

Krishi Vigyan Kendra, Junagadh Agricultural University, Amreli

DETAILS OF ACTION PLAN OF 2019-20

(1st April 2019 to 31st March 2020)

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, 2019)

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	37400-67000	9000	24/03/2015
2.	Scientist	Er. P. S. Jayswal	Agriculture Engineering	15600-39100	6000	10/09/2012
3.	Scientist	Dr. Neha Tiwari	Home Science	15600-39100	6000	01/04/2013

4.	Scientist	Dr. M. L. Patel	Plant Protection	15600-39100	6000	31/03/2015
5.	Scientist	Mr. P. J. Prajapati	Crop Production	15600-39100	6000	31/03/2015
6.	Scientist	Vacant	Animal Science	-----	-----	-----
7.	Agriculture officer	Miss K.K Gadhiya	Plant pathology	09300-34800	-----	30/07/2018
8.	Computer Programmer	Shri S .N. Joshi	-----	39900-126600	-----	01/07/2010
9.	Farm Manager	Shri S.G Baria	Agriculture	09300-34800	-----	30/07/2018
10.	Accountant/ Superintendent	Shri H. J. Ravaliya	-----	39900-126600	-----	01/12/2011
11.	Stenographer	Shri A. H. Parmar	-----	28376	-----	18/11/2013
12.	Driver 1	Vaccant	-----	-----	-----	-----
13.	Driver 2	Vacant	-----	-----	-----	-----
14.	Supporting staff 1	Vacant	-----	-----	-----	-----
15.	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	12.5
4.	Horticulture and Herbal garden	0.50
5.	Pond	1.0
6.	Others if any (polytechnic home science college)	1.0
Total		19

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	276000	Not good condition
Tractor	2005	3,80,000	---	Working condition
Motor Cycle	2010	42,831	17750	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
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 is not conducted yet	-----

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, 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 550 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 Jafraabad and Rajula. Among the whole of the coastal areas, the land is sandy. However, the soils in Rajula and Jafraabad 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 (2018-19)

Month	Rainfall (mm)	Temperature °C		Relative Humidity (%)	
		Maximum	Minimum	Maximum	Minimum
January 2018	0.0	33.4	14.3	67	26
February 2018	0.2	37.6	19.6	73	31
March 2018	0.0	41.0	22.6	68	18
April 2018	0.0	42	25.4	82	25
May 2018	13.4	43	27.5	71	21
June 2018	35.2	34.5	26.3	86	61
July 2018	282.4	30.8	25.2	92	86

August 2018	69	30.4	25.3	92	76
September 2018	12.2	32.8	22.0	93	61
Total	412.4				

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

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

Source: 34th issue on estimates of major livestock products, 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"> • Lack of irrigation facility • Poor quality of irrigation water • Wild animal problem • Poor fertility status of Land • Low yield of major crops 	INM, IPM, Conserve moisture Agriculture, Training on MIS
Lathi	Amreli	Harsupur Devaliya	Cotton, Groundnut, Green gram, wheat	<ul style="list-style-type: none"> • Lack of irrigation facility • Poor quality of irrigation water • Wild animal problem • Low yield of major crops 	INM, IPM, Conserve Moisture agriculture
Liliya	Amreli	Saladi	Cotton, Green gram	<ul style="list-style-type: none"> • Saline land and poor quality of irrigation water • Poor fertility status of Land 	Conserve Moisture agriculture, OFT in cotton on BBF, Training on MIS
Liliya	Amreli	Jatruda	Cotton, Groundnut	<ul style="list-style-type: none"> • Saline land and poor quality of irrigation water • Poor fertility status of Land • Low yield of major crops 	INM, IPM, Conserve Moisture agriculture
Babra	Amreli	Vandaliya	Cotton, Groundnut, Cumin, Wheat	<ul style="list-style-type: none"> • Low yield of major crops • Wild animal problem • Lack of irrigation facility 	ICM, introduction of new varieties, Scientific cropping
Kukavav	Amreli	Lunidhaar	Cotton, Groundnut, Green gram, black gram	<ul style="list-style-type: none"> • Low yield of major crops • Wild animal problem • Lack of irrigation facility 	ICM, introduction of new varieties, Scientific cropping
Bagasra	Amreli	Haalariya	Groundnut, cotton, Green gram, black gram	<ul style="list-style-type: none"> • Low yield of major crops • Wild animal problem • Lack of irrigation facility 	ICM, introduction of new varieties, Scientific cropping

Dhari	Amreli	Ditla	Cotton, Groundnut, Mango	<ul style="list-style-type: none"> • Low yield of major crops • Wild animal problem 	ICM, introduction of new varieties, Scientific cropping
Amreli	Amreli	Babapur	Cotton, Castor, Wheat	<ul style="list-style-type: none"> • Low yield of major crops • Wild animal problem • Poor quality of irrigation water 	ICM, introduction of new varieties, Scientific cropping
Amreli	Amreli	Shedubhar	Cotton, Groundnut, Green gram, black gram	<ul style="list-style-type: none"> • Low yield of major crops • Wild animal problem • Poor quality of irrigation water 	ICM, introduction of new varieties, Scientific cropping
Amreli	Amreli	Vaankiya	Cotton, Groundnut, pigeon pea	<ul style="list-style-type: none"> • Low yield of major crops • Wild animal problem • Poor quality of irrigation water 	ICM, introduction of new varieties, Scientific cropping
Khambha	Amreli	Lakhapadar	Cotton, Groundnut, wheat, Pigeon pea	<ul style="list-style-type: none"> • Low yield of major crops • Wild animal problem 	ICM, introduction of new varieties, Scientific cropping
Savar kundla	Amreli	Nesdi	Cotton, Groundnut, wheat, Pigeon pea, lemon	<ul style="list-style-type: none"> • Low yield of major crops • Wild animal problem 	ICM, introduction of new varieties, Scientific cropping
Savar kundla	Amreli	Oliya	Cotton, Groundnut, wheat, Pigeon pea, lemon	<ul style="list-style-type: none"> • Low yield of major crops • Wild animal problem 	ICM, introduction of new varieties, Scientific cropping
Rajula	Amreli	Maandardi	Cotton, Groundnut, wheat, Pigeon pea	<ul style="list-style-type: none"> • Low yield of major crops • Wild animal problem 	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
09	32	253.5	695

Training		Extension Activities	
(3)		(4)	
Number of Courses	Number of Participants	Number of activities	Number of participants
74	2956	200	12094

Seed Production (Qtl.)	Planting material (Nos.)	Fish seed prod. (No's)	Soil Samples
(5)	(6)	(7)	(8)
177	11000	---	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, Sesame, Wheat, Cumin, Chickpea, Garlic, Onion, Mango, lemon Enterprises are dairy business, vermi composting,	Heavy infestation of sucking pest in cotton, pink ball worm in cotton, Sesame leaf blight, Stem rot disease in Groundnut, white grub in groundnut Mango Malformation, wilt in gram and cumin Less area under Horticultural crops	Every village of this district is facing Problem.	Kerala(Jogani)	<ul style="list-style-type: none"> • 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 (value addition) • Various OFT, FLD, trainings, extension activities were carried out. <p>introduction of new varieties of all crops</p>
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				

* Support with problem-cause and interventions diagram

3.2. Technologies to be assessed

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
Varietal Evaluation					1					1
Seed / Plant production				1						1
Weed Management										0
Integrated Crop Management										0
Integrated Nutrient Management	1				1					2
Integrated Farming System										0
Mushroom cultivation										
Drudgery reduction										0
Farm machineries										
Value addition					1	1				2
Integrated Pest Management		1								1
Integrated Disease Management			1							1
Resource conservation technology								1		1
Small Scale income generating enterprises										0
TOTAL	1		1	0	1	1	0	2	1	07

B. Details of On Farm Trial / Technology Assessment during 2019-20

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.)	Parameters to be studied	Team members
1.	Wheat	Farmers do not use Zinc	Effect of zinc on growth and yield of wheat	1. Use only DAP and Urea in various dose (Farmers Practices)	Main Dry Farming Research Station, JAU, Targhadi a	Micro nutrient	800	3	3200	Yield	Sr. Scientist and all scientists
				2. 120-60-60 NPK kg/ha (Recommended Practices)							
				3. 120-60-60 NPK kg/ha+ZnSO ₄ @ 20 kg/ha as basal dose and foliar spray of ZnSO ₄ @ 0.5% at heading and milking stage (Intervention)							
2.	Cotton	Farmers do not adopt closer planting, there for get low cotton yield due to less soil moisture	High Density Planting in Cotton	1. 120 X 45-60 cm (18519-13888 plants/ha) (Farmers Practices)	Cotton Research station, JAU, Junagadh	Cotton Seed (bt)	1600	3	4800	Yield	
				2. 90 X 30 cm (37037 plants/ha) (Var. GTHH-49 (bt)) (Recommended Practices)							

		and incidence of pest and disease								
3.	Sesame	Injudicious use of pesticides	Management of leaf Webber in Sesame	<p>1.High dose and Use of conventional Chemical pesticides (Farmers Practices)</p> <p>2. One spray of <i>beuveria bassiana</i> @ 50gm/10 liter water and two sprays of lamda cyhalothrin 5 EC 0.005% (10 ml/10 lit. water) or emamectin benzoate 5 SG 0.0035% (7g/10 lit. water) and 2nd spray at 15 days after 1st spray)</p>	ARS, Amreli	Bio-Pesticides & Pesticides	1500	3	4500	Yield
4.	Ground nut	No seed treatment & Soil application of bio pesticides	Management of white grub in Groundnut	<p>1. No seed treatment & Soil application of bio pesticides</p> <p>2. Seed treatment with Chlorpyrifos 20 EC @ 25 ml/kg seed and Soil application of Metarhizium anisopliae 1.15 WP @ 5 kg/ha along with Castor cake (300 kg/ha) before sowing and drenching in plant row after 30 days of germination</p>	Dept. of Entomology, COA, JAU, Junagadh	Bio-Pesticides & Pesticides	2000	3	6000	Yield
5.	Cotton	Decreasing productivity	Effect of method of	1. Traditional Sowing of Cotton on Flat bed (152	JAU, Junagadh	Cotton Seed,	1000	3	6000	Yield, C:B ratio and

		of Cotton due to water logging, soil salinization in salt-affected lands. Heavy mortality, difficulties in intercultural operation due to lodging.	sowing on ridges on yield of Cotton	cm apart) (Farmers Practices) 2. 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) (Recommended Practices)		Dibbler and Shredder (rent)				Bolls per plant	
6.	Watermelon	Low yield potential of watermelon	Effect of plastic mulch on yield of watermelon	1. No mulch (Farmers Practices) 2. Silver Black Plastic Mulch (20 micron) under drip irrigation system (recommended Practices)	JAU, Junagadh	20 µm silver black plastic mulch	1500	3	4500	Yield	
7.	Onion	Low productivity of non-descriptive local onion varieties	Assessment of onion varieties	1. Farmer practices-local (pillipati) 2. Gujarat White Onion-1 (Recommended Practices) 3. Gujarat Junagadh White Onion- 3 (Intervention)	JAU, Junagadh	Varieties	2000	3	6000	Yield	
8.	Garlic	Farmers not using the micronutrients	Effect of multi micronutrient	1. Farmer practices-120 DAP, 40 kg P Kg/ha	JAU, Junagadh	Nutrient	2500	3	7500	Yield	

				3) Use of wheat flour + Ghee + Jaggery or til, Milk, carrots, rice, pigeon pea, green grams, Potato, tomato and green vegetables or Pomegranate. (per child 100 gram & fruit 50 gram)						
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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 2019	4	10	Yield
2	Castor	GCH-7/9	Varietal Evaluation	Variety	Seed		4	10	Yield
3	Cotton	INM	INM	INM	Nutrient		4	10	Yield
4	Cumin	IDM	IDM	IDM	Bio-agent/Fungicide	Rabi 2019-20	4	10	Yield
5	Wheat	INM	INM	INM	Nutrient		4	10	Yield
6	Coriander	GC-1/2	Varietal Evaluation	Variety	Seed		4	10	Yield
7	Sesame	GT-3 GJT-5	Varietal Evaluation	Variety	Seed	Summer 2020	4	10	Yield
8	Black gram	Guj. Urd-1	Varietal Evaluation	Variety	Seed		4	10	Yield
9	Green gram	GM-4 GAM-5	Varietal Evaluation	Variety	Seed		4	10	Yield
Total							36	90	

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	12	During particulars	120
2	Farmers Training	16	Season	350
3	Media coverage	-		-
4	Training for extension functionaries	7		200

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	2019-20	10	4	-	Field capacity

Export potential of ornamental plants								
Propagation techniques of Ornamental Plants								
d) Plantation crops								
Production and Management technology								
Processing and value addition								
e) Tuber crops								
Production and Management technology								
Processing and value addition								
f) Spices								
Production and Management technology	1	25	15	40	5	5	10	50
Processing and value addition								
g) Medicinal and Aromatic Plants								
Nursery management								
Production and management technology								
Post harvest technology and value addition	1	10	8	18	9	8	17	35
III Soil Health and Fertility Management								
Soil fertility management								
Soil and Water Conservation								
Integrated Nutrient Management	1	20	15	35	5	3	8	42
Production and use of organic inputs								
Management of Problematic soils								
Micro nutrient deficiency in crops								
Nutrient Use Efficiency								
Soil and Water Testing								
IV Livestock Production and Management								
Dairy Management								
Poultry Management								
Piggery Management								
Rabbit Management/goat								
Disease Management								
Feed management	1	15	25	40	5	5	10	50
Production of quality animal products								
V Home Science/Women empowerment								
Household food security by kitchen gardening and nutrition gardening	1	00	35	35	00	8	8	42

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	1	0	28	28	0	7	7	35
Income generation activities for empowerment of rural Women	1	0	28	28	0	7	7	35
Location specific drudgery reduction technologies	1	00	35	35	00	5	5	40
Rural Crafts								
Women and child care	1	00	35	35	00	5	5	40
VI Agril. Engineering								
Installation and maintenance of micro irrigation systems	1	19	8	27	4	4	8	35
Use of Plastics in farming practices	1	20	15	35	5	3	8	42
Production of small tools and implements								
Repair and maintenance of farm machinery and implements	1	19	8	27	4	4	8	35
Small scale processing and value addition	1	20	18	38	6	4	10	48
Post Harvest Technology	1	25	15	40	5	5	10	50
VII Plant Protection								
Integrated Pest Management	1	30	8	38	5	5	10	48
Integrated Disease Management	1	19	8	27	4	4	8	35
Bio-control of pests and diseases	1	20	15	35	5	3	8	42
Production of bio control agents and bio pesticides	1	19	8	27	4	4	8	35
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								

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)								
TOTAL	02	28	12	40	6	4	10	50
G. Total	40	717	508	1225	155	163	318	1543

B. OFF Campus

Thematic Area	No. of Courses	No. of Participants						Grand Total
		Others			SC/ST			
		Male	Female	Total	Male	Female	Total	
(A) Farmers & Farm Women								
I Crop Production								
Weed Management								
Resource Conservation Technologies								
Cropping Systems	1	25	15	40	5	5	10	50
Crop Diversification								
Integrated Farming	1	19	8	27	4	4	8	35
Water management	1	19	8	27	4	4	8	35
Seed production	1	30	05	35	2	3	5	40
Nursery management								
Integrated Crop Management	1	30	05	35	2	3	5	40
Fodder production								
Production of organic inputs	1	25	10	35	5	0	5	40
II Horticulture								
a) Vegetable Crops								
Production of low volume and high value crops								
Off-season vegetables								
Nursery raising	1	25	10	35	5	0	5	40

Exotic vegetables like Broccoli								
Export potential vegetables								
Grading and standardization								
Protective cultivation (Green Houses, Shade Net etc.)								
b) Fruits								
Training and Pruning								
Layout and Management of Orchards	1	20	15	35	3	3	6	41
Cultivation of Fruit								
Management of young plants/orchards								
Rejuvenation of old orchards								
Export potential fruits								
Micro irrigation systems of orchards								
Plant propagation techniques								
c) Ornamental Plants								
Nursery Management								
Management of potted plants								
Export potential of ornamental plants								
Propagation techniques of Ornamental Plants								
d) Plantation crops								
Production and Management technology								
Processing and value addition								
e) Tuber crops								
Production and Management technology								
Processing and value addition								
f) Spices								
Production and Management technology								
Processing and value addition								
g) Medicinal and Aromatic Plants								
Nursery management								
Production and management technology								
Post harvest technology and value addition								

III Soil Health and Fertility Management								
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	25	10	35	5	0	5	40
IV Livestock Production and Management								
Dairy Management	1	19	8	27	5	3	8	35
Poultry Management								
Piggery Management								
Rabbit Management /goat								
Disease Management								
Feed management								
Production of quality animal products								
V Home Science/Women empowerment								
Household food security by kitchen gardening and nutrition gardening	1	00	35	35	00	8	8	42
Design and development of low/minimum cost diet								
Designing and development for high nutrient efficiency diet								
Minimization of nutrient loss in processing	1	0	28	28	0	7	7	35
Gender mainstreaming through SHGs	1	00	40	40		10	10	50
Storage loss minimization techniques								
Value addition	1	00	35	35	00	6	6	41
Income generation activities for empowerment of rural Women	1	00	40	40		10	10	50
Location specific drudgery reduction technologies	1	00	38	38	00	10	10	48
Rural Crafts								
Women and child care	1	00	35	35	00	5	5	40

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								
X Capacity Building and Group Dynamics								
Leadership development	1	30	8	38	5	5	10	48
Group dynamics	1	30	8	38	5	5	10	48
Formation and Management of SHGs(HS)	1	19	8	27	4	4	8	35
Mobilization of social capital	1	19	8	27	4	4	8	35
Entrepreneurial development of farmers/youths (Agro.)	1	20	15	35	5	3	8	42
WTO and IPR issues	1	19	8	27	4	4	8	35
XI Agro-forestry								
Production technologies								
Nursery management								
Integrated Farming Systems (Agro)	1	19	8	27	4	4	8	35
XII Others (Pl. Specify)								
TOTAL	34	595	529	1124	124	154	278	1398

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		
(A) Farmers & Farm Women									
I Crop Production									
Weed Management									
Resource Conservation Technologies									
Cropping Systems	2	55	20	75	7	8	15	90	
Crop Diversification									
Integrated Farming	1	19	8	27	4	4	8	35	
Water management	2	38	16	54	8	8	16	70	
Seed production	2	49	13	62	6	7	13	75	
Nursery management									
Integrated Crop Management	2	55	20	75	7	8	15	90	

Production and management technology								
Post harvest technology and value addition	1	19	8	27	4	4	8	35
III Soil Health and Fertility Management								
Soil fertility management								
Soil and Water Conservation								
Integrated Nutrient Management	1	20	15	35	5	3	8	42
Production and use of organic inputs								
Management of Problematic soils								
Micro nutrient deficiency in crops								
Nutrient Use Efficiency								
Soil and Water Testing	1	25	10	35	5	0	5	40
IV Livestock Production and Management								
Dairy Management	1	19	8	27	4	4	8	35
Poultry Management								
Piggery Management								
Rabbit Management/goat								
Disease Management								
Feed management	1	15	25	40	5	5	10	50
Production of quality animal products								
V Home Science/Women empowerment								
Household food security by kitchen gardening and nutrition gardening	2	00	70	70	00	16	16	86
Design and development of low/minimum cost diet								
Designing and development for high nutrient efficiency diet								
Minimization of nutrient loss in processing	1	00	28	28	00	7	7	35
Gender mainstreaming through SHGs	1	00	40	40	00	10	10	50
Storage loss minimization techniques								
Value addition	2	00	63	63	00	13	13	76
Income generation activities for empowerment of rural Women	2	00	68	68	00	17	17	153
Location specific drudgery reduction technologies	2	00	73	73	00	15	15	83
Rural Crafts								
Women and child care	2	00	70	70	00	10	10	80
VI Agril. Engineering								

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	1	14	6	20	3	2	5	25
Tailoring and Stitching								
Rural Crafts	1	14	6	20	3	2	5	25
TOTAL	5	75	32	107	16	12	28	135
(C) Extension Personnel								
Productivity enhancement in field crops								
Integrated Pest Management	1	14	6	20	3	2	5	25
Integrated Nutrient management	1	14	6	20	3	2	5	25
Rejuvenation of old orchards								
Protected cultivation technology								
Formation and Management of SHGs								
Group Dynamics and farmers organization								
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)								
Total	2	28	12	40	6	4	10	50

G. TOTAL	74	1293	1050	2336	280	327	597	3005
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Details of training programmes attached 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	12	240	40	280	10	0	10	250	40	290
Kisan Mela	2	600	150	750	25	5	30	625	155	780
Kisan Ghosthi	3	75	0	75	0	0	0	75	0	75
Exhibition	2	350	50	400	5	0	5	355	50	405
Film Show	1	100	0	100	0	0	0	100	0	100
Farmers Seminar	2	200	80	280	2	0	2	202	80	282
Workshop	0	0	0	0	0	0	0	0	0	0
Group meetings	2	80	0	80	0	0	0	80	0	80
Lectures delivered as resource persons	20	750	250	1000	5	0	5	755	250	1005
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	40	400	40	440	0	0	0	400	40	440
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)	4	400	250	650	5	0	5	405	250	655
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
Total	220	9895	2140	12035	164	20	184	10059	2160	12219

3.6. Target for Production and supply of Technological products

SEED MATERIALS

Sl. No.	Crop	Variety	Quantity (qtl.)
CEREALS	Wheat	GW-463	40 (1 ha.)
OILSEEDS	Groundnut	GJG-22	120 (10 ha.)
	Til	GJT-5	5.0 (1 ha.)
PULSES	Chikpea	GJG-5	12.0 (0.5 ha.)
VEGETABLES	-	-	
OTHERS (Specify)	-	-	

PLANTING MATERIALS

Sl. No.	Crop	Variety	Quantity (Nos.)
FRUITS	-	-	-
SPICES	-	-	-
VEGETABLES	Brinjal	GJB-3	3000
	Tomato	GT-1/3	3000
	Vegetable packets	-	200
		Total	6200

Bio-products

Sl. No.	Product Name	Species/description	Quantity	
			No	(kg)
BIO PESTICIDES				
1	Savaj Beauveria	<i>Beauveria bassiana</i>	1500	10000
2	Trichoderma	<i>Trichoderma harzianum</i>	500	5000
3	PSB culture		50	50
4	MDP tube	Mating Disruption Paste	50	50
5	Lure		4000	-
6	Pheromone Trap		2000	-
7	Rhizobium		50	50
8	Azotobacter		50	50
9	Metarhizium	<i>Metarhizium anisopliae</i>	200	1000

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	4
2	Technical reports	15
3	News letters	4
4	Training manual all discipline	0
5	Popular article	10
6	Extension literature	15
Total		48

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.	Video clipping	Impact of <i>Beauveria bassiana</i>	1
2.	Video clipping	Drip irrigation in gram	1
3.	Video clipping	Soil Analysis	1
4.	Video clipping	Custom hiring center	1
5.	Video clipping	Natural Recourse Management	1
6.	Video clipping	Organic farming	1

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

Success story: Impact of Cluster Front Line Demonstration of NFSM project in Amreli District of Gujarat

a. Brief introduction- In Amreli district, Cotton, Groundnut, Sesame, Wheat, Bajra, Castor, Sorghum and Pulses are main field crops. The project aimed to aware farmers about latest improved varieties and technology demonstrated to the farmers through CFLDs under NFSM project. Farmers were using traditional practices and local varieties for the production of pulses and only using conventional pesticides throughout the season. In Amreli district majority of farmers were growing only cotton crops instead of short duration crops, it requires water for irrigation purpose and only same uptake of the nutrients by the plants. It leads to deficits the nutrient availability in monocropping patterns.

b. Interventions-An awareness programmes were organized on CFLDs under NFSM project in Amreli district by Krishi Vigyan Kendra, Junagadh Agricultural University, Amreli. It was supported by ATMA, State department and NGOs; for organizing training programme. CFLDs under NFSM project was sanctioned by ICAR, ATARI, Pune and these CFLDs were implemented by KVK, Amreli in adopted villages. Various clusters are made to demonstrate the technologies in different villages.

Advance planning was made and implemented strategies

- Demonstration of latest recommended varieties of pulses.

- To control various pests and diseases by using Integrated Pest and Disease Management (IPDM) using bio-pesticides like *Beauveria Bassiana*, *trichoderma harzianum*, Pheromone traps etc.
- Nutrient Management by biofertilizers viz. *Rhizobium* and PSB
- Mechanical devices and also provided valuable information on cultural practices like Deep ploughing, Timely sowing of varieties and Early mature varieties
- Improving soil texture and structure by removing & mixing residual of other crops like maize, wheat using farm implement like rotavator,
- Avoid mono-cropping.
- Distributed proper literatures viz. folders, pamphlets, leaf lets, text messages and audio-visual aids to the farmers.
- Making Soil Health card for improvement of soil health.

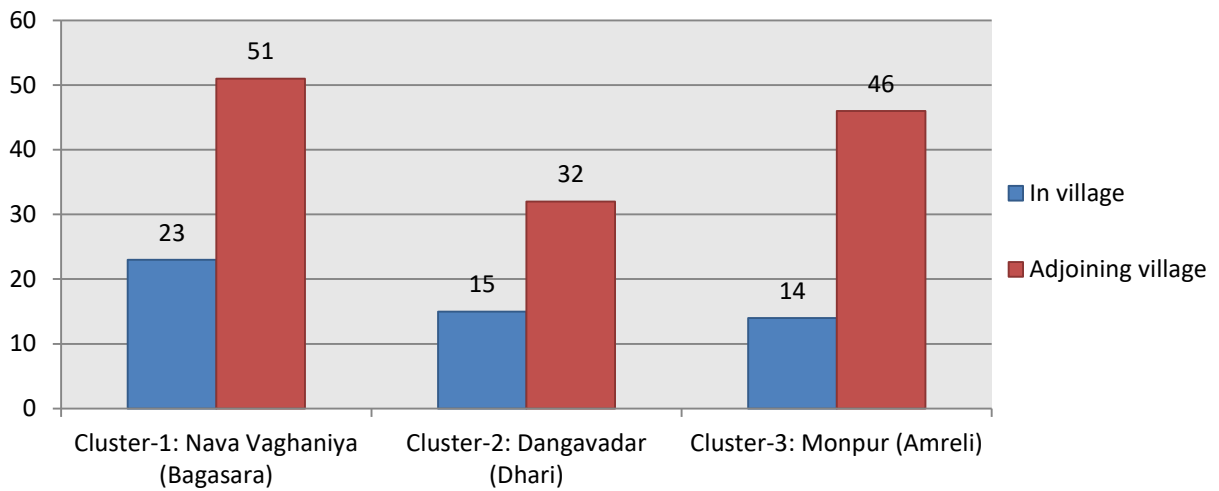
Farmers of Amreli district were benefited by scientific and technological information about IPDM of various pests and diseases and necessary guidance was also provided by scientists of Krishi Vigyan Kendra, Junagadh Agricultural University, Amreli (Gujarat).

c. Output- Due to continuously providing knowledge of scientific package of practices, Varietal adoptions, and technologies to farmers by various training programmes under NFSM project, farmers aware about various benefit of modern and scientific approach to control of pests and diseases of pulses crops through utilization of bio-pesticides and mass trapping of *Heliothis* adults in pigeon pea by mechanical devices like pheromone trap. This is reduced the application of hazardous pesticides and save the cost of chemical pesticides.

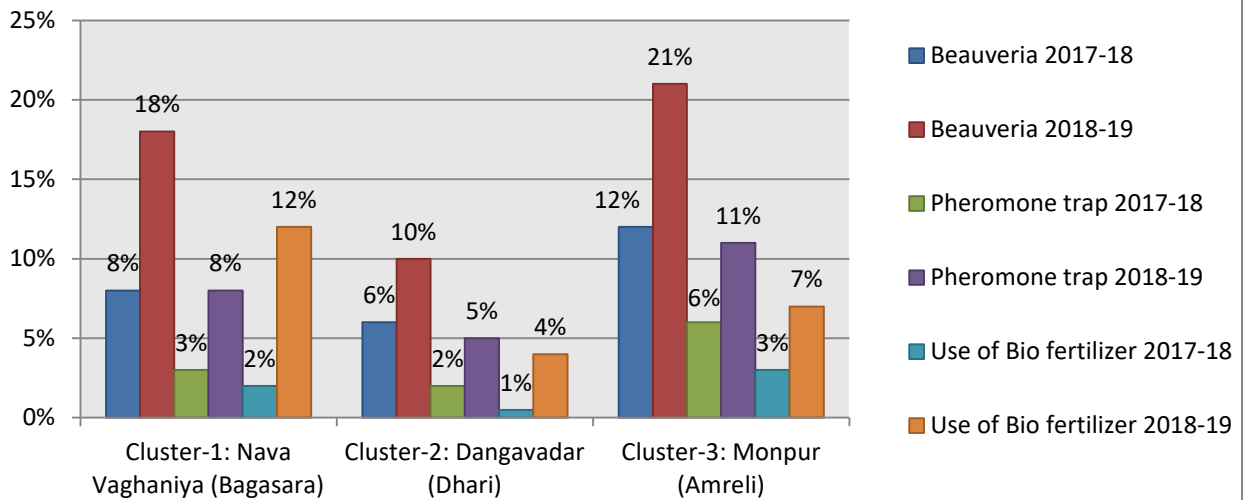
d. Impact:

Due to Demonstrations of latest improved varieties, organizing various training programmes and lectures in sponsored training programmes, farmers have stated regularly using recommended varieties, bio pesticides like *Beauveria bassiana*, *Metarhizzium anisopliae*, *Azadirachtin* and bio fertilizers in their field. Bio pesticides and bio products are economic and eco friendly will helps to the farmers in upcoming years on economical as well as social platform. There is proper impact observed in horizontal spread of varieties and Bio components shown in Figur 1 and 2.

Figur-1: Horizontal Spread of Latest Variety of Green gram (GM-4) Demonstrated in CFLDs under NFSM (No. of Farmers)



Figur-2: Use of different Bio component through Implementaton of CFLDs programme



f. Action Photographs-



Literature distributed to the farmers



Literature distributed to the farmers

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

A. Practicing Farmers

- a) Interview schedule
- b) Farmer group discussion
- c) Observation

B. Rural Youth

- a) Interview schedule
- b) Focus group
- c) Difficulty analysis

C. In-service personnel

- a) Interview schedule
- b) Performance analysis
- c) Observation

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

- 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

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
1	All the extension activities of district, Amreli	Sponsored Training, Demonstration , Resource person in Lectures, meeting

6.3. E-linkage during 2019-20

S. No	Nature of activities	Likely period of completion (please set the time frame)	Remarks if any
20.1	Title of the technology module to be prepared	Nil	
20.2	Creation and maintenance of relevant database system for KVK		
20.3	Any other (Please specify)		

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

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

6.6. Additional Activities Planned including sponsored projects (ProCRA / Pro SOIL/NARI/DAESI/DAMU/DFI, etc.) / schemes during 2019-20, if involved.

S.No.	Name of the agency / scheme	Name of activity	Technical programme with quantification				Financial outlay (Rs.)	Names of the team members involved
			Name of crop	Variety	Area (ha)	No. of FLD		
1.	Agricultural Technology Information Centre (ATIC)	FLD, Trainings	Cotton	G.COT Bt II-10	8	20	9,00000	Senior Scientist and all discipline Scientists
			Groundnut	GJG-22	5	20		
			Seasame	GT-4	4	10		
			Cotton	IPM	20	50		
			Groundnut	IPM	20	50		
			Wheat	GW-463	6.25	25		
			Gram	GJG-3	6.25	25		
			Gram	IDPM	6.25	25		
2.	National Initiative on Climate Resilient Agriculture (NICRA)	FLD, Trainings, Exposure visits	Green gram	GAM-5	02	05	431070	
			Seasame	GT-4	08	20		
			Castor	GCH-9	02	05		
			Seasame	IDM in sesame by Castor cake and Trichoderma	08	20		
			Wheat	GW-173	02	05		
			Gram	GJG-3	02	05		
			Dragon fruit	Hylocerus, polyrhizus	02	05		
			Cotton	ICM in cotton by Sowing of castor as a trap cop, maize (1 kg.) as aborde	02	20		

				crop and blackgram (2kg) as a intercrop 2) installation of yellow sticky trap @ 2 trap/acre 3) installation of pheromone trap @2trap/acre				
3.	Cluster base FLD of Rabi Pulses under NFSM	FLD, Trainings, Field day	Green Gram	GM-4	20	50	283610	
			Pigeon pea	GJP-1	20	50		
			Gram	GJG-3	20	50		
4.	National Mission on Oilseeds and Oil Palm (NMOOP)	FLD, Trainings, Field day	Groundnut	GJG-22	20	50	467127	
			Groundnut	GJG-31	20	50		
			Sesame	GT-4	20	50		
Total					217.5	605		

7.0 Convergence with other agencies and departments:

Trainings along with ATMA and other line departments

8. Innovator Farmer's Meet 2019- 2020

Sl.No.	Particulars	Details
1	Are you planning for conducting Farm Innovators meet in your district?	Yes/ No
2	If Yes likely month of the meet	NIL
3	Brief action plan in this regard	

9. Farmers Field School (FFS) planned 2019-2020

S. No	Thematic area	Title of the FFS	Budget proposed in Rs.
1		Nil	

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

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

Feedback by Scientist-

1. Horticulture –

GJO-1 variety of okra had higher production variety than local variety but during maturing the colour is become light green so its affect on marketability. GW0-1 variety of onion is best for dehydration and higher yielding variety than local (pillipati).

2. Plant protection-

Feedback of OFT in cotton was found that the problem of sucking pest in cotton is forum lower in recommended practices than farmer practice due to farmers are using injudicious pesticides and higher doses of pesticides on cotton crop. It leads to increase cost of cultivation and develop resistance in sucking pests.

3- Agronomy-

1. In OFT of cotton crop application of 240-50-150 NPK kg ha^{-1} + 50 ZnSO_4 and nitrogen 240 kg ha^{-1} in four equal split basal, 30, 60, 90 DAS with three spraying of KNO_3 at 15 days interval and 25 MgSO_4 kg ha^{-1} + 500 Kgha^{-1} castor cake produced high yield of cotton and superior quality of cotton because all essential nutrients provided to crops.
2. Farmers use more seed rate in wheat (180 kg ha^{-1}), but as per recommendation (120 kg ha^{-1}) wheat crop resulted good quality of produced seeds and low cost of seed rate as compare to use of high seed rate in wheat.

3. Application of bio-fertilizers Azotobacter & PSB @ 1 lit./ha with 100 kg FYM+75% RDF in wheat produced high yield and reduced cost of cultivation.
4. In cotton crops closer spacing (90 X 30 cm) provided high yield reduced incidence of pest and diseases as compare to wide spacing (120 X 45-60 cm).

4- Agriculture Engineering-

Number of balls per plant (110 Ridge and 89 furrow) and flowers was higher in ridges and furrow method of sowing in cotton. Number of irrigation is decreased is also decreased due to soil moisture conserve.

11. Utilization of hostel facilities

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

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	
Crop Production										
30.05.19	PF	Soil analysis and its importance	4	30	05	35	2	3	5	40
19.06.19	PF	Good Agricultural Practices of cotton & groundnut	4	30	05	35	2	3	5	40
15.07.19	PF	Organic Farming	4	19	8	27	4	4	8	35
01.11.19	PF	Integrated Nutrient Management in Rabi crops	4	25	15	40	5	5	10	50
03.02.20	PF	Use and Importance of Bio fertilizers	4	19	8	27	4	4	8	35
Horticulture										
15.05.19	PF	Nursery raising	4	19	8	27	4	4	8	35
01.08.19	PF	Cultivation of Fruit	4	30	05	35	2	3	5	40
19.10.18	PF	Nursery Management	4	19	8	27	4	4	8	35
17.01.19	PF	Production and Management technology	4	25	15	40	5	5	10	50
23.01.19	PF	Post harvest technology and value addition	4	19	8	27	4	4	8	35
Agril. Engg.										
15.05.18	PF	Installation and maintenance of micro irrigation systems	4	19	8	27	4	4	8	35
01.07.18	PF	Use of Plastics in farming practices	4	20	15	35	5	3	8	42
15.10.18	PF	Repair and maintenance of farm machinery and implements	4	19	8	27	4	4	8	35
15.01.19	PF	Post Harvest Technology	4	25	15	40	5	5	10	50
Home Science										
30.05.19	FW	Household food security by kitchen gardening and nutrition gardening	4	00	35	35	00	8	8	42

10.07.19	FW	Minimization of nutrient loss in processing	4	0	28	28	0	7	7	35
18.09.19	FW	Gender mainstreaming through SHGs	4	00	40	40		10	10	50
17.10.19	FW	Value addition	4	0	28	28	0	7	7	35
13.11.19	FW	Income generation activities for empowerment of rural Women	4	0	28	28	0	7	7	35
16.12.19	FW	Location specific drudgery reduction technologies	4	00	35	35	00	5	5	40
15.01.20	FW	Women and child care	4	00	35	35	00	5	5	40

Plan Protection

01.05.19	PF	Integrated approach for management to control of fall army worm in maize	4	30	8	38	5	5	10	48
15.07.19	PF	Role of organic pesticides	4	19	8	27	4	4	8	35
15.09.19	PF	Integrated Disease Management of field crops	4	20	15	35	5	3	8	42
30.01.19	PF	Botanical insecticides	4	19	8	27	4	4	8	35

Soil Health

15.01.20	PF	Soil health card and its importance	4	20	15	35	5	3	8	42
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Extension Education

30.04.19	PF/RV	Youth Development through update knowledge on major kharif crop	1	30	8	38	5	5	10	48
01.07.19	PF/RV	Women development through micro saving	1	19	8	27	4	4	8	35
01.11.19	PF/RV	Youth Development through update knowledge on major Rabi crop	4	25	15	40	5	5	10	50
15.02.19	PF/RV	Upgrade the knowledge of farmers about ICT	4	19	8	27	4	4	8	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	
Crop Production										
15.05.19	PF	Soil and water analysis	4	30	05	35	2	3	5	40
20.06.19	PF	High Density Planting in cotton	4	30	05	35	2	3	5	40
03.07.19	PF	Preparation procedure of liquid organic fertilizer	4	30	05	35	2	3	5	40
20.08.19	PF	Organic farming certification procedure	4	19	8	27	4	4	8	35
03.12.19	PF	Package of practices onion and garlic	4	25	15	40	5	5	10	50
05.02.20	PF	Concept and importance of INM	4	19	8	27	4	4	8	35
Horticulture										
10.06.19	PF	Nursery raising	4	10	8	18	9	8	17	35
20.09.19	PF	Layout and Management of Orchards	4	20	15	35	3	3	6	41
Agril. Engg.										
14.06.19	PF	Installation and maintenance of micro irrigation systems	4	20	15	35	5	3	8	42
01.08.19	PF	Use of Plastics in farming practices	4	10	8	18	9	8	17	35
20.11.19	PF	Repair and maintenance of farm machinery and implements	4	20	18	38	6	4	10	48
15.03.20	PF	Post Harvest Technology	4	25	15	40	5	5	10	50
Home Science										
01.06.19	FW	Household food security by kitchen gardening and nutrition gardening	4	00	35	35	00	8	8	42
05.08.19	FW	Minimization of nutrient loss in processing	4	0	28	28	0	7	7	35
10.9.19	FW	Gender mainstreaming through SHGs	4	00	40	40		10	10	50
20.10.19	FW	Value addition	4	0	28	28	0	7	7	35
15.11.19	FW	Income generation activities for empowerment of rural Women	4	0	28	28	0	7	7	35

2.01.20	FW	Location specific drudgery reduction technologies	4	00	35	35	00	5	5	40
20.01.20	FW	Women and child care	4	00	35	35	00	5	5	40
Plant Protection										
25.6.19	PF	Advance techniques of pest management	1	30	8	38	5	5	10	48
15.07.19	PF	Method demonstration of organic product	1	19	8	27	4	4	8	35
01.08.19	PF	Bio -Pesticides	1	20	15	35	5	3	8	42
15.01.20	PF	Sucking pest management in Rabi crops	1	19	8	27	4	4	8	35
Soil health										
18.07.19	PF	Soil and water analysis	1	25	10	35	5	0	5	40
Extension education										
01.05.19	PF/R Y	Upgrade knowledge on seed treatment	4	10	8	18	9	8	17	35
30.06.19	PF/R Y	Update knowledge on Soil Health Card	4	10	8	18	9	8	17	35
01.12.19	PF/R Y	Leadership development	4	10	8	18	9	8	17	35
24.02.20	PF/R Y	Entrepreneurship Development	4	10	8	18	9	8	17	35

ii) Vocational training programmes for Rural Youth

Crop / Enterprise	Identified Thrust Area	Training title*	Month	Duration (days)	No. of Participants			SC/ST participants			G.Total
					M	F	T	M	F	T	
Entrepreneurship	Traditional method for bakery items	Different bakery product preparation	Oct-Nov	4	0	13	13	0	12	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	
On Campus										

1. Kharif-2019	Ext. workers	Update knowledge level of Extension personal regarding Integrated Nutrient and pest Management	4	7	6	13	6	6	12	25
2. Kharif-2019	Ext. workers	Update knowledge on Soil Health Card	4	7	6	13	6	6	12	25

iv) Sponsored programmes

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	
a) Sponsored training programme											
Agronomy	ATMA	PF	Scientific production of kharif crops	1	60	00	60	00	00	00	60
Plant protection	NMOOP	PF	Integrated management of fall army warm in maize	1	35	00	35	00	00	00	35
Horticulture	ATMA	PF	Organic farming in horticulture crops	1	42	00	42	00	00	00	42
Plant protection	DAO	PF	Role of Trichoderma, Beauveria, bossiana and metarhium anisoplie and its uses	1	58	00	58	00	00	00	58
Extension education	STATE DEPARTMENT	PF	Use of mass media	1	35	00	35	00	00	00	35
Home Science	FTC, Bhavnagar	FW	Importance of kitchen gardening	1	00	35	35	00	00	00	35
Agronomy	FTC, Bhavnagar	PF	Scientific production of cotton	1	35	00	35	00	00	00	35
Total				07	265	35	300	00	00	00	300

Annexure - II

Budget - Details of budget utilization (2018-19) up to 31 March 2019

S. No.	Particulars	Sanctioned	Released	Expenditure
24.1	Recurring Contingencies	80,00000	6000000	6531624
24.1.1	Pay & Allowances	1,250000		61307
24.1.2	Traveling allowances	13,00000	12,00000	12,27233
24.1.3	Contingencies			
24.1.4.1	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance			
<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	13,00000		1227233
<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			
24.1	Total Recurring	13,00000		1227233
24.2	Non-Recurring Contingencies			
24.2.1	Works			
24.2.2	Equipments including SWTL & Furniture			
24.2.3	Vehicle (Four wheeler/Two wheeler, please specify)			
24.2.4	Library			
24.2	Total Non Recurring			
24.3	REVOLVING FUND	00		00
24.4	GRAND TOTAL (A+B+C)	9425000	720000	7820164

Details of Budget Estimate (2019-20) based on proposed action plan

S. No.	Particulars	BE 2019-20 proposed (Rs.)
25.1	Recurring Contingencies	
25.1.1	Pay & Allowances	90,00000
25.1.2	Traveling allowances	1,00000
25.1.3	Contingencies	
<i>A</i>	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	14,00000
<i>B</i>	POL, repair of vehicles, tractor and equipments	
<i>C</i>	Meals/refreshment for trainees (ceiling up to 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	
25.1	TOTAL Recurring Contingencies	14,00000
25.2	Non-Recurring Contingencies	0
25.2.1	Works	0
25.2.2	Equipments including SWTL & Furniture	0
25.2.3	Vehicle (Four wheeler/Two wheeler, please specify)	0
25.2.4	Library (Purchase of assets like books & journals)	0
25.2	TOTAL Non-Recurring Contingencies	0
25.3	REVOLVING FUND	0
25.4	GRAND TOTAL	10500000