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)
Krishi Vigyan Kendra, Junagadh Agricultural University, Targhadia, (Dist.: Rajkot) (Gujarat) - 360 003	Office (0281) 2784170	FAX 0281) 2784170	kvkrajkot@gmail.com	www.jau.in

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 (Gujarat)	(0285) 2672080	(0285) 2672653	dee@jau.in	**www.jau.in**

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

Name	Telephone / Contact		
	Office	Mobile	Email
Dr. B. B. Kabaria	(0281) 2784170	9374202518	**drbbkabaria@gmail.com**

1.4. Year of sanction: **September – 2004**

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

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	Dr. B. B. Kabaria	Programme Coordinator	-	-	09-10-16	-
2.	Subject Matter Specialist	Dr. M. M. Tajpara	SMS (Animal. Sci)	15600-39100	8000/-	4-8-15	104692/-
3.	Subject Matter Specialist	Dr. J. H. Chaudhary	SMS (Agron.)	15600-39100	6000/-	1-8-17	54732/-
4.	Subject Matter Specialist	Vacant	SMS (Plant Protection.)	-	-	-	-
5.	Subject Matter Specialist	Vacant	SMS(Horti.)	-	-	-	-
6.	Subject Matter Specialist	Shri D. P. Sanepara	SMS (Agril. Engg.)	15600-39100	7000/-	8-11-16	90440/-
7.	Subject Matter Specialist	Mrs. H. H. Padsumbiya	SMS (Home Sci.)	15600-39100	8000/-	17-8-06	83662/-

8.	Programme Assistant	Shri Anup B. Dabhi	Programme Assistant	39900-126600	-	7-8-14	44514/-
9.	Computer Programmer	Miss. R. T. Padaliya	Computer Programmer	39900-126600	-	3-1-09	50007/-
10.	Farm Manager	S. R. Rathva	Plant breeding	39900-126600	Fix pay	30-7-2018	38090/-
11.	Accountant/Superintendent	Vacant	A/c. Officer	-		-	-
12.	Stenographer	Vacant					-
13.	Driver 1	Vacant	Jeep Driver-Cum Mechanic				-
14.	Driver 2	Vacant	Jeep Driver-Cum Mechanic	-		-	-
15.	Supporting staff 1	Smt.U.G.. Zala	Supporting Staff	15000-47600	-	16-9-04	30469/-
16.	Supporting staff 2	Vacant	Supporting Staff	-	-	-	-

1.6. Total land with KVK (in ha) :

Sr. No.	Item	Area (ha)
1	Under Buildings	2.87
2.	Under Demonstration Units	0.50
3.	Under Crops	13.80
4.	Horticulture	0.50
5.	Farm Pond	0.48
6.	Others (Road & drainage)	1.85
	Total	**20.00**

1.7. Infrastructural Development:
A) Buildings

Sr. No	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	KVK	31-3-2011	550	5500000	-	-	-
2.	Farmers Hostel	KVK	31-3-2011	305	3000000	-	-	-
3.	Staff Quarters (6)	KVK	31-3-2011	400	4000000	-	-	-
4.	Poly House	RKVY	31-3-09	320	281602	-	-	-
5	Net House	RKVY	31-3-09	150	64498	-	-	-
6.	Store room	RKVY	9-2-10	70.61	454500	-	-	-
7.	Training hall	RKVY	11-2-10	190.99	1395800	-	-	-
8.	Processing plant	RKVY	11-2-10	197.31	1536400	-	-	-
9.	Implement shed	RKVY	9-2-10	77.33	297800	-	-	-
10	Farm Godown	KVK	2012	-	400000	-	-	-
11	Processing Unit	ICAR	2019	196.80	3500000	Sept.2017	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Toyota Qualis	2004	590000	310470	Working
Tata Sumo	2008	600000	250365	Not Working, Purchase from MP grant
Motorcycle	2010	50000	44657	Working

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
1	2	3	4
Generator set	2002	24900	Working
Color TV (Akai) with Remote	2002	13850	Working
Panasonic PT LC 50 LCD Project	2002	164368	Working
PA Audio Vision System	2002	20000	Working
Computer System Intel Pentium IV	2003	32000	Working
Computer Wipro Super Genius Desktop	2006	-	Working
Electronic Kelvinator Refrigerator	2006	10,500	Working
Solar steel digital water plant	2006	45000	Working
Balaji Bio Gas Plant	2007	32000	Working
Aspee Tractor Mounted Sprayer	2007	32000	Working
Laptop Computer (HCL)	2008	47500	Working
Air Assisted Blower type sprayer	2009	98750	Working
Photo copier Machine (Richo)	2009	115300	Working
LCD Projector with ceiling mount kit Model-PT-CB50NTE-2GA (Panasonic)	2009	92155	Working
DVD Home theater system with Speaker (HCL)	2009	28000	Working
LCD TV 22" Model- 22LG30 (L. G.)	2009	27287	Working
Cotton stalk Shredder	2009	121000	Working
Groundnut Digger-Tractor Operated	2009	78500	Working
Cultivator cum Rotavator	2009	90000	Working
Groundnut Decorticator	2009	95850	Working
Multi crop Thresher	2009	114000	Working
Processing Unit	2009	1685000	Working
Plantar – tractor operator	2009	44000	Working
Digital Camera (Nikon) P- 90 12.1	2010	24300	Working
Acer desktop veriten PC	2016	46032	Working
Digital Xerox machine with printer	2016	144391	Working
K-yan pro standerd	2016	110644	Working
Home UPS inverters system	2016	79000	Working

1.8. Details of SAC meetings to be conducted in the year

Date	Name & Designation of Participants	Salient Recommendations	Action taken
1	2	3	4
19/03/2019	Dr. A.R. Pathak, Honorable Vice Chancellor, JAU, Junagadh. Dr. V.P. Chovatiya, Directorate of Research, JAU, Junagadh Dr. P. V. Patel, Directorate of Extension, JAU, Junagadh Dr. D. S. Hirpara, RS (DFRS), Targhadia Dr. G. R. Sharma, Principal,	➢ FLDs should be conducted based on newly released varieties of groundnut i.e. GJG-32 ➢ It should be compulsory to carried out minimum two OFTs in each discipline of KVK center. ➢ OFT should be planned on	All Suggestion accepted

	Polytechnic in Agri. Engg., Targhadia Shri. R. H. Ladani, Director of Horti., Rajkot Shri. V. K. Dholariya, Station Director, All India Radio, Rajkot Shri S. K. Tiwari, NHRDF, Rajkot Kiran patel, Reliance foundation, Jasdan Dr. N. B. Jadav, PC, KVK, Pipalia, Dist. Rajkot Shri. M. F. Bhoraniya, PC, KVK, Nana Kandhasar, Dist. Surendranagar Dr. H. C. Chhodvadiya, Asstt. Directorate of Extension, JAU, Junagadh Dr. A. M. Polara, Assi. Directorate of Extension, JAU, Junagadh Shree Navnitbhai Shantibhai Village : Jasapar,Tal: Jasdan, Dist.: Rajkot Shree Jyantibhai Popatbhai Babariya Village : Jasapar,Tal: Jasdan, Dist.: Rajkot Shri. Vasantbhai Joshi, All India Radio, Rajkot Kanara Dinesh, Reliance foundation, Jasdan Dr. B. B. Kabaria, PC, KVK, Targhadia Shree Vallabhabhai Lavajibhai Mungalpara, Village: Padasan Tal: Rajkot, Dist.: Rajkot	brinjal crop specific for Jasdan and Vichhiya taluka ➢ OFT should be planned on top dropping in cotton crop . ➢ Use wheat straw or sesame/cotton stalk as a mulching material in OFT. ➢ More training should be planned on value addition ➢ To conduct training on reduction of cost of cultivation techniques in different crops. ➢ Training should be planned on beauty parlour for rural women youth ➢ To help different entrepreneurs for linkage and marketing components in ARYA Project. ➢ Plant protection discipline work and charge of SMS should be hand over to Shri A.B. Dabhi, training asstt. ➢ Horticulture discipline work and charge of SMS should be hand over to Shri S.R. Rathava, training Asstt. ➢ The chick pea, wheat, greengram, blackgram and groundnut crop can be included instead of pigeon pea in seed production programme under Seed Hub project	

2. DETAILS OF DISTRICT

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

Sr. No	Farming system/enterprise
1	Groundnut – Wheat/ Cumin, Cotton – Summer Groundnut/ Pulses/sesame
2	Dairy product
3	Farm Waste Management specially for cotton stalk
4	Fruit and Vegetable Preservation
5	Value addition in Groundnut, Til and Bajra

2.2 Description of Agro-climatic Zone & major agro ecological situations

a) Soil type

Sr. No	Agro-climatic Zone	Characteristics
1.	North Saurashtra Agro Climatic Zone (VI)	The total geographical area of North Saurashtra Agro Climatic Zone is 35.2 Lacs ha. Out of total area, 73.40 per cent area falls under arid and semi-arid region. The soils of this zone are shallow to moderately deep. The soils of Rajkot district is low in their availability of nitrogen while medium in phosphorus and high in available potash except the available phosphorus and potash is in medium category in adopted villages. Monsoon commences usually by the end of June and withdraws by middle of September. Average annual rainfall of districts is 648 mm while 613.6mm during 2018-19.

b)Topography

Sr. No	Agro ecological situation	Characteristics
1.	Situation No. 4	Shallow black soil with 500-600 mm Rainfall
2.	Situation No. 14	Hilly Soils with 500-600 mm Rainfall

2.3 Soil types

Sr. No	Soil type	Characteristics	Area in ('000) ha
1.	Clay to clay loam	Medium black calcareous soil	258
2.	Sandy Clay Loam to Clayey	Well drained soil with rapid permeability	301
3.	Sandy to Sandy 10 cm, Calcareous	Well drained soils	

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

Sr. No	Crop	Area (ha)	Production (Tone)	Productivity (Kg. /ha)
1.	Groundnut	225544	220892	979
2.	Cotton	273586	550495	2012
4.	Sesamum	999	700	701
5.	Castor	9406	20246	2152
6.	Wheat	13188	57637	4370
7.	Gram	863	1049	1215
8.	Cumin	5337	5852	1096

2.4 Weather data (2019 - 2020)

Month	Rainfall (mm)	Temperature ^{0} C		Relative Humidity (%)	
		Maximum	Minimum	Maximum	Minimum
April	-	40.3	22.0	73.2	32.8
May	-	42.2	25.1	73.5	30.2
June	68.3	39.3	26.6	74.8	42.8
July	345.1	32.4	24.6	86.9	69.9
August	105.6	31.0	24.4	87.8	71.7
September	94.6	32.6	24.1	88.1	66.2
October		37.9	20.6	70.8	34.4
November		35.2	17.5	60.9	34.6
December		29.2	11.9	54.1	28.2
January		28.6	10.6	60.7	28.2
February		30.0	13.2	64.5	30.8
March					
Total	**613.6**				

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

Category	Population ('000 Nos.)	Production ('000 tone)	Productivity
Cattle			
Cows	452	3326.90	
Buffalo	362	5284.70	
Sheep	263.40	266.81(Production of wool)	
Goats	197	231.24	
Pigs	1		
Crossbred			
Indigenous			
Poultry		**(Production of eggs in Lakh Nos.)**	
Hens			
Desi	7.8	3.92	
Improved	13.4	32.52	
Ducks			
Others			
Horse and Camel			
Dogs	9		

2.7 Details of Operational area / Villages

Sr. No.	Taluka	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Jasdan	Cluster I	Khadvavdi Adhiya Bhandariya Gadhadiya Rajavadla	*Groundnut, Cotton, Sesamum, Wheat, Cumin, Gram Chickpea, Garlic, Onion. *Enterprises are dairy business, Vermi composting, preparation of roasted groundnut and chikki from groundnut seed	Pink ball worm in Cotton,Heavy infestation of sucking pest in cotton , phytopthora disease in sesamum and white grub infestation in groundnut. Long inter-calving period in Buffalo, Nutritional deficiency in animal feed and fodder, Less area under Horticultural crops	* IPM and INM in major crops of this area * Increase drainage of soil * Reducing the inter-calving period in Buffalo * Motivate the farmers for arid Horticultural crops. * Efficient use of irrigation water * To create the awareness for grading, processing and marketing (value addition)
2	Rajkot	Cluster II	Sardhar Gadhaka Aniyala Lili sajdiyali Padasan			
3	Paddhari	Cluster III	Bodighodi Mora rampar Movaiya Dungraka Adbalka			

2.8 Priority thrust areas

Crop/Enterprise	Thrust area
Groundnut, Sesamum etc	Increasing the productivity of the major crops by adopting the recommendation of dry farming technologies and to create awareness for value addition.
Water conservation	*In situ* soil moisture conservation and rainwater harvesting. Use of cotton stalk for organic manure.
Cotton	Motivating cotton growers to adopt IPM and INM practices for reducing the cost of production.
Arid Fruits	Promoting the arid horticulture.
Livestock prod.	Enhancing productivity of milch animals by proper feeding and breeding management.
women empowerment	Providing self employment through skill oriented income generating activities
Agriculture	Developing interest among youth for agriculture as a profession.
Horticulture	Value addition in agriculture produces through proper grading, processing, marketing and information technology.
PHT	Minimizing the post harvest losses and to create the awareness for proper storage.
Income generating activities	Self employment among rural youth and skill oriented income generating activities.
Nutrition management	Care and importance of nutrition in children & pregnant women.

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
5	4	13	8	105	105	105	105

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
67	63	1675	1642	-	129	-	7526

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
-	95.75	-	-

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
-	-	-	-

3.1. B. Operational areas details during 2018-19

S.No.	Major crops & enterprises being practiced in cluster villages	Prioritized problems in these crops/ enterprise	Extent of area (Ha/No.) affected by the problem in the district	Names of Cluster Villages identified for intervention	Proposed Intervention (OFT, FLD, Training, extension activity etc.)*
1	Groundnut	Variety	-	All cluster	FLD
		White grub	-	All cluster	FLD, OFT and Training
		Stem rot	-	All cluster	FLD and Training
2	Cotton	Water stress	-	All cluster	OFT
		Pink ballworm	-	All cluster	FLD and Training
3	Cumine	Stem rot	-		FLD, OFT and Training
4	Gram	Variety	-	All cluster	FLD and Training

3.2. Technology Assessment

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

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

A.2 Abstract on the number of technologies assessed in respect of livestock enterprises

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

B. Achievements on technologies Assessed

B.1. Technologies Assessed under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trail covering all the Technological Options)
Integrated Nutrient Management					
Varietal Evaluation					
Integrated Pest Management					
Integrated Crop Management					
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology	Groundnut	Effect of mulching on productivity of kharif groundnut	1	1	0.4
	Cotton	Water management in drip irrigated cotton crop	1	1	0.4
Farm Machineries	Groundnut	Organic farming in Kharif Groundnut	1	1	0.4
Integrated Farming System					
Seed / Plant production					
Value addition					
Drudgery Reduction	Women	Drudgery reduction of farm women	1	5	-
Storage Technique					
Mushroom cultivation					
Total					

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				
Nutrition management				
Disease management				
Value addition				
Production and management				
Feed and fodder				
Small scale income generating enterprises				
Total				

C1. Results of Technologies Assessed

Results of On Farm Trial

Crop/ enterprise	Farming situation	**Problem definition**	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feed back from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Groundnut	**Rainfed**	Less use of organic manures in groundnut farming	Organic farming in Kharif Groundnut	**1**	*1.RDF (Chemical*)+ Seed treatment 2. Bio-fertilizers (Rhizobium + PSB + KSM) 3. Jivamrut 4. Bio-fertilizers + Jivamrut+ Meta.	Yield Kg/ha and White grub infestation (%)	-	-	-	-	-
Groundnut	**Rainfed**	High soil moisture losses during the crop period.	Effect of mulching on productivity of kharif groundnut	**1**	1. Without mulching (Farmers' practice) 2. Farm residues mulching (Recommended Technology)	Yield Kg/ha and Soil Moisture Content (%)	-	-	-	-	-
Cotton	**Irrigated**	Water scarcity in the region due to less rainfall.	*Water management in drip irrigated cotton crop*	**1**	1.Without mulching and flood irrigation (Farmers' practice) 2. Plastic mulch (25 micron) with drip irrigation) (Recommended Technology)	Yield (Kg/ha) and Soil Moisture Content (%)	-	Silver-black plastic mulch with drip irrigation had enhanced the cotton yield 10.37%	Plastic mulching in drip irrigated cotton save water and gave higher yield	-	

Women		Physiological and muscular stresses in farmwoman during milking.	Drudgery reduction of farm women	1	Use of revolving milking stool (height of 12-13 cm with diameter 34 cm)	Physical stress & Tool factor	-	Low and Highly relevant	Low Physiological and muscular stresses and drudgery reduction in farm woman during milking	-	-

Contd..

Technology Assessed	**Source of Technology**	**Production**	**Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)**	**Net Return (Profit) in Rs. / unit**	**BC Ratio**
13	**14**	**15**	**16**	**17**	**18**
Organic farming in Kharif Groundnut					
1.RDF (Chemical)+ Seed treatment	National Centre of Organic farming, Ghaziabad (U.P.)	830 (2 %)	Kg/ha White grub infestation (%)	43300	2.8
2. Bio-fertilizers (Rhizobium + PSB + KSM)		580 (18 %)	Kg/ha White grub infestation (%)	30350	1.8
3. Jivamrut		430 (22 %)	Kg/ha White grub infestation (%)	24750	1.9
4. Bio-fertilizers + Jivamrut+ Meta.		790 (3.5 %)	Kg/ha White grub	41500	2.5
Effect of mulching on productivity of *kharif* groundnut					
Technology option 1 Without mulching (Farmers' practice)		628 (24.25%)	Kg/ha Soil Moisture content	6875	1.21
Technology option 2 Farm residues mulching (Recommended Technology)	Agricultural University, Junagadh	685 (27.35%)	Kg/ha Soil Moisture content	8562	1.25
Water management in drip irrigated cotton crop					
Technology option 1 Without mulching (Farmers' practice)		33.50 (25.50%)	q/ha Soil Moisture content	137550	3.94
Technology option 2 Plastic mulch (25 micron) (Recommended Technology)	RTTC, Junagadh Agricultural University, Junagadh	38.75 (28.80%)	q/ha Soil Moisture content	160825	4.07

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

OFT-1

1. **Title of Technology Assessed : Organic farming in Kharif Groundnut**
2. Problem Definition : Non use of organic products in farming
3. Details of technologies selected for assessment :
    1. RDF (Chemical)+ Seed treatment
    2. Bio-fertilizers (Rhizobium + PSB + KSM) ,
    3. Jivamrut,
    4. Bio-fertilizers + Jivamrut+ Meta.Source of technology : JAU
4. Production system and thematic area : NCDF, Ghaziabad (UP)
5. Production system and thematic area : NRM
6. Performance of the Technology with performance indicators:

Farmer No	Name of the farmer	Name of the Village	Yield (Kg/ha)				White grub infestation (%)			
			T1	T2	T3	T4	T1	T2	T3	T4
1	KVK Farm	Targhadia	830	580	430	790	2	18	22	3.5
Average										

7 Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques : Chemical treatment has given higher production as compare to organic treatment.

8. Final recommendation for micro level situation :Yield can be increased and white grub infestation can be reduced with use of *Trichoderma* in mixture with castor cake.
9. Constraints identified and feedback for research : - White grub infestation was observed more in organic are as compare to chemical treatment.
10. Process of farmers participation and their reaction : This was first trial for experimentation and it will be improved and repeated nest.

OFT-2

1 **Title of Technology Assessed : Effect of mulching on productivity of *kharif* groundnut**

2 Problem Definition : High soil moisture losses during the crop period.

3 Details of technologies selected for assessment : Impact of farm residues mulching on productivity of kharif groundnut (JAU Reco.)

T1: Without mulching

T2: Farm residues mulching

4 Source of technology : JAU

5 Production system and thematic area : Resource Conservation Technology

6 Performance of the Technology with performance indicators:

Farmer No	Name of the farmer	Name of the Village	Yield (q/ha)		Soil Moisture content (%)	
			T1	T2	T1	T2
1	KVK Farm	Targhadia	6.28	6.85	24.25	27.35
Average			**6.28**	**6.85**	**24.25**	**27.35**

7 Feedback, matrix scoring of various technology parameters done through farmer'sparticipation / other scoring techniques : Farm residues mulching enhanced the kharif groundnut yield

8 Final recommendation for micro level situation :Use of farm residues mulch in kharif groundnut.

9. Constraints identified and feedback for research : -
10. Process of farmers participation and their reaction : --

OFT-3

1. **Title of Technology Assessed : Water management in drip irrigated cotton crop.**
2. Problem Definition : Water scarcity due to less rainfall and reduce yield of cotton in Rajkot district
3. Details of technologies selected for assessment : Impact of plastic mulching on productivity of drip irrigated cotton (JAU Reco.)
   T1: Without mulching
   T2: Plastic mulching (25 micron)
4. Source of technology : JAU
5. Production system and thematic area : Resource Conservation Technology
6. Performance of the Technology with performance indicators:

Farmer No	Name of the farmer	Name of the Village	Yield (q/ha)		Soil Moisture content (%)	
			T1	T2	T1	T2
1	Babubhai Ramani	Khorana	33.50	38.75	25.50	28.80
Average			**33.50**	**38.75**	**25.50**	**28.80**

7. Feedback, matrix scoring of various technology parameters done through farmer'sparticipation / other scoring techniques : Silver-black plastic mulch with drip irrigation had enhanced the cotton yield
8. Final recommendation for micro level situation :Use of silver black plastic mulch (25 micron) in drip irrigated cotton
9. Constraints identified and feedback for research : -
10. Process of farmers participation and their reaction : --

OFT-4

1 Title of Technology Assessed: Drudgery reduction of farm women
2 Problem Definition : Physiological and muscular stresses in farmwoman during milking.
3 Details of technologies selected for assessment:
   T1. No use of stool while milking
   T2. Revolving milking stool (height of 12-13 cm with diameter 34 cm)
4 Source of technology: *MPUAT, Udaipur*
5 Production system and thematic area: *drudgery reduction*
6 Performance of the Technology with performance indicators:

Technology Option	No. of trials	Physical stress	Tool factor
No use of stool while milking	1	High	Medium Relevant
Revolving milking stool (height of 12-13 cm with diameter 34 cm)		Low	Highly Relevant

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques : Good response from farm women for use of Milking stool.
8 Final recommendation for micro level situation: use of Milking stool.
9 Constraints identified and feedback for research: —
10 Process of farmers participation and their reaction: Good

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 2017-18 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	Groundnut	Varietal evaluation	Variety (GJG-22)	To test yield potentiality of newly released groundnut variety	8	10	4.0
2	Groundnut	Pest management	IPM	Management of white grub through seed treatment	7	10	4.0
3	Gram	Varietal evaluation	GJG-3	To test yield potentiality of newly released groundnut variety	9	10	4
4	Cotton	Plant protection	IPM	Management of pink bollworm in cotton	8	10	4.0
5	Cumin	Disease Management	IDM	Management of wilt through bio agent	7	10	4.0
6	Onian	Crop diversification	AFL Red-3	Crop diversification	3	5	2.0
7	Garlic	Crop diversification	G-282	Crop diversification	3	5	2.0
8	Buffalo	Nutrient Manage ment	Chelated mineral mixture power	-	2	20	20
9	Buffalo	Nutrient Manage.	by Pass protein	-	2	10	10
10	Buffalo	Nutrient Manage.	by pass fat	-	2	10	10
11	Fodder	"Fodder managemen	Makhan grass	-	2	10	10

B. Details of FLDs implemented during 2018-19 oilseeds

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	Ground nut	Varietal evaluation	Variety (GJG-22)	Kharif 2018	4.0	4.0	1	9	10	-
2	Ground nut	Pest management	IPM	Kharif 2018	4.0	4.0	0	10	10	-
3	Ground nut	Varietal evaluation	Variety (GJG-9)	Kharif 2018	4.0	4.0	2	8	10	-

Pulses :

Sr. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ Demonstration			Reasons for short-fall
					Proposed	Actual	SC/ ST	Others	Total	
1	Gram	Varietal evaluation	Variety (GJG-3)	Rabi 2018-19	4.0	4.0	0	10	10	-

Others

Sr. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ Demonstration			Reasons for short-fall
					Proposed	Actual	SC/ ST	Others	Total	
1	Cumin	IPM	Management of wilt through bio agent	Rabi 2018-19	4.0	4.0	1	9	10	-
2	Buffalo	Nutrient Management	By pass protein	-	-	-	-	10	10	-
3	Buffalo	Nutrient Management	By pass fat	-	-	-	2	8	10	-
4	Buffalo	Nutrient	Chelated Mineral Mixture	-	-	-	4	16	20	-
5	Buffalo	Manage	Jinjavo	Kharif 2018	-	-	2	8	10	-
6	Seasonal vegetables	Nutritional Garden	Kitchen Garden	Kharif 2018-19	-	-	-	5	5	-

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
1	2	3	4	5	6	7	8	9	10	11	12
Groundnut	*Kharif*	RF	M. B.	L	M	H	Wheat/ Cumin	7/7/18	18/10/18	613.6mm	-
Groundnut	*Kharif*	RF	M. B.	L	M	H	Wheat/ Cumin	30/6/18	1/10/18	613.6mm	-
Cotton	*Kharif*	RF	M. B.	L	M	H	-"-	5/7/18	-	613.6mm	-
Cumin	*Rabi*	Irrigated	M. B.	L	M	H	-"- Cotton/ G'nut	18/11/18	22/2/19	-	-
Gram	*Rabi*	Irrigated	M. B.	L	M	H	-"-	25/11/18	21/2/19	-	-

Technical Feedback on the demonstrated technologies

S. No.	Feed Back
1	To enhance the farmers to use recently developed certified varieties of different crops.
2	Proper use of fertilizers, Irrigation, insecticides and fungicide as per recommendation to reduce the production cost.
3	Low yield of Garlic variety G-4 to compare local variety.
4	High yield and big size of Onion variety Red-3 to compare local variety

Farmers' reactions on specific technologies

S. No.	Feed Back
1.	White grub problem in groundnut
2.	Pink boll worm in cotton
3.	Reddening in cotton
4.	Late and poor germination was observed in cumin variety GC-4
5.	Cumin variety GC-4 is high yielding but gradually loosing wilt resistant character
6.	Heavy infestation of thrips in crops like garlic, onion, cotton
7.	Research needed for control of insect-pests and diseases in organic farming

Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organised	Date	Number of participants	Remarks
1	Field days	2	August and February	57	-
2	Farmers Training	5	2018-19	123	-
3	Media coverage	-	-	-	-
4	Training for extension functionaries	1	June	21	-

C. Performance of Frontline demonstrations

Frontline demonstrations on oilseed crops

Crop	Thematic Area	technology demon-strated	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	Varietal evaluation	Varietal evaluation	GJG-22	10	4.0	28.30	14.10	19.90	18.20	9.34	33590	98850	65260	2.94	31870	90380	58510	2.83
Groundnut	Varietal evaluation	Varietal evaluation	GJG-9	10	4.0	18.20	15.32	16.10	15.00	7.33	31980	91970	59990	2.87	29950	85320	55370	2.84
Groundnut	Pest Management	IPM	-	10	4.0	41.25	6.25	18.62	17.50	6.42	32056	93122	61066	2.90	31120	81003	49883	2.60

Frontline demonstration on pulse crops :

Crop	Thematic Area	technology demon-strated	Variety	No. of Farmers	Area (ha)	Eq 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										
Gram	Varietal evaluation	Varietal evaluation	GJG-3	10	4	**31.25**	**11.25**	**18.62**	**15.75**	**18.25**	**19500**	**60225**	**40725**	**3.08**	**19300**	**51150**	**31850**	**2.65**

FLD on Other crops

Category & Crop	Thematic Area	Name of the technology	No. of Farmers	Area (ha)	Yield (q/ha)				% Change in Yield	Other Parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demo			Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
					High	Low	Average												
Cumin	Pest Manage ment	GC-4	10	4.0	22.5	5.0	9.68	8.20	18.14			40800	155000	114200	3.79	37560	131200	93640	3.49

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)
Buffalo	Nutrient Manage-ment	Bypass Protein (22%)	10	1	1605 kg/lactation	1495 kg/lactation	7.36	-	-	59840	79598	19758	1.33	53682	68512	14830	1.27
Buffalo	Nutrient Manage-ment	By Pass Fat	10	1	7.9% Fate	6.4% fat	23.43	-	-	-	-	-	-	-	-	-	-
Buffalo	Nutrient Manage-ment	Chelated mineral mixture	20	1	10.4	9.2	13.6	-	-	-	-	-	-	-	-	-	-
	fodder Manage-ment	Jinjvo	10	1	82 q/ha	70 q/ha	14	-	-	-	-	-	-	-	-	-	-

FLD on Fisheries : Nil

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.)				Economics of check (Rs.)			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Common Carps																	
Composite fish culture																	
Feed Management																	

FLD on Other Enterprises : Nil

Category	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.) or Rs./unit				Economics of check (Rs.) or Rs./unit			
				Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Oyster Mushroom																
Button Mushroom																
Apiculture																
Maize Sheller																
Value Addition																
Vermi Compost																
Sericulture																

FLD on Women Empowerment : Nil

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check

FLD on Farm Implements and Machinery : Nil

Name of the implement	Crop	Technology demonstrated	No. of Farmer	Area (ha)	Major parameters	Filed observation (output/man hour)		% change in major parameter	Labor reduction (man days)				Cost reduction (Rs./ha or Rs./Unit etc.)			
						Demo	Check		Land preparation	Sowing	Weeding	Total	Land preparation	Labour	Irrigation	Total

FLD on Kitchen Gardening

Category and Crop	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of Units
Vegetables	Nutritive & fresh healthy vegetables	Kitchen garden	5	5

Farm women reaction

-Kitchen gardening gives continues supply of fresh vegetables at lower cost which gives daily nutritious diet
-In kitchen gardening farm women are not applying any agrochemicals so they produce organic vegetables
-Before demonstration, farm women were growing only three to four vegetable crops in their backyard but after demonstration they said that they will grow different vegetable crops through kitchen gardening in scientific way
-They gave extra vegetables to their neighbors
-Farm women said that now we will generate income by selling of extra vegetables because now they are aware about precious organic vegetables

3.4. Training Programmes

Farmers' Training including sponsored training programmes (on campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management										
Resource Conservation Technologies	1	15	6	21	10	3	13	25	9	34
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation	1	20	11	31	15	5	20	35	16	51
Seed production										
Nursery management										
Integrated Crop Management										
Soil & water conservatioin										
Integrated nutrient management	1	13	10	23	7	3	10	20	13	33
Production of organic inputs										
Others (pl specify)	1	30	10	40	20	9	29	50	19	69
Total	**4**	**78**	**37**	**115**	**52**	**20**	**72**	**130**	**57**	**187**
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops										
Off-season vegetables										
Nursery raising	1	17		17	1		1	18		18
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)	1	31		31				31		13
Total (a)	**2**	**48**		**48**	**1**		**1**	**49**		**49**
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)										
Total (b)										

c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl specify)										
Total (c)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
GT (a-g)										
III Soil Health and Fertility Management										
Soil fertility management	1	30	10	40	10	5	15	40	15	55
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers	1	20	10	30	10	3	13	30	13	43
Soil and Water Testing										
Others (pl specify)										
Total	**2**	**50**	**20**	**70**	**20**	**8**	**28**	**70**	**28**	**98**

IV Livestock Production and Management										
Dairy Management	2	33	0	33	6		6	39		39
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management	1	15		15	2		2	17		17
Disease Management	2	39		39	3		3	42		42
Feed & fodder technology	1	19		19	2		2	21		21
Production of quality animal products										
Others (pl specify)										
Total	**6**	**106**		**106**	**13**		**13**	**119**		**119**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking	1		23	23					23	23
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	1		21	21					21	21
Women empowerment										
Location specific drudgery reduction technologies	1		18	18					18	18
Rural Crafts										
Women and child care	1		19	19					19	19
Others (pl specify)										
Total	**4**		**81**	**81**					**81**	**81**
VI Agril. Engineering										
Farm Machinary and its maintenance	1	27		27	2		2	29		29
Installation and maintenance of micro irrigation systems	1	21		21	2		2	23		23
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology	1	24		24				24		24
Others (pl specify)										
Total	**3**	**72**	**0**	**72**	**4**	**0**	**4**	**76**	**0**	**76**

VII Plant Protection										
Integrated Pest Management	1	19		19	2		2	21		21
Integrated Disease Management	1	17	5	22	1	1	2	18	6	24
Bio-control of pests and diseases	1	16		16				16		16
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total	**3**	**52**	**5**	**57**	**3**	**1**	**4**	**55**	**6**	**61**
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production										
Apiculture										
Others (pl specify)										
Total										

X CapacityBuilding and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
Others (pl specify)										
Total										
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	**24**	**406**	**143**	**549**	**93**	**29**	**122**	**499**	**172**	**671**

Farmers' Training including sponsored training programmes (off campus)

Thematic area	**No. of courses**	**Participants**								
		Others			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
I Crop Production										
Weed Management										
Resource Conservation Technologies	1	10	5	15	5	2	7	15	7	22
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation	1	15	5	20	10	2	12	25	7	32
Seed production										
Nursery management										
Integrated Crop Management										
Soil & water conservatioin										
Integrated nutrient management										
Production of organic inputs	1	10	8	18	6	2	8	16	10	26
Others (pl specify)										
Total	**3**	**35**	**18**	**53**	**21**	**6**	**27**	**56**	**24**	**80**
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)										
Total (a)										

b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit	1	17		17	2		2	19		19
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)	1	16		16	2		2	18		18
Total (b)	**2**	**33**		**33**	**4**		**4**	**37**		**37**
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl specify)										
Total (c)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)										
f) Spices										
Production and Management technology										
Processing and value addition	1	20	3	23	1	1	2	21	4	25
Others (pl specify)										
Total (f)	**1**	**20**	**3**	**23**	**1**	**1**	**12**	**21**	**4**	**25**
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
GT (a-g)	**3**	**53**	**3**	**56**	**5**	**1**	**16**	**58**	**4**	**62**

III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing	1	15	3	18	5	2	7	20	5	25
Others (pl specify)										
Total	**1**	**15**	**3**	**18**	**5**	**2**	**7**	**20**	**5**	**25**
IV Livestock Production and Management										
Dairy Management	1	18		18	2		2	20		20
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management	1	18		18	4		4	22		22
Disease Management	3	48		48	5		5	53		53
Feed & fodder technology	1	17		17	2		2	19		19
Production of quality animal products	1	20		20	2		2	22		22
Others (pl specify)										
Total	**7**	**121**		**121**	**15**		**15**	**136**		**136**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	1		23	23					23	23
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet	1		17	17		1	1		18	18
Minimization of nutrient loss in processing										
Processing and cooking	1		19	19					19	19
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts	2		47	47					47	47
Women and child care										
Others (pl specify)										
Total	**5**	**0**	**106**	**106**	**0**	**1**	**1**	**0**	**107**	**107**

VI Agril. Engineering										
Farm Machinary and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices	1	22		22	2		2	24		24
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition	1	22		22	1		1	23		23
Post Harvest Technology										
Others (Rain water harvesting)	1	27		27				27		27
Total	**3**	**71**	**0**	**71**	**3**	**0**	**3**	**74**	**0**	**74**
VII Plant Protection										
Integrated Pest Management	1	17		17				17		17
Integrated Disease Management	1	21	3	24				21	3	24
Bio-control of pests and diseases	1	21		21				21		21
Production of bio control agents and bio pesticides										
Others (pl specify)	1	13	2	15	2	1	3	15	3	18
Total	**4**	**72**	**5**	**77**	**2**	**1**	**3**	**74**	**6**	**80**
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total										

IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production										
Apiculture										
Others (pl specify)										
Total										
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
Others (pl specify)										
Total										
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	**26**	**367**	**135**	**502**	**51**	**11**	**72**	**418**	**146**	**564**

Farmers' Training including sponsored training programmes – CONSOLIDATED

(On + Off campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management										
Resource Conservation Technologies	2	25	11	36	25	8	33	50	19	69
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation	2	25	16	41	25	15	40	50	31	81
Seed production										
Nursery management										
Integrated Crop Management										
Soil & water conservatioin										
Integrated nutrient management	1	13	10	23	7	3	10	20	13	33
Production of organic inputs	1	10	8	18	6	2	8	16	10	26
Others (pl specify)	1	30	10	40	20	9	29	50	19	69
Total	**7**	**103**	**55**	**158**	**83**	**37**	**120**	**186**	**92**	**268**
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops										
Off-season vegetables										
Nursery raising	1	17		17	1		1	18		18
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)	1	31		31				31		13
Total (a)	**2**	**48**		**48**	**1**		**1**	**49**		**49**
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit	1	17		17	2		2	19		19
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)	1	16		16	2		2	18		18
Total (b)	**2**	**33**		**33**	**4**		**4**	**37**		**37**
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl specify)										
Total (c)										

d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)										
f) Spices										
Production and Management technology										
Processing and value addition	1	20	3	23	1	1	2	21	4	25
Others (pl specify)										
Total (f)	**1**	**20**	**3**	**23**	**1**	**1**	**12**	**21**	**4**	**25**
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
GT (a-g)	**5**	**101**	**3**	**104**	**6**	**1**	**17**	**107**	**4**	**111**
III Soil Health and Fertility Management										
Soil fertility management	1	30	10	40	10	5	15	40	15	55
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers	1	20	10	30	10	3	13	30	13	43
Soil and Water Testing	1	15	3	18	5	2	7	20	5	25
Others (pl specify)										
Total	**3**	**65**	**23**	**88**	**25**	**10**	**35**	**90**	**33**	**123**
IV Livestock Production and Management										
Dairy Management	3	51		51	8		8	59		59
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management	2	33		33	6		6	39		39
Disease Management	5	87		87	8		8	95		95
Feed & fodder technology	2	36		36	4		4	40		40
Production of quality animal products	1	20		20	2		2	22		22
Others (pl specify)										
Total	**13**	**227**		**227**	**28**		**28**	**255**		**255**

V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	1		23	23					23	23
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet	1		17	17		1	1		18	18
Minimization of nutrient loss in processing										
Processing and cooking	2		42	42					42	24
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	1		21	21					21	21
Women empowerment										
Location specific drudgery reduction technologies	1		18	18					18	18
Rural Crafts	2		47	47					47	47
Women and child care	1		19	19					19	19
Others (pl specify)										
Total	**9**	**0**	**187**	**187**	**0**	**1**	**1**	**0**	**188**	**170**
VI Agril. Engineering										
Farm Machinary and its maintenance	1	27		27	2		2	29		29
Installation and maintenance of micro irrigation systems	1	21		21	2		2	23		23
Use of Plastics in farming practices	1	22		22	2		2	24		24
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition	1	22		22	1		1	23		23
Post Harvest Technology	1	24		24				24		24
Others (pl specify)	1	27		27				27		27
Total	**6**	**143**	**0**	**143**	**7**	**0**	**7**	**150**	**0**	**150**
VII Plant Protection										
Integrated Pest Management	2	36		36	2		2	38		38
Integrated Disease Management	2	38		38				38		38
Bio-control of pests and diseases	2	37		37				37		37
Production of bio control agents and bio pesticides										
Others (pl specify)	1	13	2	15	2	1	3	15	3	18
Total	**7**	**124**	**2**	**126**	**4**	**1**	**5**	**128**	**3**	**131**

VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production										
Apiculture										
Others (pl specify)										
Total										
X CapacityBuilding and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
Others (pl specify)										
Total										
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	**50**	**763**	**270**	**1033**	**153**	**50**	**213**	**916**	**320**	**1208**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements	1	30		30	3		3	33		33
Value addition										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying	2	55		55	5		5	60		60
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl.specify)										
TOTAL	**3**	**85**		**85**	**8**		**8**	**93**		**93**

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

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

Training for Rural Youths including sponsored training programmes – CONSOLIDATED

(On + Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements	1	30		30	3		3	33		33
Value addition	1		27	27					27	27
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying	2	55		55	5		5	60		60
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl.specify)										
TOTAL	**4**	**85**	**27**	**112**	**8**		**8**	**93**	**27**	**120**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management	**1**	**11**		**11**	**2**		**2**	**13**		**13**
Integrated Nutrient management	**1**	**16**		**16**				**16**		**16**
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals	**1**	**29**		**29**	**6**		**6**	**35**		**35**
Livestock feed and fodder production										
Household food security										
Any other (pl.specify)										
TOTAL	**3**	**56**	**0**	**56**	**8**	**0**	**8**	**64**	**0**	**64**

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

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

Training programmes for Extension Personnel including sponsored training – CONSOLIDATED

(On + Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management	**1**	**11**		**11**	**2**		**2**	**13**		**13**
Integrated Nutrient management	**1**	**16**		**16**				**16**		**16**
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals	**1**	**29**		**29**	**6**		**6**	**35**		**35**
Livestock feed and fodder production										
Household food security										
Any other (pl.specify)										
TOTAL	**3**	**56**	**0**	**56**	**8**	**0**	**8**	**64**	**0**	**64**

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										
Commercial production of vegetables										
Production and value addition										
Fruit Plants										
Ornamental plants										
Spices crops										
Soil health and fertility management	1	39	14	53	4		4	43	14	57
Production of Inputs at site										
Methods of protective cultivation										
Others (pl. specify)	1	34		34				34		34
Total	**2**	**73**	**14**	**87**	**4**		**4**	**77**	**14**	**91**

Post harvest technology and value addition										
Processing and value addition										
Others (pl. specify)										
Total										
Farm machinery										
Farm machinery, tools and implements	**1**	**33**		**33**				**33**		**33**
Others (pl. specify)										
Total	**1**	**33**		**33**				**33**		**33**
Livestock and fisheries										
Livestock production and management										
Animal Nutrition Management										
Animal Disease Management										
Fisheries Nutrition										
Fisheries Management										
Others (pl. specify)										
Total										
Home Science										
Household nutritional security										
Economic empowerment of women	**1**		**37**	**37**		**4**	**4**		**41**	**41**
Drudgery reduction of women	**1**		**48**	**48**		**2**	**2**		**50**	**50**
Others (pl. specify)										
Total	**2**		**85**	**85**		**6**	**6**		**91**	**91**
Agricultural Extension										
CapacityBuilding and Group Dynamics										
Others (pl. specify)										
Total										
GRAND TOTAL	**5**	**106**	**99**	**205**	**4**	**6**	**10**	**110**	**105**	**215**

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

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Crop production and management										
Commercial floriculture										
Commercial fruit production										
Commercial vegetable production										
Integrated crop management										
Organic farming										
Others (pl. specify)										
Total										

Post harvest technology and value addition										
Value addition	**1**		**35**	**35**					**35**	**35**
Others (pl. specify)										
Total										
Livestock and fisheries										
Dairy farming										
Composite fish culture										
Sheep and goat rearing										
Piggery										
Poultry farming										
Others (pl. specify)										
Total										
Income generation activities										
Vermicomposting										
Production of bio-agents, bio-pesticides,										
bio-fertilizers etc.										
Repair and maintenance of farm machinery										
and implements										
Rural Crafts										
Seed production										
Sericulture										
Mushroom cultivation										
Nursery, grafting etc.										
Tailoring, stitching, embroidery, dying etc.										
Agril. para-workers, para-vet training										
Others (pl. specify)										
Total										
Agricultural Extension										
Capacity building and group dynamics										
Others (pl. specify)										
Total										
Grand Total	**1**		**35**	**35**					**35**	**35**

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**
TOTAL										

3.5. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	23	142	13	155
Diagnostic visits	4	69	8	77
Field Day	3	63	2	65
Group discussions	5	88	-	88
KisanGhosthi	11	265	2	267
Film Show	13	1692	18	1710
Self -help groups	1	26	1	27
Kisan Mela	3	-	-	-
Exhibition	2	948	9	957
Scientists' visit to farmers field	18	104	-	104
Plant/animal health camps	1	102	5	107
Farm Science Club	-	-	-	-
Ex-trainees Sammelan	1	181	3	184
Farmers' seminar/workshop	2	345	4	349
Method Demonstrations	10	178	-	178
Celebration of important days	6	1055	12	1067
Special day celebration	3	505	-	505
Exposure visits	4	219	5	224
Others (pl.specify)				
Total	**110**	**5982**	**82**	**6064**

Details of other extension programmes

Particulars	Number
Electronic Media (CD./DVD)	2
Extension Literature (Booklet)	1
News paper coverage	5
Popular articles	4
Radio Talks	1
TV Talks	5
Animal health camps (Number of animals treated)	1(89)
Others (pl. specify)	
Total	**19**

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

Production of seeds by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers
Cereals						
Oilseeds	Groundnut	GJG-31	-	17.10	2.65	-
		GG-20	-	14.10	0.80	-
		GJG-22	-	45.90	2.43	-
Pulses						
Commercial crops						
Vegetables						
Flower crops						
Spices						
Fodder crop seeds						
Fiber crops						
Forest Species						
Others						
Total						

Production of planting materials by the KVK : Nil

Crop	Name of the crop	Name of the variety	Name of the hybrid	Number	Value (Rs.)	Number of farmers
Commercial						
Vegetable seedlings						
Fruits						
Ornamental plants						
Medicinal and Aromatic						
Plantation						
Spices						
Tuber						
Fodder crop saplings						
Forest Species						
Others						
Total						

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	No. of Farmers
Bio Fertilisers				
Bio-pesticide	Trichoderma (Savaj)	7800	70/-	3400
	Beauveria (Savaj)	3682	150/-	2700
Bio-fungicide				
Bio Agents				
Others				
Total				

Production of livestock materials : Nil

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers
Dairy animals				
Cows				
Buffaloes				
Calves				
Others (Pl. specify)				
Poultry				
Broilers				
Layers				
Duals (broiler and layer)				
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				
Piggery				
Piglet				
Others (Pl.specify)				
Fisheries				
Indian carp				
Exotic carp				
Others (Pl. specify)				
Total				

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

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

B. Literature developed/published

Item	Title	Authors name	Number
Research papers	Boosting chickpea production through front line demonstrations under NFSM project in Rajkot district of Gujarat State	H.A. Manvar, M. A. Vakaliya, B. B. Kabaria	-
	Impact Of Climate Resilient Technology In Nicra Village Of Rajkot District Of Gujarat	M. M. Tajpara1; M. A. Vakaliya and B. N. Kalsariya	-
	Adoption Of State Agricultural University Recommended Cotton Cultivation Practices By The Cotton Growers In Morbi District Of Gujarat	M. M. Tajpara1; M. A. Vakaliya and B. N. Kalsariya	-
	Role of Self Help Groups in Women Empowerment and Health	H.A. Manvar, J. B. Kathiriya and D. S. Thakar	-
	Nutritional Security and income generation through kitchen gardening in Porbandar district of Gujarat	D. S. Thakar, P. J. Gohil, H.A. Manvar, R. K. Odedra	
Technical reports	Monthly, Quertly, six monthly, nine monthly, Annual, ZREAC, Agresco and SAC		8
News letters	-	-	4
Technical bulletins	-	-	4
Popular articles	-	-	4
Extension literature	-	-	-
Others (Booklet)	Safal kheduto ni prernadayi gathao	H. A. Manvar, B. B. Kabaria, D. P. sanepara M. M. Tajpara, J. H. Chaudhary	500
TOTAL	**12**		

C. Details of Electronic Media Produced

S. No.	Type of media (CD / VCD / DVD/ Audio-Cassette)	Title of the programme	Number
1	**DVD**	**Success Story**	**4**

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).

Success story : 1

(A) Title: Entrepreneurship through Modern & Scientific Dairy Farming

(B) Bio-data of Farmer:

1. Name of Farmer: Maheshbhai Kanubhai Ramani

2. Present Address: Village: Magharvada Taluka & Dist: Rajkot

3. Date of Birth: 19-09-1976

4. Education: 8th pass

5. Source of Income:

(I) Agriculture: Yes

(II) Animal Husbandry: Yes

Buffaloes: 08 (Jafrabadi)

Cow : 02 (Gir)

(III) Business: --Nil--

(IV) Any other: --Nil--

6. Information about farmer:

7. Land holding (ha.): 4.0 ha

Irrigated: 4.0 ha

Source of Irrigation: Open well & Tube well

Method of Irrigation: Drip Irrigation & Furrow irrigation

Un-irrigated: --Nil--

8. Information regarding innovation:

Maheshbhai is a progressive livestock owner of the village of Magharvada village of Rajkot district. He started the business by purchasing 08 Jaffrabadi buffaloes and 2 Gir cow under the guidance of scientist of Krishi Vigyan Kendra, Targhadia. In which they made a comfortable shed, manger for animals in a modern way. To control the temperature use of fogger system, and also, use of grooming brush for grooming which often increase the milk production. They also use the chaff cutter for cutting the green and dry grass, resulting as 30% of the food is saved and improves the digestion of food.

In addition, the milking machine and cow mat also uses which is provided by the Krishi Vigyan Kendra, Targhadia. So there is a minimum problem of mastitis and teat infection in buffalo. Thus they earn a net profit of Rs 1,20,000 per month.

9. Horizontal spread of innovation:

Today Maheshbhai Ramani has become the ideal for youth. They adopt modern and scientific dairy farming method for entrepreneurship. Due to low rainfall and un irrigated area, there is less profit in agriculture. Thus, through the dairy farming profession can become economically prosperous.

10. Outstanding contribution in the field of agriculture:

They use farm yard manure in own farm along with milk production. This has also seen the maximum increase in crop production.

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

- Use of cow urine, butter milk, bajra flour etc for insect pest and disease management.
- Use of small or wrinkle seeds of groundnut for sowing purpose.
- Farmers grow maize as a mixed crop in groundnut and inter crop in cotton is best practices for sucking pest management by attracting the natural enemies.
- Cotton Stalk Shredder, Wheel Hoe
- Cotton Stalk Puller
- Tractor mounted spryer
- Chaff Cutter for Minimizing the Animal Fodder Waste
- IPM in Cotton-Use of Trap crop, Pheromone trap, etc.
- Minimizing the chemical Fertilizer and Maximizing organic manure.
- Value addition in different agriculture crops like groundnut, sesame etc.

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
1	Groundnut	Farmers maintain a set furrow system and apply manure and fertilizers every year in the same furrow.	To get residual effect of manure and fertilizers in succeeding crop
2	Groundnut	Some farmers near the river bed, apply sand in the set furrow for increasing infiltration rate of the soil	To reduce the water Logging condition in the field
3	Kharif crops	Farmer apply life saving supplementary irrigation to the crops during moisture stress condition	For life saving irrigation to minimize the risk of crop failure
4	Cotton	Farmers grow Maize after 3-4 rows of cotton	To increase the natural enemies and fodder purpose
5	Cotton	After heavy rain, farmer apply irrigation to balance the salt concentration at top of soil	To balance the salt concentration
6	Groundnut	Farmers grow maize as mix crop in groundnut	To increase natural enemies & fodder purpose

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

A. Practicing Farmers

a) Survey
b) Field survey
c) Group discussion

B. Rural Youth

a) Survey
b) Field survey
c) Group discussion

C. In-service personnel

a) Survey
b) Field survey
c) Group discussion

5.2. Indicate the methodology for identifying OFTs/FLDs

For OFT:

i) Farmer group
ii) Field level observations

For FLD:

i) New variety/technology
ii) Existing cropping system
iii) Others if any

5.3. Field activities

i. Name of villages identified/adopted with block name (from which year) -
ii. No. of farm families selected per village :
iii. No. of survey/PRA conducted :
iv. No. of technologies taken to the adopted villages
v. Name of the technologies found suitable by the farmers of the adopted villages:

vi. Impact (production, income, employment, area/technological– horizontal/vertical)
vii. Constraints if any in the continued application of these improved technologies

5.4 . No. and Name of villages adopted for Doubling Farmers Income. Indicate whether benchmark survey of the villages are done or not. : Yes, 1. Khoran and 2. Adhiya

6. LINKAGES

A. Functional linkage with different organizations

Name of organization	Nature of linkage
Dy. Director of Agriculture.	Most of the Organizations are members of Scientific Advisory Committee (SAC) of KVK and have linkage with different activities of KVK viz., Training Programme, Khedut Sibir, Farmers day, Animal treatment Camp, Farmers fair, Film Show, Ex-training meeting and Soil health card etc.
Dy. Director of Agril. Extension (FTC)	
Dy. Director of Horticulture	
Dy. Director of Animal Husbandry	
Dy. Director of Social Forestry	
Jilla Udhyong Kendra	
Milk Co-Operative Society (Gopal Dairy)	
Bank of Baroda	
National Bank for Agriculture & Rural Development NABARD)	
NHRDF	
Doordarshan Kendra	
All India Radio	
WALMI	
District Rural Development Agency(DRDA)	
ATMA	
GLDC	
District Watershed Development Agency (DWDA)	
GGRC	
Reliance foundation	
GSFC	
GNFC	
IFFCCO	
KRIBHCO	

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.)
Agricultural Technology Information Center	2004	Govt. of Gujarat	**8,75,000/-**
Creation of Seed Hubs for Increasing Indigenous Production of Pulses in India	2016-17	ICAR-New Delhi	**48,39,143/-**
Cluster Frontline Demonstrations on pulses under NFSM	2015-16	ICAR-New Delhi	**1,00,121/-**
Cluster Frontline Demonstrations on oil seeds under NMOOP	2015-16	ICAR-New Delhi	**4,04,623/-**
Attracting and Retaining Youth in Agriculture (ARYA)	2015-16	ICAR-New Delhi	**6,39,500/-**
National Initiative on climate Resilient Agriculture (NICRA)	2010	CRIDA, Hyderabad	**4,62,044/-**
NCIPM	2019	ICAR-New Delhi	**50,000/-**

C. Details of linkage with ATMA

a) Is ATMA implemented in your district : Yes

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

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	Staff meeting	4	-	-
02	Research Projects	-	-	-	-
03	Training Programmes	Farmers Training	17	7	-
04	Demonstrations	Technology Deminstrations	4	7	
05	Extension Programmes				
	KisanMela	Participant in Mela	3	-	-
	Technology Week		1	1	-
	Exposure visit	Exposure visit by ATMA of Progresive farmers	-		
	Exhibition	Exhibition organized at KVK	7	1	
	Soil health camps	-	-	-	-
	Animal Health Campaigns	-	-	-	-
	Others (Pl. specify)	-	-	-	-

06	**Publications**	-	-	-	-
	Video Films	-	-	-	-
	Books	-	-	-	-
	Extension Literature	-	-	-	-
	Pamphlets	-	-	-	-
	Others (Pl. specify)	-	-	-	-
07	**Other Activities (Pl.specify)**	-	-		
	Watershed Approach	-	-	-	-
	Integrated Farm Development	-	-		

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: Yes

8. Innovator Farmer's Meet

Sl.No.	Particulars	Details
	Have you conducted Farm Innovators meet in your district?	Yes
	On 23rd December 2018 Innovators meet under celebration of "Kisan Divas" at Krishi Vigyan Kendra, Rajkot-I. Total 181 farmers and farm women were participated in this programme. Total 53 Progressive farmers were honored with certificate & mementos by KVK. Who have done specific contribution in Agriculture, Horticulture, Animal Science, Value addition etc. farmers shared their views on innovativeness and cleanliness drive in Agriculture.	

9. Farmers Field School (FFS) : Nil

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:

1. To enhance the farmers to use recently developed certified varieties of different crops.
2. Proper use of fertilizers, Irrigations, insecticides and fungicides as per recommendation to reduce the production cost.
3. Cumin variety GC-4 is high yielding but gradually loosing wilt resistant character
4. Pink ball worm in cotton
5. Reddening in cotton
6. Heavy infestation of thrips in crops like garlic, onion, cotton
7. Late and poor germination was observed in cumin variety GC-4
8. Research needed for control of insect-pests and diseases in organic farming
9. White grub problem in groundnut
10. Problem of repeat breeding in cattle & buffaloes.

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

Yellowing and drying of cotton plants immedialtiy often rainfall.
Newly released garlic variety is poor in yield.
Management of thrips is problem in all the major crops in district.

11. Technology Week celebrationduring 2018-19 Yes

Period of observing Technology Week: From 17th to 21st September 2018
Total number of farmers visited : 602
Total number of agencies involved : 5
Number of demonstrations visited by the farmers within KVK campus: 12

Other Details

Number of Technology weeks celebrated	Types of Activities	No. of Activities	Numaber of Participants	Related crop/livestock technology
1 (17/9/2018 to 21/09/2018	Gosthies	2	99	Cotton, Groundnut
	Lectures organised	10	602	All kharif crops, live stock and Value addition
	Exhibition	1	602	
	Film show	5	568	
	Farm Visit	5	578	
	Diagnostic Practicals	3	57	-
	Distribution of Literature (No.)	10	3000	-
	Distribution of Seed (q)	-	-	-
	Distribution of Planting materials	-	-	-
	Bio Product distribution (Kg)	2	200	Cotton, Groundnut
	Bio Fertilizers (q)	2	10	Cotton, Groundnut
	Distribution of fingerlings	-	-	-
	Distribution of Livestock specimen	-	-	-
	Total number of farmers visited the technology week	-	602	-

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
Gujarat	Groundnut	1300	900

B. Major area coverage under alternate crops/varieties

Crops	Area (ha)	Number of beneficiaries
Oilseeds	1300	900
Pulses		
Cereals		
Vegetable crops		
Tuber crops		
Total		

C. Farmers-scientists interaction on livestock management

State	Livestock components	Number of interactions	No.of participants
Farmer's meeting	**2**	**98**	
Farmer's seminar	-	-	
Group meeting	**3**	**57**	
Total	**5**	**155**	

D. Animal health camps organized

State	Number of camps	No.of animals	No.of farmers
Gujarat	**1**	**110**	**85**
Total	**1**	**110**	**85**

E. Seed distribution in drought hit states

State	Crops	Quantity (qtl)	Coverage of area (ha)	Number of farmers
Gujarat	Chick pea	12.50	20	50
Total				

F. Large scale adoption of resource conservation technologies

State	Crops/cultivars and gist of resource conservation technologies introduced	Area (ha)	Number of farmers
Gujarat	Adoption of Trichoderma culture powder for the management of stem rot disease in groundnut	5322	46789
	Adoption of *Bt.* cotton varieties.	328897	82224
	Farmers prefers to sow semi spreading and high yielding variety of groundnut i.e. GG-20 and GJG-22.	204808	51702
	Most of the farmers adopt new variety of cumin (GC-4) which is resistant to wilt disease	20108	5102
	Intercropping/mix cropping in groundnut and cotton was adopted for minimize the risk factor in dry land agriculture with preservation of natural enemies	21789	6342
	Farmers are ready to use of rotavator/ cotton shredder/ mobile chopper for increasing the organic matter in soil particularly in cotton system.	174532	43633
Total			

G. Awareness campaign

State	Meetings		Gosthies		Field days		Farmers fair		Exhibition		Film show	
	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers
Gujarat	5	236	7	109	--	-	-	-	1	602	2	54
Total	5	236	7	109					1	602	2	54

13. IMPACT

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

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Cumin Variety (GC-4)	232	84	30000	45000
Improved variety of Gram (GJG-3)	157	72	27500	35000
Wheat variety (GW-496, 366)	268	75	32500	37500
Use of Trichoderma culture powder for the control of stem rot in groundnut	347	67	28125	31500

B. Cases of large scale adoption

- Adoption of *Trichoderma* culture powder for the management of stem rot disease in groundnut
- Adoption of *Bt.* cotton varieties with INM and IPM concepts.
- Farmers prefers to sow semi spreading and high yielding variety of groundnut i.e. GG-20 and GJG-22.
- Most of the farmers adopt new variety of cumin (GC-4) which is resistant to wilt disease
- Intercropping/mix cropping in groundnut and cotton was adopted for minimize the risk factor in dry land agriculture with preservation of natural enemies.
- Farmers are ready to use of rotavator/ cotton shredder/ mobile chopper for Increasing the organic matter in soil particularly in Bt. Cotton cropping system

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

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	2	3000	-
May	2	3000	-
June	2	3000	-
July	2	3000	-
August	2	3000	-
September	2	3000	-
October	2	3000	-
November	2	3000	-
December	2	3000	-
January 2019	2	3000	-
February	2	3000	-
March	2	3000	-

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marke-ting	Aware-ness	Other enterprise	Total
	Text only			22				22
	Voice only							
	Voice & Text both							
	Total Messages							
	Total farmers Benefitted			**3000**				

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.)		Remark
				Variety	Produce	Qty.	Cost of inputs	Gross income	
1	Water Harvest Structure	2001	40x 30x 15 mt	-	-	-	-	-	-
2	Arid Horticulture	-	-	-	-	-	-	-	-
3	Soil Testing Lab	2006	-	-	-	-	710000	-	-
4	Bio Gas Plant	2006	-	-	-	-	42000	-	-
5	Tractor mounted sprayer	2007	-	-	-	-	43000	-	-
6	Dibbler	2007	-	-	-	-	900	-	-
7	Cotton Stalk Shredder	2007	-	-	-	-	43000	-	-
8	Cotton Stalk Puller	2007	-	-	-	-	1200	-	-
9	Wheel Hoe	2007	-	-	-	-	1260	-	-
10	Veterinary mobile unit	2008	-	-	-	-	600000	-	-
11	Processing Unit	2009					1685000		
12	Vermi composting unit	2009	0.05						
13	Nadep composting	2014							
14	Crop cafeteria	2009	0.10						
15	Agro-met advisory service	2013							
16	Farm pond	2001	0.48						
17	Organic farming unit in 1 ha.	2016	1.00						
18	KVK Museum	2011							

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

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Cereals									
Pulses									
Oilseeds			1.80	GJG-31	Breeder	1410Kg	-	2,18,550/-	
			3.34	GG-20	Breeder	1710Kg	-	2,65,050/-	
			8.66	GJG-22	Truthful	4590Kg	-	2,60,100/-	
Fibers									
Spices & Plantation crops									
Floriculture									
Fruits									
Vegetables									
Others (specify)									

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

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1	Trichoderma (Savaj)	7800 Kg	70/-	78,000/-	-
2	Beauveria (Savaj)	3682 Kg	150/-	36820/-	-

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

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	

E. Utilization of hostel facilities

Accommodation available (No. of beds):

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
April 2018	Hostel is allotted to Agri Enginering polytechnic students of the JAU from 2014		
May 2018			
June 2018			
July 2018			
August 2018			
September 2018			
October 2018			
November 2018			
December 2018			
January 2019			
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.)		
-	-	-	1	2	-	302	5	-	-

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	SBI	Junagadh					
With KVK	SBI	Rajkot	463	TRAINING ORG.KVK.JAU. TARGHADIA	10353003175	360002002	SBIN0000463

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

SN	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	**Pay & Allowances**	72.00	71.60	71.60
2	**Traveling allowances**	2.61	2.61	2.61
3	**Contingencies**			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)			
B	POL, repair of vehicles, tractor and equipments			
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)			
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)			
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)			
G	Training of extension functionaries			
H	Maintenance of buildings			
I	Establishment of Soil, Plant & Water Testing Laboratory			
J	Library			
	Total A to J	13.00	13.00	12.41
	TOTAL (A)	**87.61**	**87.21**	**86.62**
B. Non-Recurring Contingencies				
1	**Works**			
2	**Equipments including SWTL & Furniture**			
3	**Vehicle** (Four wheeler/Two wheeler, please specify)			
4	**Library** (Purchase of assets like books & journals)			
TOTAL (B)				
C. REVOLVING FUND				
GRAND TOTAL (A+B+C)		**87.61**	**87.21**	**86.62**

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	22,60,455	20,54,055	18,40,812	24,73,689
April 2017 to March 2018	24,73,689	24,24,186	23,39,682	25,78,697
April 2018 to March 2019	25,78,697	25,57,179	24,79,409	26,56,467

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

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
Dr. B. B. Kabaria	**Senior Scientist cum Head**	Annual Zonal Workshop of KVKs	MPKV, Rahuri	10-12 June, 2018
Dr. M. M. Tajpara	**Scientist**	Review workshop of NICRA KVKs of Gujarat & Maharashtra	KVK, Jalna-1 (Maharashtra)	10-11th September, 2018
Dr. J. H. Chaudhary	**Scientist**	International Conference on Agriculture, Horticulture and Plant Sciences	Shimla	28th to 29th June 2018
H. A. Manvar	**Scientist**	National Seminar on Extension Strategies for Doubling the Farmers Income for Livelihood Security	AAU, Anand	26-27, April 2018
H. A. Manvar	**Scientist**	International Workshop on Nutrition Sensitive Agriculture and Nutrition Literacy (Nutrition Smart Village)	Bhopal (MP)	14-16 May 2018
Dr. B. B. Kabaria	**Senior Scientist cum Head**	Review workshop on ARYA and CFLDs on Pulses and Oilseeds	Lokbharti Sanosara , Bhavnagar	4-6 Dec. 2018
Dr. J. H. Chaudhary	**Scientist**	Review workshop on ARYA and CFLDs on Pulses and Oilseeds	Lokbharti Sanosara , Bhavnagar	4-6 Dec. 2018

18. List the other collaborative research/ extension projects and also write brief key achievements of the projects. :-

1. Attracting and Retaining youth in Agriculture (ARYA) Project, KVK, Rajkot-1

Gujarat is third largest producer of oilseeds and covers 30% groundnut production of the country. The area and productivity of groundnut in the state was highest with 18.05 lakh ha and 1870 kg/ha respectively. Gujarat Ranks 4th in terms of Milk Production in the country which is about 8.1% of entire country. Due to difficulty in marketing the crops and support prices, farmers are selling agricultural produces and raw milk directly to local market and not getting satisfactory income. This may be supplemented by promoting the concepts of value addition of various agricultural commodities and milk processing enterprises at rural level. By utilization of available technologies like processing of oilseeds, spices, grains and milk at rural level and marketing of value added products, satisfactory income can be obtained at rural level.

Rajkot district has population of 38,04,558 and out of which about to 65 % population is youth. Most of the people are engaged in farming and animal husbandry. The major crops grown in the district are groundnut, cotton, wheat, garlic, oninon and cumin. Farmers are earning from selling agricultural produces and raw milk directly to local market. This region has mostly rainfed area where the water scarcity is main issue. Lower price of agricultural commodities is the second most issue of the region. The youth of this village and surrounding area are migrated to Rajkot city for employment. Looking to the situation, KVK, Rajkot has taken up value addition and milk processing enterprises concept for Rajkot district.

The ARYA project was started during the year 2015-16 at KVK Rajkot-1, Gujarat. At present KVK, Rajkot-1 is working for four talukas of Rajkot district namely (i) Jasdan (ii) Padadhari (iii) Vinchhiya (iv) Rajkot. KVK, Rajkot-1 was identified for the objective of post-harvest technology, processing and value addition concept under ARYA project. Entrepreneurship development activities have been started with focus of processing, value addition, milk processing and nursery management.

1. Objectives of the ARYA Project:

- To attract and empower the youth in rural areas to take up various agriculture, allied and service sector enterprises for sustainable income and gainful employment in selected districts.
- To enable the farm youth to establish network groups to take up resources and capital intensive activities like post-harvest technology, processing & value addition, nursery management, milk processing and marketing.
- To demonstrate functional linkage with different institutions and stakeholders for convergence of opportunities available under various schemes/program for sustainable development of youth

2. Major Activities Commenced:

Activities like project awareness programmes, training and capacity building programmes, visits at developed enterprises and motivate youth for entrepreneurship; empowering youth in rural areas by processing, value addition and marketing of agricultural produces and functional linkage with different institutions were commenced under ARYA project.

2.1 Training / Project Awareness Programmes:

The following Project awareness programmes/training and capacity building programmes are conducted under ARYA project:

Sr	Training	No. of Youth
1	Awareness training programme for ARYA Project	480
2	Post-harvest technology and value addition	110
3	Processing and value addition of agricultural commodities	90
4	Nursery management	42
5	Value addition through processing of milk	58
6	Processing and value addition of pulses	40
7	Processing of fruits/vegetables	77
8	Processing and value addition of oilseed crops	123
9	Processing and value addition of spices crops	38
10	Value addition of pulses by making *Namkeen*	15

2.2 Formation of Enthusiastic Groups of Entrepreneurial Youth:

Group 1 (15 youths)**:** Enterprise of Mini Oil Mill Unit at Targhadi village of Paddhari taluka
Group 2 (15 youths)**:** Enterprise of Mini Oil Mill Plant at Raningpar village of Jasdan taluka
Group 3 (7 youths)**:** Pulverizer Machine Unit at Gadhaka village of Rajkot taluka
Group 4 (5 youths)**:** Namkeen (Farsan) Machine at Targhadia village of Rajkot taluka
Group 5 (8 youths)**:** Milk-Mava making unit at Amabardi village of Jasdan taluka

2.3 Critical Inputs/Equipment/Machinery provided for various enterprise under ARYA Project :

1. Two Mini Oil Mill Units for processing of groundnut and other oilseeds (Rs. 3,61,200/- x 2 unit= Rs. 7,22,400/-)
2. One Pulverizer machine (Masala Mill) for processing of spices (Rs. 82,110/-)
3. One Namkeen (Farsan) making machine (Rs. 16,800/-)
4. One Milk-Mava making unit for milk processing (Rs. 63,000/-)

3. Establishment of Various Enterprises at different Villages under ARYA Project:

Entrepreneurship development activities were started with focus of processing & value addition, Milk processing and Nursery management.

3.1 Processing and Value Addition of Agricultural Commodities:

3.1.1 Enterprise: Mini Oil Mill Unit at Targhadi village of Paddhari taluka:

An entrepreneurial group of 15 rural youths in Taraghadi village started enterprise of Mini Oil Mill unit and producing groundnut oil through processing of groundnut. The group earning net profit of Rs. 1,57,500 per month by selling groundnut oil and cake. This enterprise is run more than 8 month during the year and earning net profit of Rs. 12,60,000 per year.

3.1.2 Enterprise: Mini Oil Mill Plant at Raningpar village of Jasdan taluka:

The group of 15 rural youths in Raningpar village is earning upto Rs. 1,35,000 per month in addition to income from farming through processing of groundnut by enterprise of mini oil mil plant. This enterprise is run more than 8 month during the year and earning net profit of Rs. 10,80,000 per year.

3.1.3 Entrepreneurship development through spices processing:

An enthusiastic group of 7 rural youths in Gadhaka village started enterprise of Spice processing unit and earning upto Rs. 59,500 per month in addition to previous income. This enterprise is run more than 6 month during the year and earning net profit of Rs. 3,57,000 per year.

3.1.4 Entrepreneurship development through Namkeen (*Farsan*) making:

An entrepreneurial group of 5 youths at Targhadia village started Namkeen making enterprise. They making and selling Namkeen (Farsan) products and earning extra income upto Rs. 39,000 per month in addition to agricultural income. This enterprise earning net profit of Rs. 3,90,000 per year.

3.2 Enterprise: Milk Processing:

3.2.1 Enterprise: Milk-*Mava* making at Ambardi village:

The active group of 8 youths at Ambardi village of Jasdan taluka started milk processing enterprise. They are producing milk-*mava* by processing of raw milk. The group generated net profit of Rs. 40,500 per month as a extra income by this enterprise along with farming. This enterprise earning net profit of Rs. 4,05,000 per year.

3.3 Other Entrepreneurship:

- One youth of Gadhaka village of Rajkot taluka has grown chilly and started making powder by processing of chillies. He got net income of Rs. 15,000 from selling of green chilly and Rs. 77,000 from selling of dry chilly powder. So, he got net profit of Rs. 67,000 per year from chilly crop in 0.3 ha land.
- Three family member at Bhadva village of Kotada Sangani taluka started value addition in sugarcane through making *"Herbal Jaggery"*. They earned net profit of Rs. 1.5 lac per acre land per year by selling *"Herbal Jaggery"* made from sugarcane.
- One youth at Adabalaka village of Paddhari taluka started value addition of turmeric by making powder and he got net income of Rs. 3.37 lac per season from one acre of land.
- One youth at Khijadia village of Rajkot taluka started dairy farming and earning upto Rs. 4.2 lac per year through his dairy unit.
- Two youths at Pipaliyaraj village of Wankaner taluka started vegetable plug nursery and earning upto Rs. 3,00,000 per year.

4. Major interventions undertaken during year 2018-19:

- Mini Dall Mill Unit :- Kherdi Village (Rajkot taluka)
- Mini Grading and Cleaning Machine Unit :- Dungarka Village (Paddhari taluka)
- Nursery unit :- Sompar Village (Vichhiya talika)

5. Market Linkages Development:

- Linkage of farmers with government agencies/NGOs like ATAMA, DRDA, Department of Horticulture, Department of Animal Husbandry, District Industrial Centre, JAU, Deputy Director of Agriculture and District Development Agency for bankable projects, subsidy, and other assistance.
- Institutional Visit/Lecture for Exposure of different govt. schemes provided by Agriculture Co-operation and Farmer Welfare Department of Gujarat, Director of Horticulture, Directorate of Animal Husbandry – Gujarat Govt., NABARD, NHB, and MSME – Govt. of India.
- Guidance of market linkage and visit to various marketing agencies, wholesale market, D-mart or other grocery mall to promote value added product with "ARYA" Brand name.
- We also finalized ARYA brand for labeling and packing of end products prepared by promoted enterprises under ARYA project. For that various marketing strategies will be implemented.

2. NICRA Project

Module-1: Natural Resource Management Interventions

Interventions	Technology demonstratedalong with the crop and variety*	Critical inputs provided (Machinery, cost for renovation, irrigation systems, seed etc)	No. of farmer sinvolved in the demonstration	Area under practicein the village (ha)		Measurable indicators Crop yields*(q/ha) (Average)		Economics of demonstration (Rs./ha) (Average)			
				After intervene-tion	Before intervene-tion	Demo	Local practice	Gross Cost	Gross Return	Net Return	BCR
In-situ moisture conservation measures (Conservation furrow/ bunding/ deep tillage etc…)	Summer deep ploughing	By M. B. plough/Disc plough	17	22	15	-	-	-	-	-	-
Water harvesting and recycling for supplemental irrigation (Community ponds/checkdams /wells etc…)	Supplemental irrigation to the groundnut crop from community pond at critical stages of crop	-	15	29	Farmers get supplemental irrigation for kharif crop like groundnut through using pipelines from community pond to farmer field. Rain gun was used for irrigation. Due to life saving irrigation farmers procured benefits from loss of crop against scarcity of water						
Improved drainage in flood prone areas	-	-	-	-	-	-	-	-	-	-	-
Conservation tillage where appropriate like zero tillage/ minimum tillage etc…	-	-	-	-	-	-	-	-	-	-	-
Artificial ground water recharge measures	-	-	-	-	-	-	-	-	-	-	-
Water saving irrigation methods (Drip/sprinkler/raingun etc...)	-	-	-	-	-	-	-	-	-	-	-
Crop residue incorporation instead of burning	Enrich the soil health through incorporate the crop residues in the soil (Cotton)	By using Rotavator and Mobile chopper	25	35	30	Recycling farm residue technique to enrich the nutrient status of soil through use of rotavator and mobile chopper.					
Organic input production and usage	Composting (recycling of organic waste) from cotton crop	By using cotton stalk shredder or chaff cutter	26	40 tones (compost prepared)	25 tones (compost prepared)	Organic compost has been prepared from cotton stalk and other organic waste chopped by shredder which increased the organic material in the soil and improved soil fertility.					

Module 2: Crop Production Interventions

Interventions	Technology demonstrated along with crop and variety*	Critical input (Variety, Fertilizer/ Machinery, etc)	No. of farmers benefitted	Area taken up (ha)	Measurable indicators Crop yield(q/ha) (Average)		% increase in yield over local	Economics of demonstration (Rs./ha) (Average)				Economics of Local (Rs./ha) (Average)			
					Demo	Local		Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR
Short duration varieties demonstrated															
Drought tolerant varieties demonstrated	Chickpea GJG-5	GJG-5	10	4	13.60	11.90	14.28	22625	87925	65300	3.88	21695	65305	43610	3.01
Introducing flood tolerant varieties	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Advancement of planting dates of *rabi* crops in areas with terminal heat stress	Cumin GC-4	GC-4	10	2	7.45	6.32	17.8	28125	145280	117155	5.16	27640	129565	104850	4.68
Water saving paddy cultivation methods (SRI, aerobic, direct seeding)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Frost management in horticultural crops through fumigation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Community nurseries for delayed monsoon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Custom hiring centres for timely planting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Location specific intercropping systems with high sustainable yield index	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crpop diversification	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Integrated diseases management through use of bio agent in Groundnut	IDM in Groundnut	*Trichoderma sp.* (Bioagent)	25	10	18.35	16.85	8.90	33550	82575	49025	2.46	32950	75825	42875	2.30
Integrated Pest management through use of bio agent in Cotton	IPM in Cotton	*Beauveria bassiana* (Bioagent)	25	10	31.50	29.42	6.10	62643	150937	88294	2.40	65008	142088	77090	2.18

***Make a separate row for each crop and variety demonstrated**

Module-3: Livestock & Fisheries

Interventions	Technology demonstrated	Critical input (Variety, Breed, etc)	No. of farmers	Unit/ No. / Area (ha)	Measurable indicators of output*(Average)		% increase over local	Economics of demonstration (Rs./ha) (Average)				Economics of demonstration (Rs./ha) (Average)			
					Demo	Local		Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR
Use of community lands for fodder production during droughts / floods	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Introduction of new fodder crops or new varieties	Jinjvo	Marvel grass	10	4.0	80 q/h	70 q/h	14	102100	294430	192330	2.88	98320	210120	111800	2.13
Improved fodder	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Preventive vaccination	Vaccination camp	Vaccination	87	196 animals	FMD and H.S. vaccination for Prevention of infectious diseases. (No. of 2 camp.)										
Improved shelters for reducing heat stress/ cold stress/water logging/floodand diseases in livestock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Introduction of improved breeds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Management of fish ponds / tanks during water scarcity and excess water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Improved feeding like location specific mineral mixtures or mineral bricks	Mineral Mixture	Chelated Mineral mixture	20	20	Average milk production -1668 kg/lactation (310 Days)	Average milk production -1524 kg./ lactation (310 Days)	13.6	60205	77010	16805	1.27	59141	70234	11093	1.18
Any other (Pl. specify)	Bypass Protein	Bypass Protein	50	50	Average milk production -1605 kg/lactation (310 Days)	Average milk production - 1495kg./ lactation (310 Days)	20.55	59840	79598	19758	1.33	53682	68512	14830	1.27
	By Pass fat	By Pass fat	10	10	7.9 % Fat	6.4 % Fat	23.43	-	-	-	-	-	-	-	-

Module-4: Institutional Interventions

Interventions	Details of activity			Critical input (Breed / Variety / Medicine doses)	No. of farmers involved	Unit / No. / Area (ha)
	Name of crops /varietiesCommodity groups / Implements	Quantity produced/ Number / Rent / Charges	Technology used in seed / fodder bank & function of groups			
Seed bank	-	-	-	-	-	-
Fodder bank	-	-	-	-	-	-
Commodity groups	-	-	-	-	-	-
Custom hiring centre	Cotton stalk shredder	40 Rs/day	Recycling of farm waste like cotton, castor, sesame & pigeon pea stalk. Preparation of rich compost from cotton stalk chopped by shredder.	Farm machinery and implements	26	13.5
	Rotavator	50 Rs/day	To maintain soil health and sustainability through incorporating of crop residues into soil.		39	16.8
	Mobile chopper	50 Rs/day	To maintain soil health and sustainability through recycling of cotton & castor stalk.		9	11.5
	Manual drawn automatic seed drill	10 Rs/day	Farm mechanization for small land holders. Uniform sowing of seeds.		33	46.5
	Battery operated knapsack sprayer	20 Rs/day	Drudgery reduction for farming community through use of battery operated knapsack sprayer.		56	59.0
	Chaff cutter	10 Rs/day	Best use of green & dry fodder for animal feed.		18	-
	Bullock drawn automatic seed- drill	20 Rs/day	Sowing of seeds at equally space and proper depth with saving of seeds.		5	9.0
Climate literacy through a village level weather station	Weather station	-	Farmers were aware about weather parameters and correlate their crop sowing and other agricultural practices	-	Whole village	Whole village
Any other	-	-	-	-	-	-

Module-5: Capacity Building taken up (HRD)

Sl. No.	Thematic area	Title of training	No. of Courses	No. of beneficiaries		Date	
				Male	Female	from	to
1	Natural resource management	In situ moisture conservation	1	18	0	30-5-18	30-5-18
2	Crop Production	Importance of bio fertilizer	1	22	0	10-10-18	10-10-18
3		Integrated Disease Management in Rabi crops	1	16	0	30-01-19	30-01-19
4	Livestock management	Scientific Animal house management to prevent extreme weather condition	1	14	0	11-06-18	11-06-18
5		Importance of FMD Vaccination in large animals	1	21	0	12-10-2018	12-10-2018
6		Importance of balanced nutrition in livestock	1	0	21	18-12-2018	18-12-2018
7		Importance of mineral mixture in Animals	1	19	0	1 -2-2019	1-2-2019
8	Farm implement & machinery	Use of improved Farm implement in Agriculture	1	18	0	1-09-18	1-09-18
Total		**149**	**8**	**128**	**21**		

Module-6: Extension Activities

Name of the activity	Details about the activity	Number of programmes	Time of the programme conducted (From--- to --)	No. of beneficiaries		Remarks
				Male	Female	
Exposure visit of farmers	(1) Visit at Vety. college JAU, Junagadh	1	23/01/2019	33	-	-
Field days	Cotton Groundnut, Chickpea Cumin Jinjvo	5	05/10/2018 12/10/2018 18/01/2019 19/01/2019 21/01/2019	17 12 19 13 11	-	-
Method demonstrations	(1) Milking methods (2) Vermicomposting preparation	2	24/11/2018 08/12/2018	0 0	21	-
Agro advisory services	(1) Late monsoon sowing pattern of groundnut (2) integrated pest management in groundnut	2	10/05/2018 13/9/208	12 16	-	-
Diagnostic visit	Visit on farmer field for analyzing of insect-pest, Diseases, weeds and another problems of crop health	5	-	13	7	-
Group Discussion	Discussion on how to improves milk production in animals	1	06/02/2019	-	28	-
Vaccination camp	(1) Vaccination camp for prevention of H.S. (2) Vaccination camp for prevention of FMD	2	30/05/2018 10/12/2018	47 40	-	100 Farmers 96 Animals

7. Adoption of successful interventions in the NICRA village & the adjoining villages

Successful interventions including crops and varieties	Extent of adoption in the village in ha.					
	2013	2014	2015	2016	2017	2018
Rain water harvesting	10	13	15	18	21	22
Gram GJG-3 variety	5	7	12	15	18	19
Cumin GG-4 disease resistant variety (wilt)	6	9	12	14	19	21
Vaccination & Deworming	115 animals	214 animals	246 animals	260 animals	254 animals	265 animals

8. Popularization of Climate Resilient Varieties

Crop*	**Climate Resilient Varieties incorporated in the *Kharif 2018* plan of the State Department**	**Approx. area brought under the variety by the state department during the K*harif* 2018 (ha)**
Groundnut	GG-9	18
	GG-20	32
	GG-22	5
	TG-38	13
	GG-5	8
Pigeonpea	GJP-1	7
Sesame	GT-3	14
Crop*	**Climate Resilient Varieties incorporated in the *Rabi 2018* plan of the State Department**	**Approx. area brought under the variety by the state department during the *Rabi* 2018 (ha)**
Cumin	GC-4	16
Chickpea	GJG-5	22
	GJG-3	12
Wheat	GW-366	11
	GW-496	14
	Lok-1	10
Onion	NHRDF Red-3	7
Lucerne	Anand-2	10
Garlic	GG-4	7
Oat	Kent	3

14. Publications and other products developed during the year

(I) Research paper

Sr. No.	**Title**	**Name of Journal published**	**Month & Year**	**Author**
1	**Impact of climate resilient technology in NICRA village of Rajkot district**	National seminar on Extension Strategies for Doubling Farmer Income for Livelihood Security at Anand Agricultural University Anand, 26-27 April, 2018	April-2018	Dr. M. M. Tajpara Mr. M. A. Vakaliya Dr. B. B. Kabaria
2	**Adoption level of cotton growers about SAUs recommended cotton cultivation practices in morbi district**		April - 2018	Mr. M. A. Vakaliya Dr. M.M. Tajpara Dr. B. B. Kabaria

3. Creation of Seed Hubs for Increasing Indigenous Production of Pulses in India

Trainings programs conducted

Sr. No	On/Off Campus	No. of Training Conducted	Total No. of Participants
1	On Campus	1	45
2	Off Campus	1	30

Awareness programs / exposure visits / field days/Camps conducted

Sr. No.	Particulars	No. of Programmes	No. of participants
1	Agro advisory services	1	30
2	Literature Distributed	8	235

Physical & Financial Details: (Rs. in Lakh):

A. Physical progress (Quantity in Qtls)

2016-17				
Approved Crops by DAC&FW	**Variety (with year of Release)**	**Targets approved by DAC&FW**	**Seed produced**	**Reasons for shortfall, if any**
Pigeonpea	Vaishali (2007)	150 q	300.1 q	-
2017-18				
Pigeonpea	GJP-1 (2016)	300 q	53.97 q	-
Chickpea	GJG-3 (2010)	300 q	72.00 q	-

B. Additional information:

- Whether Separate Bank Account opened or not? : Yes
- Whether seed certifications formalities completed or not? : Completed
- Whether seed storage godown work completed or not? : Completed
- Whether work of seed processing is completed or not? : Purchasing Process is continue.

- **Actionable points:**

  Farmers are not ready to conduct seed production programmes specially pulses Viz. Pigeon pea, Green gram, Black gram etc..

  The selling of seeds is major problem due to the less area of pulses.

4. Progress Report on Collaborative Research Project on "Implementation of IPM technology in groundnut crop with farmers' participatory mode of approach on wide-area basis"

During the month of March-April 2019, with PI of this project Dr. A. M. Bharadiya, Associate Research Scientist and Dr. B. B. Kabariya (Co-PI), Programme Coordinator collected literature related to integrated pest management of groundnut crop, created information base for integrated pest management for groundnut crop, developed location specific IPM module for groundnut crop as well as conduct a general meeting to finalized action plan to implement project in selected village and visited the selected village *viz*; Bhadla from Jasadan taluka of Rajkot district on 15th May 2019 and carried out base line survey of village and farmer's meeting at village as well as selected farmers for implementation of project on groundnut crop.

In farmer's meeting, we discussed and interacted with farmer's community among the research project, especially IPM module on groundnut crop. We motivate the farmers to work on different technology of concerned module as well as we gave informations of concerned module in detail. As per the module, we aware farmers to use high yielding improved variety and to adopt recommended plant protection measures *viz*;. In Groundnut crop, for white grub management, seed treatment of chlorpyriphos @ 25 ml/kg seed before sowing, furrow application of phorate @ 10 kg/ha before sowing, in case of sever infestation drenching of chlorpyriphos @ 25 ml/10 litre of water and install light trap. For stem rot management, seed treatment of tebuconazole @ 1.5 g/kg of seed before sowing, application of *Trichoderma* @ 2.5 kg/ha enriched in 250 kg/ha castor cake or FYM @ 100 kg/ha and soil drenching of *Trichoderma* @ 2.5 kg/ha at 30 days after sowing.

SN	Name of activity undertaken	Details of activity undertaken
1	Collection of literature	Collected literature related to integrated pest management of groundnut crop, created information base for integrated pest management for groundnut crop and developed location specific IPM module for groundnut crop.
2	General meeting of PI and Co-PI	Finalized action plan to implement project in selected village
3	Base line survey of village	60 farmers involved. Collected basic information about village as well as farmers.
	Farmers' meeting	60 farmers involved. Interacted with farmer's community among the research project, especially IPM module on groundnut crop.
4	Farmers' final selection	60 farmers involved. Farmers' final selections were completed.

Photographs of Activities:

Interacted with farmer's community among the research project

Interacted with farmer's community among the IPM module on groundnut crop

Collected basic information about village as well as farmers

Collected basic information about village as well as farmers

Details of collaborative Research Project on "Implementation of IPM technology in groundnut crop with farmers' participatory mode of approach on wide-area basis"

Project Title	"Implementation of IPM technology in groundnut crop with farmers' participatory mode of approach on wide-area basis"
Project Objectives	✓ Development of location specific Integrated Pest Management Technology for Groundnut Crop. ✓ Validation of Integrated Pest Management Technology in Groundnut Crop on the farmers' fields with farmers' participatory mode of approach on wide area basis. ✓ Popularization of the IPM technology.
Collaborative Centre	(i) KVK, Targhadiya (Rajkot), Junagadh Agricultural University, Junagadh-362001 (Gujarat), India. Directorate of Extension Education, Junagadh Agricultural University, Junagadh-362001 (Gujarat), India. Ph: +91-285-2672653, Fax: +91-285-2671669, PBX: +91-285-2672080-90 Extn: 341/432, Email: dee@jau.in
Co-Principal Investigator from Collaborative Centre	(i) **Dr. A. M. Bharadiya**, Associate Research Scientist, Main Oilseeds Research Station, JAU, Junagadh-362001 (Gujarat), India. **Mo.:** 09662544806 Ph: 0285-2670205 (Office) **Email:** ambharadiya@jau.in **And** (ii) **Dr. B. B. Kabaria**, Senior Scientist and Head, KVK, Targhadiya (Rajkot)-360 003 (Gujarat), India.. **Mo:** 09374202518 Ph: 0281-2784170 (Office), **Email:** kvkrajkot@gmail.com
Details of Interventions (IPM Technology) applied in Groundnut Crop:	
Name of crop: Groundnut	
1. Name of Technology	1. High yielding improved Groundnut variety 2. White grub and stem rot management
2. Micro – Farming Situation	Rain fed condition of groundnut cultivation in *kharif* season
3. Problems	Low yield, susceptibility to stem rot and damage due to white grub infestation
4. Potential Solutions	Use of improved variety with adoption of plant protection measures
5. Nature of	**Technologies:**

Intervention	1.Adoption of improved variety (GG-20/22) 2. Adoption of recommended plant protection measures **a. For White grub management:** • Seed treatment of chlorpyriphos 20 EC @ 25 ml/kg seed before sowing. • Furrow application of phorate 10 G @ 10 kg/ha before sowing before sowing. • In case of sever infestation, drenching of chlorpyriphos 20 EC @ 25 ml/10 lit of water. • Installation of light trap **b. For Stem rot management:** • Seed treatment of tebuconazole 25% EC @ 1.5 ml/kg • Application of *Trichoderma* @ 2.5 kg/ha Castor cake or Enriched compost @ 100 kg/ha • Apply *Trichoderma* @ 2.5 kg/ha as soil drenching at 30 days after sowing
6. Source of Technology	Junagadh Agricultural University, Junagadh
7. Expected Out put	Productivity comparison
8. Plot Size	0.5 acre / farmer
9. No. of Farm Families	20 (Selected 20 farm families from a selected village)
10. Critical Inputs	**1. Improved variety seed:** GG 20/GG 22 @ 20 kg/0.5 acre **2. White grub management:** a. Pesticides 1. Chlorpyriphos 20 EC = 1 lit /0.5 acre 2. Phorate 10 G = 2 kg/0.5 acre b. Light trap: One/acre **3. Stem rot management:** a. Fungicide Tebuconazole 50 ml/0.5 acre b. Bio-fungicides *Trichoderma hazianum* = 1 kg /0.5 acre
11. Cost of each intervention	**1. Improved variety seed:** GG 20/GG 22: Rs2250/0.5 acre (Cost excluded as farmers' participatory mode) **2. White grubs management:** a. Pesticides ; 1. Chlorpyriphos = 1 lit./0.5 acre = Rs 300/0.5 acre 2. Phorate = 2 kg/0.5 acre = Rs. 150/0.5 acre b. Light trap: One/acre = Rs. 2000/acre (Cost excluded as farmers' participatory mode) **3. Stem rot management:** a. Fungicide viz.; 1. Tebuconazole = 50 ml/0.5 acre = Rs. 100/0.5 acre b. Bio-pesticide ; 1. *Trichoderma* = 1 kg/0.5 acre = Rs.70/0.5 acre **Above inputs will be purchased as per prevailing market price and availability of inputs** **Total input cost Rs. 620/Farm family/Year** **Grand total of 20 families x Rs. 620 = Rs. 12,400/- *i.e.* 13,000/-**

Performance Indicators	
a. Technical Observations	Pod and haulm yield (kg/ha)
b. Economic indicators	Net return and B:C Ratio
c. Farmers reaction	Feedback will be collected

PLAN OF ACTIVITIES FOR THE YEAR 2019-20

Sr. No.	Quarter	Activities
1.	First quarter (Apr-Jun, 2019)	1. Base line survey of selected village 2. Village meeting and finalization of farmers list 3. Advertising & fixing rate contract for critical inputs 4. Procurement of critical inputs 5. Farmers pre-training/interface meeting
2.	Second quarter (Jul-Sep, 2019)	1. Distribution of critical inputs 2. Sowing of crop & technology application 3. Field visits & monitoring crop condition 4. Farmers training/workshop
3.	Third quarter (Oct-Dec, 2019)	1. Field days/exposure visits 2. Field visits& monitoring crop condition 3. Harvesting of crops 4. Data collection 5. Feedback of farmers
4.	Fourth quarter (Jan-Mar, 2020)	1. Data processing 2. Preparation of report

5. Cluster Frontline Demonstrations on pulses under NFSM

Trainings programs conducted

Sr. No	On/Off Campus	No. of Training Conducted	Total No. of Participants
1	On Campus	1	42
2	Off Campus	1	33

Awareness programs / exposure visits / field days/Camps conducted

Sr. No.	Particulars	No. of Programmes	No. of participants
1	Agro advisory services	2	34
2	Literature Distributed	8	289

Detail of FLDs

Crop	Allocation		Achievements		Tech. demonstrated	Yield (kg/ha)		Yield gap	
	Area (ha)	No. of FLDs	Area (ha)	No. of FLDs		C-FLDs	Check variety	Kg/ha	%
Chickpea (GJG-3) Rabi	20	50	20	50	Var.GJG-3 + INM + IDM + IPM	Harvesting on field is continue.	-	-	-
-	-	-	-	-	-	-	-	-	-

6. Cluster Frontline Demonstrations on oil seeds under NMOOP

NMOOP was launched in April, 2014 keeping in view achievements of the erstwhile schemes namely, Integrated Scheme of Oilseeds, Oil Palm and Maize (ISOPOM), Three Born Oilseeds (TBOs) and Oil Palm Area Expansion (OPAE) programme during the 11th Plan period. The schemes had a positive impact on production and productivity of oilseeds and area expansion under Oil Palm. NMOOP comprising 3 Mini Mission (MM), one each for Oilseeds (MM-I), Oil Palm (MM-II) and Tree Borne Oilseeds-TBOs (MM-III) was launched from April, 2014.

Objectives:

1. To increase production and productivity of oilseeds crops under different agro-ecological situations.
2. To pilot innovations and improved efficiency within the overall objective of the scheme and its expected outcomes.
3. To undertake mitigation/restoration activities in case of natural calamities in the oilseeds sector.

Performance of FLD

Sr. No	Crop	Technology Demonstrated	No. of Farmers	Area (ha)	Demo. Yield (qt/ha)			Economics of Demonstration			
					H	L	A	Gross Cost (Rs/ha)	Gross Return(Rs./ha.)	Net Return (Rs./ha.)	B:C Ratio
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
1	Sesamum (Summer-2018)	Variety: G.Til-3, and INM + IPM	25 (0.80 ha 25 FLDs	20	9.75	8.50	9.10	25750	63700	37950	2.47
2	Groundnut (Kharif-2018-19)	Var. GJG-22 and INM + IDM + IPM	50 (0.40 ha 50 FLDs	20	18.60	14.70	16.73	35767	96821	61054	2.71

Crop	Chech yield (qt/ha)	Economics of check Plot			
		Gross Cost (Rs/ha)	Gross Return (Rs./ha.)	Net Return (Rs./ha.)	B:C Ratio
13	14	15	16	17	18
Sesamum (Summer)	7.51	24500	52570	28070	2.15
Groundnut (Kharif)	14.61	34567	84595	50028	2.46

Others Extension Activities:

Sr. No.	Name of Activity	No. of Activites	No. of Beneficiaries		
			Male	Female	Total
1	Training	4	103	9	112
2	Field day	1	24	3	27
3	Telephone help line	23	23	-	23
4	Farmers visit to KVK farm	70	63	7	70
5	Scientist visit to farmer's field	5	35	3	38

7. Mera Gaon Mera Gaurav (MGMG)

Background information / Introduction

On the basis of agro climatic conditions, soil types, and cropping pattern; Gujarat has been divided into eight agro climatic zones. Rajkot district falls under North Saurashtra Agro climatic Zone. The total geographical area of North Saurashtra Agro Climatic Zone is 35.2 Lack ha. Out of total area, 73.40 per cent area falls under arid and semi-arid region. The soils of this zone are shallow to moderately deep. The soils of Rajkot district is medium in their availability of nitrogen while low in phosphorus and high in available potash except the available phosphorus and potash is in medium category in adopted villages. Monsoon commences usually by the middle of June and withdraws by middle of September. Average annual rainfall of districts is 1214.6 mm. Monsoon in this area commences in the end of June and retreats by the middle of September. Most of the precipitation is received from South – West monsoon, concentrating in the month of July and August. The maximum rainfall and number of rainy days are observed in July. The winter season sets by the end of October. This district is situated near seashore hence; there are no drastic fluctuations in the temperature. The average maximum and minimum temperatures are 42.0° C and 16.9 °C respectively. Overall climate of this station is humid and convenient for coastal crops

The main crops of the region are groundnut, cotton, wheat, cumin, onion, garlic, castor, green gram, black gram, pearl millet, etc.

Seasonal vegetables are also grown in limited area. Lift irrigation through tube well & dug well are the main sources of irrigation.

Sr. No.	Name of Institute	Total No. of Group	No. of Scientist Involved	No. of Village covered
1	KVK, JAU, Targhadia	2	4	10

Activities organized by KVK-Targhadia, Rajkot-I under MGMG

S. No.	Name of activity	No. of activities conducted	No. of benefitted
1	Visit to village by teams	4	67
2	Interface meeting/ Goshthies	5	90
3	Training organized	4	109
4	Demonstrations conducted	43	43
5	Mobile based advisories	2	25
6	Literature Support Provided	8	80
7	Awareness Created	2	93

8. Agricultural Technology Information Center (ATIC)

1. Objectives:

i) To provide a 'single window' delivery system for the product and the species available from JAU to the farmers and other interested groups as a process of innovativeness in technology dissemination.

ii) To facilitate direct access to the farmers to the institutional research available in term of technology, advice, technology products, etc. for reducing technology dissemination losses.

iii) To provide mechanism for feed back from the users to the institute.

2. Progress of the scheme

FLD conducted (Kharif-2018) :

Sr. No.	Crop/ Enterprise	Tech. Demons treated	Inputs	No. of Farm-ers	Area (ha.)/ No.	Demo. Yield Qtl/ha			Yield of local Check Qtl./ha	Incr-ease in yield (%)
						H	L	A		
1	2	3	4	5	6	7	8	9	10	11
1	Groundnut	Varietal evaluation	GJG-22	50	20	31.25	5.00	16.16	15.00	7.75

Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
12	13	14	15	16	17	18	19
32750	93754	61004	2.86	31790	81570	49780	2.56

Details of Training and other extension activities

Nature of Extension Activity	No. of activities	Total Participants
1	2	3
On + Off campus Training	4	107
Kisan Ghosthi	2	58
Film Show	3	121
Group meetings	3	78
Scientific visit to farmers field	3	39
Farmers visit to KVK	5	45
Extension Literature distribute	550	-

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

APR SUMMARY

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	50	916	320	1208
Rural youths	4	93	27	120
Extension functionaries	3	64	0	64
Sponsored Training	5	110	105	215
Vocational Training	1	-	35	35
Total	63	1183	487	1642

2. Frontline demonstrations

Enterprise	No. of Farmers	Area (ha)	Units/Animals
Oilseeds	30	12	-
Pulses	10	4	-
Cereals	-	-	-
Vegetables	5	-	-
Other crops	10	4	-
Hybrid crops	-	-	-
Total	**55**	20	-
Livestock & Fisheries	50	-	1
Other enterprises	-	-	-
Total	**50**	-	1
Grand Total	**105**	20	-

3. Technology Assessment

Category	No. of Technology Assessed	No. of Trials	No. of Farmers
Technology Assessed			
Crops	3	1	3
Livestock			
Various enterprises			
Other	1	1	5
Total	4	1	8

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	110	6064
Other extension activities	19	1462
Total	129	7526

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marke-ting	Aware-ness	Other enterprise	Total
Rajkot-1	Text only			22				22
	Voice only							
	Voice & Text both							
	Total Messages							
	Total farmers Benefitted			**3000**				

6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	95.75	-
Planting material (No.)	-	-
Bio-Products (kg)	11482	114820
Livestock Production (No.)	-	-
Fishery production (No.)	-	-

7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil	50	5000/-
Water	50	5000/-
Plant	-	-
Total	**100**	**10000/-**

8. HRD and Publications

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