followed by 26.67 per cent in the old age group.There were only 19.17 per cent respondents up to 35 years.

Education:

Table 1 indicates that majority of respondents (52.50%) were having Primary Education followed by 22.50 per cent who were educated up to secondary schooling,11.66 per cent respondents were merely literate, 7.50 per cent respondents were found educated up to higher secondary and only 5.84 per cent famers had graduate and above level education.

Size of Land Holding:

Table 1 shows that majority of respondents (54.17%) possessed 1 to 2 ha land, followed by 24.17 per cent who had land holding of 2 to 4 ha and found to be small farmers. Whereas 11.66 per cent respondents had possessed above 4 ha land. Only 10per cent had below 2 hectares land and falls in marginal farmers' category.

Social participation:

Table 1 show that majority of respondents (73.33 %) were participated or had membership in different social institute while 26.67 per cent respondents had not participated in any social institutes.

Income of respondents:

Majority of respondents (27.50%) had income uptoRs.100001 to 150000.00 followed by respondents (23.33%) who had income uptoRs. 150001.00 to 200000.00. Whereas 21.66 % respondents had fallen in Rs. 50001 to 100000 income group. 10.84 per cent respondents had income above Rs. 200001.00.

Extension participation:

Table1 shows that most of the respondents (85 %) were participated in extension activities.

Innovativeness:

Table 1 reveals that 65.00 per cent respondents had attitude of adopting technology after when other successfully adopted the same. While 18.33 per cent of respondents had responded that they take their own time according to adaptability. Only 16.67 per cent respondents said that they always ready for immediate adoption.

Table -1 Distribution of respondents according to their personalsocio-economic characteristics **n = 120**

Sr. No.	Categories		Frequency	Percentage
1	**Age:**	Young Age (up to 35 years)	23	19.17
		Middle Age (36 to 50 years)	65	54.16
		Old Age (above 50 years)	32	26.67
		Total	**120**	**100**
2	**Education:**	Literate	14	11.66
		Primary education	63	52.50
		Secondary school education	27	22.50
		Higher Secondary education	9	7.50
		Graduate and above	7	5.84
		Total	**120**	**100**
3	**Size of Land Holdings:**	Marginal Farmers (up to 1.0 ha)	12	10.00
		Small Farmers (Above one1.0 ha to 2.0 ha)	65	54.17
		Medium Farmer (Above 2.0 ha to 4.0 ha)	29	24.17
		Big Farmer (Above 4.0 ha)	14	11.66
		Total	**120**	**100**
4	**Social Participation:**	Participation/Membership in different social institutes	88	73.33
		No participation/Member ship	32	26.67
		Total	**120**	**100**
5	**Income of respondents:**	Rs. Upto to 50000	20	16.67
		Rs. 50001 to 100000	26	21.66
		Rs. 100001 to 150000	33	27.50
		Rs. 150001 to 200000	28	23.33
		Rs. 200001 to above	13	10.84
		Total	**120**	**100**
6	**Extension Participation.**	Participate in Extension Activities	102	85.00
		Not participation	18	15.00
		Total	**120**	**100**
7	**Innovativeness:**	Immediate adoption	20	16.67
		Follows when others successful adopted	78	65.00
		Take time as per own adaptability	22	18.33
		Total	**120**	**100**

2. Knowledge of farmers about improved practices of cumin crop:

Table -2 Distribution of the farmers on the basis of level of knowledge about cumin production technology N-120

Sr. No.	Knowledge level	Frequency	percentage
1	Low (<64.55)	18	15.00
2	Medium (64.55-71.99)	30	25.00
3	High (>71.99)	72	60.00

The data in table-2 reveals that out of 120 farmers, majority of respondents 60.00 percent fell in high level of knowledge group, whereas, 25.00 percent farmers were observed in the medium level of knowledge group and remaining 15.00 percent of respondents possessed low level of knowledge group about improved cumin production technology.

Table 3. Distribution of cumin growers according to their knowledge regarding recommended cumin production technology

n-120

Sr. No.	**Practices**	**Knowledge**	
		Frequency	**Percent**
1	Tillage	112	93.33
2	Manure and fertlizer	78	65.00
3	Variety	120	100
4	Seed rate	115	95.83
5	Seed treatment	52	43.33
6	Method of sowing	83	69.17
7	Weeding	108	90.00
8	Irrigation management	113	94.16
9	Insect control	85	70.83
10	Disease control	93	77.50
11	Harvesting and Storage	118	98.33

The result of the study reported in Table -3 revealed the cumin cultivation practices like tillage, Seed rate, irrigation management harvesting & storage and weeding were known to all most all cumin growers. Further the practices viz. disease control (77.50 per cent), Insect control (70.83per cent), method of sowing (69.17 per cent) manure &fertilizer rate (65.00 percent) were known to majority of farmers. Lastly the seed treatment practice was known to only 43.33 per cent farmers.

3. Adoption of improved practices of cumin production technology by the farmers

Table:4 Distribution of farmers under different adoption categories towards improved cultivation practices of Cumin.

n = 120

Sr. No.	**Adoption categories**	**Frequency**	**Per cent of farmers**
1.	Low adopters (<16.53)	17	14.66
2.	Medium adopters (16.53 to 27.21)	77	64.17
3.	High adopters (> 27.21)	26	21.67

Mean = 21.87,SD = 5.34

A close look at the Table 4 explains that on the whole 64.17 per cent of the farmers were found to be medium adopters, while 21.67. per cent farmers were high adopters and only 14.66 per cent of the respondents were low adopters.

4. Constraints faced by the respondents in adoption of improved cumin production technology

Table-5 Constraints faced by the respondents in adoption of improved cumin production technology

S.No.	Constraints	Frequecy	Percentage	Rank
A.	**Technical Constraints**			
1.	Lack of know-how about seed treatment	89	74.16	II
2.	Unavailability of improved varieties of seed at the time of sowing	28	23.33	IV
3.	Lack of soil testing facilities at near by place	105	87.50	I
4.	lack of skill about weed control through herbicide	25	20.83	V
5.	lack of skill in mgt practices	55	45.83	III
B.	**Economical Constraints**			
1.	High cost of labour	108	90.00	I
2.	High cost of farm power implements	75	62.50	V
3..	High cost of seed	88	73.33	IV
4.	High cost of pesticides	95	79.16	II
5.	High cost of electricity	94	78.33	III
C.	**Marketing constraints**			
1.	Lack of storage facilities	65	54.16	I
2.	Lack of transport facilities or high cost of its	45	37.50	IV
3..	Poor access to market informations	56	46.66	II
4..	Incorrect weight and measurement by businessman	25	20.83	VI
5.	High fluctuation in market prices	35	29.16	V
6.	Mal practices of middleman	55	45.83	III
D	**Miscellaneous constraints**			
1.	Poor communication facility	65	54.16	V
2.	Adverse climatic conditions at crtical stages	85	70.83	I
3.	Poor water qualities	77	64.16	II
4.	Temperature problems at the time of sowing	71	59.16	IV
5.	Reduction in yield due to late sowing in cotton based farming system	55	45.83	VI
6.	More incidence of insect-pest incidence	74	61.66	III

An attempt was made to identify the perceived constraints faced by the cumin growers in adoption of improved practices For this purpose constraints were classified into technical, economical, marketing and miscellaneous constraints

A. Technical Constraints :

The data in Table-5 incorporates the findings of the technical constraints which were responsible for adoption of improved practices in cumin crop. The table reveals that the constraints “Lack of soil testing facilities at near by place” was felt by 87.50 per cent respondents, “Lack of know-how about seed treatment” was felt by 74.16 per cent respondents, “lack of skill in mgt practices” was felt by 45.85 per cent respondents “Unavailability of improved varieties of seed at the time of sowing” was felt by 23.33 per cent respondents, and “lack of skill about weed control through herbicide” was felt by 20.83per cent respondents. “Which were ranked I, II, III, IV and V respectively.

B. Ecnomical Constraints

The table 5 reveals that "High cost of labour", were felt by 90 per cent respondents which were ranked at 1st position, However, "High cost of pesticides" was felt by 79.16 per cent respondents, "High cost of electricity" was felt by 78.33 per cent respondents, "High cost of seed" was felt by 73.33 per cent respondents and "High cost of farm power implements" was felt by 62.50 per cent respondents, which were ranked at II, III, IV and Vth position, respectively.

C. **Marketing constraints**

It was depicted from the table 5that "Lack of storage facilities", were felt by 54.16 per cent cumin growers which were ranked at 1st position, However, "Poor access to market informations" was felt by 46.66 per cent farmers, "Mal practices of middleman" was felt by 45.83 per cent respondents, "Lack of transport facilities or high cost of its" was felt by 37.50 per cent respondents," High fluctuation in market prices" was felt by 29.16 per cent respondents and lastly "Incorrect weight and measurement by businessman" was felt by 20.83 percent of farmers which were ranked at II, III, IV V and VI position, respectively.

D. **Miscellaneous constraints**

The table-5 reveals that "Adverse climatic conditions at crtical stages" was felt by 70.83 per cent respondents, "Poor water qualities" was felt by 64.16 per cent respondents, "More incidence of insect-pest incidence" was felt by 61.66 per cent respondents, "Temperature problems at the time of sowing" was felt by 59.16per cent respondents", Poor communication facility" was felt by 54.16per cent respondents, and "Reduction in yield due to late sowing in cotton based farming system" observed by 45.83 cumin growerswhich were ranked I, II, III, IV, V and VI, respectively

5. suggestions for higher production of cumin crop

Table-6:- Distribution of respondents according to their suggestions for higher production of cumin crop **N-120**

Sr. No.	Suggestions	Frequency	Per cent
1.	Second irrigation should be given light and timely .	112	93.33
2.	Crop should be kept weed free.	110	91.66
3.	Do not grow highly irrigated crop around cumin crop .	106	88.33
4.	Irrigation should be stopped during cloudy weather .	104	86.66
5.	Well drained soil and application of FYM	96	80.00
6.	Irrigation bed should be prepared small and leveled .	87	72.50
7.	Application of Sulphur should be done early in the morning.	78	65.00
8.	Crop rotation should be followed	71	59.16
9.	Sowing should be done timely with recommended seed rate	69	57.50
10.	Use of disease free seed of improved variety	42	35.00
11.	Apply fungicide spray as per recommendation	29	24.16
12.	Seed should be treated with fungicide	08	06.66

The data presented in Table 6 revealed that the important suggestions for successful cultivation of cumin crop as given by the farmers were viz. Second irrigation should be given light and timely, Crop should be kept weed free, Do not grow highly irrigated crop around cumin crop, Irrigation should be stopped during cloudy weather, Well drained soil and application of FYM and Irrigation bed should be prepared small and leveled. It is evident from the data in table 6 that farmers had not given importance to seed treatment and fungicide spray for successful cumin crop cultivation.

Project-2

Title : Knowledge and adoption of dairy farmers about improved goat rearing practices in Surendranagar district.

Livestock sector plays important role in the welfare of India's rural population. Livestock sector provides draught power, manure, employment, income and export earnings. Therefore it is considered an important component in poverty alleviation.

The goat are owned by the poor farmers since they cost less, more convenient for sale and human consumption and have faster growth and reproduction. The goats are friendly animals and known as "poor men's cow" in India. Goat has small size, high fertility rate; utilize wide variety of feed and fodder resources, low initial investment and good remuneration, therefore considered as choice of animals.

Housing, feeding and breeding practices have influence on milk production, health and ultimately economy of goat farmers. Keeping this in view, the study was planned to delineate the information on improved goat rearing practices adopted by farmers of Surendranagar district. The district Surendranagar mainly falls in north Saurashtra agro-climatic zone. The district located in India at 22.0° to 23.45° North latitude and 69.45° to 72.15° East longitude. Surendranagar district is bounded in north by Gulf of Kutch and Mehasana district, in the south by Bhavnagar and part of Ahmedabad district, on the east by part of Ahmedabad and west by Rajkot district.

Objectives of the study are

1. To study the socio-economic characteristics of the respondents
2. To find out the knowledge level of dairy farmers about improved goat rearing practices
3. To assess the adoption level of dairy farmers about improved goat rearing practices
4. To identify the constraints faced by dairy farmers in adoption of improved goat rearing practices
5. To seek suggestions from dairy farmers to overcome constraints

The research study was conducted in jurisdiction of Krishi Vigyan Kendra, JAU, Surendranagar. Suredranagar district has 10 talukas. Out of 10 talukas, three talukas were selected purposively for conducting the study. Three villages were further selected from each selected taluka purposively. From each village, ten farmers were selected by random sampling method. Accordingly, 90 farmers were selected for the study. An interview schedule was prepared to collect the required information as per the objectives of the study. The collected data was quantified, categorized and tabulated under the following broad heads. Analysis was carried out by using frequencies and percentages.

1. Personal, socio economic and socio psychological conditions of respondents

The information about the personal, socio-economical and socio psychological conditions of the respondents i.e, Age, education level, flock size, land holding size, annual income, occupation, opinion regarding profitability of goat rearing, reading newspaper and get the information have been presented in table.

1.1 Age:

Age influences behaviour of an individual. Therefore age of respondents was considered as essential aspect in this study. Data with respect to age are presented in table 1.

Table 1: Distribution of dairy farmers according to their age

Sr. no	Category	Respondents	%
1	young age group (up to 35 years)	17	18.9
2	Middle age group (36 to 50 years)	38	42.2
3	old age group (above 50 years)	35	38.9
	Total	90	

Data in table 1 indicated that majority of respondents (42.2 %) belonged to middle age group followed by old age group (38.9%) and young age group (18.9%.)

1.2 Education:

Table 2: Distribution of dairy farmers according to their education

Sr. no	Category	Respondents	%
1	illiterate	49	54.4
2	Primary education	29	32.2
3	Secondary education	10	11.1
4	Higher Secondary education	2	2.2
5	Graduation	0	0.0
	Total	90	

The information regarding education of respondents presented in table 2. The education level of respondents was studied and it was observed that 54.4 % respondents were illiterate, 32.2% up to primary education, 11.1% up to secondary education, 2.2% up to higher secondary education and no respondents had graduation.

1.3 Land holding size:

Table 3: Distribution of dairy farmers according to their land holding size

Sr. no	Category	Respondents	%
1	Landless (Having no land)	15	16.7
2	Marginal farmers (up to 1 ha.)	30	33.3
3	Small farmers (1.01 to 2 ha.)	24	26.7
4	Medium farmers (2.01 to 4 ha.)	12	13.3
5	Large farmers (above 4.01 ha.)	9	10.0
Total		**90**	

The information regarding land holding of the respondents are presented in table 3. Study indicate that majority of respondents (33.3%) were falling under marginal land holding followed by small farmers (26.7%), landless (16.7%), medium farmers (13.3%) and large farmers (10%).

1.4 Flock size:

The term flock size indicates number of goats keep by individual respondent.

Table 4: Distribution of dairy farmers according to their flock size

Sr. no	Category	Respondents	%
1	Small (3 to 20 animals)	23	25.6
2	Medium (21-40 animals)	30	33.3
3	Large (Above 40 animals)	37	41.1
	Total	**90**	

It is apparent from table 4 that majority of respondents (41.1%) had large flock followed by medium flock (33.3%) and small flock (25.6%).

1.5 Annual income:

Table 5: Distribution of dairy farmers according to their annual income

Sr. no	Category	Respondents	%
1	Low income (Up to 20,000)	58	64.4
2	Medium income (20,001 to 40,000)	24	26.7
3	High income (Above 40,000)	8	8.9
	Total	**90**	

The information regarding annual income of respondents is presented in table 5. Results indicate that majority of respondents (64.4%) fall under low income followed by medium income (26.7%) and high income (8.9%) group.

1.6 Goat farming experience:

Table 6: Distribution of dairy farmers according to their goat farming experience

Sr. no	Category	Respondents	%
1	Up to 10 years	19	21.1
2	11 to 20 years	28	31.1
3	Above 30 years	43	47.8
	Total	**90**	

The information regarding experience of goat farmers are presented in table 6. Majority of respondents (47.8%) were above 30 years of age followed by 11 to 20 years (31.1%) and up to 10 years (21.1%)

1.7 Occupation:

Table 7: Distribution of dairy farmers according to their occupation

Sr. no	Category	Respondents	%
1	Goat rearing	22	24.4
2	Goat rearing + Agriculture	35	38.9
3	Goat rearing + labours	28	31.1
4	Goat rearing + Jobs	5	5.6
	Total	90	

The information regarding occupation of the respondents is presented in table 7. The observation of the present study indicated that majority of respondents (38.9%) were adopting goat rearing with Agriculture followed by goat rearing with labours (31.1%), goat rearing (24.4%) and goat rearing with jobs (5.6%).

1.8 Psychological characteristics:

Table 8: Distribution of dairy farmers according to their psychological characteristics

Sr. No.	Category	Yes	%	No	%
1	Do you believe that goat rearing is a profitable business?	29	32.2	61	67.8
2	Do you read the newspaper and get information of Agriculture and Animal Husbandry?	39	43.3	51	56.7

Observation of study indicated that majority of respondents (67.8%) were not get profit from goat rearing. It was observed that 43.3% of respondents read the information related to agriculture and animal husbandry in news paper.

2. Livelihood security

2.1 Livelihood earning:

Table 9: Distribution of dairy farmers according to their livelihood earning

Sr. No.	Category	Yes	%	No	%
1	Milk selling	61	67.8	29	32.2
2	Goat hair selling	24	26.7	66	73.3
3	Kid selling	53	58.9	37	41.1
4	Manure selling	15	16.7	75	83.3
5	Chevon selling	58	64.4	32	35.6
6	Male goat selling	50	55.6	40	44.4

It was observed from table 9 that major respondents (67.8%) were selling goat milk. It was found that 26.7% of respondents were selling goat hair. 58.9%, 16.7%, 64.4% and 55.6% of respondents were selling kid, manure, chevon and male goat, respectively.

3. Rearing practices of goat:

It includes feeding, breeding, management during kidding, housing of goat and health care practices.

3.1 Feeding practices:

Feeding is one of the most important practices in animal husbandry.

Table 10: Distribution of dairy farmers according to their feeding practices

Sr. No.	Category	Yes	%	No	%
1	**Feeding system**				
i	Grazing	54	60	36	40
ii	Semi intensive	33	36.7	57	63.3
iii	Stall feeding	25	27.8	65	72.2
2	**Type of feed**				
i	Green fodder	67	74.4	23	25.6
ii	Dry fodder	23	25.6	67	74.4
ii	Concentrate feeding	19	21.1	71	78.9
3	**Source of water**				
i	Tube well	56	62.2	34	37.8
ii	Community water trough	39	43.3	51	56.7
iii	Pond water	41	45.6	49	54.4
iv	Well	51	56.7	39	43.3
4	**Addition of mineral mixture**	28	31.1	62	68.9

From the table 10 it was observed that, majority of respondents (60%) adopted grazing, while semi intensive and stall feeding adopted 36.7% and 27.8%, respectively. From the data it was observed that majority of respondents (74.4%) use green fodder, while 25.6% were giving dry fodder to their goats. It was evident from study that very few respondents (21.1%) fed concentrate to their goats. From the table it was evident that tube well (62.2%), community water trough (43.3%), pond water (45.6%) and well (56.7%) were utilized as source of water for goat by dairy farmers in Surendranagar district. It was found

in table that 31.1% of respondents provided mineral mixture to their goats whereas 68.9% respondents did not provide mineral mixture.

3.2 Breeding practices:

Table 11: Distribution of dairy farmers according to breeding practices.

Sr. No.	Category	Yes	%	No	%
1	**Heat detection symptoms**				
i	Bleating	55	61.1	35	38.9
ii	Bleating + mucus discharge	75	83.3	15	16.7
iii	Mucus discharge + tail vibration	62	68.9	28	31.1
iv	Frequent urination + Mounting	72	80.0	18	20
2	**Natural service**	90	100	0	0
3	**Record keeping of breeding in goat farming**	28	31.1	62	68.9

Data from table 11 regarding breeding practices, it was found that 55%, 75%, 62% and 72% goat farmers use heat detection symptoms like bleating, bleating with mucus discharge, mucus discharge with tail vibration and frequent urination with mounting, respectively. Bleating with mucus discharge for heat detection was adopted by majority of respondents (75%). It was found in table that all respondents are using natural method of service in goat farming. Only 31.1% of respondents kept breeding record.

3.3 Management during kidding:

Table 12: Distribution of dairy farmers according to management during kidding

Sr. No.	Category	Yes	%	No	%
1	Care during kidding	84	93.3	6	6.7
2	Protection from inclement weather/stray animals	82	91.1	8	8.9
3	Separate kidding space	39	43.3	51	56.7
4	Veterinarian aids in case of difficult kidding	42	46.7	48	53.3
5	Offering colostrum to kids	90	100	0	0

Data in table 12 regarding management during kidding it was evident that majority of respondents (93.3%) took care during kidding. 91.1% of respondents protected their goats and kids from inclement weather/stray animals. It was found from table that majority of respondents (56.7%) not provided separate kidding space. It was observed from table that 46.7% respondents called veterinarian during difficult kidding. However 53.3% respondents still relied upon layman. It was depicted from table that all respondents (100%) were adopting feeding of colostrums to kids through suckling.

3.4 Housing management practices:

Table 13: Distribution of dairy farmers according to housing management practices

Sr. No.	Category	Yes	%	No	%
1	**Type of housing**				
i	Open	58	64.4	32	35.6
ii	Closed	32	35.6	58	64.4
2	**Animal keeping**				
i	Under shed	32	35.6	58	64.4
ii	Under tree in thorny enclosure	59	65.6	31	34.4
3	**Manger**	15	16.7	75	83.3
4	**Floor**				
i	Kachha	68	75.6	22	24.4
ii	Pucca	22	24.4	68	75.6
5	**Tethering**	60	62	30	33.3

It was found from table 13 that majority of respondents (64.4 %) having open type house and remaining (35.6%) having close type of housing. It was depicted from table 13 that 35.6% respondents keep their goat under shed whereas 65.6% respondents keep their goat under tree in thorny enclosure. Most of the respondents had no manger (83.3%) in goat shelter. It was indicated from table 13 that 75.6% respondents preferred kaccha floor and remaining 24.4% preferred pucca floor. 62% respondents tethered their goats while 33.3% kept lose their goats.

3.5 Health care practices:

Table 14: Distribution of dairy farmers according to health care practices

Sr. No.	Category	Yes	%	No	%
1	Vaccination in goat	15	16.7	75	83
2	Use natural remedies for diseases	55	61.1	35	39

Data in table 14 regarding health care practices it was evident that only 16.7% respondents vaccinated their goat. It was indicated from table that 61.1% of respondents used various natural remedies for treatment of disease.

4. Constraints in adoption of improved goat farming practices:

Table 15: Distribution of dairy farmers according to constraints in adoption of improved goat farming practices

Sr. No.	Category	Yes	%	No	%
1	Lack of information regarding scientific practices of goat rearing.	51	56.7	39	43.3
2	Lack of marketing information	35	38.9	55	61.1
3	Poor availability of infrastructure	53	58.9	37	41.1
4	Lack of Govt. support for training participation	49	54.4	41	45.6
5	Needs frequent training	60	66.7	30	33.3
6	Negative attitude of neighbouring farmers	29	32.2	61	67.8
7	Illlitercy	52	57.8	38	42.2
8	Lack of financial support from Government	58	64.4	32	35.6
9	Disease problems in Goat	78	86.7	12	13.3

10	Lack of veterinary service availability	38	42.2	52	57.8
11	Non availability of green fodder during summer season	61	67.8	29	32.2
12	Non availability of good grazing land	65	72.2	25	27.8

Table 15 regarding constraints depicted that 56.7% respondents had lack of information regarding scientific practices of goat rearing, 38.9% respondents had lack of marketing information, 58.9% respondents had poor availability of infrastructure, 54.4% respondents found lack of Govt. support for training participation, 66.7% respondents found need for frequent training and only 32.2% respondents observed negative attitude of neighbouring farmers. It was observed that 57.8% farmers did not adopted improved goat rearing practices due to illlitercy. Data in table shown that 64.4% respondents found lack of financial support from Government, 86.7% respondents had disease problems in goat, 42.2% respondents found lack of veterinary service availability, 67.8% respondents found non availability of green fodder during summer season and 72.2% respondents found non availability of good grazing land.

Conclusions:

On the basis of the results, the following conclusions can be drawn:

1) Goat rearing is being opted by respondents because of marginal land holding, poor economic condition, low investment and easy market availability.
2) Majority of respondents unaware about scientific goat farming.
3) Most of the respondents were obtaining income from sale of kids, milk, chevon and male goat

Suggestions:

1) More efforts giving on availability of good grazing land, irrigation facility and scientific goat rearing.
2) The adoption of improved scientific breeding and feeding was low in respondents hence neededmore efforts for increase their knowledge level.
3) In goat farming require better infrastructure to increase milk and meat production.
4) Further financial support and Government schemes should be provided for an improvement of goat farming.

B. Cases of large scale adoption

(Please furnish detailed information for each case): Nil

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

14. Kisan Mobile Advisory Services

Month	No. of SMS sent	No. of farmers to which SMS was sent	No. of feedback / query on SMS sent
April 2018	4	2,27,840 (Plant Protection)	-
May	1	56,870 (Plant Protection, Weather Information)	-
June	4	2.27.840 (Plant Protection, Weather Information)	-
July	6	3,41,220 (Plant Protection, Weather Information)	-
August	2	1,13,740 (Plant Protection, Weather Information, Event Information)	-
September	2	1,13,740 (Plant Protection, Weather Information, Event Information)	-
October	2	1,13,740 (Plant Protection, Weather Information)	-
November	2	1,13,740 (Plant Protection, Weather Information)	-
December	2	1,13,740 (Plant Protection, Weather Information, Event Information)	-
January 2019	2	1,13,740 (Plant Protection, Weather Information)	-
February	1	56,870 (Plant Protection)	-
March	1	56,870 (Plant Protection)	-

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marke-ting	Aware-ness	Other enterprise	Total
Surendranagar (Gujarat)	Text only	16	0	13	0	0	0	29
	Voice only	11	0	0	0	0	0	11
	Voice & Text both	-	-	-	-	-	-	-
	Total Messages	**27**	**0**	**13**	**0**	**0**	**0**	**40**
	Total farmers Benefitted	**1118161**	**0**	**739310**	**0**	**0**	**0**	**1857471**

15. PERFORMANCE OF INFRASTRUCTURE IN KVK

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

Sl. No.	Demo Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty. (Qtl)	Cost of inputs	Gross income	
1	Vermi-Compost Unit	2017	0.025	-	-	4.00	-	2000	Farm Use in organic plot
2	Guava plantation	2016	0.50	VNR and Lucknow-49	-	-	-	-	-
3	Orchard (Sapota, Mango and Gunda)	Old Plantation	0.90	Kesar and Kalipatti	-	16.05	-	49255	-
4	*Khati Aamblr* Orchard	Old Plantation	1.30	Local	-	1.95		1950	-
5	Organic farming unit	2017	0.94	Mega seed G'nut	-	1.90	-	10765	-
6	Technology museum	2009-10	0.008	Specimen	-	-	-	-	Demo purpose Only
7	Heap method of composting	2009-10	0.024	FYM	-	-	-	-	
8	Crop cafeteria	2018-19	0.04	Crop varieties	-	-	-	-	
9	Gir cow unit	2012-13	0.075	Gir	-	-	-	-	
10	Goat Unit	2016-17	0.04	Zalawadi Goat	-	-	-	-	
11	Bio Gas Unit	2012-13	0.003	Sintex Plastic body	-	-	-	-	
12	Poultry Unit	2012-13	0.01	RIR-Layer	-	-	-	-	
13	Fodder Demonstration	2012-13	0.02	12-Varieties	-	-	-	-	
14	Medicinal Plant	2009-10	0.30	38-Plants	-	-	-	-	
15	Nursery Unit	2009-10	0.03	Vegetable Plant	-	-	-	-	
16	Automatic Weather Station	2012-13	0.20	-	-	-	-	-	
17	Solar Photo voltaic Unit	2015-16	0.037	-	-	-	-	-	
18	Nadep Compost Unit	2016-17	0.003	-	-	-	-	-	
19	Farm Machinery unit	2019-10	0.25	Implement Demo	-	-	-	-	
20	Date Palm Plantation	2009-10	0.40	Local & Bihi Varieties	-	-	-	-	

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

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty. (Kg)	Cost of inputs	Gross income	
Cereals	-	-	-	-	-	-	-	-	-
Pulses	-	-	-	-	-	-	-	-	-
Oilseeds	Sesame		1.54	GT-3	Breeder	630		1,29,150	205/kg
	Groundnut		2.45	GJG-31	Breeder	1800		2,79,000	155/kg
			4.15	GJG-31	TF	1890		1,07,087	56.66/kg
			3.03	GJG-9	Breeder	1725		2,67,375	155/kg
			3.04	GJG-9	TF	330		18,698	56.66/kg
Fibers	-	-	-	-	-	-	-	-	-
Spices & Plantation crops (**NIL**)									
Others (specify) (**NIL**)									

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

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
-	-	-	-	-	-

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	Cow	Gir	-	-	-	-	-
2	Goat (Male)	Zalawadi				-	-
	Goat (Female)	-	-	-	-	-	-
3	Hen	RIR	Egg	213 egg		1065	-

E. Utilization of hostel facilities

Accommodation available (No. of beds): 25

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
April 2018	-	-	-
May 2018	-	-	-
June 2018	-	-	-
July 2018	-	-	-
August 2018	-	-	-
September 2018	20	-	-
October 2018	-	-	-
November 2018	-	-	-
December 2018	-	-	-
January 2019	10	-	-
February 2019	-	-	-
March 2019	-	-	-

F. Database management

S. No	Database target	Database 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 irrigated / utilization pattern
			No. of Training programmes	No. of Demonstrations	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)		
-	-	-	-	-	-	-	-	-	-

16. 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	-	-	-	-	-	-	-
With KVK	State Bank of India	Surendranagar (Chotila)	60104	Training Organizer K.V.K Nana Kandhasar	66002464030	363002521	SBIN0060104

B. Utilization of KVK funds during the year 2018-19 (Rs. in lakh)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	**Pay & Allowances**	11000000	10044556	6794453
2	**Traveling allowances**	60000	60000	59082
3	**Contingencies**	1196824	1196824	1023150
TOTAL (A)		**12256824**	**11301380**	**7876685**
B. Non-Recurring Contingencies				
1	**Works**	0	0	0
2	**Equipments including SWTL & Furniture**	0	0	0
3	**Vehicle** (Four wheeler/Two wheeler, please specify)	0	0	0
4	**Library** (Purchase of assets like books & journals)	0	0	0
TOTAL (B)		0	0	0
C. REVOLVING FUND		0	0	0
GRAND TOTAL (A+B+C)		**12256824**	**11301380**	**7876685**

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

Year	Opening balance as on 1st April	Income during the year	Expenditure during the year	Net balance in hand as on 1st April of each year
April 2016 to March 2017	3453595	3291526	2458926	4286194
April 2017 to March 2018	4286194	6962898	5674257	5574835
April 2018 to March 2019	5574835	5422216	4284740	6712311

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

Name of the staff	Designation	Title of the training programme	Institute where attended	Duration (No of days)
Mr. M. F. Bhoraniya	Scientist	National Seminar on Extension strategies for Doubling the Farmer's Income for Livehood Security	AAU, Anad	2
Mr. M. F. Bhoraniya	Scientist	The Annual Zonal Workshop of KVKs of ICAR –ATARI, Zone VIII was organized by ICAR-ATARI, Pune	MPKV, Rahuri	3
Mr. M. F. Bhoraniya	Scientist	Annual Action Plan-Workshop	NAU, Navsari	3
Dr. R. P. Kalma	Scientist	7th International conference on Agriculture, Horticulture and Plant Sciences	Shimla	2
Dr. R. P. Kalma	Scientist	Training of trainers skill development	AAU, Anad	2
Dr. R. P. Kalma	Scientist	Zero budget Adhyatmik Kheti Shibir	Ahmedabad	6
Mr. D. A. Patel	Scientist	National Seminar on Extension strategies for Doubling the Farmer's Income for Livehood Security	AAU, Anad	2
Mr. D. A. Patel	Scientist	Training of trainers skill development	AAU, Anad	3
Mr. D. A. Patel	Scientist	Basic Photographic Workshop	JAU, Junagadh	1
Mr. D. A. Patel	Scientist	Orientation cum Workshop on CFLDs on Pulses and Oilseeds 2018-19	KVK, Bhavnagar	3
Mr. D. A. Patel	Scientist	ICCIG 4 - The Fourth International Conference on Creativity And Innovation at Grassroots	IIMA, Ahemadabad	3
Mr. D. A. Patel	Scientist	" XXV Meeting of ICAR Regional Committee No. VI "	AAU, Anand	1

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

APR SUMMARY

(Note: While preparing summary, please don't add or delete any row or columns)

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	36	565	274	839
Rural youths	00	00	00	00
Extension functionaries	04	179	18	197
Sponsored Training	48	2081	1100	3181
Vocational Training	00	00	00	00
Total	88	2825	1392	4217

2. Frontline demonstrations

Enterprise	No. of Farmers	Area (ha)	Units/Animals
Oilseeds	50	30	-
Pulses	35	24	-
Cereals	20	08	-
Vegetables	20	02	-
Other crops (Fodder-Lucerne)	10	01	-
Hybrid crops	-	-	-
Commercial Crop	20	08	-
Spices	20	08	-
Fruit Crop (Fruit Fly Trap)	10	04	-
Total	**185**	**85**	-
Livestock & Fisheries	15	-	15 Animal
Other enterprises	-	-	-
Total	**15**	-	15 Animal
Grand Total	200	85	15 Animal

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops	5	16	16
Livestock	2	10	10
Various enterprises	-	-	-
Total	7	26	26
Technology Refined			
Crops	-	-	-
Livestock	-	-	-
Various enterprises	-	-	-
Total	-	-	-
Grand Total	7	26	26

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	107	17582
Other extension activities	25	1823
Total	**132**	**19405**

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						
		Crop	Live stock	Weather	Marke-ting	Aware-ness	Other enterprise (Plant Protection)	Total
Surendranagar (Gujarat)	Text only	16	0	13	0	0	0	29
	Voice only	11	0	0	0	0	0	11
	Voice & Text both	-	-	-	-	-	-	-
	Total Messages	**27**	**0**	**13**	**0**	**0**	**0**	**40**
	Total farmers Benefitted	**1118161**	**0**	**739310**	**0**	**0**	**0**	**1857471**

6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	63.75	8,01,310
Planting material (No.)	8425	-
Bio-Products (kg)	-	-
Livestock Production (No.)	-	-
Fishery production (No.)	-	-

7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil	187	0
Water	101	0
Plant	0	0
Total	**288**	**0**

8. HRD and Publications

Sr. No.	Category	Number
1	Workshops	8
2	Conferences	2
3	Meetings	0
4	Trainings for KVK officials	0
5	Visits of KVK officials	2
6	Book published	0
7	Training Manual	0
8	Book chapters	0
9	Research papers	0
10	Lead papers	0
11	Seminar papers	6
12	Extension folder	0
13	Proceedings	3
14	Award & recognition	0
15	On going research projects	0

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