ACTION PLAN 2022

(1st January 2022 to 31st December - 2022)

TO BE PRESENTED AT

ANNUAL ZONAL WORKSHOP FOR KVK OF ZONE-VIII
(Gujarat, Goa & Maharashtra)

ORGANIZED BY

DIRECTOR, ATARI ZONE-VIII, ICAR, PUNE

HELD AT

ANAND AGRICULTURAL UNIVERSITY, ANAND

During JULY 07-09, 2022

PREPARED/COMPILED By
Dr. K. P. Baraiya, Senior Scientist & Head
Smt. A. K. Baraiya, Scientist

KRISHI VIGYAN KENDRA
JUNAGADH AGRICULTURAL UNIVERSITY
JAMNAGAR - 361 006
GUJARAT

CONTENT

ANNUAL ACTION PLAN
(1st January 2022 to 31st December - 2022)

KRISHI VIGYAN KENDRA
JUNAGADH AGRICULTURAL UNIVERSITY, JAMNAGAR

1. GENERALINFORMATIONABOUT THE KVK

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

Address	Telephone		E mail	Website address & No. of visitors (hits)
	Office	FAX		
KrishiVigyan Kendra Millet Research Station, JAU Airforce Road, Opp. Digjam Mill Jamnagar- 361 006	(0288) 2710165	(0288) 2710165	kvkjamnagar@jau.in kvkjamnagar@gmail.com	www.jau.in 23531414

* ICT lab was established centrally at University Headquarter, JunagadhAgricultrual University, Junagadh. As a part of ICT on KVK is also established.

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

Address	Telephone		E-mail	Web address
	Office	FAX		
JunagadhAgricultural University, Junagadh – 362 001 (Gujarat)	PBX 2672080-90	(0285) 2672653	dee@jau.in	www.jau.in

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. K. P. BARAIYA	Senior Scientist & Head KrishiVigyan Kendra JunagadhAgricultural University, Airforce Road, Opp. Digjam Mill Jamnagar- 361 006	9427980032	kvkjamnagar@gmail.com kvkjamnagar@jau.in

1.4. Year of sanction:

ZARS (KVK) 2001, LetterNo.F.No. 18(4)/99-NATP Dated October 31st, 2001
ICAR (KVK) 2004, LetterNo.F.No. 8(1)/2002-AE-II(Pt.) Dated February 5th, 2004

1.5. Staff Position (as on 31st December, 2021)

Sl. No.	Sanctioned post	Name of the incumbent	Discipline	If Permanent, Please indicate		Date of joining	If Temporary, pl. indicate the consolidated amount paid (Rs./month)
				Current Pay Band	Present Basic		
1	Senior Scientist & Head	Dr. K.P. Baraiya	Plant Protection	131400-217100	147900	24.03.2015	
2	Scientist	Shri V. K. Kikani	Crop Production	57700-182400	87200	01.10.2020	
3	Scientist	Vacant	Plant Protection	57700-182400			
4	Scientist	Vacant	Horti./ Ag. Engg	57700-182400			
5	Scientist	Vacant	Ext. Education	57700-182400			
6	Scientist	Vacant	Fisheries/ Veterinary	57700-182400			
7	Scientist	Smt. A. K. Baraiya	Home Science	68900-205500	92600	17.08.2006	
8	Farm Manager	Shri H. S. Godhani	Agril. Ent.	39900-126600	41100	19.09.2015	
9	Programme Assistant	Shri N. D. Ambaliya	Agril.	39900-126600	-	01.02.2020	38090/-

10	Computer Programmer	Shri C. P. Padhiyar	Computer Operator	39900-126600	52000	29.12.2008	
11	Accountant / Superintendent	Vacant	Adm.	39900-126600	-	-	
12	Stenographer	Vacant	Adm.	19900-63200	-	-	
13	Driver	Vacant	Supt.	19900-63200	-	-	
14	Driver	Shri. D.M. Chauhan	Supt. (Fix)	19900-63200	27600	9.10.2007	
15	Supporting staff	Shri B. V. Bamaniya	Supt.	14800-47100	19700	01.11.2014	
16	Supporting staff	Shri P. S. Damor	Supt.	14800-47100	20900	1.09.2006	

1.6. Total land with KVK (in ha) :20.84 ha

Sl. No.	Item	Area in hectare(s)*
1	Under Building and Road	2.00
2	Under Demonstration units	0.70
3	Under crops	12.40
4	Orchard	3.50
5	Agro-forestry	0.24
6	Others (Farm Pond & Channels)	2.00
	Total	**20.84**

1.7. Infrastructural Development:

A) Buildings

Sl. No.	Name of building	Sourceof funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expen-diture (Rs.)	Star-ting Date	Plinth area (Sq.m)	Status of const-ruction
1.	Administrative Building	KVK	15-8-11	550	5500000			
2.	Farmers Hostel	KVK	15-8-11	305	3000000			
3.	Staff Quarters (6)	KVK	15-8-11	400	4000000			
4.	Demonstration Units of vegetable	KVK + ATMA	31-3-07	-	-	-	-	-
5	Training Hall	RKVY	20-2-10	190.99	1395800	-	-	-
6	Process Plant	RKVY	20-2-10	197.31	1536400	-	-	
7	Implement shed	RKVY	11-2-10	77.33	297800	-	-	-
8	Rain Water harvesting system	KVK	31-3-2007	26m×26m (2Ponds) 60m×60m (1 Pond)	999000	-	-	-
9	Fencing	-	-	Not Available	-	-	-	-
10	Threshing floor	-	-	Not Available	-	-	-	-
11	Farm godown	-	-	Not Available	-	-	-	-
12	ICT lab	-	-	Not Available	-	-	-	-
13	Other	-	-	Not Available	-	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Totalkms. Run	Presentstatus
Toyota Qualis (GJ-10G 433)	2004-05	490200	517768	Working (it is required to be right off)
Hero Honda splendor(bike) GJ-10 BB-1634	2010-11	46475	22835	Working

Mahindra Scorpio (GJ-10 GA-0535)	2019	1035000	10413	Working

C) Equipments& AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Presentstatus
Captain Mini Tractor	2001-02	166125	Under process for rightoff
Telephoneline	2001-02	19850	Working
Multi tool carrier complete set	2001-02	6500	Working
Photocopier	2001-02	125000	Working
Over headprojector	2001-02	17600	Working
Computer	2002-03	29500	Working
HP Laser printer	2002-03	20390	Working
U.P.S. (3 KVA)	2002-03	38000	Working
Spectrophotometer	2005-06	89160	Working
Flame photometer	2005-06		Working
Physicalbalance	2005-06	10640	Working
Chemicalbalance	2005-06	100000	Working
Water distillation still	2005-06	96118	Working
Kieldahi digestion and distillation	2005-06	49644	Working
Shaker	2005-06	80080	Working
Grinder	2005-06		Working
Refrigerator	2005-06	16772	Working
Oven	2005-06	30550	Working
Hot plate	2005-06		Working
Aspee tractor mounted sprayer	2006-07	32000	Working
Air assisted blower type sprayer	2009	98750	Working
Laptop computer (HCL)	2009	47500	Working
Digital camera (Nikon)P-90 12.1	2009	24300	Working
Cotton stalk shredder	2008-09	121000	Working
Groundnut digger-tractor operated	2009	78500	Working
Cultivator cum rotavator	2009	90000	Working
Groundnut decorticator	2009	95850	Working
Multi crop thresher	2009	114000	Working
Processing Unit	2009	1685000	Working
Plantar-tractor operator	2009	44000	Working
EPBX System	2012	44000	Working
Vertical Autoclave	2012	78190	Working
Laminar Airflow	2012	127440	Working
Electronic Balance (200 gm)	2012	12600	Working
EC/ Conductivity meter	2012	6300	Working
Portable pH Meter	2012	6300	Working
Compound microscope	2012	4410	Working
Trinocular microscope	2012	112000	Working
Digital temperature & humidity indicator cum controller	2012	34750	Working
Digital TDS meter	2012	3985	Working
Research centrifuse with accesaries	2012	42480	Working
Stabilizer	2012	10440	Working
Hot air oven	2012	41580	Working
BOD incubator	2012	46305	Working
Digital camera SLR (Canon)	2012	44750	Working
AC 1.5 tonn	2012	45990	Working
Mahindra Tractor 275 DI TU	2019	432000	Working

1.8. A). Details SACmeeting conducted in the year

Sl.No.	Date	Number of Participants	Salient Recommendations	Action taken
1.	01-10-2005	21	-	-
2.	07-10-2006	30	-	-
3.	02-11-2007	31	-	-
4.	17-10-2008	30	-	-
5.	14-09-2009	33	-	-
6.	29-4-2010	35	-	-
7.	07.04.2011	37	-	-
8.	10.04.2012	32	-	-
9.	02.04.2013	37	-	-
10.	27.12.2013	26	-	-
11.	21.02.2015	25	-	-
12.	29.01.2016	22	-	-
13.	25.10.2016	27	-	-
14.	12.04.2018	30	-	-
15.	25.03.2019	35	-	-
16.	7.03.2020	36	-	-
16.	07.03.2020	36	-	-
17.	08.02.2021	41	-	-
18.	09.03.2022		As below	As below

Suggestions made by committee members during presentation of 17th SAC is as under:

1.	Dr. V. P. Chovatiya, Hon'ble Vice Chancellor, Junagadh Agricultural University, Junagadh& Chairman of the SAC suggested following points. ➢ Arrange FLD on latest released variety of pearl millet. ➢ Take data of critical observations hectare base in OFT ➢ Data should record lactation basis (milk yield) instead of 5 months in FLD on bypass fat in animal ➢ Arrange training on weed management during third quarter ➢ Record maximum farmers from every taluka and village level for benefit of DAMU project ➢ Accountability of FLD's ➢ Check the usefulness and review of advisory to farmers under DAMU project
2.	Dr. H. M. Gajipara, Director of Extension Education, JAU, Junagadh advice that ➢ Analyze maximum soil and water sample at KVK Soil Testing Laboratory ➢ Record impact assessment of training programs ➢ Maintain register for FLD farmers with observation data ➢ Arrange demonstration on implements ➢ Upload all extension programs on ICAR portal ➢ Write down the feedback of farmers under FLD
3.	VitthalbhaiSakhiya, Member of Extension Education Council, JAU, Junagadh suggested ➢ To work cooperatively with all departments for farmers
4.	Shri Dhanpal Sir, ACF suggested to ➢ linkage with forestry department with MOU for different extension programs and work together

2. DETAILS OF DISTRICT

The district of Jamnagar is lies in North Saurashtra Agro climatic zone(VI) with an area of 35.02 lakh hectare land. The total geographical area of entire district (21.8 – 22 ON, 69.0 – 70.7 E) occupies 14125 km^2 i.e. 14.125 lakh ha area in the west of Gujarat state. The climate is arid (80%) and semi arid (20%) with a meanmoistureindex of 67.5. About 95 to 98% of annual rainfall comes during the monsoon month of June to October, July and August being the rainiest months. The co-efficient of variation ranges between 50 and 82%. The annual potentialevapo-transpiration ranges between 1500 and 1650mm, three times the precipitation, resulting in no flow in the ephemeral channels for the most of the year. The district is a water scarcity area droughts are common in this region draughts of moderate to severeintensity occur once in 2 to 3 years. Although the integrateddrainagesystemfrom the story/rocky/gravelly surfaces and torrential natureof precipitation generate 40 to 60% of rainfall as runoff, steeper slopes and absence of checks allow the water to quickly flow to the sea. Being is hard rock terrain, the groundwater potential is very low, is already over exploited and mined, resulting in either the saline water ingress in the costal aquifers, or drying up of the ground water up to a depth of 100m. Consequently a need for holistic approach to water resource development in the district. Wind velocity prevailing in the district is higher order (14.1 km) ha on an annual average basis due to sea coast area.

According to physio graphically, major portion of the area in the district have an altitude ranging between 25 to 150 meters, which consists ten taluka having gentle slope to moderate slope. The district is marked by radical drainage pattern. Deccan trap basalt occupies a major part of the district. The Quaternary formations include milliolite, limestone, alluvium and Geolian sediments. The dominant land forms are colluvial plains and rocky uplands. Low hills occur in the southern part of district and are dissected by numerous large and small seasonal streams, most of which drain towards north and form potential drainage basins. The district is characterized by shallow, black soil and coastal alluvial soils with large variations in depth, texture, structure salinity, and water erosion. Nearly two third area of the district is under cultivation. The major factors of land degradation are accelerated water erosion and Salinization.

Basic information of operational district, Jamnagar and Devbhumi Dwarka:

Sr. No.	Details	JAMNAGAR		DEVBHUMI DWARKA	
1	Total geographical area	6.075 lakh ha.		4.07509 lakh ha.	
2	Total cultivable area	4.32 lakh ha.		2.52 lakh ha.	
3	Net cultivated area	3.53 lakh ha.		2.38 lakh ha	
4	Total area under forest	0.43 lakh ha.		0.1736 lakh ha	
5	Total irrigated area	0.939 lakh ha.		0.23092 lakh ha.	
6	Number of holdings	1.44 lakh		1.17 lakh	
7	Average annual rainfall	550 mm.		550 mm.	
8	Soil type	Medium black		Medium black	
9	Total number of villages	419 (8 city)		280 (8 city)	
10	Total population	13.89 lakh (2011)		7.48 lakh (2011)	
	(a) Male	7.18lakh .		3.84lakh .	
	(b) Female	6.71 lakh		3.64lakh .	
11	Literacy percentage	Rural	Urban	Rural	Urban
	a. Male	86.95	79.55	76.14	80.74
	b. Female	76.22	62.18	55.41	61.36
12	Number of talukas	6 (Six),		4 (Four)	
		Jamnagar		Jamkhambhalia	
		Dhrol		Jamkalyanpur	
		Jodiya		OkhaMandal (Dwarka)	

		Kalavad	Bhanvad
		Lalpur	
		Jamjodhpur	

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

S. No	Farming system/enterprise			
1	Crops	Cereals	:	Pearl millet, Sorghum, Wheat, Maize
		Pulses	:	Greengram, Blackgram, Chickpea, pigeonpea
		Oilseeds	:	Groundnut, Sesamum, Castor, Mustard,
		Cash crops	:	Cotton,
		Spices and condiments	:	Cumin, Fennel, Coriander, ajwan, Ishabgul
		Vegetables	:	Onion, garlic, potato, chilli, binjal, tomato, cauliflower, Cowpea, cabbage, okra, peach, cucurbits etc
		Horticulture	:	Chiku, pomegranate, lemon (Citrus), Jamun, Aonla, guava, custard apple, papaya, coconut, ber, Almond, Banana, Dragon fruit, Drum stick
		Floriculture	:	Rose, merry gold, vevanti, etc
		Other Crops	:	Chikori, Fenugreek, Mulberi neem
2	Live stock	Bullocks and cows		
		Buffaloes		
		Sheep		
		Goats		
		Horse and camel		
		Poultry		
		Others animals		
3.	Fishery	340 km coastal belt		4832 tonnes fish production

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

S. No	Agro-climatic Zone	Characteristics
Zone–VI	North Saurashtra	The influence area of North SaurashtraAgroclimatic Zone is spread among five districts *viz*., Amreli (7 taluukas out of 10), Bhavnagar (7 talukas out of 14), Jamnagar (all the 10 talukas), Rajkot (9 talukas of 13) and Surendranagar (6 talukas out of 9) covering 39 talukas in all. The influence area of the zone lies between 21°-02' to 23°-16' North Latitude and 68°-56' to 72°-12' East Longitude. It is founded in the north by the Gulf of Kutch and parts of Rajkot as well as Surendranagar districts, in the East by the Ahmedabad district and ncoastal part of Bhavnagar district, on the South by the Junagadh district and parts of Amreli as well as Rajkot district, to the west by Arebian sea. The North Saurashtra region which comprises the peninsular part of Gujarat has low to medium rainfall and shallow to medium black soils and also coastal saline alluvial soils. In this Agro-climatic zone, cotton (Bt), groundnut, pearlmillet, wheat are the major crops which contribute considerably to the economy of the state. In Saurashtra, among this zone taking in to consideration the rainfall pattern, the topography, soil characteristics, the climate and the cropping pattern have been identified in Gujarat. The North Saurashtra zone have five main / sub station cum testing centre of University like Dry Farming Research Station with KVK, Targhadia (Rajkot District), Main Millet Research Station with KVK, Jamnagar, Oilseeds Research Station (Sesamum, Mustard, Sunflower)

		with KVK, Amreli, Dry Farming Research Station, Nanakandhasar, (Surendranagar District) and Dry Farming Research Station, Jamkhambhalia (Jamnagar District).

b) Topography

Agro – Ecologicalsituation in the District

The advent of southwest monsoon greatly influences seasonal patterns of rainfall distribution in the district. Thus, meanannual rainfall provides useful comparison of agriculturalpotential of a given situation in the district. The mean rainfall in the district 539.17mm

The physiography of entireregion of district is more or less flat. However, the region is undulating with slopes having little hillyareasfrom 25 to150 metersPhysicalfeatures of the area vary from flat landto150 meters above meansea level. Most of the area falls in the range of 25m to 150m above mean sea level.

Based on the soilsurveyinformation of the zone, the soils of the district hence been broadly classified in tofine categories Available information about the properties of these soils and their textures has been considered. The types of soils categories are as under: -

Shallow black soils

Medium black soils

Saline alkali soils

Costal alluvial soils

Hilly soils

While delineating the zoneintodistrict agro ecological situations, there major factors including varioussoil types, altitude and the rainfall patterns have primarily been considered. The district can be delineated into five agro ecological situations.

Although, each of the situations has rainfed and irrigated condition, but irrigationhas not been considered in identification of the agro ecological situations. While deciding the major crops, cropping patterns and constraints in production, mention has been made of both these conditions one or the other agro ecological situation occurs in the influencearea of the district. The fact that this does not preclude the existence of more than one agro ecological situations within the same area.

Sl. No.	Agro EcologicalSituation	Soiltexture	Altitude	Principal crops	Specialfeatures	Approximate area (000ha)	Taluka included	Characteristics
AES-1	Shallow Black soils with 500-600 mm Rainfall	Sandy clay loam to clayey	75 – 150	Groundnut, wheat, sorghum, pearlmillet	Well drained soils with rapid permeability	124	Kalawad, Jamjodhpur, Bhanvad, Okha	Moisturestress, temperature stress
AES-2	Shallow Black soils with 600-700 mm Rainfall	Clayey	75 – 150	Groundnut, wheat, sorghum, pearlmillet	Slightly well drained soils with rapid permeability	180	Part of Kalyanpur, Jamnagar, Jamkhambhalia, Lalpur, Dhrol, Jodia	Moisturestress, temperature stress
AES-3	Coastal Alluvial soils with 300-400 mm Rainfall	Clayey loam to clayey	50	Groundnut, pearlmillet, sorghum, chickpea	Low nitrogen and phosphus	181	Jodia, part of Okha, Jamkhambhalia, Kalyanpur& Jamnagar	Salt affected salinity
AES-4	Coastal Alluvial soils with 500-700 mm Rainfall	Silt clay	25-50	Groundnut, pearlmillet, sorghum, chickpea	Low nitrogen and phosphorus	299	Kalyanpur, Jodia& Jamnagar, Khambhadia, Lalpur, Dwarka	Salt affected salinity

AES-5	Coastal Alluvialshallow black soils with 300-400 mm Rainfall	Sandy loam toclay loam	0-25	Sorghum, Pearlmillet, Groundnut, Sesamum	Aridclimate	31	Okha	Known salinityforgenus ephedra seacoast very rich in Alghlflor and fanner of economic importance.

2.3 Soil type

As the geographical formation of Saurashtra is to volcanic origin, the soils are generally desiredfrom basaltic rock known as Daccan trap. This is the commonest rock in India and due to its extensive occurrence in south is called "Daccan Traps". In many parts, they6 have flat top features and hence, are also known as plateau basalt. The trap rocks, which occupy a large part of western cost of India, is also covering North Saurashtra zone. The most common colour of the trap rock in the region is dark grey. On weathering, trap rock form a ferruginous gravelly material known as murrum, which under lie-soil formed in situ. Soils, thus derived are either brown red in colour or regular, the black soil. In district black or brown colour is predominant. The soils are shallow to moderately deep. The detailed soil survey information for the soils of Jamnagar district are as under.

S. No	Soiltype	Characteristics	Area in ha
1	Shallow black soils	These soils have developed from basaltic trap especially from granite and gneiss parent materials. They light grey in colour. Taxonomically, they are classified as *Ustorthents* and *Ustochrepts*. Soils depth varies for cm to 45 cm. They are gravelly but mainly they are sandy clay loam to clayey in texture. The clay on tent in surface soil varies from 20% to 77.49% and calcium carbonate content varies from 3.76 to 26.71 per cent. The soil structure is weak, mainly sub angular blocky and occasionally crumb. Since these soils lack district profile layering and are shallow, capacity to retain moisture is not sufficient. The soils are neutral to alkaline in reaction p^H ranges from 7.3 – 8.4) and from fertility point of view, these are medium in available nitrogen, low to medium in available phosphorus and adequate in availability of potash.	124000 ha (Kalawad, Jamjodhpur, Bhanvad, Okha)
2.	Medium black soils	The major portion of Jamnagar (Some part of Kalyanpur, KHambhaliya& Jamnagar, major part of Lalpur, Dhrol, Jodiataluka is covered under medium black soils. These residual soils have basaltic trap parent materials. These soils vary in depth from 30 to 60 cm or more at few places. They are calcareous in nature. A layer of murrum (Unconsolidated material of decomposed trap and limestone) is generally found in sub soil layer. The drainage does not pose any problem, because of porous sub soil layer. Morphologically, the profile of these soils has A-C horizon characteristics, having moderate sub angular blocky structure. They are plastic and sticky and hard in consistency on drying. The colour of these soils varies from very dark brown to light grey. Taxonomically, these soils are classified as *Ustochrepts* in *Inceptisol* order. The soils are dominated by smectite group of clay minerals which give to mild cracking in dry season, due to which these are further classified as *Vertic – Ustochrepts* at sub group level. The soils are clay loam to clayey in texture. The souls are highly retentive of moisture because higher percentage of clay content. The percentage of clay content in the surface varies from 31.79 to 73.27 per cent, while no definite trend of clay content in different horizon of the profile is observed. The chemical composition of these soils is neutral to alkaline reaction (p^H7.4 to 8.9). Calcium is the dominant exchangeable cation followed by magnesium. The soils are generally low to medium in available nitrogen, phosphorus and	180000 ha (Part of Kalyanpur, Jamnagar, Jamkham-bhalia, Lalpur, Dhrol, Jodia)

		adequately supplied with potassium. The calcium carbonate contents various from 5.26 to 20.36 per cent in these soils.	
3.	Saline alkalisoils	Saline alkali souls are extensively distributed on the coastal are3a as well as inlands. These soils are located in the districts of Jamnagar (Jodia, part of Okhamandal, Kalyanpur, Jamkhambhaliya and jamnagartalukas). These soils are originated as a result of higher water table, low rainfall and high evaporation losses during summer months resulting into upward movement of salts, poor drainage, use of saline ground water and ingress of sea water (in coastal areas). The souls are classified as *Fluvaquents, Halaquents,* and*Haplaquents* (Entisol): *Haplaquents* and *Haptaquepts* in order – *Inceptisol.* Texturally these soils vary from sandy loam to clay. The degree of salinity and alkalinity is also highly variable. In Jamnagar district, the saline and alkaly soils are widely distributed mainly termed as coastal soil. The soils are sandy loam to clay loam in texture. The EC varies from 1.54 to 38.6 m.mhos/cm and ESP ranges from 9.2 to 74.64% in surface soil. The p^H varies from 7.6 to 9.00 in surface soils and normally calcareous in nature. Most of these soils are low to medium in available nitrogen and phosphorus and high in available potash.	181000 ha (Jodia, part of Okha, Jamkhambhalia, Kalyanpur&Jamnagar)
4.	Costal alluvialsoils	these soils are located in the district of Jamnagar consisting Kalyanpur, Jodia and Jamnagar, Jamkhambhadia, Lalpur, Dwarka (OkhaMandal) and Dhrol, talukas. These soils are sandy clay loam to clay in texture. These soils are also affected with salts and are saline sodic in nature. The surface soil varies from 1.54 to 38.6 m.mhos/cm in Electrical conductivity, and from 9.2 to 74.64 in Exchangeable sodium percentage. The soil reaction varies with situation ranging from moderately alkaline or highly alkaline (p^H 7.6 to 9.0). The souls are normally medium in fertility. Taxonomically, these souls are classified as *Halaquents* and *Haplaquents* – Entisol and *Helaquepts* and *Hapdaquents* in Inceptisol order.	299000 ha (Kalyanpur, Jodia& Jamnagar, Khambhadia, Lalpur, Dwarka)
5.	Hilly soils	These soils occur in some parts Bhanvad and Jamjodhpurtalukas of Jamnagar district. Because of the steep slope and erosion, the profile is not developed. These soils are developed because of weathering of parent materials existing basaltic trap limestone and sand stone. These soils are shallow to moderately deep and are coarse to find in their texture. The texture varies from loamy sand to clay loam to clay. They have under composed rock fragments and are low in fertility status. These soils are placed in to *Ustorthents* and those near foothills and valley are comparatively deeper can be placed under *Ustochrepts*and can be classified under estisol and *Inceptisol* orders respectively.	31000 ha (Some part of Bhanvad and Jamjodhpur)

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

S. No	Crop	Area (ha)	Production (Qtl)	Productivity (Qtl /ha)
	Oilseeds			
1	Groundnut	378335	5675025	15
2	Sesamum	6280	22608	3.6
3	Castor	7375	192487.5	26.1
4	Soybean	8	140	17.5
	Total Oilseeds	**391998**		
	Cash Crops			
5	Cotton	180440	4150120	23
6	sugarcane	150	7500	50
	Total Cash Crops	**180590**		
	Food Grain			
7	Wheat	58600	1881060	32.1
8	Pearlmillet	3520	46112	13.1
9	Sorghum	8100	85050	10.5
10	Maize	2850	20520	7.2

	Total Food Grains	**73070**		
	Pulse Crops			
11	Greengram	4185	23436	5.6
12	Blackgram	2910	17867.4	6.14
13	Cowpea	285	1071.6	3.76
14	Pigeon pea	175	1925	11
15	Moothbean	360	1512	4.2
16	Chickpea	31300	350560	11.2
17	Cluster bean	75	1406.25	18.75
18	Other pulses	15	0	
	Total Pulses	**39305**		
	SPICES AND CONDIMENTS			
19	Cumin	4300	36550	8.5
20	Fenugreek	90	1410	15.7
21	Coriander	2300	33350	14.5
22	Ajwan	5015	42630	8.5
24	Chilli	1550	29450	11.9
25	Garlic	600	47700	79.5
	Total spices	**13855**	**191090**	
	VEGETABLE		0	
27	Onion	200	40800	204.0
28	Potato	100	14650	146.5
29	Brinjal	1755	324680	185.0
30	Tomato	2355	701790	298.0
31	Cauliflower	97	14250	146.9
32	Cowpea	788	58940	74.8
33	Cabbage	811	136570	168.4
34	Okra	2790	200880	72.0
37	Cucurbits	1445	236110	163.4
38	Cluster bean	4524	436570	96.5
39	Other vegetable	160	17680	110.5
	Total Vegetable	**15025**	2182920	
	FRUIT CROPS		0	
40	Chiku	249	28810	115.7
41	Pomegranate	565	50290	89.0
42	Citrus	257	19040	74.1
44	Aonla	35	2100	60.0
45	Guava	12	520	43.3
46	Custard apple	65	4910	75.5
47	Papaya	483	301880	62.5
48	Coconut	505	42470	84.1
49	Ber	351	33270	94.8
50	Kharek	91	4550	50
51	Banana	44	19360	440.0
52	Mango	470	28670	61.0
53	Cashew nut	4	40.0	10.0
54	Other fruits	177	13890	78.5
55	**Total Fruits**	**3308**	549800	
56	**FLOWERS**		0	
57	Rose	66	6150	93.2
58	Merry gold	140	11450	81.8
60	Jasmine	3	260	86.7
62	Lilly	2	170	85.0
63	Other flowers	165	14650	88.8
	Total flowers	**376**	32680	
	OTHER CORPS		0	
64	Chikori	50	4325	86.5
65	Palma Rosa	43	5375	125
	Total Other crops	**93**		

	Fodder crops			
67	Lucern	1105	132600	120
68	Sorghum	16660	2499000	150
69	Maize	2910	0	
	Total Fodder crops	**20675**		

* Source : DAO, &Dy.Dir.Hort., Jamnagar

2.5. Weather data (Jan. to Dec.-2021)

Weekly mean Weather data-at JAU,Jamnagar during-2021									
	Temp. °c		R.H.%		WS	BSS	Eo	Rain	Rainy
Week No	Max	Min	I	II	(kmph)	(hrs)	(mm)	(mm)	Days
1-J	24.9	9.9	73	32	4.8	7.7	3.6		
2	26.3	13.1	67	29	8.0	9.3	4.6		
3	28.2	12.4	72	27	3.5	8.8	5.0		
4	27.4	11.1	73	27	4.5	9.2	4.7		
5	28.2	12.5	71	25	4.3	9.4	5.3		
6-F	29.5	14.2	67	25	4.4	9.3	5.5		
7	30.3	16.6	91	34	4.0	8.9	5.5		
8	32.4	17.9	72	26	5.3	9.8	6.1		
9	32.4	18.6	91	30	6.3	9.4	6.2		
10-M	34.4	20.8	93	32	6.6	9.7	6.5		
11	35.0	21.4	90	25	6.2	9.0	6.8		
12	35.2	21.9	83	26	6.3	9.1	7.2		
13	37.3	22.0	80	26	7.6	9.7	7.6		
14-A	37.3	23.1	85	30	7.2	9.9	8.3		
15	36.9	23.7	77	36	6.8	10.0	8.8		
16	35.8	24.7	84	43	8.5	10.4	8.7		
17	38.1	26.1	83	37	8.4	8.8	9.5		
18	37.0	26.2	82	38	8.5	10.7	9.5		
19-M	36.3	26.6	77	47	11.9	11.3	9.5		
20	36.5	27.1	79	46	11.3	5.7	9.5	8.0	1
21	37.0	28.1	79	50	13.0	10.6	9.7		
22	37.9	28.0	72	46	13.4	10.0	9.7		
23-J	37.2	27.8	73	51	12.7	10.9	9.6		
24	37.0	28.1	77	53	13.7	7.4	9.6	2.0	
25	33.9	26.8	79	65	10.8	4.6	8.1	59.0	2
26	35.5	27.9	73	56	13.8	8.5	8.2		
27-J	36.1	27.6	76	54	13.8	8.4	8.5		
28	35.0	27.3	83	63	9.5	5.5	7.8	9.0	2
29	33.9	27.0	89	69	12.6	4.0	5.3	72.0	3
30	32.0	27.1	93	76	15.2	1.4	5.6	30.0	2
31	32.1	26.5	85	67	16.2	1.6	5.6	4.5	1
32-A	33.0	25.8	85	66	9.3	5.8	6.6	0.5	
33	33.0	25.4	84	65	10.1	7.0	6.8		

34	32.7	25.9	86	65	9.8	6.1	6.9	2.0	
35	33.1	25.5	89	72	8.0	5.0	7.2	68.5	2
36-S	31.4	25.6	93	83	8.2	2.7	5.4	91.0	4
37	30.3	24.8	95	83	7.2	1.1	4.7	204.0	5
38	32.5	26.1	91	76	7.8	6.5	4.8	6.5	1
39	31.4	24.8	94	86	4.9	3.3	4.2	244.0	4
40-O	32.6	25.2	90	73	5.1	8.1	4.1	7.0	1
41	34.6	25.6	88	61	3.7	8.5	5.2		
42	34.8	23.9	77	38	3.9	9.5	5.2		
43	33.0	22.0	75	40	5.0	9.8	5.0		
44	34.2	20.1	65	26	3.8	9.7	5.2		
45-N	33.5	19.7	56	26	5.9	7.4	4.2		
46	31.9	19.1	61	31	8.5	7.2	4.5		
47	31.2	21.0	75	45	7.5	4.9	3.9	1.0	
48	31.7	18.2	69	31	4.2	8.0	4.7		
49-D	28.0	17.4	71	36	2.7	6.9	4.4		
50	26.0	13.0	60	21	2.2	9.7	3.4		
51	26.9	12.2	72	25	2.1	9.1	3.5		
52	27.1	13.9	83	38	2.3	6.3	3.3	1.5	
Mean	**32.9**	**22.1**	**79**	**46**	**7.7**	**7.7**	**6.3**	**810.5**	**28**
Highest	**38.1**	**28.1**	**95**	**86**	**16.2**	**11.3**	**9.7**		
Lowest	**24.9**	**9.9**	**56**	**21**	**2.1**	**1.1**	**3.3**		

* Source: Meteorological observatory, Millet Research Station, JAU, Jamnagar

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

Category	Population	Production	Productivity
Cattle	349229	2475.2 qtl. total milk	
Crossbred			8.585 lit/day
Indigenous			3.375 lit/day
Buffalo	209616		4.451 lit/ha
Sheep	232530	295.16 lakh kg wool	
Crossbred			
Indigenous			
Goats	173022		0.274 lit/ha
Pigs		290097.9 Qtl meat	
Crossbred			
Indigenous			
Poultry	38041	12.77 lakh eggs	
Hens			
Desi			
Improved			
Horse &	410		
Camels	2260		
Donkey	2577		
Total Milk			
Total egg			
Total wool			

Category	Area	Production	Productivity
Fish			
Marine			
Inland			
Prawn			
Scampi			
Shrimp			

Source: Assistant Directorate of Fishries, Jamnagar

2.7 Details of Operational area/ Villages (2021 to 2023)

Sl No	Taluka	Name of the village	Major crops & enterprises	Major problem identified	Identified thrust area
1	**Dhrol**	Katada, Jayva, Mansar (Jaliya), Kharva, Khendgarka	Cotton, groundnut, sesame, castor, greengram, wheat, Gram, cumin, mustard, Vegetable, Soyabean, flowers, live-stock, fisheries	Heavy infestation of sucking pest in cotton, stem rot disease&whitegrub in Groundnut, Root rot in castor, Less area under horticulture crops, Blight in cumin, salinity, pink bollworm in cotton	- ICM in major crops of the district - Organic crop production - Introduction of new crop - Recycling of farm waste - Popularization of MIS - Motivation of fisheries cultivation - Soil Reclamation - Farm women empowerment - Farm mechanization
2	**Jam Jodhpur**	Sonvadiya, Satapar, Bhupat Ambardi, Dal Devaliya Luvarsar			
3	**Jam Khambhalia**	Keshod, Shedha Bhadthar, Samor, Jakasiya, Juvangadh			

2.8 Priority thrust areas

Sl. No	Crop/ Enterprise	Thrustarea
1.	Cotton, groundnut, castor, cumin, coriander, wheat, vegetables, fruits, etc.	➢ Integrated Crop Management in major crops ➢ IPM & IDM in major field crops ➢ Whitegrub management in Groundnut ➢ Wireworm management in garlic & Onion ➢ Micronutriet management in wheat
2.	Organic farming	Enhancement of organic farming through improved technologies
3.	Farm waste/ organic matter	Recycling of farm waste through composting, vermicompost, green manuring, etc.
4.	Micro irrigation	Efficient use of water by micro irrigation system, water harvesting structure, and water conservation techniques
5.	Soil	Reclamation of saline & alkaline soils
6.	Farm Women	Farm women empowerment by training in value addition, handi crafts, and small scale enterprises
7.	Fisheries	Fish Farming
8.	Improved Implements	Popularization of the mechanized technological know how

9.	Plant protection	Pinkboll worm in cotton and white grub in groundnut,
10	Horticultural area	Enhancement of pomegranate, datepalm, draganfruit,
11.	Storage facility	Requirement of storage techniques and value addition in farm produce
12.	Water conservation & use of Micro irrigation	Efficient use of water by micro irrigation system, water harvesting structure, and water conservation techniques

3. TECHNICAL PROGRAMME

3.1. Details of targeted mandatory activities by KVK

OFT		FLD	
(1)		(2)	
Number of OFTs	Number of Farmers	Area (ha)	Number of Farmers
5	17	110	325

Training		Extension Activities	
(3)		(4)	
Number of Courses	Number of Participants	Number of activities	Number of participants
41	1045	192	18166

Seed Production (Qtl.)	Planting material (Nos.)	Fish seed prod. (kg)	Soil Samples
(5)	(6)	(7)	(8)
130	1700	0	350

3.1. B. Operational areas details proposed during 2021

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	Lower yield, replacement of old variety	295000 ha.	**Dhrol :-**Katada, Jayva, Mansar (Jaliya), Kharva, Khengarka; **Jam Jodhpur :-** Sonvadiya, Satapar, Bhupat Ambardi, Dal Devaliya Luvarsar; **Jam Khambhalia :-** Keshod, Shedha Bhadthar, Samor, Jakasiya, Juvangadh	OFT, FLD and Training
2	Chilli	Thrips, Curling of leaves, nutritional deficiency	1600 ha	- " -	Training
3	Garlic	Puple blotch, wireworm, yellowing, tip burning	7500 ha	- " -	Training
4	Sesame	Leaf webber, mite, blight, stem rot, root rot, yellowing, replacement of old variety	11500 ha.	- " -	OFT, FLD and Training
5	Wheat	Fall army worm, Stem borer, Termite, nutritional deficiency,	58000 ha	- " -	FLD and Training

6	Vegetabe mittens (Okra, Brinjal)	Drudgery reduction, cut & wounds, skin hardness, blisters and abrasions,	3000 ha	- " -	FLD and Training
7	Animal Husbandry	Due to inadequate nutrients in the daily ration, the % fat in milk and productivity of the animal decreased hence, financial loss.	Majority farmers (350000)	- " -	FLD and Training
8	Cotton	Pink bollworm, redding & yellowing of leaves, sucking pests, weevil,	180440		FLD and Training
9	Chicory	ICM	50		FLD and Training
10	Cumin	Aphid, thrips, wilt, powdery mildew and cumin blight, INM, variety	4650		OFT, FLD & Training
11	Ajwain	IDM, Variety	4500		FLD and Training
12	Coriander	Aphid, powdery mildew, IDM, IPM, Variety	4000		FLD and Training
13	Pearl millet	Variety, IPM, IDM	3520		FLD and Training
14	Chick pea	IPM, Variety, wilt, stund virus,	31300		FLD and Training
15	Kitchen gardening	Nutritional security	Majority farmers		FLD and Training

* Support with problem-cause and interventions diagram

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	Oil seeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Varietal Evaluation		2								2
Seed / Plant production										
Weed Management										
Integrated Crop Management										
Integrated Nutrient Management										
Integrated Farming System										
Mushroom cultivation										
Drudgery reduction										
Farm machineries										
Value addition										
Integrated Pest Management		1								1
Integrated Disease Management										
Resource conservation technology										
Small Scale income generating enterprises										
TOTAL		**3**								**3**

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

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Kitchen garden	Tuber Crops	TOTAL
Varietal Evaluation										
Seed / Plant production										
Weed Management										
Integrated Crop Management										
Integrated Nutrient Management										
Integrated Farming System										
Mushroom cultivation										
Drudgery reduction										
Farm machineries										
Post Harvest Technology										
Integrated Pest Management					2					**2**
Integrated Disease Management										
Resource conservation technology										
Small Scale income generating enterprises										

TOTAL					**2**					**2**

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

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

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

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

B. Details of On Farm Trial / Technology Assessment during 2022

S. No.	Crop/ enterprise	Prioritized problem	Title of OFT	Technology options	Source of Technology	Name of critical input	Qty per trial	Cost per trial	No. of trials	Total cost for the OFT (Rs.)	Parameters to be studied	Team members
1	Sesame	Low Yield, Introduction of new high yielding variety,	Assessment of the performance of high yielding Sesame varieties in summer irrigated condition for Jamnagar District	1 G. Til 2 2 G. Til 3 3 G. Til 5	JAU, Junagadh	Seed	1 kg seed of both variety	500	3	1500	Yield (Kg/ha), Plant Height (cm), Capsule per plant, 1000 seed weight (g), Maturity days, Economics	Shri. V.L.Kikani Scientist (Agronomy)
2	Groundnut	Low yield in existing variety, Enhancing productivity	Assessment of suitable high yielding Groundnut Variety in kharif season for Jamnagar District	1 GG-20 1 GJG-22 2 GJG-32	JAU, Junagadh	Seed	30 kg seed of both variety	5000	3	15000	Pod & Haulm yield (kg/ha), Plant Height (cm), No. Of branches per plant , No. of pods per	Shri. V.L.Kikani Scientist (Agronomy)

											plant , 100 pods weight (g), 100 kernel weight (g), Economics	
3	Groundnut	Heavy attack of storage pests	Assessment of PICS bag for Groundnut storage	1.Open heaps in storage godown 2.Local practices for storage in plastic bag /closely woven bag 3.Storage in Triple layer hermetic "Purdue Improved Crop Storage"(PICS) bags	JAU, Junagadh Formerly it was from ICRISAT, Hyderabad	Crop Storage"(PICS) bags	3	270	5	1350	1. Weight loss 2. Insect (Bruchid)damage	A.K.Baraiya and Dr. K.P.Baraiya

OFT :-1

Title :Assessment of the performance of high yielding Sesame varieties in summer irrigated condition for Jamnagar District

Objective : To find out suitable high yielding sesame variety for summer irrigated condition

Problem definition:

1. Low yield.
2. Threat to the sustainability of crop production
3. High cost of production
4. Shortage of irrigation water

Problem diagram :-

Improper cultivation practices	**Assessment of the performance of high yielding Sesame varieties in summer irrigated condition for Jamnagar District**	Multi season cropping system
Low yielding variety		Irregular irrigation/ irregular rainfall
Lack of knowledge about balance use of nutritional recommendation		Lack of knowledge about pest outbreaks and its management
High Wind velocity		In judicious use of chemical fertilizer

Treatments :

1. T_1 :- G. Til 2
2. T_2 :- G. Til 3
3. T_2 :- G. Til 5

No. of Replication :- 3 (Farmers)

Source of Technology: - Junagadh Agricultural University, Junagadh

Thematic area: Varietal evaluation

Observations :-

1. Yield (Kg/ha),
2. Plant Height (cm),
3. Capsule per plant,
4. 1000 seed weight (g),
5. Maturity days,
6. Economics

OFT:2

Title : Assessment of suitable high yielding Groundnut Variety in kharif season for Jamnagar District

Objective:: To find out suitable high yielding groundnut variety for kharif season

Problem definition:

1. Low yield.
2. Threat to the sustainability of crop production
3. High cost of production
4. Lack of well distributed rainfall & low rainfall

Problem diagram :-

Improper cultivation practices	**Assessment of suitable high yielding Groundnut Variety in kharif season for Jamnagar District**	Multi season cropping system
Low yielding variety		Mono-cropping system
Irregular rainfall		Lack of knowledge about nutrient management
Heavy incidence of pest and disease attack		In judicious use of chemical fertilizer
In judicious use of pesticide		Heavy infestation of white grub was found

Treatments:

1. T_1 :- GG-20
2. T_2 :- GJG-22
3. T_3 :- GJG-32

No. of Replication :- 3 (Farmers)

Source of Technology: - Junagadh Agricultural University, Junagadh

Thematic area: Varietal evaluation

Observation:

1. Pod & Haulm yield (kg/ha),
2. Plant Height (cm) at harvest time,
3. No. of branches per plant ,
4. No. of pods per plant ,
5. 100 pods weight (g),
6. 100 kernel weight (g),
7. Economics

OFT: 3

Title :Assessment of PICS bag for Groundnut storage

Objective :

1. To provide sustainable and ecologically safe approach to preserve groundnut pods
2. To Reduce storage loss in groundnut seed
3. To increase storage period

Problem Definition :-

1. Residual effect of insecticides used for stored godown
2. Insecticidal effect on germination
3. High moisture retention during summer days
4. Heavy attack of storage pests
5. High cost of storage
6. Heavy loss of food grains and seeds
7. Lack of regular inspection in stored products.

Problem Diagram :-

Lack of regular inspection in stored products	**Assessment of PICS bag for Groundnut storage**	High cost of storage
Heavy loss of food grains and seeds		Heavy attack of storage pests
Residual effect of insecticides used for stored gowdown		Insecticidal effect on germination

High moisture retention during summer days		

Treatment

T_1–Farmer Practices (Open heaps in storage gowdown)

T_2–Local practices for storage in plastic bag /closely woven bag

T_3–Storage in Triple layer hermetic "Purdue Improved Crop Storage"(PICS) bags

No. of Replication/farmers :- 5 (Three bags/farmers)

Source of Technology : JAU, Junagadh Formerly it was from ICRISAT, Hyderabad

Observation :Post (after six month) storage

1. Weight loss 2. Insect (Bruchid)damage

C. Details of On Farm Trial / Technology Refinement during 2022

S. No.	Crop/ enterprise	Prioritized problem	Title of OFT	Technology options	Source of Technology	Name of critical input	Qty per trial	Cost per trial	No. of trials	Total cost for the OFT (Rs.)	Parameters to be studied	Team members
4	**Cumin**	**To minimize the infestation of aphid in Cumin, To increase production To reduce yield loss of Cumin**	**Management of aphid in cumin.**	1. **Farmer's Practices** :- Injudicious use of insecticides. [use of deltamethrin, flubendiamide, imidacloprid, acetameprid, Thiamethoxam, cypermethrin, lamdacyhalothrin, carbosulfan, dimethoate after infestation of aphid repeatedly at weekly interval without follow ETL]		-	-	-	3	3600	1.aphid population (aphid index) from five randomly selected plants from each plot at 7 days after spray 2.yield.	Dr. K.P. Baraiya
				2. **Recommendation** :- First spray of Afidopyropen 50 G/L DC [(Inscalis) Safina] or Carbosulfan 25 EC 0.04% was made at initiation of pest and second spray was given after 15 days.	SAU	Carbosulfan	500 ml	900	3			
				3. **Refinement:-** First spray of Spray of *Bearuveria bassiana* @ 5 g/lit of water was made at initiation of pest and subsequent spray at 15 days interval.	SAU	*Bearuveria bassiana*	2 kg	220	3			
5	Brinjal	Heavy infestation of leaf sucking pest was found	**Management of brinjal whitefly**	**1. (Farmers practices).** Injudicious use of insecticides. (Spray insecticides at weekly interval)	FP				3		1.Record no. of whitefly per leaf 2. Yield data.	Dr. K.P. Baraiya
				2. **Recommendation)**Three sprays of chlorantraniliprole 18.5 SC, 0.002 %, 1.08 ml/10 litre water at 15 days interval starting from the pest infestation are recommended under South Saurashtra Agro-climatic Zone. The PHI for chlorantraniliprole 18.5 SC, 0.002 % is one day.**(**	SAU	chlorantraniliprole	30 ml	500	3	1500		
				3. **(Refinement 1)** Spray of *Beauveria bassiana* 1.15 WP (Min. 2 x 106 cfu/g) 0.007 % (60 g/10 litre of water), first spray at pest initiation and subsequent four spray should	-	*Bearuveria bassiana*	2 kg	220	3	660		

				be given at 10 days interval after first spray								
				4. **(Refinement 2)** Spray of Difenthuron 50% WP @ 5 g/lit of water at 15 days interval at pest initiation.	-	Difenthuron	1 kg	900	3	1800		

OFT-4 (Refinement)

Title: Management of aphid in cumin.

Objective: To minimize the aphid incidence in cumin. To reduce injudicious use of chemical pesticide. To minimize residual effect of chemical.

Problem definition:

1. Heavy infestation of aphid was found
2. Lack of seed treatment and improper cultivation practices
3. Lack of knowledge about pest outbreaks and its management
4. Injudicious use of nitrogenous fertilizer
5. Extra irrigation rather than recommendation during cloudy weather.
6. Overlapping of the crops seasons

Problem diagram :-

Resurgence of aphid	**Management of aphid in cumin**	Multi season cropping system
Overlapping of the crops seasons		Lack of knowledge about pest outbreaks and its management
Lack of seed treatment		Lack of improper cultivation practices
In judicious use of pesticide		In judicious use of nitrogenous fertilizer
Extra irrigation		Improper use of FYM (without decomposition)

Treatments:

1. **Farmer's Practices**:-Injudicious use of insecticides. [use of deltamethrin, flubendiamide, imidacloprid, acetameprid, Thiamethoxam, cypermethrin, lamdacyhalothrin, carbosulfan, dimethoate after infestation of aphid repeatedly at weekly interval without follow ETL]
2. **Recommendation** :-First spray of Carbosulfan 25 EC 0.04% was made at initiation of pest and second spray was given after 15 days.
3. **Refinement:-**First spray of Spray of *Bearuveria bassiana* @ 5 g/lit of water was made at initiation of pest and subsequent spray at 15 days interval.

No. of Replication: 3 (Farmers)

Source of Technology: - State Agricultural University

Thematic area: IPM

Observations:

1. Record aphid population (aphid index) from five randomly selected plants from each plot at 7 days after spray
2. Record yield.

OFT-5 Brinjal (Refinment)

Title: Management of brinjal whitefly

Objective: To manage the leaf sucking pest infestation in sesame

Problem definition: attack of leaf sucking pest is increase

- Heavy infestation of leaf sucking pest was found
- Improper cultivation practices

- Lack of knowledge about pest outbreaks and its management

Problem diagram :-

Improper cultivation practices	**Management of brinjal whitefly**	Irregular irrigation
Mono-cropping system		Lack irrigation facilities
No adoption of recommended practices		Lack of knowledge about pest outbreaks and its management
		In judicious use of chemical pesticide
Farmer follows instruction given by the local pesticides retailer		Heavy incidence of pest and disease attack

Treatments:

1. Injudicious use of insecticides. (Spray insecticides at weekly interval) **(Farmers practices).**
2. Three sprays of chlorantraniliprole 18.5 SC, 0.002 %, 1.08 ml/10 litre water at 15 days interval starting from the pest infestation are recommended under South Saurashtra Agro-climatic Zone. The PHI for chlorantraniliprole 18.5 SC, 0.002 % is one day.**(Recommendation)**
3. Spray of *Beauveria bassiana* 1.15 WP (Min. 2 x 106 cfu/g) 0.007 % (60 g/10 litre of water), first spray at pest initiation and subsequent four spray should be given at 10 days interval after first spray.**(Refinement 1)**
4. Spray of Difenthuron 50% WP @ 5 g/lit of water at 15 days interval at pest initiation. **(Refinement 2)**
5.

No. of Replication: 3 (Farmers)

Observations:

1. Record no. of whitefly per leaf.
2. Yield data.

3.3 FRONTLINE DEMONSTRATIONS

A. Details of FLDs to be organized –

Sr. No.	Name of Crop/ Enterprise	Name of Variety Enterprises	Thematic area	Technology demonstrated	Critical Inputs	Season and year	Area (ha.)	No. of farmers /Demo.	Parameters identified
1	Cotton	Bt. Cotton	IPM/INM	Insecticide, Bio pesticide	Azadirechtin, Profenophos.,MDP,SNPV, *Beauveriabassiana*	Kh-22	10	25	yield
2	Wheat	GW-499, 451	Varietal	Variety	Seed	Rabi-22	4	10	Yield
3	Ajwain	Gujarat Ajwain-2	IPM/IDM	Bio pesticide Bio fertilizer	Trichoderma, *Beauveriabassiana* Azotobacter, PSB	Kharif-22	4	10	Yield
4	Pearl millet	GHB-1231	Varietal	Variety	Seed	Sum-22	4	10	Yield
Other Scheme									

5	**NMOOP**-Groundnut	GJG-32	Improved Variety with ICM	Improved Variety, Bio pesticide, Bio fungicide, Bio fertilizer	Improved var. Seed (GJG-22/GJG-9), *Metarhiziumanisopliae*, *Trichoderma*, PSB, Rhizobium	KH-22	20	50	Yield, % pod damage
6	**NMOOP**-Sesame	GTil -3/5	Improved Variety with ICM	Improved Variety, Bio pesticide, Bio fungicide, Bio fertilizer	Improved var. Seed (GTil-3/5), Beauveria bassian, Trichoderma, PSB, Azotobacter	Sum-22	20	50	Yield, % pod damage
6	**NMOOP**-Mustard	GDM-4, 5	Improved Variety with ICM	Improved Variety, Bio pesticide, Bio fungicide, Bio fertilizer	Improved var. Seed (GDM-4, 5), Beauveria bassian, Trichoderma, PSB, Azotobacter	Rabi-22	10	25	Yield, % pod damage
7	**NFSM**-Chickpea	GG-5	Improved Variety with ICM	Improved Variety, Bio pesticide, Bio fungicide, Bio fertilizer	Improved var. Seed(GG-5), Beauveria bassiana, Trichoderma, PSB, Rhizobium	Rabi-22	20	50	Yield, % pod damage
8	**ATIC** Castor	GCH-9	Varietal	Variety	seed	Kh-22	8	20	Yield
9	**ATIC** Cumin	GC-4	ICM	Bio pesticide Bio fertilizer	Beauveriabassiana, PSB, Azotobector Trichoderma	Rabi-22	8	20	Yield
10	**ATIC** Coriander	GC-2	ICM	Bio pesticide Bio fertilizer	PSB, Azotobector, Beauveriabassiana, Trichoderma	Rabi-22	8	20	Yield
					Total		**116**	**290**	

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
	Cotton			
1	Field days	1	September	20
2	Farmers Training	1	June	25
3	Media coverage	1	April	
4	Training for extension functionaries			
	Wheat			
1	Field days	1	January	20
2	Farmers Training	1	October	25
3	Media coverage	1	October	
4	Training for extension functionaries			
	Ajwain			
1	Field days	1	November	20

2	Farmers Training	1	September	25
3	Media coverage	1	November	
4	Training for extension functionaries			
	Groundnut			
1	Field days	2	Sep	50
2	Farmers Training	2	July, August	50
3	Media coverage	1	August	
4	Training for extension functionaries	1	June	30
	Sesamum			
1	Field days	2	April, May	50
2	Farmers Training	1	Feb	25
3	Media coverage	1	Feb	
4	Training for extension functionaries	1	Jan	30
	Chickpea			
1	Field days	2	January	50
2	Farmers Training	1	November	25
3	Media coverage	1	November	
4	Training for extension functionaries	1	October	30
	Castor			
1	Field days	1	February	20
2	Farmers Training	1	September	25
3	Media coverage	1	March	
4	Training for extension functionaries	1		
	Cumin			
1	Field days	1	December	20
2	Farmers Training	1	October	25
3	Media coverage	1	October	
4	Training for extension functionaries			
	Coriander			
1	Field days	1	November	20
2	Farmers Training	1	October	25
3	Media coverage	1	October	
4	Training for extension functionaries			
	Kitchen gardening			
1	Field days	2	July, Sep	40
2	Farmers Training	1	June	30
3	Media coverage	1	May	
4	Training for extension functionaries			

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 Picking Apron	Cotton	Kharif-22	5	2	Apron	Picking efficiency

b. Livestock Enterprises

Enterprise	Breed	No. of farmers	No. of animals, poultry birds/ha. etc.	Critical inputs	Performance parameters / indicators

c. FLD on Other enterprises

Enterprise	Name of the technology demonstrated	No. of farmers	No. of units	Critical inputs	Performance parameters / indicators
Solar Cooker	Solar Cooker	5	5	Solar Cooker	Time & fuel
Kitchen gardening	Nutritional gardening	50	2 ha	Vegetable seeds	Yield

3.4TRAINING (INCLUDING THE SPONSORED AND FLD TRAINING PROGRAMMES):

A. ON CAMPUS

Thematic Area	No. of Courses	No. of participant						
		Others			SC/ST			Grand Total
		Male	Female	Total	Male	Female	Total	
(A) Farmers & Farm Women								
I Crop Production								
Weed Management				0			0	0
Resource Conservation Technologies				0			0	0
Cropping Systems				0			0	0
Crop Diversification				0			0	0
Integrated Farming	1	20	5	25	5		5	30
Water management				0			0	0
Seed production				0			0	0
Nursery management				0			0	0
Integrated Crop Management				0			0	0
Fodder production				0			0	0
Production of organic inputs	1	20	3	23	1	1	2	25
Total	**2**	**40**	**8**	**48**	**6**	**1**	**7**	**55**
II Horticulture				0			0	0
a) Vegetable Crops				0			0	0
Production of low volume and high value crops				0			0	0
Off-season vegetables				0			0	0
Nursery raising				0			0	0
Exotic vegetables like Broccoli				0			0	0
Export potential vegetables				0			0	0
Grading and standardization				0			0	0
Protective cultivation (Green Houses, Shade Net etc.)				0			0	0
b) Fruits				0			0	0
Training and Pruning				0			0	0
Layout and Management of Orchards				0			0	0
Cultivation of Fruit				0			0	0
Management of young plants/orchards				0			0	0
Rejuvenation of old orchards				0			0	0
Export potential fruits				0			0	0
Micro irrigation systems of orchards				0			0	0
Plant propagation techniques				0			0	0
c) Ornamental Plants				0			0	0
Nursery Management	1	0	20	20	0	5	5	25

Management of potted plants				0			0	0
Export potential of ornamental plants				0			0	0
Propagation techniques of Ornamental Plants				0			0	0
d) Plantation crops				0			0	0
Production and Management technology				0			0	0
Processing and value addition				0			0	0
e) Tuber crops				0			0	0
Production and Management technology				0			0	0
Processing and value addition				0			0	0
f) Spices				0			0	0
Production and Management technology				0			0	0
Processing and value addition				0			0	0
g) Medicinal and Aromatic Plants				0			0	0
Nursery management				0			0	0
Production and management technology				0			0	0
Post harvest technology and value addition				0			0	0
Total	**1**	**0**	**20**	**20**	**0**	**5**	**5**	**25**
III Soil Health and Fertility Management				0			0	0
Soil fertility management				0			0	0
Soil and Water Conservation				0			0	0
Integrated Nutrient Management				0			0	0
Production and use of organic inputs				0			0	0
Management of Problematic soils				0			0	0
Micro nutrient deficiency in crops				0			0	0
Nutrient Use Efficiency				0			0	0
Soil and Water Testing	1	18	5	23	1	1	2	25
Total	**1**	**18**	**5**	**23**	**1**	**1**	**2**	**25**
IV Livestock Production and Management				0			0	0
Dairy Management	1	0	25	25	0	0	0	25
Poultry Management				0			0	0
Piggery Management				0			0	0
Rabbit Management/goat				0			0	0
Disease Management				0			0	0
Feed management				0			0	0
Production of quality animal products				0			0	0
Total	**1**	**0**	**25**	**25**	**0**	**0**	**0**	**25**
V Home Science/Women empowerment				0			0	0
Household food security by kitchen gardening and nutrition gardening				0			0	0
Design and development of low/minimum cost diet				0			0	0
Designing and development for high nutrient efficiency diet				0			0	0
Minimization of nutrient loss in processing				0			0	0
Gender mainstreaming through SHGs				0			0	0
Storage loss minimization techniques				0			0	0
Value addition	1	0	25	25	0	0	0	25
Income generation activities for empowerment of rural Women				0			0	0
Location specific drudgery reduction technologies				0			0	0
Rural Crafts				0			0	0
Women and child care	1	0	19	19	0	6	6	25
Total	**2**	**0**	**44**	**44**	**0**	**6**	**6**	**50**

VI Agril. Engineering				0			0	0
Installation and maintenance of micro irrigation systems				0			0	0
Use of Plastics in farming practices				0			0	0
Production of small tools and implements				0			0	0
Repair and maintenance of farm machinery and implements				0			0	0
Small scale processing and value addition				0			0	0
Post Harvest Technology				0			0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
VII Plant Protection				0			0	0
Integrated Pest Management	1	25	0	25	0	0	0	25
Integrated Disease Management	1	25	0	25	0	0	0	25
Bio-control of pests and diseases	2	40	0	40	10	0	10	50
Production of bio control agents and bio pesticides	1	25	0	25	0	0	0	25
Total	**5**	**115**	**0**	**115**	**10**	**0**	**10**	**125**
VIII Fisheries				0			0	0
Integrated fish farming				0			0	0
Carp breeding and hatchery management				0			0	0
Carp fry and fingerling rearing				0			0	0
Composite fish culture				0			0	0
Hatchery management and culture of freshwater prawn				0			0	0
Breeding and culture of ornamental fishes				0			0	0
Portable plastic carp hatchery				0			0	0
Pen culture of fish and prawn				0			0	0
Shrimp farming				0			0	0
Edible oyster farming				0			0	0
Pearl culture				0			0	0
Fish processing and value addition				0			0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
IX Production of Inputs at site				0			0	0
Seed Production	1	23	0	23	2	0	2	25
Planting material production				0			0	0
Bio-agents production				0			0	0
Bio-pesticides production				0			0	0
Bio-fertilizer production				0			0	0
Vermi-compost production				0			0	0
Organic manures production				0			0	0
Production of fry and fingerlings				0			0	0
Production of Bee-colonies and wax sheets				0			0	0
Small tools and implements				0			0	0
Production of livestock feed and fodder				0			0	0
Production of Fish feed				0			0	0
Total	**1**	**23**	**0**	**23**	**2**	**0**	**2**	**25**
X Capacity Building and Group Dynamics				0			0	0
Leadership development				0			0	0
Group dynamics				0			0	0
Formation and Management of SHGs				0			0	0
Mobilization of social capital				0			0	0
Entrepreneurial development of farmers/youths				0			0	0
WTO and IPR issues				0			0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
XI Agro-forestry				0			0	0

Production technologies				0			0	0
Nursery management				0			0	0
Integrated Farming Systems				0			0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
XII Others (Pl. Specify)				0			0	0
TOTAL	**13**	**196**	**102**	**298**	**19**	**13**	**32**	**330**
(B) RURAL YOUTH				0			0	0
Mushroom Production				0			0	0
Bee-keeping				0			0	0
Integrated farming	1	25	0	25	0	0	0	25
Seed production				0			0	0
Production of organic inputs				0			0	0
Integrated Farming (Medicinal)				0			0	0
Planting material production				0			0	0
Vermi-culture				0			0	0
Sericulture				0			0	0
Protected cultivation of vegetable crops				0			0	0
Commercial fruit production				0			0	0
Repair and maintenance of farm machinery and implements				0			0	0
Nursery Management of Horticulture crops				0			0	0
Training and pruning of orchards				0			0	0
Value addition	1	0	25	25	0	5	5	30
Production of quality animal products				0			0	0
Dairying				0			0	0
Sheep and goat rearing				0			0	0
Quail farming				0			0	0
Piggery				0			0	0
Rabbit farming				0			0	0
Poultry production				0			0	0
Ornamental fisheries				0			0	0
Para vets				0			0	0
Para extension workers				0			0	0
Composite fish culture				0			0	0
Freshwater prawn culture				0			0	0
Shrimp farming				0			0	0
Pearl culture				0			0	0
Cold water fisheries				0			0	0
Fish harvest and processing technology				0			0	0
Fry and fingerling rearing				0			0	0
Small scale processing				0			0	0
Post Harvest Technology				0			0	0
Tailoring and Stitching				0			0	0
Rural Crafts				0			0	0
TOTAL	**2**	**25**	**25**	**50**	**0**	**5**	**5**	**55**
(C) Extension Personnel				0			0	0
Productivity enhancement in field crops	**1**	20	0	20	5	0	5	25
Integrated Pest Management	1	20	0	20	5	0	5	25
Integrated Nutrient management				0			0	0
Rejuvenation of old orchards				0			0	0
Protected cultivation technology				0			0	0
Formation and Management of SHGs				0			0	0
Group Dynamics and farmers organization				0			0	0
Information networking among farmers				0			0	0

Capacity building for ICT application				0			0	0
Care and maintenance of farm machinery and implements				0			0	0
WTO and IPR issues				0			0	0
Management in farm animals				0			0	0
Livestock feed and fodder production				0			0	0
Household food security				0			0	0
Women and Child care				0			0	0
Low cost and nutrient efficient diet designing				0			0	0
Production and use of organic inputs				0			0	0
Gender mainstreaming through SHGs				0			0	0
Any other (Pl. Specify)				0			0	0
TOTAL	**2**	**40**	**0**	**40**	**10**	**0**	**10**	**50**
G. Total	**17**	**261**	**127**	**388**	**29**	**18**	**47**	**435**

B. OFF Campus

Thematic Area	No. of Courses	No. of participant						
		Others			SC/ST			Grand Total
		Male	Female	Total	Male	Female	Total	
(A) Farmers & Farm Women								
I Crop Production								
Weed Management	1	21	3	24	1	0	1	25
Resource Conservation Technologies	1	28	0	28	2	0	2	30
Cropping Systems				0			0	0
Crop Diversification				0			0	0
Integrated Farming				0			0	0
Water management				0			0	0
Seed production				0			0	0
Nursery management				0			0	0
Integrated Crop Management	1	23	2	25	0	0	0	25
Fodder production				0			0	0
Production of organic inputs				0			0	0
Total	**3**	**72**	**5**	**77**	**3**	**0**	**3**	**80**
II Horticulture				0			0	0
a) Vegetable Crops				0			0	0
Production of low volume and high value crops				0			0	0
Off-season vegetables				0			0	0
Nursery raising				0			0	0
Exotic vegetables like Broccoli				0			0	0
Export potential vegetables				0			0	0
Grading and standardization				0			0	0
Protective cultivation (Green Houses, Shade Net etc.)				0			0	0
b) Fruits				0			0	0
Training and Pruning				0			0	0
Layout and Management of Orchards				0			0	0
Cultivation of Fruit				0			0	0
Management of young plants/orchards				0			0	0
Rejuvenation of old orchards				0			0	0
Export potential fruits				0			0	0
Micro irrigation systems of orchards				0			0	0
Plant propagation techniques				0			0	0
c) Ornamental Plants				0			0	0

Nursery Management				0			0	0
Management of potted plants				0			0	0
Export potential of ornamental plants				0			0	0
Propagation techniques of Ornamental Plants				0			0	0
d) Plantation crops				0			0	0
Production and Management technology				0			0	0
Processing and value addition				0			0	0
e) Tuber crops				0			0	0
Production and Management technology				0			0	0
Processing and value addition				0			0	0
f) Spices				0			0	0
Production and Management technology				0			0	0
Processing and value addition	1	0	25	25	0	0	0	25
g) Medicinal and Aromatic Plants				0			0	0
Nursery management				0			0	0
Production and management technology				0			0	0
Post harvest technology and value addition				0			0	0
Total	**1**	**0**	**25**	**25**	**0**	**0**	**0**	**25**
III Soil Health and Fertility Management				0			0	0
Soil fertility management	1	19	6	25	0	0	0	25
Soil and Water Conservation				0			0	0
Integrated Nutrient Management	1	22	7	29	1		1	30
Production and use of organic inputs	1	28	0	28	2	0	2	30
Management of Problematic soils				0			0	0
Micro nutrient deficiency in crops				0			0	0
Nutrient Use Efficiency				0			0	0
Soil and Water Testing				0			0	0
Total	**3**	**69**	**13**	**82**	**3**	**0**	**3**	**85**
IV Livestock Production and Management				0			0	0
Dairy Management				0			0	0
Poultry Management				0			0	0
Piggery Management				0			0	0
Rabbit Management/goat				0			0	0
Disease Management				0			0	0
Feed management	1	0	25	25	0	0	0	25
Production of quality animal products				0			0	0
Total	**1**	**0**	**25**	**25**	**0**	**0**	**0**	**25**
V Home Science/Women empowerment				0			0	0
Household food security by kitchen gardening and nutrition gardening	1	0	19	19	0	6	6	25
Design and development of low/minimum cost diet	1	0	25	25	0	0	0	25
Designing and development for high nutrient efficiency diet				0			0	0
Minimization of nutrient loss in processing	1	0	25	25			0	25
Gender mainstreaming through SHGs				0			0	0
Storage loss minimization techniques				0			0	0
Value addition	1	0	25	25			0	25
Income generation activities for empowerment of rural Women	1	0	25	25	0	0	0	25
Location specific drudgery reduction technologies				0			0	0
Rural Crafts				0			0	0
Women and child care				0			0	0

Total	**5**	**0**	**119**	**119**	**0**	**6**	**6**	**125**
VI Agril. Engineering				0			0	0
Installation and maintenance of micro irrigation systems	1	20	0	20			0	20
Use of Plastics in farming practices				0			0	0
Production of small tools and implements				0			0	0
Repair and maintenance of farm machinery and implements				0			0	0
Small scale processing and value addition				0			0	0
Post Harvest Technology				0			0	0
Total	**1**	**20**	**0**	**20**	**0**	**0**	**0**	**20**
VII Plant Protection				0			0	0
Integrated Pest Management	2	45	0	45	5	0	5	50
Integrated Disease Management	1	25	0	25	0	0	0	25
Bio-control of pests and diseases	1	20	0	20	5	0	5	25
Production of bio control agents and bio pesticides	1	25	0	25	0	0	0	25
Total	**5**	**115**	**0**	**115**	**10**	**0**	**10**	**125**
VIII Fisheries				0			0	0
Integrated fish farming				0			0	0
Carp breeding and hatchery management				0			0	0
Carp fry and fingerling rearing				0			0	0
Composite fish culture				0			0	0
Hatchery management and culture of freshwater prawn				0			0	0
Breeding and culture of ornamental fishes				0			0	0
Portable plastic carp hatchery				0			0	0
Pen culture of fish and prawn				0			0	0
Shrimp farming				0			0	0
Edible oyster farming				0			0	0
Pearl culture				0			0	0
Fish processing and value addition				0			0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
IX Production of Inputs at site				0			0	0
Seed Production				0			0	0
Planting material production				0			0	0
Bio-agents production				0			0	0
Bio-pesticides production	1	25	0	25	0	0	0	25
Bio-fertilizer production				0			0	0
Vermi-compost production	1	22	0	22	3	0	3	25
Organic manures production				0			0	0
Production of fry and fingerlings				0			0	0
Production of Bee-colonies and wax sheets				0			0	0
Small tools and implements				0			0	0
Production of livestock feed and fodder				0			0	0
Production of Fish feed				0			0	0
Total	**2**	**47**	**0**	**47**	**3**	**0**	**3**	**50**
X Capacity Building and Group Dynamics				0			0	0
Leadership development				0			0	0
Group dynamics				0			0	0
Formation and Management of SHGs				0			0	0
Mobilization of social capital				0			0	0
Entrepreneurial development of farmers/youths				0			0	0
WTO and IPR issues				0			0	0

Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
XI Agro-forestry				0			0	0
Production technologies				0			0	0
Nursery management				0			0	0
Integrated Farming Systems				0			0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
XII Others (Pl. Specify)				0			0	0
TOTAL	**21**	**323**	**187**	**510**	**19**	**6**	**25**	**535**
(B) RURAL YOUTH				0			0	0
Mushroom Production				0			0	0
Bee-keeping				0			0	0
Integrated farming				0			0	0
Seed production				0			0	0
Production of organic inputs				0			0	0
Integrated Farming (Medicinal)				0			0	0
Planting material production				0			0	0
Vermi-culture				0			0	0
Sericulture				0			0	0
Protected cultivation of vegetable crops				0			0	0
Commercial fruit production				0			0	0
Repair and maintenance of farm machinery and implements				0			0	0
Nursery Management of Horticulture crops				0			0	0
Training and pruning of orchards				0			0	0
Value addition				0			0	0
Production of quality animal products				0			0	0
Dairying				0			0	0
Sheep and goat rearing				0			0	0
Quail farming				0			0	0
Piggery				0			0	0
Rabbit farming				0			0	0
Poultry production				0			0	0
Ornamental fisheries				0			0	0
Para vets				0			0	0
Para extension workers				0			0	0
Composite fish culture				0			0	0
Freshwater prawn culture				0			0	0
Shrimp farming				0			0	0
Pearl culture				0			0	0
Cold water fisheries				0			0	0
Fish harvest and processing technology				0			0	0
Fry and fingerling rearing				0			0	0
Small scale processing				0			0	0
Post Harvest Technology				0			0	0
Tailoring and Stitching				0			0	0
Rural Crafts				0			0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
(C) Extension Personnel				0			0	0
Productivity enhancement in field crops				0			0	0
Integrated Pest Management	2	40	0	40	10	0	10	50
Integrated Nutrient management				0			0	0
Rejuvenation of old orchards				0			0	0
Protected cultivation technology				0			0	0
Formation and Management of SHGs				0			0	0

Group Dynamics and farmers organization				0			0	0
Information networking among farmers				0			0	0
Capacity building for ICT application				0			0	0
Care and maintenance of farm machinery and implements				0			0	0
WTO and IPR issues				0			0	0
Management in farm animals				0			0	0
Livestock feed and fodder production				0			0	0
Household food security	1	0	20	20	0	5	5	25
Women and Child care				0			0	0
Low cost and nutrient efficient diet designing				0			0	0
Production and use of organic inputs				0			0	0
Gender mainstreaming through SHGs				0			0	0
Any other (Pl. Specify)				0			0	0
TOTAL	**3**	**40**	**20**	**60**	**10**	**5**	**15**	**75**
G. Total	**24**	**363**	**207**	**570**	**29**	**11**	**40**	**610**

C. Consolidated table (ON and OFF Campus)

Thematic Area	No. of Courses	No. of participant						
		Others			SC/ST			Grand Total
		Male	Female	Total	Male	Female	Total	
(A) Farmers & Farm Women								
I Crop Production								
Weed Management	1	21	3	24	1	0	1	25
Resource Conservation Technologies	1	28	0	28	2	0	2	30
Cropping Systems	0	0	0	0	0	0	0	0
Crop Diversification	0	0	0	0	0	0	0	0
Integrated Farming	1	20	5	25	5	0	5	30
Water management	0	0	0	0	0	0	0	0
Seed production	0	0	0	0	0	0	0	0
Nursery management	0	0	0	0	0	0	0	0
Integrated Crop Management	1	23	2	25	0	0	0	25
Fodder production	0	0	0	0	0	0	0	0
Production of organic inputs	1	20	3	23	1	1	2	25
Total	**5**	**112**	**13**	**125**	**9**	**1**	**10**	**135**
II Horticulture				0			0	0
a) Vegetable Crops				0			0	0
Production of low volume and high value crops	0	0	0	0	0	0	0	0
Off-season vegetables	0	0	0	0	0	0	0	0
Nursery raising	0	0	0	0	0	0	0	0
Exotic vegetables like Broccoli	0	0	0	0	0	0	0	0
Export potential vegetables	0	0	0	0	0	0	0	0
Grading and standardization	0	0	0	0	0	0	0	0
Protective cultivation (Green Houses, Shade Net etc.)	0	0	0	0	0	0	0	0
b) Fruits	0	0	0	0	0	0	0	0
Training and Pruning	0	0	0	0	0	0	0	0
Layout and Management of Orchards	0	0	0	0	0	0	0	0
Cultivation of Fruit	0	0	0	0	0	0	0	0
Management of young plants/orchards	0	0	0	0	0	0	0	0
Rejuvenation of old orchards	0	0	0	0	0	0	0	0
Export potential fruits	0	0	0	0	0	0	0	0
Micro irrigation systems of orchards	0	0	0	0	0	0	0	0
Plant propagation techniques	0	0	0	0	0	0	0	0

c) Ornamental Plants	0	0	0	0	0	0	0	0
Nursery Management	1	0	20	20	0	5	5	25
Management of potted plants	0	0	0	0	0	0	0	0
Export potential of ornamental plants	0	0	0	0	0	0	0	0
Propagation techniques of Ornamental Plants	0	0	0	0	0	0	0	0
d) Plantation crops	0	0	0	0	0	0	0	0
Production and Management technology	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0
e) Tuber crops	0	0	0	0	0	0	0	0
Production and Management technology	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0
f) Spices	0	0	0	0	0	0	0	0
Production and Management technology	0	0	0	0	0	0	0	0
Processing and value addition	1	0	25	25	0	0	0	25
g) Medicinal and Aromatic Plants	0	0	0	0	0	0	0	0
Nursery management	0	0	0	0	0	0	0	0
Production and management technology	0	0	0	0	0	0	0	0
Post harvest technology and value addition	0	0	0	0	0	0	0	0
Total	**2**	**0**	**45**	**45**	**0**	**5**	**5**	**50**
III Soil Health and Fertility Management				0			0	0
Soil fertility management	1	19	6	25	0	0	0	25
Soil and Water Conservation	0	0	0	0	0	0	0	0
Integrated Nutrient Management	1	22	7	29	1	0	1	30
Production and use of organic inputs	1	28	0	28	2	0	2	30
Management of Problematic soils	0	0	0	0	0	0	0	0
Micro nutrient deficiency in crops	0	0	0	0	0	0	0	0
Nutrient Use Efficiency	0	0	0	0	0	0	0	0
Soil and Water Testing	1	18	5	23	1	1	2	25
Total	**4**	**87**	**18**	**105**	**4**	**1**	**5**	**110**
IV Livestock Production and Management				0			0	0
Dairy Management	1	0	25	25	0	0	0	25
Poultry Management	0	0	0	0	0	0	0	0
Piggery Management	0	0	0	0	0	0	0	0
Rabbit Management/goat	0	0	0	0	0	0	0	0
Disease Management	0	0	0	0	0	0	0	0
Feed management	1	0	25	25	0	0	0	25
Production of quality animal products	0	0	0	0	0	0	0	0
Total	**2**	**0**	**50**	**50**	**0**	**0**	**0**	**50**
V Home Science/Women empowerment				0			0	0
Household food security by kitchen gardening and nutrition gardening	1	0	19	19	0	6	6	25
Design and development of low/minimum cost diet	1	0	25	25	0	0	0	25
Designing and development for high nutrient efficiency diet	0	0	0	0	0	0	0	0
Minimization of nutrient loss in processing	1	0	25	25	0	0	0	25
Gender mainstreaming through SHGs	0	0	0	0	0	0	0	0
Storage loss minimization techniques	0	0	0	0	0	0	0	0
Value addition	2	0	50	50	0	0	0	50
Income generation activities for empowerment of rural Women	1	0	25	25	0	0	0	25
Location specific drudgery reduction technologies	0	0	0	0	0	0	0	0
Rural Crafts	0	0	0	0	0	0	0	0
Women and child care	1	0	19	19	0	6	6	25
Total	**7**	**0**	**163**	**163**	**0**	**12**	**12**	**175**

VI Agril. Engineering				0			0	0
Installation and maintenance of micro irrigation systems	1	20	0	20	0	0	0	20
Use of Plastics in farming practices	0	0	0	0	0	0	0	0
Production of small tools and implements	0	0	0	0	0	0	0	0
Repair and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0
Small scale processing and value addition	0	0	0	0	0	0	0	0
Post Harvest Technology	0	0	0	0	0	0	0	0
Total	**1**	**20**	**0**	**20**	**0**	**0**	**0**	**20**
VII Plant Protection				0			0	0
Integrated Pest Management	3	70	0	70	5	0	5	75
Integrated Disease Management	2	50	0	50	0	0	0	50
Bio-control of pests and diseases	3	60	0	60	15	0	15	75
Production of bio control agents and bio pesticides	2	50	0	50	0	0	0	50
Total	**10**	**230**	**0**	**230**	**20**	**0**	**20**	**250**
VIII Fisheries				0			0	0
Integrated fish farming	0	0	0	0	0	0	0	0
Carp breeding and hatchery management	0	0	0	0	0	0	0	0
Carp fry and fingerling rearing	0	0	0	0	0	0	0	0
Composite fish culture	0	0	0	0	0	0	0	0
Hatchery management and culture of freshwater prawn	0	0	0	0	0	0	0	0
Breeding and culture of ornamental fishes	0	0	0	0	0	0	0	0
Portable plastic carp hatchery	0	0	0	0	0	0	0	0
Pen culture of fish and prawn	0	0	0	0	0	0	0	0
Shrimp farming	0	0	0	0	0	0	0	0
Edible oyster farming	0	0	0	0	0	0	0	0
Pearl culture	0	0	0	0	0	0	0	0
Fish processing and value addition	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
IX Production of Inputs at site				0			0	0
Seed Production	1	23	0	23	2	0	2	25
Planting material production	0	0	0	0	0	0	0	0
Bio-agents production	0	0	0	0	0	0	0	0
Bio-pesticides production	1	25	0	25	0	0	0	25
Bio-fertilizer production	0	0	0	0	0	0	0	0
Vermi-compost production	1	22	0	22	3	0	3	25
Organic manures production	0	0	0	0	0	0	0	0
Production of fry and fingerlings	0	0	0	0	0	0	0	0
Production of Bee-colonies and wax sheets	0	0	0	0	0	0	0	0
Small tools and implements	0	0	0	0	0	0	0	0
Production of livestock feed and fodder	0	0	0	0	0	0	0	0
Production of Fish feed	0	0	0	0	0	0	0	0
Total	**3**	**70**	**0**	**70**	**5**	**0**	**5**	**75**
X Capacity Building and Group Dynamics				0			0	0
Leadership development	0	0	0	0	0	0	0	0
Group dynamics	0	0	0	0	0	0	0	0
Formation and Management of SHGs	0	0	0	0	0	0	0	0
Mobilization of social capital	0	0	0	0	0	0	0	0
Entrepreneurial development of farmers/youths	0	0	0	0	0	0	0	0
WTO and IPR issues	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
XI Agro-forestry				0			0	0

Production technologies	0	0	0	0	0	0	0	0
Nursery management	0	0	0	0	0	0	0	0
Integrated Farming Systems	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
XII Others (Pl. Specify)				0			0	0
TOTAL	**34**	**519**	**289**	**808**	**38**	**19**	**57**	**865**
(B) RURAL YOUTH				0			0	0
Mushroom Production	0	0	0	0	0	0	0	0
Bee-keeping	0	0	0	0	0	0	0	0
Integrated farming	1	25	0	25	0	0	0	25
Seed production	0	0	0	0	0	0	0	0
Production of organic inputs	0	0	0	0	0	0	0	0
Integrated Farming (Medicinal)	0	0	0	0	0	0	0	0
Planting material production	0	0	0	0	0	0	0	0
Vermi-culture	0	0	0	0	0	0	0	0
Sericulture	0	0	0	0	0	0	0	0
Protected cultivation of vegetable crops	0	0	0	0	0	0	0	0
Commercial fruit production	0	0	0	0	0	0	0	0
Repair and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0
Nursery Management of Horticulture crops	0	0	0	0	0	0	0	0
Training and pruning of orchards	0	0	0	0	0	0	0	0
Value addition	1	0	25	25	0	5	5	30
Production of quality animal products	0	0	0	0	0	0	0	0
Dairying	0	0	0	0	0	0	0	0
Sheep and goat rearing	0	0	0	0	0	0	0	0
Quail farming	0	0	0	0	0	0	0	0
Piggery	0	0	0	0	0	0	0	0
Rabbit farming	0	0	0	0	0	0	0	0
Poultry production	0	0	0	0	0	0	0	0
Ornamental fisheries	0	0	0	0	0	0	0	0
Para vets	0	0	0	0	0	0	0	0
Para extension workers	0	0	0	0	0	0	0	0
Composite fish culture	0	0	0	0	0	0	0	0
Freshwater prawn culture	0	0	0	0	0	0	0	0
Shrimp farming	0	0	0	0	0	0	0	0
Pearl culture	0	0	0	0	0	0	0	0
Cold water fisheries	0	0	0	0	0	0	0	0
Fish harvest and processing technology	0	0	0	0	0	0	0	0
Fry and fingerling rearing	0	0	0	0	0	0	0	0
Small scale processing	0	0	0	0	0	0	0	0
Post Harvest Technology	0	0	0	0	0	0	0	0
Tailoring and Stitching	0	0	0	0	0	0	0	0
Rural Crafts	0	0	0	0	0	0	0	0
TOTAL	**2**	**25**	**25**	**50**	**0**	**5**	**5**	**55**
(C) Extension Personnel				0			0	0
Productivity enhancement in field crops	1	20	0	20	5	0	5	25
Integrated Pest Management	3	60	0	60	15	0	15	75
Integrated Nutrient management	0	0	0	0	0	0	0	0
Rejuvenation of old orchards	0	0	0	0	0	0	0	0
Protected cultivation technology	0	0	0	0	0	0	0	0
Formation and Management of SHGs	0	0	0	0	0	0	0	0
Group Dynamics and farmers organization	0	0	0	0	0	0	0	0
Information networking among farmers	0	0	0	0	0	0	0	0

Capacity building for ICT application	0	0	0	0	0	0	0	0
Care and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0
WTO and IPR issues	0	0	0	0	0	0	0	0
Management in farm animals	0	0	0	0	0	0	0	0
Livestock feed and fodder production	0	0	0	0	0	0	0	0
Household food security	1	0	20	20	0	5	5	25
Women and Child care	0	0	0	0	0	0	0	0
Low cost and nutrient efficient diet designing	0	0	0	0	0	0	0	0
Production and use of organic inputs	0	0	0	0	0	0	0	0
Gender mainstreaming through SHGs	0	0	0	0	0	0	0	0
Any other (Pl. Specify)	0	0	0	0	0	0	0	0
TOTAL	**5**	**80**	**20**	**100**	**20**	**5**	**25**	**125**
G. Total	**41**	**624**	**334**	**958**	**58**	**29**	**87**	**1045**

Summary of Training Programme
ON Campus

(A) Farmers & Farm Women	**No. of couses**	No. of participant						
		others			SC/ST			Grand Total
		Male	Female	Total	Male	Female	Total	
I Crop Production	2	40	8	48	6	1	7	55
II Horticulture	1	0	20	20	0	5	5	25
III Soil Health and Fertility Management	1	18	5	23	1	1	2	25
IV Livestock Production and Management	1	0	25	25	0	0	0	25
V Home Science/Women empowerment	2	0	44	44	0	6	6	50
VI Agril. Engineering	0	0	0	0	0	0	0	0
VII Plant Protection	5	115	0	115	10	0	10	125
VIII Fisheries	0	0	0	0	0	0	0	0
IX Production of Inputs at site	1	23	0	23	2	0	2	25
X Capacity Building and Group Dynamics	0	0	0	0	0	0	0	0
XI Agro-forestry	0	0	0	0	0	0	0	0
XII Others (Pl. Specify)	0	0	0	0	0	0	0	0
Total (A)	**13**	**196**	**102**	**298**	**19**	**13**	**32**	**330**
(B) RURAL YOUTH	2	25	25	50	0	5	5	55
(C) Extension Personnel	2	40	0	40	10	0	10	50
Grand Total (A+B+C)	**17**	**261**	**127**	**388**	**29**	**18**	**47**	**435**

Off Campus

(A) Farmers & Farm Women	**No. of couses**	No. of participant						
		others			SC/ST			Grand Total
		Male	Female	Total	Male	Female	Total	
I Crop Production	3	72	5	77	3	0	3	80
II Horticulture	1	0	25	25	0	0	0	25
III Soil Health and Fertility Management	3	69	13	82	3	0	3	85
IV Livestock Production and Management	1	0	25	25	0	0	0	25
V Home Science/Women empowerment	5	0	119	119	0	6	6	125

VI Agril. Engineering	1	20	0	20	0	0	0	20
VII Plant Protection	5	115	0	115	10	0	10	125
VIII Fisheries	0	0	0	0	0	0	0	0
IX Production of Inputs at site	2	47	0	47	3	0	3	50
X Capacity Building and Group Dynamics	0	0	0	0	0	0	0	0
XI Agro-forestry	0	0	0	0	0	0	0	0
XII Others (Pl. Specify)	0	0	0	0	0	0	0	0
Total (A)	**21**	**323**	**187**	**510**	**19**	**6**	**25**	**535**
(B) RURAL YOUTH	0	0	0	0	0	0	0	0
(C) Extension Personnel	3	40	20	60	10	5	15	75
Grand Total (A+B+C)	**24**	**363**	**207**	**570**	**29**	**11**	**40**	**610**

Consolidated (On + Off Campus)

(A) Farmers & Farm Women	**No. of couses**	No. of participant						
		others			SC/ST			Grand Total
		Male	Female	Total	Male	Female	Total	
I Crop Production	5	112	13	125	9	1	10	135
II Horticulture	2	0	45	45	0	5	5	50
III Soil Health and Fertility Management	4	87	18	105	4	1	5	110
IV Livestock Production and Management	2	0	50	50	0	0	0	50
V Home Science/Women empowerment	7	0	163	163	0	12	12	175
VI Agril. Engineering	1	20	0	20	0	0	0	20
VII Plant Protection	10	230	0	230	20	0	20	250
VIII Fisheries	0	0	0	0	0	0	0	0
IX Production of Inputs at site	3	70	0	70	5	0	5	75
X Capacity Building and Group Dynamics	0	0	0	0	0	0	0	0
XI Agro-forestry	0	0	0	0	0	0	0	0
XII Others (Pl. Specify)	0	0	0	0	0	0	0	0
Total (A)	**34**	**519**	**289**	**808**	**38**	**19**	**57**	**865**
(B) RURAL YOUTH	2	25	25	50	0	5	5	55
(C) Extension Personnel	5	80	20	100	20	5	25	125
Grand Total (A+B+C)	**41**	**624**	**334**	**958**	**58**	**29**	**87**	**1045**

Details of training programmes attached in **Annexure -I**

3.4 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	8	180	25	205	25	5	30	205	30	235
Kisan Mela	1	300	50	350	40	10	50	340	60	400
Kisan Ghosthi	5	170	20	190	20	14	34	190	34	224
Exhibition	2	150	230	380	40	10	50	190	240	430
Film Show	20	900	400	1300	120	40	160	1020	440	1460
Method demonstration	2	20	15	35	5	5	10	25	20	45
Farmers Seminar	2	100	20	120	40	5	45	140	25	165
Workshop	1	200	100	300	25	10	35	225	110	335

Group meetings	6	60	15	75	25	15	40	85	30	115
Lectures delivered as resource persons	25	3500	700	4200	1200	450	1650	4700	1150	5850
Newspaper coverage	5	0	0	0	0	0	0	0	0	0
Radio talks	1	0	0	0	0	0	0	0	0	0
TV talks	1	0	0	0	0	0	0	0	0	0
Popular articles	3	0	0	0	0	0	0	0	0	0
Extension Literature	14	1200	100	1300	600	50	650	1800	150	1950
Advisory Services	10	100	10	110	50	10	60	150	20	170
Scientific visit to farmers field	20	120	10	130	30	2	32	150	12	162
Farmers visit to KVK	25	550	250	800	200	120	320	750	370	1120
Diagnostic visits	5	30	5	35	5	2	7	35	7	42
Exposure visits	1	30	0	30	10	0	10	40	0	40
Ex-trainees Sammelan	1	20	5	25	4	1	5	24	6	30
Soil health Camp	1	100	20	120	30	20	50	130	40	170
Animal Health Camp	1	50	10	60	20	5	25	70	15	85
Agri mobile clinic	1	3000	100	3100	350	50	400	3350	150	3500
Soil test campaigns	1	60	0	60	12	0	12	72	0	72
Farm Science Club Conveners meet	1	50	0	50	4	0	4	54	0	54
Self Help Group Conveners meetings	1	12	5	17	3	2	5	15	7	22
MahilaMandals Conveners meetings	4	8	30	38	4	25	29	12	55	67
Celebration of important days (specify)	3	400	150	550	60	80	140	460	230	690
KrishiMohostva	5	0	20	20	0	20	20	0	40	40
KrishiRath	3	40	0	40	20	0	20	60	0	60
Pre Kharif workshop	3	80	0	80	30	0	30	110	0	110
Pre Rabi workshop	4	100	20	120	15	3	18	115	23	138
PPVFRA workshop	1	20	10	30	10	5	15	30	15	45
Any Other (Specify)	5	220	20	240	90	10	100	310	30	340
Total	**192**	**11770**	**2340**	**14110**	**3087**	**969**	**4056**	**14857**	**3309**	**18166**

3.6 Target for Production and supply of Technological products

SEED MATERIALS

Sl. No.	Crop	Variety	Quantity (qtl.)
CEREALS	Wheat	GW-463	75
OILSEEDS	Groundnut	GJG-9	55
	Groundnut	GJG-31	40
	Sesame	G.Til.-3	6
PULSES	Green gram	GM-4	7.5
		Total	**138.5**

PLANTING MATERIALS

Sl. No.	Crop	Variety	Quantity (Nos.)
FRUITS	Jamun, Guava, custard apple		100
SPICES			
VEGETABLES	Brinjal, Tomato, Chili	GJLB-3,4,7	1500
FOREST SPECIES			100
ORNAMENTAL CROPS			

		Total	**1700**

Bio-products

Sl. No.	Product Name	Species	Quantity	
			No	(kg)
BIO PESTICIDES				
1	Beauveria			5000
2	Trichoderma			10000
3	PSB		200	
4	Azaobactor		200	
5	Rhizobium		200	
6	Pheromone trap			
7	NPV			
		Total	**600**	150000

LIVESTOCK

Sl. No.	Type	Breed	Quantity	
			(Nos)	Unit
Cattle				
GOAT				
SHEEP				
POULTRY				
Pig farming				
FISHERIES				

4 Literature to be Developed/Published

A. KVK News Letter

Date of start : 01/01/2016

Number of copies to be published : e-publication

B. Literature developed/published

S.No.	Topic	Number
1	Research paper each scientist	2
2	Technical reports	8
3	News letters	4
4	Training manual all discipline	4
5	Popular article	3
6	Extension literature	7
7	E-publication	3
8	Any other (Please specify)	0
	Total	**31**

C. Details of Electronic Media to be Produced

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

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

S. No.	Title of success story / case study identified	Proposed month for case/story to be prepared/ developed
	a. Brief introduction b. Interventions	2

	c. Output d. Outcomes e. Impacti) Social economic, ii) Bio-Physical f. Good Action Photographs	

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

a) Focused group discussion with the farmers
b) Field visits
c) Identifying general trends in the area

Rural Youth

a) Filling up research based questionnaires
b) Identification of leaderand role of rural youth in agriculture (Sociometric method)
c) Engagement of rural youth in agriculture

In-service personnel

a) Knowledgetest (Interview schedule)
b) Interaction with the personnel
c) b) Functional areas of personnel

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 :- Coriander
iv) Others if any

5.3 Field activities

i. Name of villages identified/adopted with block name (from which year) :-
ii. No. of farm families selected per village :
iii. No. of survey/PRA conducted :
iv. No. of technologies taken to the adopted villages
v. Name of the technologies found suitable by the farmers of the adopted villages:
vi. Impact (production, income, employment, area/technological– horizontal/vertical)
vii. Constraints if any in the continued application of these improved technologies

5.4 Activities of Soil and Water Testing Laboratory

Status of establishment of Lab:

1. Year of establishment :2005-06
2. List of equipments purchase with amount

Sl. No	Name of the Equipment	Qty.	Cost	Remarks
1	Spectrophotometer	1	89160	Not working
2	Flame photometer	1		Not working
3	Physicalbalance	1	10640	Not working
4	Chemicalbalance	1	100000	Not working

5	Water distillation still	1	96118	Not working
6	Kieldahi digestion and distillation	1	49644	Not working
7	Shaker	1	80080	Working
8	Grinder	1	16772	Working
9	Refrigerator	1		Working
10	Oven	1	30550	Working
11	Hot plate	1		Working
Total		11	472964	

Targets of samples for analysis:

Details	No. of Samples	No. of Farmers	No. of Villages	Amount to be realized
Soil Samples	300	300	15	
Water	50	50	12	
Plant				
Total	**350**	**350**	**27**	

6. LINKAGE

6.1 Functional linkage with different organizations

Sr.	Name of organization	Nature of linkage
A	**Statecorporation and state deptt.**	
1	DistrictAgriculturalOfficer, Deptt. of Agriculture, District Panchayat, Jamnagar	➢ Joint diagnostic teamvisit at farmersfield ➢ Organizing collaborative trainingto farmers ➢ For collaborative off campus training ➢ For collaborative training and demonstrationProgramme ➢ Collaborative on campustrainingprogramme ➢ For providing hostelfacilitiesto participants and organizing collaborative MahilaKrishiMela
2	DistrictRuralDevelopment Agency, Jamnagar	
3	DeputyDirector of Veterinary, Department of veterinary &Animal Husbandry, Jamnagar	
4	DeputyDirector of Horticulture, Jamnagar	
5	DeputyDirector of Agriculture (Training), Farmer Training Centre, Jamnagar	
6	DeputyDirector of Agriculture (Extension), Jamnagar	
7	Asstt. Director of Fisheries, Jamnagar	
8	RangeForest Officer, Jamnagar	
9	Asstt. Director of GLDC, Jamnagar	
10	Estate Engineer, Department of Irrigation, Jamnagar	
11	All TalukaDevelopmentOfficers, and their team at Talukalevel	
12	Rajkot-Jamnagar Gramin Bank, Jamnagar	
13	Project Director, ATMA, Jamnagar	
14	Project Director, DWDU, Jamnagar	
B	**Private Corporation**	
1	Territory Manager, GSFC, Jamnagar	➢ Imparttraining on Agril. aspects ➢ Collaborative on/off campustrainingprogramme ➢ Sponsortrainingprogramme
2	Territory Manager, GNFC, Jamnagar	
3	Territory Manager, IFFCO, Jamnagar	
4	Reliance Industries, Dept. of Green Belt, Jamnagar	
C	**NGOs**	
1	Murlidhar Trust, Opp. Trajitpara Branch School, Bhanvad	➢ Imparttraining on Agril. aspects ➢ Collaborative on/off campustrainingprogramme
2	V.D.R.F. Trust, Momai Xerox, B.P. Road, Bhanvad	
3	Late J.V. Nariya Educational and Charitable Trust, 49, Modern Market, First Floor, Nr. Amber Cinema	
4	Jay AshapuraCharitable Society, MadhavNivas, Karmachari Society, Trikonban, Dhrol (Dist.-Jamnagar)	

5	Shekhpat Jalstrav Vikas Mandal, At.-Shekhpat, Post-Aliyabada, Ta.&Dist.- Jamnagar	
6	LakhtarJalstravGramVikas Trust, 55, Shiv Complex, At.- Bhadra (Patiya), Ta.-Jodia, Dist.- Jamnagar	
7	Umiya Mataji Mandir Trust, At.- Sidsar, Ta.-Jamjodhpur, Dist.- Jamnagar	
8	Shardapith Education Trust, 104-Shrusti complex, Nr. Gurudwara, Jamnagar	
9	ChacharaEducation &Charitable Trust, 104- Shrusti complex, Nr. Gurudwara, Jamnagar	
10	Tata Chemical SocietyforRural Development Foundation, At. Mithapur, Ta.-Dwarka, Dist.-Jamnagar	
11	Agakhan Rural Development Trust	
12	ANARDE foundation trust	

6.2 Details of linkage with ATMA

a) Is ATMA implemented in your district (Yes/No) :- Yes

S. No.	Programme	Nature of linkage	Remarks
1	District Level Training	Impart Training on Agricultural Aspects	Celeberate Technology week Arrangement of Krishi Mela
2.	Block level training	Lecture delivered	
3.	Village level training		

6.3 Give details of programmes implemented under National Horticultural Mission

S. No.	Programme	Nature of linkage	Constraints if any
1	-	-	-

6.4Nature of linkage with National Fisheries Development Board

S. No.	Programme	Nature of linkage	Remarks
1.	-	-	-

6.5. Additional Activities planned including sponsored projects (NARI/DAESI/DAMU/DFI/PKVY,Skill Trainings, etc.) / schemes during 2021, 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
1	DAMU	Farmers meeting for awareness	10	500000	Dr. K. P. Baraiya A. V. Savaliya
		weather based agro advisory	52		

6.5.1. Details of activities planned in DFI villages

Name of DFI village selected	Total No. of families in the village	Interventions planned during 2021	No. of families to be covered under the intervention	Present annual income of the family (Rs /annum)	Expected annual income of the family after intervention (Rs/ annum)
Chantragadh	315	FLD, Training	10	-	-
Lothiya	291	FLD, Training	10	-	-
Khoja Beraja	390	FLD, Training	10	-	-
Nani Banugar	285	FLD, Training	10	-	-
Gadhka	1450	FLD, Training	10	-	-

6.5.2. Details of activities planned under NARI (Including FSN project)

S. No.	Name of the village	Activities planned	No. of families to be covered
	Nil		

6.5.3. Details of activities planned under Paramaparagat Krishi Vikas Yojana (PKVY)

S. No.	Name of the village	Activities planned	No. of families to be covered
1			

6.5.4. Details of skill trainings planned (sponsored by ASCI)

S. No.	Name of Job Role	Duration (No. of hours)	No. of participants

6.6. Activities planned in respect of FPOs / FPCs

1. No. of FPOs / FPCs to be formed: 1
2. No. of existing FPOs / FPCs to be facilitated: Nil
3. Type of support to be provided to existing FPOs / FPCs:

S. No	Name of the FPO / FPC	No. of members	Major activities of FPO / FPC	Type of support to be provided by KVK
1	Organic Producer	20	Collaborative production, value addition and marketing	Technical guideline,

7.0 Convergence with other agencies and line departments in the district:

S. No.	Name of the department / Agency	Type of convergence	Area (ha) / No. of farmers to be benefited
1	ATMA	➢ Organizing collaborative training to farmers ➢ For collaborative off campus training ➢ For collaborative training and demonstration Programme ➢ Collaborative on campus training programme ➢ For providing hostel facilities to participants and organizing collaborative MahilaKrishiMela ➢ Celebrating important days and programmes by central government as well as state government ➢ Field visit to gather ➢ Diagnostic visit on farmers field with line department	
2	DWDU		
3	DAO		
4	DRDA		
5	GGRC		
6	NABARD		
7	SPICE BOARD		
8	STATE HORTICULTURE		
9	CENTRAL WEREHOUSE		
10	TATA CHEMICAL		
11	ENARDE Foundation		
12	BIAF		
13	ACT Sanstha		

8. Innovator Farmer's Meet 2021

Sl.No.	Particulars	Details	Expected No. of participants
1	Farm innovators meet planned	Month proposed : October	50

9. Utilization of hostel facilities

S. No.	Month	No. of days to be utilized
1	As pepr requirement of training	
2		
	Total	

10. Details of online activities planned (If any)

S. No.	Type of activities	No. of programmes	Mode of implementation (Video conferencing / Audio Conferencing / Facebook Live / YouTube Live, etc)	No. of participants to be covered

1	Farmers trainings	2	Video conferencing	60
2	Farmers scientist's interaction programme	1	Video conferencing	20
3	Farmers seminars	1	Video conferencing	50
4	Expert lectures	2	Video conferencing	60
5	Any other (Pl. specify)			

11. Details of collaborative applied research projects planned if any

S. No.	Name of the research project	Funding agency	Collaborating organizations	Year of commencement	Major activities planned
1	Assessment of kitchen gardening trainings in rural areas in Jamnagar & Devbhumi Dwakra district	State Government	JAU	2021	Training Survey
2	Usefulness about Agro-met advisory service among the farmers of Jamnagar district	DAMU-ICAR		2021	Survey

Annexure - I

TRAINING PROGRAMMES

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										
Quarter-1st	PF	Organic farming	1	20	3	23	1	1	2	25
Quarter-4th	PF	Integrated farming system	1	25	0	25	5	0	5	30
Horticulture										
Quarter– 3rd	PF	Nursery Management	1	0	20	20	0	5	5	25
Livestock prod.										
Quarter-2nd	PF	Dairy Management and Value addition of milk	1	0	25	25	0	0	0	25
Home Sc.										
Quarter-1st	PF	Value addition in fruits, vegetables and agriculture produce for doubling farmers income	1	0	25	25	0	0	0	25
Quarter-4th	PF	Boosting immunity through fruits and vegetables and aware about Nutritional disease	1	0	19	19	0	6	6	25
Plan prot.										
Quarter-1st	PF	IPM in vegetable crops: onion & garlic	1	25	0	25	0	0	0	25
Quarter-2nd	PF	Management of pink bollworm in cotton & management of white grub in groundnut and other kharif crops	1	20	0	20	5	0	5	25
Quarter-3rd	PF	Management of diseases in *kharif* crops	1	25	0	25	0	0	0	25
Quarter-4th	PF	Integrated Disease and pest management in cumin and gram	1	20	0	20	5	0	5	25
Quarter-4th	PF	Store grain pests and its management for reduction the storage loss	1	25	0	25	0	0	0	25
Fisheries										
Production of Inputs at site										
4th Quarter	PF	Seed production technology	1	23	0	23	2	0	2	25
Soil Health										
2nd Quarter	PF	Importance of Soil and water testing	1	18	5	23	1	1	2	25
			13	**201**	**97**	**298**	**19**	**13**	**32**	**330**

ii) Farmers & Farm women (Off 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										
Quarter-1st	PF	Pre seasonal training on summer crop production practices	1	23	2	25	0	0	0	25

Quarter-2nd	PF	Integrated weed management in oilseed crops	1	21	3	24	1	0	1	25
Quarter-4th	PF	Training on Conservation and utilization of natural resources	1	28	0	28	2	0	2	30
Horticulture										
Quarter– 4th	PF	Processing and value addition in Spices crop	1	0	25	25	0	0	0	25
Livestock prod.										
Quarter-1st	PF	Importance of Nutrients and Feed Management in Animal Husbandry to increase milk production	1	0	25	25	0	0	0	25
Home Sc.										
Quarter-1st	PF	Importance of nutrition in daily diet and techniques of Minimization of nutrition loss in processing	1	0	25	25	0	0	0	25
Quarter-2nd	PF	food processing and value addition in fruit, vegetable, and other agricultural produce	1	0	25	25	0	0	0	25
Quarter-2nd	PF	House hold food security by kitchen gardening and nutrition gardening	1	0	19	19	0	6	6	25
Quarter-3rd	PF	Income generation activities for empowerment of women	1	0	25	25	0	0	0	25
Quarter-4th	PF	Nutritional Value of Leafy vegetable and design of Low/Minimum cost diet	1	0	25	25	0	0	0	25
Agril. Engineering										
3rd Quarter	PF	Installation and Maintenance of micro irrigation system	1	20	-	20	-	-	-	20
Plan prot.										
Quarter-1st	PF	IPM in vegetable crops: onion & garlic	1	25	0	25	0	0	0	25
Quarter-1st	PF	Store grain pests and its management for reduction the storage loss	1	25	0	25	0	0	0	25
Quarter-2nd	PF	Management of pink bollworm in cotton & management of white grub in groundnut and other kharif crops	1	20	0	20	5	0	5	25
Quarter-3rd	PF	Management of diseases in *kharif* crops	1	25	0	25	0	0	0	25

Quarter-4th	PF	Integrated Disease and pest management in cumin and gram	1	20	0	20	5	0	5	25
Fisheries										
Production of Inputs at site										
1st Quarter	PF	Vermi-compost and other organic input production	1	22	0	22	3	0	3	25
Quarter – 3rd	PF	Bio pesticides production	1	25	0	25	0	0	0	25
Soil Health										
2nd Quarter	PF	Use of Bio fertilizer & recycling of farm waste through composting	1	28	0	28	2	0	2	30
3rd Quarter	PF	Integrated nutrient management in Groundnut	1	22	7	29	1	0	1	30
4th Quarter	PF	Improvement of soil fertility through balance use of fertilizer	1	19	6	25	0	0	0	25
			21	**323**	**187**	**510**	**19**	**6**	**25**	**535**

iii) 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	
Value addition	women Empowerment	Women Empowerment through Bakery Business	Feb	4	0	25	25	0	5	5	30
Integrated farming	Integrated farming	Integrated farming system	July	4	25	0	25	0	0	0	25

iv) 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										
Quarter-2nd	EF	Pre-seasonal training on *kharif* crops (Pigeon pea, Green gram, Groundnut, Cotton) production technology through natural resources	2	20	0	20	5	0	5	25
Quarter-4rd	EF	Pre-seasonal training on *rabi* crops (Cumin, Gram, Wheat, Onion, Garlic production technology through natural resources)	2	20	0	20	5	0	5	25
Off Campus										
Quarter-2nd	EF	Pre-seasonal training on *kharif* crops (Pigeon pea, Green gram, Groundnut, Cotton) production technology through natural resources	2	20	0	20	5	0	5	25
Quarter-3rd	EF	Constraints of Kitchen gardening and their remedies	1	0	20	20	0	5	5	25
Quarter-4rd	EF	Pre-seasonal training on *rabi* crops (Cumin, Gram, Wheat, Onion, Garlic	2	20	0	20	5	0	5	25

		production technology through natural resources)								

Quarter and discipline wise summary of training programme :

Discipline	Subject Code	On-Campus					Off-Campus					GT
		Quarter					Quarter					
		I	II	III	IV	Total	I	II	III	IV	Total	
(A) Farmers & Farm Women, Rural Youth												
I Crop Production	CP	1			1	**2**	1	1		1	**3**	**5**
II Horticulture	HO			1		**1**				1	**1**	**2**
III Soil Health and Fertility Management	SFM		1			**1**		1	1	1	**3**	**4**
IV Livestock Production and Management	LPM		1			**1**	1				**1**	**2**
V Home Science/Women empowerment	WOE	1			1	**2**	1	2	1	1	**5**	**7**
VI Agril. Engineering	AEG					**0**			1		**1**	**1**
VII Plant Protection	PLP	1	1	1	2	**5**	2	1	1	1	**5**	**10**
VIII Fisheries	FIS					**0**					**0**	**0**
IX Production of Inputs at site	PI				1	**1**	1		1		**2**	**3**
X Capacity Building and Group Dynamics	CBD					**0**					**0**	**0**
Total		**3**	**3**	**2**	**5**	**13**	**6**	**5**	**5**	**5**	**21**	**34**
(B) Extension Functionaries	EF		1		1	**2**		1	1	1	**3**	**5**
(C) Rural youth	RY	1		1		**2**					**0**	**2**
Total		**4**	**4**	**3**	**6**	**17**	**6**	**6**	**6**	**6**	**24**	**41**

v) 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	
a) Sponsored training progdramme											
AEG	ATMA	PF	Importance of MIS	2	80	0	80	20	0	20	100
PLP	ATMA	PF	Kharif crop protection and production technology	3	100	40	140	10	10	20	160
SFM, AEG	AGAKHAN	PF	INM and MIS in rabi crops	2	50	50	100	5	5	10	110
PLP	DAO	PF	Integrated pest and diseases management in cumin	1	60	0	60	0	0	0	60
PLP	ATMA	PF	IPM & IDM in groundnut, cotton crops	1	55	0	55	5	0	5	60
PLP	DAO	PF	IPM, IDM, INM in groudnnut and cotton	1	55	0	55	5	0	5	60
PLP	ATMA	PF	IPM & IDM in kharif crop	1	55	0	55	5	0	5	60
PLP	Dy.D.Hort.	PF	IPM, IDM, INM in Horticultural Crops	1	55	0	55	5	0	5	60
PLP	ATMA	PF	IPM, IDM, INM in Horticultural Crops	1	55	0	55	5	0	5	60
PLP	DWDU	PF	IPM & IDM in kharif crop	1	55	0	55	5	0	5	60
PLP, CP	ATMA	PF	Seed Production technology and IPM in these crops	1	55	0	55	5	0	5	60
PLP	ATMA	PF	Storage Techniques and IPM in summer crops	1	0	55	55	0	5	5	60
			Total	16	675	145	820	70	20	90	910
b) Sponsored research programme											
			Total								
c) Any special programmes											
SFM	ATMA	PF	World Soil health day	1	50	50	100	10	10	20	120
WOE	ATMA	PF	Mahila Krushi Divas	1	0	100	100	0	20	20	120
			Total	2	50	150	200	10	30	40	240

Annexure - II

Details of Budget Estimate (2020-21) based on proposed action plan

S. No.	Particulars	BE 2021-22 proposed (Rs.)
25.1	**Recurring Contingencies**	
25.1.1	**Pay & Allowances**	**130**
25.1.2	**Traveling allowances**	**2**
25.1.3	**Contingencies**	**35**
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	
B	POL, repair of vehicles, tractor and equipment	
C	Meals/refreshment for trainees (ceiling up to Rs.40/day/trainee be maintained)	
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	
G	Training of extension functionaries	
H	Maintenance of buildings	
I	Establishment of Soil, Plant & Water Testing Laboratory	
J	Library	
25.1	**TOTAL Recurring Contingencies**	**167**
25.2	**Non-Recurring Contingencies**	
25.2.1	**Works**	50
25.2.2	**Equipment including SWTL & Furniture**	
25.2.3	**Vehicle** (Four wheeler/Two wheeler, please specify)	
25.2.4	**Library** (Purchase of assets like books & journals)	1
25.2	**TOTAL Non-Recurring Contingencies**	**51**
25.3	**REVOLVING FUND**	
25.4	**GRAND TOTAL**	**218**

Annexure-III

NEW TECHNICAL PROGRAMME

New Technical Project Proposal 1 (Home Science)

1	Title	:	**Assessment of knowledge of farm women about kitchen gardening in rural areas in Jamnagar & Devbjhumi Dwarka district**
2	Background information	:	Kitchen gardening is the revolutionary step to increase vegetables production as well as provision of cheap vegetables to the consumers. Kitchen gardening contributes to household food security by providing direct access to food on a daily basis. Vegetables are major source of vitamins, minerals, and fibers; their nutritive and medicinal values in human life are well documented. There are many social benefits that have emerged from kitchen gardening practices, better health and nutrition, increased income, employment, food security within the household, and enhance in community social life. Apart from having a good amount of production of vegetables at national level, the per capita availability in diet is quite low in our country. The daily requirement of vegetable is around 300 gm as per ICMR but the availability is very low. Many of the rural families used to grow vegetables in their backyards for their household consumption. But still they lack in adequate consumption of vitamins and minerals because of unorganized cultivation of vegetables. Keeping in view the importance of vegetables in daily diets and its low availability, the Krishi Vigyan Kendra has conducted various training and demonstrations on kitchen gardening under Women in Agriculture discipline.
3	Objective	:	➢ Assessment of the Pre and post training knowledge of farm women regarding establishment of kitchen garden ➢ To study Major Constraints perceived in the establishment of kitchen garden ➢ To study economic impact kitchen garden
4	Principal Investigator	:	Smt. A. K. Baraiya, Scientist (Home Science), KVK, JAU, Jamnagar
	Co-investigator		Dr. K. P. Baraiya, Senior Scientist & Head, KVK, JAU, Jamnagar Dr. H. M. Gajipara, Director of Extension Education, JAU, Junagadh
5	Location	:-	Jamnagar District
6	Year of Commencement	:	2021-22 to 2023-24 (three years)
7.	Experimental Detail/ Methodology	:	The study area of this research programme will be KVK selected three blocks *viz*., Jodia, Dhrol of Jamnagar District and Khambhaliya of Devbhumi Dwarka District. From each block Five villages and from each selected villages twenty women respondent will be selected randomly for the study. Thus, total of 300 women will constitute the sample size for this study. For collection of data personal interview technique will be use. Data will be collected with the help of structured interview schedule. Frequencies, percentage and mean percent score will be used for analysing the data statistically

New Technical Project Proposal 2 (DAMU-GKMS)

1	Title	:	**Usefulness of Agro-met advisory service to the farmers of Jamnagar district**
2	Background information	:	Climate is the most limiting factor for crop grown. While all other physical factors, inputs and agronomic practices can be manipulated, vagaries of weather cannot be controlled. However, adverse effects on crops can often be mitigated. Thus, risk in agricultural operations can be minimized by the provision of weather information properly interpreted for their agricultural significance, containing advisories for farm operation and disseminated well in advance of the impending weather. In view of above, Agrometeorological Advisory Service (AAS) arebeing rendered by India Meteorological Department (IMD), Ministry of Earth Sciences (MoES) under Gramin Krishi Mausam Sewa (GKMS) scheme as a step towards contribution to weather information-based crop/livestock management strategies and operations dedicated to enhancing crop production. District Agro meteorological Unit (DAMU) is functional running at Krishi Vigyan Kendra, JAU, Jamnagar since 2nd November, 2020. The District Agro meteorological Unit, KVK, JAU, Jamnagar is prepare block level Agromet advisory bulletin for all the 6 block *viz*. Dhrol, Jodia, Jamjodhpur, Jamnagar, Kalavad, Lalpur of Jamnagar district and also prepare district level advisory bulletin for Jamnagar district separately. The overall objective of the study is to how to useful weather bulletin at farmers level in crop/livestock production. It would also give the information on the suggestions to the improvement in weather bulletin.
3	Objective	:	1. To find out usefulness about Agromet advisory service at farmers level 2. To improve advisory of weather bulletin with the help of farmers feedback
4	Principal Investigator	:	Dr. K. P. Baraiya, Senior Scientist & Head, KVK, JAU, Jamnagar
	Co-investigator		Mr. A. V. Savliya, SMS, Agromet, KVK, JAU, Jamnagar Mr. R. B. Pandya, Agromet Observer, KVK, JAU, Jamnagar Dr. H. M. Gajipara, Director of Extension Education, JAU, Junagadh
5	Location	:-	Jamnagar District
6	Year of Commencement	:	2021-22, 2022-23
7.	Experimental Detail/ Methodology	:	The present research study will conduct in jurisdiction of Krishi Vigyan Kendra, JAU, Jamnagar. All 6 blocks of Jamnagar district will be selected for study. From every block randomly 50 farmers will be selected, who join with KVK weather Whats app group. Thus, 300 farmers will be selected for final study. Data will be collected with the help of personal interview schedule. Personal interview method data were processed, tabulated, classified and analyzed in respective of objective