

**ICAR-ATARI, Pune**  
**DETAILS OF ACTION PLAN OF KVKs DURING 2018-19**  
**(1<sup>st</sup> April 2018 to 31<sup>st</sup> March 2019)**

**1. GENERAL INFORMATION ABOUT THE KVK**

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

Address with PIN code	Telephone		E mail	Website address & No. of visitors (hits)
	Office	FAX		
Senior Scientist and Head Krishi Vigyan Kendra, Junagadh Agricultural University, Keriya Road, Model farm, Amreli (Gujarat)-365601	02792 227122	02792 227122	kvkamreli@gmail.com	-----

**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, Agril. Campus, Motibaugh, Junagadh-362001 (Gujarat)	0285 2672080-90	0285 2672004 2672653	-----	www.jau.in

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

Name	Telephone / Contact		
	Office	Mobile	Email
Dr. N. S. Joshi Ph.D, Horticulture	02792 227122	9428191963	nileshjoshi2207@gmail.com

**1.4. Year of sanction: Deputy Secretary, ICAR, New Delhi, Letter No. 13-16/2003/1, Dt. 7.12.2004**

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

Sl. No.	Sanctioned post	Name of the incumbent	Discipline	Current Pay Band	Current Grade Pay	Date of joining
1.	Senior Scientist and Head	Dr. N. S. Joshi	Horticulture	15600-39100	9000	24/03/2015
2.	Scientist	Dr. H. C. Chhodavadia	Extension Education	15600-39100	8000	24/08/2006
3.	Scientist	Er. P. S. Jayswal	Agriculture Engineering	15600-39100	6000	10/09/2012
4.	Scientist	Dr. M. L. Patel	Plant Protection	15600-39100	6000	31/03/2015
5.	Scientist	Mr. P. J.	Crop Production	15600-39100	6000	31/03/2015

		Prajapati				
6.	Scientist	Vacant	Animal Science	----	----	----
7.	Scientist	Vacant	Home Science	----	----	----
8.	Programme Assistant	Vacant	----	----	----	----
9.	Computer Programmer	Shri S .N. Joshi	----	39900-126600	----	01/07/10
10.	Farm Manager	Vaccant	----	----	----	----
11.	Accountant/ Superintendent	Shri H. J. Ravaliya	----	39900-126600	----	01/12/11
12.	Stenographer	Shri A. H. Parmar	----	19,950 fix	----	18/11/2013
13.	Driver 1	Vaccant	----	----	----	----
14.	Driver 2	Vacant	----	----	----	----
15.	Supporting staff 1	Shri N. K. Dangar	----	15700-50000	----	01/06/05
16.	Supporting staff 2	Vacant	----	----	----	----

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

S. No.	Item	Area (ha)
1	Under Buildings	3.00
2.	Under Demonstration Units	1.00
3.	Under Crops	13.47
4.	Horticulture	0.50
5.	Pond	1.0
6.	Others if any	0.53
	<b>Total</b>	<b>20</b>

#### 1.7. Infrastructural Development:

##### A. Buildings

S. No.	Name of building	Source of funding	Stage			
			Complete			Incomplete
			Completion Year	Plinth area (Sq.m)	Expenditure (Rs.)	
1.	Administrative Building	ICAR	2008	500	3190000	NIL
2.	Farmers Hostel	ICAR	2008	305	2088000	
3.	Staff Quarters(6)	ICAR	2008	400	3204000	

4.	Farm Wall	ICAR	2008	-	-
5	RWH system	ICAR	2008	-	960000
6	Threshing yard	ICAR	2009	-	-
7	Godown and processing shed	RKVY	2009	70.62	500000
8	Poly House	RKVY	2010	320	281600
9	Net House	RKVY	2010	150	64450
10	Training hall	RKVY	2010	190.99	1396300
11	Pilot scale Process plant	RKVY	2010	197.31	1536400
12	Implement shed	RKVY	2010	77.33	286300
13	Farm Wall	ICAR	2016	-	497475
14	Goat Shed	ICAR	2016	14.05	69760
15	Vermicompost unit	ICAR	2016	45	73640
16	Administrative building(Renovation)	ICAR	2017	-	300000

#### B. Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
M&M, Bolero XL	2006	4,86,500	261149	Working condition
Tractor	2005	3,80,000	---	Working condition
Motor Cycle	2010	42,831	15300	Working condition
Power Tiller with implements	2011	1,42,000	---	Working condition
Mini Tractor with implements	2014	3,74,820	---	Working condition

#### C. Equipments & AV aids

Name of the equipment / Implements	Year of purchase	Cost (Rs.)	Present status
Digital camera	2008-09	11070	Working condition
Air assisted blast type sprayer	2008-09	98750	Working condition
Vacuum cleaner, RO, water cooler	2008-09	41780	Working condition
Samsung A/C, Nos.-2	2008-09	47300	Working condition
Fax machine	2008-09	17500	Working condition
LCD projector	2008-09	98799	Working condition

Winnowing fan	2008-09	8500	Working condition
Chaff cutter	2008-09	30188	Working condition
Plasma TV, Nos.-2 (21 and 52")	2008-09	139952	Working condition
Cotton stock shredder-Nos.-3	2008-09	363000	Working condition
Spiral binding machine	2008-09	9090	Working condition
Rotavator with cultivator, Nos.-2	2008-09	180000	Working condition
Inverter	2008-09	19800	Working condition
Manually operated seed dressing drum	2008-09	20930	Working condition
Exhibition display	2008-09	39974	Working condition
Decorticator groundnut machine	2008-09	98850	Working condition
Cotton shredder, Nos.-2	2008-09	242000	Working condition
Battery operated sprayer	2008-09	4940	Working condition
Aspee knapsack sprayer	2008-09	7400	Working condition
Bullock drawn pipe farm seed drill	2008-09	161000	Working condition
Zero till drill	2008-09	66725	Working condition
Bullock drawn clod breaker	2008-09	52000	Working condition
Tractor operated groundnut digger	2008-09	235500	Working condition
Multipurpose thresher (engine operated)	2008-09	114000	Working condition
Mobile seed processing unit	2008-09	1685000	Working condition
Electronic balance	2008-09	19425	Working condition
Power generated	2008-09	49500	Working condition
RO system	2008-09	24450	Working condition
Air condition Nos.-2	2008-09	51580	Working condition
Air condition, Nos.-3	2008-09	89970	Working condition
Photo copier	2008-09	124000	Working condition
LCD and accessories	2008-09	103912	Working condition
Oven and freeze	2008-09	30605	Working condition
Tractor drawn harrow cum cultivator	2008-09	75000	Working condition
Planter	2008-09	44000	Working condition
Rotavator	2008-09	96000	Working condition
Laptop	2008-09	47500	Working condition
Pipe frame blade harrow piece	2008-09	11000	Working condition
Solar equipments	2008-09	81830	Working condition
Gas connection for lab.	2009-10	9700	Working condition
Digital Sony Camera	2009-10	24750	Working condition

Post Whole Digger	2009-10	38000	Working condition
Motor, 1 Hp	2009-10	8650	Working condition
Power Generator	2009-10	45576	Working condition
Multi Crop thresher	2010-11	38000	Working condition
BOD incubator	2010-11	75863	Working condition
Compound light microscope	2010-11	90851	Working condition
Motor 7.5 Hp	2010-11	28600	Working condition
Motor 5 Hp	2010-11	17000	Working condition
Desktop Computer	2010-11	34810	Working condition
Hot air Oven	2010-11	15215	Working condition
Hot plate	2010-11	4725	Working condition
Physical Balance	2010-11	3623	Working condition
Refrigerator	2010-11	19200	Working condition
PH meter	2010-11	3990	Working condition
Conductivity bridge	2010-11	9450	Working condition
Chemical Balance	2010-11	45066	Working condition
Shaker-2 no.	2010-11	49000	Working condition
Flame Photometer	2010-11	44887	Working condition
Spectrophotometer	2010-11	39480	Working condition
Water Distillation Still	2010-11	1,57,500	Working condition
Seed Drill	2010-11	27500	Working condition
Winnower	2010-11	37000	Working condition
Disc Plow	2012-13	30400	Working condition
Disc Harrow	2012-13	37500	Working condition
Nine tine Cultivator	2012-13	19600	Working condition
PC with Accessories (2 No.)	2013-14	65970	Working condition
Printer (2 No.)	2013-14	13898	Working condition
Scanner	2013-14	4309	Working condition
PC with Accessories (2 No.)	2015-16	77590	Working condition
Printer	2015-16	11900	Working condition
Rotavator (NICRA)	2015-16	70000	Working condition
Mobile shredder(NICRA)	2015-16	146000	Working condition
Chaff cutter(NICRA)	2015-16	57000	Working condition
Multi crop thresher(NICRA)	2015-16	155000	Working condition
Rear mounted reaper (NICRA)	2015-16	95000	Working condition

Digital Camera	2016-17	14400	Working condition
Desktop Computer	2016-17	34115	Working condition
Printer	2016-17	12546	Working condition
Automatic seed cum fertilizer drill(NICRA)	2016-17	66412	Working condition
Dibbler (03 nos.)	2016-17	6000	Working condition
Seed dressing drum (5 nos.) (NICRA)	2016-17	15000	Working condition
Rotavator (NICRA)	2016-17	89040	Working condition
Bund former (NICRA)	2016-17	13650	Working condition
Air conditioner (02 nos.)	2016-17	79980	Working condition
Desktop Computer	2016-17	34115	Working condition
Photo copier	2016-17	144391	Working condition
Integrated community computer	2016-17	110644	Working condition
Multi crop thresher	2017-18	187040	Working condition
Computer with UPS	2017-18	42889	Working condition

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

Sl.No.	Date
1. Scientific Advisory Committee	12.03.2018

## 2. DETAILS OF DISTRICT

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

S. No	Farming system/enterprise
1	Dry Farming
2	Rainfed : Cotton, Groundnut, Sesame, Black gram, Green gram, Mango, Onion
3	Agriculture – Horticulture (Mango)
4	Agriculture – Dairy
5	Agriculture – Fisheries
6	Cotton based cropping system
7	Groundnut based cropping system
8	Sesame based cropping system
9	Enterprise: Poultry, Fishery, Dairy, Sericulture, Vermicompost

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

### a. Soil type

Agro-climatic Zone	Characteristics
North Saurashtra Agro climatic Zone VI	Medium black soil, coastal alluvial soil, rocky soil and alkaline soil The climate of the district varies from moderately hot throughout the year except in winter. The climate is humid along with the coastal belt. The temperature varies from 8.01° Celsius in January to 43.7° Celsius in May. The average rainfall of last three years is 706 mm.

### b. Topography

S. No.	Agro ecological situation	Characteristics
1	Medium black soil with 400-700 mm rainfall	-
2	Shallow black soils with 600-700 mm rainfall	-
3	Saline - alkali (Heavy texture) soils with 500-600 mm rainfall	Saline groundwater
4	Hilly soils with 300-600 mm rainfall	Well drained soils
5	Coastal alluvial soil with medium rainfall 750-1000 mm.	Saline groundwater

## 2.3. Soil Types

S. No	Soil type	Characteristics
1	Medium black	Major portion of the district is covered by the medium black soil, which is considered very productive. It is rich in lime, magnesia and alumina but poor in phosphorus, nitrogen and organic matters. It can retain considerable moisture and is much suitable for agriculture.
2	Coastal alluvial	The coastal alluvial soil is found on the coastal areas of Jafrabad and Rajula. Among the whole of the coastal areas, the land is sandy. However, the soils in Rajula and Jafrabad are less productive as they are saline. The soils in the northern part of the district including Babra and parts of Kunkavav Vadia and Dhari talukas are shallow and rocky. Certain areas in Amreli taluka known as Kharapat are poor in cultivation; but this taluka possesses the best land along the north and the south banks of the Shetrunji.
3	Rocky soils	The soil of Dhari taluka is lighter and near the Gir forest redder. The soil on the southern part of the district is light in colour with only few fertile gradients, and in many places, it is rocky and barren.

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

S. No	Crop	Area (ha)	Production (MT.)	Productivity (Qt./ha)
1	Pearl millet	7700	112000	14.55
2	Jowar	400	4000	10.00
3	Maize	900	16000	17.78
4	Green gram	4000	20000	5.00
5	Black gram	1900	11000	5.79
6	Tur	800	8000	10.00
7	Wheat	30900	1132000	36.63
8	Gram	2400	31000	12.92
9	Kharif Groundnut	135800	1359000	10.01
10	Summer Groundnut	4900	94000	19.18
11	Kharif Sesamum	10400	34000	3.27
12	Summer Sesamum	3500	66000	18.86
13	Castor	2100	41000	19.52
14	Irrigated Cotton (Lint)	178300	6458000	36.22
15	UnIrrigated Cotton (Lint)	137600	1526000	11.09
16	Cumin	2500	13000	5.20
17	Onion	3700	1020000	275.68
18	Garlic	1700	96000	56.47
19	Chilli	100	1000	10.00

## 2.5. Weather data (2017-18)

Month	Rainfall (mm)	Temperature 0 C		Relative Humidity (%)	
		Maximum	Minimum	Maximum	Minimum
April 2017	0.0	44.5	19.0	65	16
May 2017	0.0	43.8	24.1	78	22
June 2017	71.8	41.4	24.1	83	49
July 2017	381.0	36.0	23.7	88	74
August 2017	98.4	34.8	23.4	89	66
September 2017	100.4	35.0	23.0	87	60
October 2017	11.6	38.4	17.3	76	32
November 2017	0.0	35.8	12.5	67	24
December 2017	3.2	32.1	9.2	68	34
January 2018	0.0	35.0	8.6	67	32
February 2018	0.2	38.0	12.7	61	24
March 2018	0.0	41.8	18.0	60	16
<b>Total</b>	<b>666.6</b>	-	-	-	-



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

Category	Population	Production	Productivity
<b>Cattle</b>			
<i>Crossbred</i>	8700	7.05	9.351 kg/day
<i>Indigenous</i>	259800	133.80	4.625 kg/day
<b>Buffalo</b>	315500	199.51	5.158 kg/day
<b>Sheep</b>	135800	156.83	1.337 kg/sheep
<b>Goats</b>	160600	12.47	0.535 kg/day
<b>Pigs</b>			
<i>Crossbred</i>	---	---	---
<i>Indigenous</i>	---	---	---
<b>Rabbits</b>			
---	---	---	---
<b>Poultry</b>			
Hens	00	00	00
<i>Desi</i>	8200	5.59 lakh	127.71/season/year/layer
<b>Category</b>		<b>Production (Q.)</b>	<b>Productivity</b>
Fish (Reservoir)	---	---	---

Source: 34<sup>th</sup> issue on estimates of major livestock products for the year 2016-17, Gujarat state

## 2.7. Details of Operational area / Villages

Taluka	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
Lathi	Amreli	Kerala (Jogani)	Cotton, Groundnut, Cumin, wheat	<ul style="list-style-type: none"> <li>• Lack of irrigation facility</li> <li>• Poor quality of irrigation water</li> <li>• Wild animal problem</li> <li>• Poor fertility status of Land</li> <li>• Low yield of major crops</li> </ul>	INM, IPM, Conserve moisture Agriculture, Training on MIS
Lathi	Amreli	Harsupur Devaliya	Cotton, Groundnut, Green gram, wheat	<ul style="list-style-type: none"> <li>• Lack of irrigation facility</li> <li>• Poor quality of irrigation water</li> <li>• Wild animal problem</li> <li>• Low yield of major crops</li> </ul>	INM, IPM, Conserve Moisture agriculture
Liliya	Amreli	Saladi	Cotton, Green gram	<ul style="list-style-type: none"> <li>• Saline land and poor quality of irrigation water</li> <li>• Poor fertility status of Land</li> </ul>	Conserve Moisture agriculture, OFT in cotton on BBF, Training on MIS
Liliya	Amreli	Jatruda	Cotton, Groundnut	<ul style="list-style-type: none"> <li>• Saline land and poor quality of irrigation water</li> <li>• Poor fertility status of Land</li> <li>• Low yield of major crops</li> </ul>	INM, IPM, Conserve Moisture agriculture

Babra	Amreli	Vandaliya	Cotton, Groundnut, Cumin, Wheat	<ul style="list-style-type: none"> <li>• Low yield of major crops</li> <li>• Wild animal problem</li> <li>• Lack of irrigation facility</li> </ul>	ICM, introduction of new varieties, Scientific cropping
Kukavav	Amreli	Lunidhaar	Cotton, Groundnut, Green gram, black gram	<ul style="list-style-type: none"> <li>• Low yield of major crops</li> <li>• Wild animal problem</li> <li>• Lack of irrigation facility</li> </ul>	ICM, introduction of new varieties, Scientific cropping
Bagasra	Amreli	Haalariya	Groundnut, cotton, Green gram, black gram	<ul style="list-style-type: none"> <li>• Low yield of major crops</li> <li>• Wild animal problem</li> <li>• Lack of irrigation facility</li> </ul>	ICM, introduction of new varieties, Scientific cropping
Dhari	Amreli	Ditla	Cotton, Groundnut, Mango	<ul style="list-style-type: none"> <li>• Low yield of major crops</li> <li>• Wild animal problem</li> </ul>	ICM, introduction of new varieties, Scientific cropping
Amreli	Amreli	Babapur	Cotton, Castor, Wheat	<ul style="list-style-type: none"> <li>• Low yield of major crops</li> <li>• Wild animal problem</li> <li>• Poor quality of irrigation water</li> </ul>	ICM, introduction of new varieties, Scientific cropping
Amreli	Amreli	Shedubhar	Cotton, Groundnut, Green gram, black gram	<ul style="list-style-type: none"> <li>• Low yield of major crops</li> <li>• Wild animal problem</li> <li>• Poor quality of irrigation water</li> </ul>	ICM, introduction of new varieties, Scientific cropping
Amreli	Amreli	Vaankiya	Cotton, Groundnut, pigeon pea	<ul style="list-style-type: none"> <li>• Low yield of major crops</li> <li>• Wild animal problem</li> <li>• Poor quality of irrigation water</li> </ul>	ICM, introduction of new varieties, Scientific cropping
Khambha	Amreli	Lakhapadar	Cotton, Groundnut, wheat, Pigeon pea	<ul style="list-style-type: none"> <li>• Low yield of major crops</li> <li>• Wild animal problem</li> </ul>	ICM, introduction of new varieties, Scientific cropping
Savarkundla	Amreli	Nesdi	Cotton, Groundnut, wheat, Pigeon pea, lemon	<ul style="list-style-type: none"> <li>• Low yield of major crops</li> <li>• Wild animal problem</li> </ul>	ICM, introduction of new varieties, Scientific cropping
Savarkundla	Amreli	Oliya	Cotton, Groundnut, wheat, Pigeon pea, lemon	<ul style="list-style-type: none"> <li>• Low yield of major crops</li> <li>• Wild animal problem</li> </ul>	ICM, introduction of new varieties, Scientific cropping
Rajula	Amreli	Maandardi	Cotton, Groundnut, wheat, Pigeon pea	<ul style="list-style-type: none"> <li>• Low yield of major crops</li> <li>• Wild animal problem</li> </ul>	ICM, introduction of new varieties, Scientific cropping

## 2.8. Priority thrust areas:

Crop/Enterprise	Thrust area
Cotton, Groundnut, Castor, Cumin, Wheat, vegetables, fruits, etc.	Integrated Crop Management in major crops
Farm waste	Recycling of farm waste through composting, vermicompost, green manuring, etc.
Micro irrigation	Efficient use of water by micro irrigation system, water harvesting structure, and water conservation techniques
Soil	Reclamation of saline & alkaline soils
Farm Women	Farm women empowerment by training in value addition, handicrafts, and small scale enterprises
Horticulture	Promotion of arid horticulture fruit crops
Improved Implements	Popularization of the mechanized technological know how

## 3. TECHNICAL PROGRAMME

### 3.1. A. Details of targeted mandatory activities by KVK

OFT		FLD	
(1)		(2)	
Number of OFTs	Number of Farmers	Area (ha)	Number of Farmers
8	19	40	100

Training		Extension Activities	
(3)		(4)	
Number of Courses	Number of Participants	Number of activities	Number of participants
46	1540	190	11724

Seed Production (Qtl.)	Planting material (Nos.)	Fish seed prod. (No's)	Soil Samples
(5)	(6)	(7)	(8)
162	1500	-	150

### 3.1. B. Operational areas details proposed 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, Cotton, Sesamum, Wheat, Cumin, Chickpea, Garlic, Onion, Mango, lemon Enterprises are dairy business, vermi composting,	Heavy infestation of sucking pest in cotton, Sesame leaf blight, Stem rot disease in Groundnut, Mango Malformation, Less area under Horticultural crops	Every village of this district is facing problem.	Kerala(Jogani)	<ul style="list-style-type: none"> <li>• IPM and INM in major crops of this area,</li> <li>• Motivate the farmers for arid Horticultural crops.</li> <li>• To create the awareness for grading, processing and marketing (value addition)</li> <li>• Various OFT, FLD, trainings, extension activities were carried out.</li> </ul>
2				Harsupur	
3				Devaliya	
4				Saladi	
5				Jatruda	
6				Vandaliya	
7				Lunidhaar	
8				Haalariya	
9				Ditla	
10				Babapur	
11				Shedubhar	
12				Vaankiya	
13				Lakhapadar	
14				Nesdi	
15				Oliya	
	Maandardi				

### 3.2. Technologies to be assessed and refined

A.1. Abstract on the number of technologies to be assessed in respect of crops

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management	1								1	2
Varietal Evaluation										0
Integrated Pest Management								1		1
Integrated Crop Management										0
Integrated Disease Management			1							1
Small Scale Income Generation Enterprises										0
Weed Management										0
Resource Conservation Technology								1		1
Farm Machineries										0
Integrated Farming System										0
Seed / Plant production										0
Value addition										0
Drudgery Reduction										0
Storage Technique										0
Mushroom cultivation										0
Integrated Varietal Management					1					1
Closure Planting method								1		1
<b>Total</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>7</b>

A.2. Abstract on the number of technologies to be refined in respect of crops: NIL

A.3. Abstract on the number of technologies to be assessed in respect of livestock / enterprises: NIL

A.4. Abstract on the number of technologies to be refined in respect of livestock / enterprises: NIL

**B. Details of On Farm Trial / Technology Assessment during 2018-19**

S.N.	Crop/ enterprise	Prioritized problem	Title of OFT	Technology options	Source of Technology	Name of critical input	Cost per trial	No. of trials	Total cost for the OFT (Rs.)	Paramet ers to be studied	Team members
1.	Wheat	Farmers do not use bio fertilizer	Effect of liquid bio fertilizer on growth and yield of wheat	Use only DAP and Urea in various dose	JAU, Junagadh	Bio Fertilizer	120	2	480	Yield	Sr. Scientist and all scientists
				120-60-0 NPK kg/ha				2			
				Soil application of Azotobacter & PSB @ 1 lit./ha with 100 kg FYM +75% RDF				2			
2.	Cotton	Farmers do not adopt closer planting, there for get low cotton yield due to less soil moisture and	High Density Planting in Cotton	120 X 45-60 cm (18519-13888 plants/ha)	Cotton Research station, JAU, Junagadh	Cotton Seed(bt)	1600	2	3200	Yield	
				90 X 30 cm (37037 plants/ha) (Var. GTHH-49 (bt))				2			

		incidence of pest and disease									
3.	Cotton	Injudicious use of Chemical pesticides due to lack of knowledge about the use of particular pesticides	Management of sucking pests in Cotton	High dose and Use of conventional Chemical pesticides	JAU, Junagadh	Bio Pesticides and botanicals	2000	2	4000	Yield	
				Three spray of Thiamethoxam 25 WG @ 25 gai/ha (2 g / 10 litre of water) at 15 day interval starting from the pest infestation.				2			
				Azadirachtin 1500 PPM and Beauveria bassiana at 15 day interval starting from the pest infestation				2			
4.	Chickpea	Low yield in chickpea	Management of Wilt in chickpea	No use of seed treatment and Trichoderma	JAU, Junagadh	Bio Fungicide	2500	2	5000	Yield	
				Seed treatment of Carbendazim @ 3g/kg seed				2			
				Seed treatment of cow urine/Jivamrut and Soil application of Trichoderma @2.5 kg /ha with Castor cake 500kg.				2			

5.	Cotton	Decreasing productivity of Cotton due to water logging, soil salinization in salt-affected lands. Heavy mortality, difficulties in intercultural operation due to lodging.	Effect of method of sowing on ridges on yield of Cotton	Traditional Sowing of Cotton on Flat bed(152 cm apart)	JAU, Junagadh	Cotton Seed, Dibbler and Shredder(re nt)	1000	4	4000	Yield, C:B ratio and Bolls per plant
				To prepare the field by ploughing followed by blade harrowing & planking and sow the crop on ridges (120 cm apart). (Year 2013-14, Department of Agronomy, JAU, Junagadh)				4		
6.	Watermelon	Low yield potential of watermelon	Effect of plastic mulch on yield of watermelon	No mulch	JAU, Junagadh	20µm silver black plastic mulch	1500	3	4500	Yield, Per fruit weight, C:B ratio, water saving
				Silver Black Plastic Mulch (20 micron) under drip irrigation system				3		
7.	Onion	Low productivity of non-descriptive local onion varieties	Assessment of onion varieties	Farmer practices-local (pillipati)	JAU, Junagadh	Fertilizer	2000	2	6000	Yield
				Gujarat White Onion-1				2		
				Gujarat Junagadh White Onion- 3				2		



8.	Garlic	Farmers not using the micronutrients	Effect of multi micronutrients formulation on garlic	Farmer practices- 120 DAP, 40 kg P Kg/ha	JAU, Junagadh	Nutrient	2500	2	7500	Yield
				Apply foliar spray of multi-micronutrient formulation Grade IV (Fe-Mn-Zn-Cu-B, 4.0-1.0- 6.0-0.5-0.5 %) @ 1% at 60, 75 and 90 DAS				2		
				Apply foliar spray of multi-micronutrient formulation Grade IV (Fe-Mn-Zn-Cu-B, 4.0-1.0- 6.0-0.5-0.5 %) @ 2 % at 60, 75 and 90 DAS				2		

### C. Technology Refinement during 2018-19: NIL

### 3.3. Frontline Demonstrations

#### A. Details of FLDs to be organized -

Sl. No.	Crop	Variety	Thematic area	Technology for demonstration	Critical inputs	Season and year	Area (ha)	No. of farmers/ demon.	Parameters identified
1	Groundnut	GJG-22/9	Varietal Evaluation	Variety	Seed	Kharif 2018	4	10	Yield
2	Castor	GCH-7/9	Varietal	Variety	Seed		4	10	Yield

3	Cotton	GCH-10/12(Bt)	Varietal Evaluation	Variety	Seed	Rabi 2018-19	4	10	Yield
4	Wheat	INM	INM	INM	Nutrient		4	10	Yield
5	Cumin	GC-4	Varietal Evaluation	Variety	Seed		4	10	Yield
6	Onion	GJO-11	Varietal Evaluation	Variety	Seed		2	5	Yield
7	Coriander	GC-1/2	Varietal Evaluation	Variety	Seed		4	10	Yield
8	Sesame	GT-3/5	Varietal Evaluation	Variety	Seed	Summer 2018	4	10	Yield
9	Black gram	Guj. Urd-1	Varietal Evaluation	Variety	Seed		4	10	Yield
10	Green gram	GM-4/5	Varietal Evaluation	Variety	Seed		4	10	Yield
11	Okra	GJO-3	Varietal Evaluation	Variety	Seed		2	5	Yield
<b>Total</b>							<b>40</b>	<b>100</b>	

### Sponsored Demonstration

Crop	Area (ha)	No. of farmers
-	-	-

### B. Extension and Training activities under FLDs

S. No.	Activity	No. of activities	Month	Number of participants
1	Field days	11	During particular	110

2	Farmers Training	15	season	300
3	Media coverage	-		-
4	Training for extension functionaries	5		150

### C. Details of FLD on Enterprises

#### a. Farm Implements

Name of the implement	Crop	Season and year	No. of farmers	Area (ha)	Critical inputs	Performance parameters / indicators
Cotton shredder	cotton	2018-19	10	4	-	Field capacity

#### b. Livestock Enterprises: NIL

#### c. FLD on Other enterprises: NIL

### 3.4.Training (Including the sponsored and FLD training programmes):

#### A. ON Campus

Thematic Area	No. of Courses	No. of Participants						Grand Total
		Others			SC/ST			
		Male	Female	Total	Male	Female	Total	
<b>(A) Farmers &amp; Farm Women</b>								
<b>I Crop Production</b>								
Weed Management								
Resource Conservation Technologies								
Cropping Systems	1	10	8	18	9	8	17	35
Crop Diversification								
Integrated Farming	1	10	8	18	9	8	17	35
Water management								
Seed production								

Nursery management								
Integrated Crop Management								
Fodder production								
Production of organic inputs	1	10	8	18	9	8	17	35
<b>II Horticulture</b>								
<b>a) Vegetable Crops</b>								
Production of low volume and high value crops								
Off-season vegetables								
Nursery raising								
Exotic vegetables like Broccoli								
Export potential vegetables								
Grading and standardization								
Protective cultivation (Green Houses, Shade Net etc.)								
<b>b) Fruits</b>								
Training and Pruning								
Layout and Management of Orchards								
Cultivation of Fruit	1	10	8	18	9	8	17	35
Management of young plants/orchards								
Rejuvenation of old orchards								
Export potential fruits								
Micro irrigation systems of orchards								
Plant propagation techniques								
<b>c) Ornamental Plants</b>								
Nursery Management								
Management of potted plants								
Export potential of ornamental plants								
Propagation techniques of Ornamental Plants								
<b>d) Plantation crops</b>								

Production and Management technology								
Processing and value addition								
<b>e) Tuber crops</b>								
Production and Management technology								
Processing and value addition								
<b>f) Spices</b>								
Production and Management technology	1	10	8	18	9	8	17	35
Processing and value addition								
<b>g) Medicinal and Aromatic Plants</b>								
Nursery management								
Production and management technology								
Post harvest technology and value addition								
<b>III Soil Health and Fertility Management</b>								
Soil fertility management								
Soil and Water Conservation								
Integrated Nutrient Management								
Production and use of organic inputs								
Management of Problematic soils								
Micro nutrient deficiency in crops								
Nutrient Use Efficiency								
Soil and Water Testing	1	10	8	18	9	8	17	35
<b>IV Livestock Production and Management</b>								
Dairy Management								
Poultry Management								
Piggery Management								
Rabbit Management/goat								
Disease Management								
Feed management								

Production of quality animal products								
<b>V Home Science/Women empowerment</b>								
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	1	0	18	18	0	17	17	35
Gender mainstreaming through SHGs								
Storage loss minimization techniques								
Value addition								
Income generation activities for empowerment of rural Women								
Location specific drudgery reduction technologies								
Rural Crafts								
Women and child care								
<b>VI Agril. Engineering</b>								
Installation and maintenance of micro irrigation systems	1	10	8	18	9	8	17	35
Use of Plastics in farming practices	1	10	8	18	9	8	17	35
Production of small tools and implements								
Repair and maintenance of farm machinery and implements	1	10	8	18	9	8	17	35
Small scale processing and value addition								
Post Harvest Technology								
Application of renewable energy in agriculture	1	10	8	18	9	8	17	35
<b>VII Plant Protection</b>								
Integrated Pest Management	1	10	8	18	9	8	17	35
Integrated Disease Management	2	20	16	36	18	16	34	70
Bio-control of pests and diseases								
Production of bio control agents and bio pesticides	1	10	8	18	9	8	17	35
<b>VIII Fisheries</b>								
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								
<b>IX Production of Inputs at site</b>								
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								
<b>X Capacity Building and Group Dynamics</b>								
Leadership development	2	20	16	36	18	16	34	70
Group dynamics								
Formation and Management of SHGs								

Mobilization of social capital								
Entrepreneurial development of farmers/youths								
WTO and IPR issues								
Farmers Interest Group Formation	2	20	16	36	18	16	34	70
<b>XI Agro-forestry</b>								
Production technologies								
Nursery management								
Integrated Farming Systems								
<b>XII Others (Pl. Specify)</b>								
<b>TOTAL</b>	<b>19</b>	<b>180</b>	<b>162</b>	<b>342</b>	<b>162</b>	<b>161</b>	<b>323</b>	<b>665</b>
<b>(B) RURAL YOUTH</b>								
Mushroom Production	1	7	6	13	6	6	12	25
Bee-keeping								
Integrated farming	1	7	6	13	6	6	12	25
Seed production								
Production of organic inputs								
Integrated Farming (Medicinal)								
Planting material production								
Vermi-culture								
Sericulture								
Protected cultivation of vegetable crops								
Commercial fruit production								
Repair and maintenance of farm machinery and implements								
Nursery Management of Horticulture crops								
Training and pruning of orchards								
Value addition								
Production of quality animal products								
Dairying								



Sheep and goat rearing								
Quail farming								
Piggery								
Rabbit farming								
Poultry production								
Ornamental fisheries								
Para vets								
Para extension workers								
Composite fish culture								
Freshwater prawn culture								
Shrimp farming								
Pearl culture								
Cold water fisheries								
Fish harvest and processing technology								
Fry and fingerling rearing								
Small scale processing								
Post Harvest Technology								
Tailoring and Stitching								
Rural Crafts								
Plant Protection Appliances/ Equipments	1	7	6	13	6	6	12	25
Procedure for organic farming certification	1	7	6	13	6	6	12	25
Renewable Energy	1	7	6	13	6	6	12	25
Bakery product preparation	1	0	13	13	0	12	12	25
<b>TOTAL</b>	<b>6</b>	<b>35</b>	<b>43</b>	<b>78</b>	<b>30</b>	<b>42</b>	<b>72</b>	<b>150</b>
<b>(C) Extension Personnel</b>								
Productivity enhancement in field crops								
Integrated Pest Management								
Integrated Nutrient management	1	7	6	13	6	6	12	25

Rejuvenation of old orchards								
Protected cultivation technology								
Formation and Management of SHGs								
Group Dynamics and farmers organization								
Information networking among farmers								
Capacity building for ICT application								
Care and maintenance of farm machinery and implements								
WTO and IPR issues								
Management in farm animals								
Livestock feed and fodder production								
Household food security								
Women and Child care								
Low cost and nutrient efficient diet designing								
Production and use of organic inputs								
Gender mainstreaming through SHGs								
Any other (Pl. Specify)								
<b>TOTAL</b>	<b>1</b>	<b>7</b>	<b>6</b>	<b>13</b>	<b>6</b>	<b>6</b>	<b>12</b>	<b>25</b>
<b>G. Total</b>	<b>26</b>	<b>222</b>	<b>211</b>	<b>433</b>	<b>198</b>	<b>209</b>	<b>407</b>	<b>840</b>

## B. OFF Campus

Thematic Area	No. of Courses	No. of Participants						Grand Total
		Others			SC/ST			
		Male	Female	Total	Male	Female	Total	
<b>(A) Farmers &amp; Farm Women</b>								
<b>I Crop Production</b>								
Weed Management								
Resource Conservation Technologies								
Cropping Systems	1	10	8	18	9	8	17	35
Crop Diversification								
Integrated Farming								
Water management								
Seed production								
Nursery management								
Integrated Crop Management								
Fodder production								
Production of organic inputs	1	10	8	18	9	8	17	35
Package of practices onion and garlic	1	10	8	18	9	8	17	35
Concept and importance of INM	1	10	8	18	9	8	17	35
<b>II Horticulture</b>								
<b>a) Vegetable Crops</b>								
Production of low volume and high value crops								
Off-season vegetables								
Nursery raising	1	10	8	18	9	8	17	35
Exotic vegetables like Broccoli								
Export potential vegetables								
Grading and standardization								
Protective cultivation (Green Houses, Shade Net etc.)								

<b>b) Fruits</b>								
Training and Pruning								
Layout and Management of Orchards								
Cultivation of Fruit	1	10	8	18	9	8	17	35
Management of young plants/orchards								
Rejuvenation of old orchards								
Export potential fruits								
Micro irrigation systems of orchards								
Plant propagation techniques								
<b>c) Ornamental Plants</b>								
Nursery Management								
Management of potted plants								
Export potential of ornamental plants								
Propagation techniques of Ornamental Plants								
<b>d) Plantation crops</b>								
Production and Management technology								
Processing and value addition								
<b>e) Tuber crops</b>								
Production and Management technology								
Processing and value addition								
<b>f) Spices</b>								
Production and Management technology								
Processing and value addition								
<b>g) Medicinal and Aromatic Plants</b>								
Nursery management								
Production and management technology								
Post harvest technology and value addition								
<b>III Soil Health and Fertility Management</b>								

Soil fertility management								
Soil and Water Conservation								
Integrated Nutrient Management								
Production and use of organic inputs								
Management of Problematic soils								
Micro nutrient deficiency in crops								
Nutrient Use Efficiency								
Soil and Water Testing								
<b>IV Livestock Production and Management</b>								
Dairy Management	1	10	8	18	9	8	17	35
Poultry Management								
Piggery Management								
Rabbit Management /goat								
Disease Management								
Feed management								
Production of quality animal products								
<b>V Home Science/Women empowerment</b>								
Household food security by kitchen gardening and nutrition gardening	1	0	18	18	0	17	17	35
Design and development of low/minimum cost diet								
Designing and development for high nutrient efficiency diet								
Minimization of nutrient loss in processing								
Gender mainstreaming through SHGs								
Storage loss minimization techniques								
Value addition								
Income generation activities for empowerment of rural Women								

Location specific drudgery reduction technologies								
Rural Crafts								
Women and child care								
<b>VI Agril. Engineering</b>								
Installation and maintenance of micro irrigation systems	1	10	8	18	9	8	17	35
Use of Plastics in farming practices								
Production of small tools and implements								
Repair and maintenance of farm machinery and implements	1	10	8	18	9	8	17	35
Small scale processing and value addition								
Post Harvest Technology	1	10	8	18	9	8	17	35
Rain Water Harvesting	1	10	8	18	9	8	17	35
<b>VII Plant Protection</b>								
Integrated Pest Management	1	10	8	18	9	8	17	35
Integrated Disease Management	1	10	8	18	9	8	17	35
Bio-control of pests and diseases	1	10	8	18	9	8	17	35
Production of bio control agents and bio pesticides								
Importance of seed treatment for Rabi crops	1	10	8	18	9	8	17	35
<b>VIII Fisheries</b>								
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								
<b>IX Production of Inputs at site</b>								
Seed Production								
Planting material production (Horti.)								
Bio-agents production								
Bio-pesticides production								
Bio-fertilizer production								
Vermi-compost production (Horti.)								
Organic manures production (A.S.)								
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								
<b>X Capacity Building and Group Dynamics</b>								
Leadership development	1	10	8	18	9	8	17	35
Group dynamics								
Formation and Management of SHGs(HS)								
Mobilization of social capital	1	10	8	18	9	8	17	35
Entrepreneurial development of farmers/youths (Agro.)	1	10	8	18	9	8	17	35
WTO and IPR issues								
Update knowledge on organic farming	1	10	8	18	9	8	17	35
<b>XI Agro-forestry</b>								
Production technologies								
Nursery management								
Integrated Farming Systems (Agro)								

<b>XII Others (Pl. Specify)</b>								
<b>TOTAL</b>	<b>20</b>	<b>190</b>	<b>170</b>	<b>360</b>	<b>171</b>	<b>169</b>	<b>340</b>	<b>700</b>



**C. Consolidated table (ON and OFF Campus)**

Thematic Area	No. of Courses	No. of Participants						Grand Total
		Others			SC/ST			
		Male	Female	Total	Male	Female	Total	
<b>(A) Farmers &amp; Farm Women</b>								
<b>I Crop Production</b>								
Weed Management								
Resource Conservation Technologies								
Cropping Systems	2	20	16	36	18	16	34	70
Crop Diversification								
Integrated Farming	1	10	8	18	9	8	17	35
Water management								
Seed production								
Nursery management								
Integrated Crop Management								
Fodder production								
Production of organic inputs	2	20	16	36	18	16	34	70
Package of practices onion and garlic	1	10	8	18	9	8	17	35
Concept and importance of INM	1	10	8	18	9	8	17	35
<b>II Horticulture</b>								
<b>a) Vegetable Crops</b>								
Production of low volume and high value crops								
Off-season vegetables								
Nursery raising	1	10	8	18	9	8	17	35
Exotic vegetables like Broccoli								
Export potential vegetables								
Grading and standardization								
Protective cultivation (Green Houses, Shade Net etc.)								
<b>b) Fruits</b>								
Training and Pruning								
Layout and Management of Orchards								
Cultivation of Fruit	2	20	16	36	18	16	34	70

Management of young plants/orchards								
Rejuvenation of old orchards								
Export potential fruits								
Micro irrigation systems of orchards								
Plant propagation techniques								
<b>c) Ornamental Plants</b>								
Nursery Management								
Management of potted plants								
Export potential of ornamental plants								
Propagation techniques of Ornamental Plants								
<b>d) Plantation crops</b>								
Production and Management technology								
Processing and value addition								
<b>e) Tuber crops</b>								
Production and Management technology								
Processing and value addition								
<b>f) Spices</b>								
Production and Management technology	1	10	8	18	9	8	17	35
Processing and value addition								
<b>g) Medicinal and Aromatic Plants</b>								
Nursery management								
Production and management technology								
Post harvest technology and value addition								
<b>III Soil Health and Fertility Management</b>								
Soil fertility management								
Soil and Water Conservation								
Integrated Nutrient Management								
Production and use of organic inputs								
Management of Problematic soils								
Micro nutrient deficiency in crops								
Nutrient Use Efficiency								
Soil and Water Testing	1	10	8	18	9	8	17	35
<b>IV Livestock Production and Management</b>								

Dairy Management	1	10	8	18	9	8	17	35
Poultry Management								
Piggery Management								
Rabbit Management/goat								
Disease Management								
Feed management								
Production of quality animal products								
<b>V Home Science/Women empowerment</b>								
Household food security by kitchen gardening and nutrition gardening	1	0	18	18	0	17	17	35
Design and development of low/minimum cost diet								
Designing and development for high nutrient efficiency diet								
Minimization of nutrient loss in processing	1	0	18	18	0	17	17	35
Gender mainstreaming through SHGs								
Storage loss minimization techniques								
Value addition								
Income generation activities for empowerment of rural Women								
Location specific drudgery reduction technologies								
Rural Crafts								
Women and child care								
<b>VI Agril. Engineering</b>								
Installation and maintenance of micro irrigation systems	2	20	16	36	18	16	34	70
Use of Plastics in farming practices	1	10	8	18	9	8	17	35
Production of small tools and implements								
Repair and maintenance of farm machinery and implements	2	20	16	36	18	16	34	70
Small scale processing and value addition								
Post Harvest Technology	1	10	8	18	9	8	17	35
Rain Water Harvesting	1	10	8	18	9	8	17	35
Application of renewable energy in agriculture	1	10	8	18	9	8	17	35
<b>VII Plant Protection</b>								
Integrated Pest Management	2	20	16	36	18	16	34	70
Integrated Disease Management	3	30	24	54	27	24	51	105
Bio-control of pests and diseases	1	10	8	18	9	8	17	35

Production of bio control agents and bio pesticides	1	10	8	18	9	8	17	35
Importance of seed treatment for Rabi crops	1	10	8	18	9	8	17	35
<b>VIII Fisheries</b>								
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								
<b>IX Production of Inputs at site</b>								
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								
<b>X Capacity Building and Group Dynamics</b>								
Leadership development	3	30	24	54	27	24	51	105
Group dynamics								
Formation and Management of SHGs								
Mobilization of social capital	1	10	8	18	9	8	17	35

Entrepreneurial development of farmers/youths	1	10	8	18	9	8	17	35
WTO and IPR issues								
Update knowledge on organic farming	1	10	8	18	9	8	17	35
Farmers Interest Group Formation	2	20	16	36	18	16	34	70
<b>XI Agro-forestry</b>								
Production technologies								
Nursery management								
Integrated Farming Systems								
Sponsored training								
<b>TOTAL</b>	<b>39</b>	<b>370</b>	<b>332</b>	<b>702</b>	<b>333</b>	<b>330</b>	<b>663</b>	<b>1365</b>
<b>(B) RURAL YOUTH</b>								
Mushroom Production	1	7	6	13	6	6	12	25
Bee-keeping								
Integrated farming	1	7	6	13	6	6	12	25
Seed production								
Production of organic inputs								
Integrated Farming								
Planting material production								
Vermi-culture								
Sericulture								
Protected cultivation of vegetable crops								
Commercial fruit production								
Repair and maintenance of farm machinery and implements								
Nursery Management of Horticulture crops								
Training and pruning of orchards								
Value addition								
Production of quality animal products								
Dairying								
Sheep and goat rearing								
Quail farming								
Piggery								
Rabbit farming								
Poultry production								

Ornamental fisheries								
Para vets								
Para extension workers								
Composite fish culture								
Freshwater prawn culture								
Shrimp farming								
Pearl culture								
Cold water fisheries								
Fish harvest and processing technology								
Fry and fingerling rearing								
Small scale processing								
Post Harvest Technology								
Tailoring and Stitching								
Rural Crafts								
Plant Protection Appliances/ Equipments	1	7	6	13	6	6	12	25
Procedure for organic farming certification	1	7	6	13	6	6	12	25
Renewable Energy	1	7	6	13	6	6	12	25
Bakery product preparation	1	0	13	13	0	12	12	25
<b>TOTAL</b>	<b>6</b>	<b>35</b>	<b>43</b>	<b>78</b>	<b>30</b>	<b>42</b>	<b>72</b>	<b>150</b>
<b>(C) Extension Personnel</b>								
Productivity enhancement in field crops								
Integrated Pest Management								
Integrated Nutrient management	1	7	6	13	6	6	12	25
Rejuvenation of old orchards								
Protected cultivation technology								
Formation and Management of SHGs								
Group Dynamics and farmers organization								
Information networking among farmers								
Capacity building for ICT application								
Care and maintenance of farm machinery and implements								
WTO and IPR issues								
Management in farm animals								

Livestock feed and fodder production								
Household food security								
Women and Child care								
Low cost and nutrient efficient diet designing								
Production and use of organic inputs								
Gender mainstreaming through SHGs								
Any other (Pl. Specify)								
<b>Total</b>	<b>1</b>	<b>7</b>	<b>6</b>	<b>13</b>	<b>6</b>	<b>6</b>	<b>12</b>	<b>25</b>
<b>G. TOTAL</b>	<b>46</b>	<b>412</b>	<b>381</b>	<b>793</b>	<b>369</b>	<b>378</b>	<b>747</b>	<b>1540</b>

*\*Detailed information of training is given in Annexure-I.*

### 3.5. Extension Activities (including activities of FLD programmes)

Nature of Extension Activity	No. of activities	Farmers			Extension Officials			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	10	200	20	220	10	0	10	210	20	230
Kisan Mela	2	600	150	750	25	5	30	625	155	780
Kisan Ghosthi	2	50	0	50	0	0	0	50	0	50
Exhibition	1	300	50	350	5	0	5	305	50	355
Film Show	1	100	0	100	0	0	0	100	0	100
Farmers Seminar	3	300	80	380	2	0	2	302	80	382
Workshop	0	0	0	0	0	0	0	0	0	0
Group meetings	1	40	0	40	0	0	0	40	0	40
Lectures delivered as resource persons	15	750	150	900	5	0	5	755	150	905
Newspaper coverage	10	0	0	0	0	0	0	0	0	0
Radio talks	2	0	0	0	0	0	0	0	0	0
TV talks	1	0	0	0	0	0	0	0	0	0
Popular articles	10	0	0	0	0	0	0	0	0	0
Extension Literature	15	0	0	0	0	0	0	0	0	0
Advisory Services	20	250	20	270	5	0	5	255	20	275
Scientific visit to farmers field	20	300	20	320	0	0	0	300	20	320
Farmers visit to KVK	50	2500	500	3000	50	10	60	2550	510	3060
Diagnostic visits	10	200	0	200	5	0	5	205	0	205



Exposure visits	2	100	0	100	0	0	0	100	0	100
Ex-trainees Sammelan	2	100	50	150	0	0	0	100	50	150
Soil health Camp	1	200	30	230	2	0	2	202	30	232
Animal Health Camp	1	100	50	150	1	0	1	101	50	151
Agri mobile clinic	0	0	0	0	0	0	0	0	0	0
Soil test campaigns	3	150	30	180	0	0	0	150	30	180
Farm Science Club Conveners meet	0	0	0	0	0	0	0	0	0	0
Self Help Group Conveners meetings	0	0	0	0	0	0	0	0	0	0
Mahila Mandals Conveners meetings	0	0	0	0	0	0	0	0	0	0
Celebration of important days (specify)	3	300	150	450	5	0	5	305	150	455
Krishi Mohostva	2	2500	500	3000	20	5	25	2520	505	3025
Krishi Rath	0	0	0	0	0	0	0	0	0	0
Pre Kharif workshop	1	200	50	250	2	0	2	202	50	252
Pre Rabi workshop	1	200	50	250	2	0	2	202	50	252
PPVFRA workshop	1	200	0	200	25	0	25	225	0	225
Any Other (Specify)	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>190</b>	<b>9640</b>	<b>1900</b>	<b>11540</b>	<b>164</b>	<b>20</b>	<b>184</b>	<b>9804</b>	<b>1920</b>	<b>11724</b>



### 3.6. Target for Production and supply of Technological products

#### SEED MATERIALS

Sl. No.	Crop	Variety	Quantity (qtl.)
<b>CEREALS</b>			
General	Wheat	GW-366/ GJW-463	35.0
<b>OILSEEDS</b>			
Truthful	Groundnut	GJG-22	125.0
Truthful	Sesame	GT-4	2.0
<b>PULSES</b>	-	-	-
<b>VEGETABLES</b>	-	-	-
<b>OTHERS</b> (Specify)	-	-	-

#### PLANTING MATERIALS

Sl. No.	Crop	Variety	Quantity (Nos.)
<b>FRUITS</b>	-	-	-
<b>SPICES</b>	-	-	-
<b>VEGETABLES</b>	Brinjal	GJB-3	1000
	Tomato	GT-1	300
	Vegetable packets	-	200
<b>FOREST SPECIES</b>	-	-	-
<b>ORNAMENTAL CROPS</b>	-	-	-
		<b>Total</b>	<b>1500</b>

#### Bio-products (Selling only):

Sl. No.	Product Name	Species	Quantity	
			No	(kg)
<b>BIO PESTICIDES</b>				
1	<i>Tricoderma</i>	<i>harzenium</i>	300	1000
2	Beauveria bassiana	--	600	5000

**LIVESTOCK: NIL**

#### 4. Literature to be Developed/Published

##### A. KVK News Letter

Date of start : Quarterly

Number of copies to be published : Published by university

##### B. Literature developed/published

S. No.	Topic	Number
1	Research paper each scientist	1
2	Technical reports	150
3	News letters	4
4	Training manual all discipline	0
5	Popular article	5
6	Extension literature	5
	<b>Total</b>	<b>130</b>

##### C. Details of Electronic Media to be produced

S. No.	Type of media (CD / VCD / DVD / Audio-Cassette) and video clippings	Title of the programme	Number
1	DVD	KVK, JAU, Amreli activities	1

##### D.Success stories/Case studies identified for development as a case. -

- a. Brief introduction
- b. Interventions
- c. Output
- d. Outcomes
- e. Impact
  - i) Social economic
  - ii) Bio-Physical
- f. Good Action Photographs

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

##### A. Practicing Farmers

- a) PRA
- b) Field level observations

c) Farmer group discussions

**B. Rural Youth**

a) PRA

b) Field level observations

c) Farmer group discussions

**C. In-service personnel**

a) Field level observations

b) Extension worker group discussions

**5.2. Indicate the methodology for identifying OFTs/FLDs**

**For OFT:**

- i) PRA
- ii) Problem identified from Matrix
- iii) Field level observations
- iv) Farmer group discussions
- v) Others if any

**For FLD:**

- i) New variety/technology
- ii) Poor yield at farmers level
- iii) Existing cropping system
- iv) Others if any

**5.3. Field activities**

i. Name of villages identified/adopted with block name (from which year) - from 2015

Sr. No.	Name of village	Name of Taluka
1	Kerala(Jogani)	Lathi
2	Harsupur Devaliya	Lathi
3	Saladi	Liliya
4	Jatruda	Liliya
5	Vaandaliya	Babra
6	Lunidhaar	Kukavav
7	Haalariya	Bagasra
8	Ditla	Dhari
9	Babapur	Amreli
10	Shedubhar	Amreli
11	Vaankiya	Amreli

12	Lakhapadar	Khambha
13	Nesdi	Savarkundla
14	Oliya	Savarkundla
15	Maandardi	Rajula

- ii. No. of farm families selected per village : Whole farm families of the adopted villages
- iii. No. of survey/PRA conducted : one
- iv. No. of technologies taken to the adopted villages
- v. Name of the technologies found suitable by the farmers of the adopted villages: New and Improved Varieties of major crop of district, IPM and INM in major crops of this area, motivate the farmers for arid Horticultural Crops, to create the awareness for grading, processing and marketing the agricultural produce, farm mechanization, organic farming, MIS
- vi. Impact (production, income, employment, area/technological– horizontal/vertical)
- vii. Constraints if any in the continued application of these improved technologies

## 6. LINKAGES

### 6.1. Functional linkage with different organizations

Sl.No.	Name of organization	Nature of Linkage (pl. specify)
1.	Dy. Director of Agriculture.	Farmers Training, Diagnostic services
2.	Dy. Director of Agril. Extension (FTC)	Resource person in Lectures
3.	Dy. Director of Horticulture	Resource person in Lectures
4.	Dy. Director of Animal Husbandry	Sponsored training
5.	Dy. Director of Soil Conservation	Resource person in Lectures
6.	Dy. Director of Social Forestry	Resource person in Lectures
7.	Amreli Jilla Madhya sahakari bank	Resource person in Lectures
8.	Milk Co-Operative Society	Resource person in Lectures
9.	State Bank of India	Resource person in Lectures
10.	National Bank for Agriculture & Rural Development (NABARD)	Resource person in Lectures
11.	NHRDF	Sponsored Training, Resource person in Lectures
12.	Doordarshan Kendra	Media coverage
13.	All India Radio	Radio talk
14.	District Rural Development Agency	Sponsored Training, Resource person in Lectures
15.	ATMA	Sponsored Training, Resource person in Lectures, meeting
16.	Mahindra & Mahindra Co. Ltd.	Sponsored Training, Resource person in Lectures

### 6.2. Details of linkage with ATMA

- a) Is ATMA implemented in your district Yes

S. No.	Programme	Nature of linkage
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1	All the extension activities of district, Amreli	Meeting, Demonstration and Training, as a technical expert
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**6.3. E-linkage during 2018-19: NIL**

**6.4. Give details of programmes under National Horticultural Mission:**

S. No.	Programme	Nature of linkage
1	Farmers training	As a resource person

**6.5. Nature of linkage with National Fisheries Development Board: NIL**

**6.6. Additional Activities Planned including sponsored projects (ProCRA / Pro SOIL etc.) / schemes during 2018-19**

S. No.	Name of the agency / scheme	Name of activity	Names of the team members involved
1.	Agricultural Technology Information Centre (ATIC)	FLD, Trainings	Senior Scientist and all discipline Scientists
2.	National Initiative on Climate Resilient Agriculture (NICRA)	FLD, Trainings, Exposure visits	
3.	Cluster base FLD of Rabi Pulses under NFSM	FLD, Trainings	
4.	National Mission on Oilseeds and Oil Palm (NMOOP)	FLD, Trainings	

**7.0 Convergence with other agencies and departments: Trainings along with ATMA and other line departments**

**8. Innovator Farmer's Meet 2018- 2019: NIL**

**9. Farmers Field School (FFS) planned 2018-2019: NIL**

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

Crop	Variety/Input	Farmers' Feedback
Gram	GJG-3	▶ High Yield Variety      ▶ Bold seeded Variety ▶ Stunt virus resistant Variety
Cumin	GC-4	▶ Research needs on cumin wilt disease      ▶ Less Wilt found as compare to other Variety
Wheat	GW-366	▶ Seed provided was healthy with good germination ▶ Grain quality is good for higher market price
Green Gram	GM-4	▶ Small size seed and uniform maturity
Groundnut	GJG-9	▶ Higher production      ▶ Less stem rot problems ▶ Quality of seed is good

Sesame	GT-3	▶ Bold seeded, whiteness more and higher production than other varieties ▶ Better for Summer cultivation
Cotton	INM	▶ Less reddening of leaves ▶ Higher Yield
Cotton	G.Cot-6(bt)	▶ Greening up to last stage ▶ Less Infestation of sucking pest
Castor	GCH-7	▶ Resistance to wilt ▶ Higher Yield
Cotton	Beauveria bassiana	▶ Better control of pests ▶ Economic to other chemical pesticides
Cotton	Ridge and furrow	▶ Number of flowers increased ▶ Early maturity ▶ Plants don't bent during high wind ▶ No water logging after rainfall
Groundnut	GJG-22	▶ High yielding ▶ Tolerant to Collar rot
Sesame	GT-3	▶ Bold seeded, whiteness more and higher production than other varieties
Green gram	GAM-5	▶ Highly resistant to Yellow Mosaic Virus (YMV) ▶ Bold seed size with attractive shiny grain appearance.
Gram	GJG-5	▶ Moderately Resistant to wilt ▶ Resistant to stunt
Wheat	GW-173	▶ Require less water i.e. 300mm water as compared to local and late sown variety
Black gram	GU-1	▶ Latest High yielding variety.
Pigeon pea	Vaishali	▶ Medium late Variety use for Grain purpose ▶ Tolerant to wilt ▶ Sterility mosaic virus
Groundnut	GJG-31	▶ High Yielding Variety
Sesame	GT-4	▶ White seed and alternate White seed colour, ▶ Medium capsule in size ▶ Alternate multi bearing capsule

## 10.2. Technical Feedback from the KVK Scientists to the research institutions / universities :

### 11. Utilization of hostel facilities

S. No.	Programme	No. of days
1	Sponsored Training	45
2	Exposure visit to KVK	15
3	Scientist	25
<b>Total</b>		<b>85</b>

## 12. ACTION PLAN OF INFRASTRUCTURE IN KVK

### A. Action plan of demonstration units (other than instructional farm): NIL

### B. Action plan of instructional farm (Crops) including seed production

Name of the crop	Area (ha)	Details of production (expected)			Expected Amount (Rs.)		Remarks
		Variety	Type of Produce	Qty.	Cost of inputs	Gross income	



Cereals							
Wheat	1.0	GW-366/ GJW-463	General	35	25500	72500	-
Oilseeds							
Groundnut	11.0	GJG-22	Truthful	125	301400	745000	-
Sesame	1.5	GT-4	Truthful	2.0	19800	32000	-

**C. Action plan of production Units (bio-agents / bio pesticides/ bio fertilizers etc.): NIL**

**D. Action plan of instructional farm (livestock and fisheries production): NIL**

**Annexure - I**

**Training Programme**

**i) Farmers & Farm women (On Campus)**

Date	Clientele	Title of the training programme	Duration in days	Number of participants			Number of SC/ST			G. Total
				M	F	T	M	F	T	
<b>Crop Production</b>										
30.05.18	PF	Package of practices of cotton	4	10	8	18	9	8	17	35
15.07.18	PF	Organic Farming in Kharif crops	4	10	8	18	9	8	17	35
01.11.18	PF	Integrated Nutrient Management in Rabi crops	4	10	8	18	9	8	17	35
<b>Horticulture</b>										
15.05.18	PF	Cultivation of arid fruit crops	4	10	8	18	9	8	17	35
01.08.18	PF	Scientific production technology of Major Spice crops	4	10	8	18	9	8	17	35
<b>Livestock prod.</b>										
<b>Agril. Engg.</b>										
15.05.18	PF	Installation and maintenance of Drip irrigation	4	10	8	18	9	8	17	35
01.07.18	PF	Farm Machinery and its maintenance	4	10	8	18	9	8	17	35
15.10.18	PF	Application of renewable energy in agriculture	4	10	8	18	9	8	17	35
15.01.19	PF	Use of Plastics in farming practices	4	10	8	18	9	8	17	35
<b>Home Sc.</b>										
30.05.18	FW	Minimization of nutrient loss in processing	4	0	18	18	0	17	17	35
<b>Plan protection</b>										
30.04.18	PF	Integrated pest management in Groundnut	4	10	8	18	9	8	17	35

01.07.18	PF	Integrated Disease Management of pulses	4	10	8	18	9	8	17	35
15.10.18	PF	Integrated Disease Management of Rabi crops	4	10	8	18	9	8	17	35
30.01.19	PF	Role of bio-pesticides for management to control pests of Rabi crops	4	10	8	18	9	8	17	35
<b>Fisheries</b>										
<b>Soil Health</b>										
15.02.19	PF	Soil analysis and its importance	4	10	8	18	9	8	17	35
<b>Extension Edu.</b>										
20.04.18	PF/R Y	Farmers Interest Group Formation	4	10	8	18	9	8	17	35
01.08.18	PF/R Y	FIG formation	4	10	8	18	9	8	17	35
01.11.18	PF/R Y	Youth Development through update knowledge on major Rabi crop	4	10	8	18	9	8	17	35
01.02.19	PF/R Y	Youth Development through update knowledge on major Summer crop	4	10	8	18	9	8	17	35

**i) Farmers & Farm women (Off Campus)**

Date	Clientele	Title of the training programme	Duration in days	No. of participants			Number of SC/ST			G. Total
				M	F	T	M	F	T	
<b>Crop Production</b>										
20.06.18	PF	High Density Planting in cotton	4	10	8	18	9	8	17	35
20.08.18	PF	Organic farming certification procedure	4	10	8	18	9	8	17	35
01.12.18	PF	Package of practices onion and garlic	4	10	8	18	9	8	17	35
0.1.02.19	PF	Concept and importance of INM	4	10	8	18	9	8	17	35
<b>Horticulture</b>										
10.06.18	PF	Nursery raising	4	10	8	18	9	8	17	35
20.09.18	PF	Production technology of mango/pomegranate	4	10	8	18	9	8	17	35
<b>Live Stock Production.</b>										
20.09.18	PF	Importance of Artificial Insemination in cows and buffaloes	4	10	8	18	9	8	17	35
<b>Agril. Engg.</b>										
14.06.18	PF	Rain Water Harvesting	4	10	8	18	9	8	17	35

01.08.18	PF	Farm Machinery and its maintenance	4	10	8	18	9	8	17	35
20.11.18	PF	Post Harvest Technology	4	10	8	18	9	8	17	35
15.03.19	PF	Installation and maintenance of micro irrigation systems	4	10	8	18	9	8	17	35
<b>Home Sc.</b>										
01.09.18	PF	Household food security by kitchen gardening and nutrition gardening	4	0	18	18	0	17	17	35
<b>Plant Protection</b>										
15.5.18	PF	Integrated Disease Management of oilseed crops	4	10	8	18	9	8	17	35
20.08.18	PF	Importance of botanical pesticides for management to control pests of field crops	4	10	8	18	9	8	17	35
01.11.18	PF	Importance of seed treatment for Rabi crops	4	10	8	18	9	8	17	35
15.01.18	PF	Management to control of Heliothis in chickpea through integrated approach	4	10	8	18	9	8	17	35
<b>Fisheries</b>										
<b>Soil health</b>										
<b>Extension Edu.</b>										
01.06.18	PF/RY	Leadership development	4	10	8	18	9	8	17	35
01.09.18	PF/RY	Update knowledge on organic farming	4	10	8	18	9	8	17	35
01.12.18	PF/RY	Use of mass media	4	10	8	18	9	8	17	35
20.02.19	PF/RY	Update knowledge level of farmer about major Summer crop	4	10	8	18	9	8	17	35

## ii) Vocational training programmes for Rural Youth

Crop / Enterprise	Identified Thrust Area	Training title*	Duration (days)	No. of Participants			SC/ST participants			G. Total
				M	F	T	M	F	T	
Processing	Processing and cooking	Bakery product preparation	4	0	13	13	0	12	12	25
Mushroom cultivation	Mushroom cultivation	Mushroom cultivation	4	8	7	13	6	6	12	25

## iii) Training programme for extension functionaries

Date	Clientele	Title of the training programme	Duration in days	No. of participants			Number of SC/ST			G. Total
				M	F	T	M	F	T	
<b>On Campus</b>										
1.	Ext. workers	Update knowledge level of Extension personal regarding Integrated Nutrient Management	4	7	6	13	6	6	12	25

#### iv) Sponsored programme

Discipline	Sponsoring agency	Clientele	Title of the training programme	No. of course	No. of participants			Number of SC/ST			G. Total
					M	F	T	M	F	T	
<b>a) Sponsored training programme</b>											
Plant protection	ATMA SMS	EF	Integrated Disease Management	1	7	6	13	6	6	12	25
Plant protection	NGO SMS	EF	Role of Trichoderma, Beauveria bassiana and Metarhium anisopliae & its uses	1	7	6	13	6	6	12	25
Horticulture	Beneficiary of Horti. dept.	PF	Organic farming in horticultural crops	1	14	12	26	12	12	24	50
Home science	DRDA Amreli	FW/RG	Importance of Kitchen Gardening	1	0	25	25	0	25	25	50
Extension	ATMA SMS	EF	Use of mass media	1	14	12	26	12	12	24	50
Agril. Engg.	ATMA SMS	EF	Rain water harvesting structures	1	14	12	26	12	12	24	50
Agril. Engg.	ATMA	FW	Training on value addition	1	0	13	13	0	12	12	25
Extension	DAO Amreli	PF	Scientific production of Kharif crops	1	14	12	26	12	12	24	50
Crop production	AJMS Bank Amreli	PF	Scientific production of Cotton	1	7	6	13	6	6	12	25
<b>Total</b>				<b>9</b>	<b>77</b>	<b>104</b>	<b>181</b>	<b>66</b>	<b>103</b>	<b>169</b>	<b>350</b>



## Budget - Details of budget utilization (2017-18) up to 31 March 2018

S. No.	Particulars	Sanctioned	Released	Expenditure
<b>13.1</b>	<b>Recurring Contingencies</b>			
13.1.1	<b>Pay &amp; Allowances</b>	69.04	69.04	64.59
13.1.2	<b>Traveling allowances</b>	1.20	1.20	0.89
13.1.3	<b>Contingencies</b>			
13.1.4.A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance	9.32	9.32	9.25
<i>B</i>	POL, repair of vehicles, tractor and equipments	-	-	-
<i>C</i>	Meals/refreshment for trainees	-	-	-
<i>D</i>	Training material	-	-	-
<i>E</i>	Frontline demonstration except oilseeds and pulses	-	-	-
<i>F</i>	On farm testing	-	-	-
<i>G</i>	Training of extension functionaries	-	-	-
<i>H</i>	Maintenance of buildings	-	-	-
<i>I</i>	Establishment of Soil, Plant & Water Testing Laboratory	-	-	-
<i>J</i>	Library	-	-	-
<b>13.1</b>	<b>Total Recurring</b>	<b>79.56</b>	<b>79.56</b>	<b>74.74</b>
<b>13.2</b>	<b>Non-Recurring Contingencies</b>			
13.2.1	<b>Works</b>	-	-	-
13.2.2	<b>Equipments including SWTL &amp; Furniture</b>	-	-	-
13.2.3	<b>Vehicle</b> (Four wheeler/Two wheeler, please specify)	-	-	-
13.2.4	<b>Library</b>	-	-	-
<b>13.2</b>	<b>Total Non Recurring</b>	-	-	-
<b>13.3</b>	<b>REVOLVING FUND</b>	-	-	-
<b>13.4</b>	<b>GRAND TOTAL (A+B+C)</b>	<b>79.56</b>	<b>79.56</b>	<b>74.74</b>

**Details of Budget Estimate (2018-19) based on proposed action plan**

<b>S. No.</b>	<b>Particulars</b>	<b>BE 2018-19 proposed (Rs.)</b>
<b>14.1</b>	<b>Recurring Contingencies</b>	
14.1.1	<b>Pay &amp; Allowances</b>	<b>75,00,000</b>
14.1.2	<b>Traveling allowances</b>	<b>1,50,000</b>
14.1.3	<b>Contingencies</b>	
<i>A</i>	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	<b>12,00,000</b>
<i>B</i>	POL, repair of vehicles, tractor and equipments	-
<i>C</i>	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	-
<i>D</i>	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	-
<i>E</i>	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	-
<i>F</i>	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	-
<i>G</i>	Training of extension functionaries	-
<i>H</i>	Maintenance of buildings	-
<i>I</i>	Establishment of Soil, Plant & Water Testing Laboratory	-
<i>J</i>	Library	-
<i>14.1</i>	<b>TOTAL Recurring Contingencies</b>	<b>88,50,000</b>
<b>14.2</b>	<b>Non-Recurring Contingencies</b>	
14.2.1	<b>Works</b>	-
14.2.2	<b>Equipments including SWTL &amp; Furniture</b>	-
14.2.3	<b>Vehicle</b> (Four wheeler/Two wheeler, please specify)	-
14.2.4	<b>Library</b> (Purchase of assets like books & journals)	-
<b>14.2</b>	<b>TOTAL Non-Recurring Contingencies</b>	-
<b>14.3</b>	<b>REVOLVING FUND</b>	-
<b>14.4</b>	<b>GRAND TOTAL</b>	<b>88,50,000</b>