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ANNUAL PROGRESS REPORT

(April-2017 to March-2018)

&

ACTION PLAN

(April-2018 to March-2019)

TO BE PRESENTED AT

ANNUAL ZONAL WORKSHOP FOR KVK OF ZONE-VI

(Gujarat, Goa & Maharashtra)

ORGANIZED BY

DIRECTOR, ATARI ZONE-VIII, ICAR, PUNE

HELD AT

MAHATMA PHULE KRISHI VISHVA VIDYAPITH,

RAHURI (MAHARASHTRA)

During MAY 5 - 7, 2018

PREPARED/COMPILED By

Dr. K. P. Baraiya, Senior Scientist & Head
Smt. A. K. Baraiya, Scientist
Shri S. H. Lakhani, Scientist
Dr. J. N. Thaker, Scientist

KRISHI VIGYAN KENDRA

JUNAGADH AGRICULTURAL UNIVERSITY
JAMNAGAR - 361 006
GUJARAT

CONTENT

ANNUAL PROGRESS REPORT-2017-18

(1st APRIL - 2017 TO 31stMARCH-2018)

KRISHI VIGYAN KENDRA
JUNAGADH AGRICULTURAL UNIVERSITY, JAMNAGAR

DETAIL REPORT OF APR-2017-18

1. GENERAL INFORMATION ABOUT 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		
Krishi Vigyan Kendra Millet Research Station, JAU Air force Road, Opp. Digjam Mill Jamnagar- 361 006	(0288) 2710165	(0288) 2710165	kvkjamnagar@gmail.com kvkjamnagar@jau.in	www.jau.in 7827712

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

Address	Telephone		E-mail	Web address
	Office	FAX		
Junagadh Agricultural 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 Krishi Vigyan Kendra Junagadh Agricultural University, Air force Road, Opp. Digjam Mill Jamnagar- 361 006	9427980032	kvkjamnagar@gmail.com kvkjamnagar@jau.in

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

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

Sl. No.	Sanctioned post	Name of the incumbent	Discipline	If Permanent, Please indicate		Date of joining	If Temporary, pl. indicate the consolidated amount paid (Rs./month)
				Current Pay Band	Current Grade Pay		
1	Senior Scientist & Head	Dr. K.P. Baraiya	Plant Protection	37400-67000	9000	17.08.2006	
2	Scientist	Shri S. H. Lakhani	Crop Production	15600-39100	6000	30.03.2015	
3	Scientist	Vacant	Plant Protection	15600-39100	6000		
4	Scientist	Vacant	Horti./ Ag. Engg	15600-39100	6000		
5	Scientist	Shri P. S. Gorfad	Extension Education	15600-39100	6000	27.6.1994	
6	Scientist	Dr. J. N. Thaker	Fisheries	15600-39100	6000	31.08.2006	

7	Scientist	Smt. A. K. Baraiya	Home Science	15600-39100	7000	17.08.2006	
8	Farm Manager	Shri H. S. Godhani	Agril. Ent.	39900-126600	-	19.09.2015	38090/-
9	Programme Assistant	Shri S. N. Galani	Pl. Breeding	39900-126600	-	14.2.2012	
10	Computer Programmer	Shri C. P. Padhiyar	Computer Operator	39900-126600	-	29.12.2008	
11	Accountant / Superintendent	Shri B. H. Joshi	Adm.	39900-126600	-	11.6.2008	
12	Stenographer		Adm.	19900-63200			
13	Driver	Vacant	Supt.	19900-63200		-	
14	Driver	Shri. D.M. Chauhan	Supt. (Fix)	19900-63200		9.10.2007	
15	Supporting staff	Shri B. B. Bamaniya	Supt.	14800-47100		01.11.2014	
16	Supporting staff	Shri P. S. Damor	Supt.	14800-47100		1.09.2006	

1.6. Total land with KVK (in ha) : 20.44 ha

Sl. No.	Item	Area in hectare(s)*
1	Under Building and Road	2.00
2	Under Demonstration units	0.70
3	Under crops	12.00
4	Orchard	3.50
5	Agro-forestry	0.24
6	Others (Farm Pond & Channels)	2.00
	Total	**20.44**

1.7. Infrastructural Development:

A) Buildings

Sl. No.	Name of building	Sourceof funding	Stage					
			Complete			Incomplete		
			Comp-letion 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.	StaffQuarters (6)	KVK	15-8-11	400	4000000			
4.	Demonstration Units of vegetable	KVK + ATMA	31-3-07	-	-	-	-	-
5	Poly House	RKVY	31-3-09	320	281602	-	-	-
6	Net House	RKVY	31-3-09	150	64498	-	-	-
7	Training Hall	RKVY	20-2-10	190.99	1395800	-	-	-
8	Process Plant	RKVY	20-2-10	197.31	1536400	-	-	
9	Implement shed	RKVY	11-2-10	77.33	297800	-	-	-
10	Rain Water harvestingsystem	KVK	31-3-2007	26m×26m (2 Ponds)60m×60m (1 Pond)	999000	-	-	-
11	Fencing	-	Not	Available	-	-	-	-
12	Threshing floor	-	Not	Available	-	-	-	-
13	Farm godown	-	Not	Available	-	-	-	-
14	ICT lab	-	Not	Available	-	-	-	-
15	Other	-	Not	Available	-	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Toyota **Quallis** (GJ-10G 433)	2004-05	490200	463568	Working (it is required to be right up)
Hero Honda **splender** (bike) GJ-10 BB-1634	2010-11	46475	20547	Working

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Presentstatus
Captain Mini Tractor	2001-02	166125	Working
Telephone line	2001-02	19850	Working
Multi tool carrier complete set	2001-02	6500	Working
Photocopier	2001-02	125000	Working
Over head projector	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
Physical balance	2005-06	10640	Working
Chemical balance	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

1.8. A). Details SAC meeting 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		As below	As below

The Fourteenth Scientific Advisory Committee meeting of Krishi Vigyan Kendra, JAU, Jamnagar was held at Training Hall, Krishi Vigyan Kendra, JAU, Jamnagar on 12thApril, 2018.

Committee made the following recommendation after active interaction.

Sl. No.	Name and Designation of Participants	Salient Recommendations	Action taken
1	Dr. A. R. Pathak, Hon'ble Vice Chancellor, JAU, Junagadh	➢ Study the economics and required area for FLD on *raft* culture preparation.	Suggestion accepted and incorporated, Study of the economics and required area for FLD on *raft* culture preparation arranged in second quarter
		➢ Arrange FLD on sea weed liquid for pomegranate cultivation.	Suggestion accepted and incorporated in FLD on sea weed liquid for pomegranate cultivation in action plan
		➢ Emphasis on doubling the farmers income during training thought out the year.	Suggestion accepted and incorporated in action plan
		➢ Emphasis on value addition in pomegranate and groundnut	Suggestion accepted and incorporated in action plan
		➢ Arrange FLD on Matting disrupter technique for pink ball worm in cotton crop.	Suggestion accepted and incorporated in action plan
		➢ Arrange FLD on *Metarhizium* for the management of whitegrub groundnut crop.	Suggestion accepted and incorporated in action plan
		➢ Train the pomegranate farmers for *"bahar"* management, removal of water shoots and canopy management.	Suggestion accepted and incorporated for arrangement of training on *"bahar"* management, removal of water shoots and canopy management in pomegranate

		➢ Prepare list of organic certified farmers	Suggestion accepted and incorporated
		➢ Detail study on sea weed production technology and present it.	Suggestion accepted and incorporated for detail study on sea weed production technology
		➢ Arrange field day on pen culture technique.	Suggestion accepted and incorporated in action plan
	Dr. V. P. Chovatiya, Director of Research, JAU, Junagadh	➢ Arrange training on value addition of Ajwain, Chikori and other spice crop.	Suggestion accepted and incorporated for arrangement of training on value addition of Ajwain, Chikori and other spice crop.
		➢ Action taken report should quantify and give details.	Suggestion accepted and incorporated
		➢ Arrange training on stem borer infestation in wheat.	Suggestion accepted and incorporated in action plan
		➢ Give information about weather and technical suggestion on precaution measures through SMS.	Suggestion accepted and incorporated 65000 farmers listed for the SMS services through M-kishan portal
		➢ Arrange training on *kharif* crop production technology, IPM and IDM during second quarter instead of first quarter.	Suggestion accepted and incorporated in action plan
		➢ Arrange training on organic farming and bio-fertilizer and recycling of farm waste during first quarter instead of second quarter.	Suggestion accepted and incorporated in action plan
		➢ Arrange FLD in clusters in ATIC scheme.	Suggestion accepted and incorporated in action plan
		➢ Arrange cluster FLD on groundnut variety GJG-22 instead of GG-20.	Suggestion accepted and incorporated in action plan.
	Dr. A. M. Parakhia, Director of Extension Education, JAU, Junagadh	➢ Analyze maximum soil and water sample at KVK Soil Testing Laboratory.	Suggestion accepted and incorporated in action plan
		➢ Arrange demonstration at KVK farm for production and use of *Jivamrut.*	Suggestion accepted and incorporated in action plan
	Dr. M. D. Khanpara, Research Scientist (Pearl Millet), Pearl Millet Research Station, JAU, Jamnagar	➢ Arrange OFT on cotton picking kit.	Suggestion accepted and incorporated in action plan
	Shri C. O. Lashkari, Deputy Director of Horticulture, Jamnagar & Devbhumi Dwarka	➢ Arrange training on pomegranate in collaboration with Horticulture Department.	Suggestion accepted and incorporated in action plan

❖ 14th SAC proceeding along with list of participants in Annexure -1.

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 nature of 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 resourcedevelopmentin the district. Wind velocity prevailing in the district is higher order (14.1 km) ha on an annual averagebasisdue to sea coast area.

According tophysiographically, majorportion 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 radicaldrainage pattern. Deccantrap basalt occupies a major part of the district. The Quaternary formations includemilliolite, limestone, alluvium and Geolian sediments. The dominantland 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 degradationareaccelerated 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 Ecological Situation	Soil texture	Altitude	Principal crops	Special features	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	Moisture stress, 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,	Moisture stress, temperature stress

							Lalpur, Dhrol, Jodia	
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 Jamnagardistrict 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.	180000 ha (Part of Kalyanpur, Jamnagar, Jamkham-bhalia, Lalpur, Dhrol, Jodia)

		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 adequately supplied with potassium. The calcium carbonate contents various from 5.26 to 20.36 per cent in these soils.	
3.	Saline alkali soils	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 alluvials oils	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 (January-17 to March-18)

Weekly mean Weather data-at Jamnagar during-2017									
Week No	**Temp. °c**		**R.H.%**		**WS**	**BSS**	**Eo**	**Rain**	**Rainy**
	Max	**Min**	**I**	**II**	**(kmph)**	**(hrs)**	**(mm)**	**(mm)**	**Days**
1-J (2017)	27.6	14.2	89	48	3.5	8.5	3.1		
2	23.9	11.2	64	33	6.6	9.0	3.7		
3	25.0	14.2	65	41	7.5	8.7	4.0		
4	26.6	14.5	76	41	5.4	9.0	4.0		
5	28.8	13.6	86	38	4.8	9.7	4.0		
6-F	25.6	10.7	77	26	6.7	9.8	3.9		
7	30.9	17.6	71	34	5.9	8.7	5.3		
8	31.6	16.9	80	27	7.1	10.1	5.5		
9	32.7	16.0	78	23	5.2	10.3	5.8		
10-M	31.0	18.0	83	32	9.1	9.7	5.7		
11	31.7	15.8	70	19	6.3	9.5	6.1		
12	33.4	21.0	87	31	9.5	9.8	6.6		
13	35.1	22.3	90	33	9.6	9.9	7.2		
14-A	35.0	22.8	80	33	11.1	10.0	7.4		
15	39.1	20.6	61	12	7.4	10.6	8.9		
16	36.9	23.7	86	35	12.8	10.7	8.8		
17	35.0	24.2	84	49	13.0	10.2	8.3		
18	36.4	24.8	86	36	12.1	10.2	8.8		
19-M	37.4	25.8	83	41	12.4	11.1	9.2		
20	36.2	27.2	81	52	14.7	10.7	9.3		
21	35.2	27.6	81	57	15.8	10.1	9.2		
22	37.6	28.9	78	52	14.4	7.9	9.8		
23-J	37.0	28.0	81	50	12.0	9.7	9.5	15.1	2
24	36.5	28.4	71	55	19.2	10.5	9.2		
25	35.8	28.3	78	55	16.3	6.5	8.6	2.5	1
26	33.7	26.3	91	72	8.5	3.9	6.3	159.1	6
27-J	33.0	27.5	84	61	16.3	2.7	5.5	5.5	1
28	31.7	25.9	88	75	15.5	3.8	5.3	100.0	4
29	30.0	25.9	95	86	9.5	2.4	4.2	211.5	5
30	28.7	26.1	90	87	12.9	0.0	4.2	19.5	2
31	31.4	26.0	88	74	12.7	3.4	4.4	1.0	
32-A	31.7	25.6	88	75	9.0	3.2	4.4	14.5	2
33	31.7	26.1	85	67	12.5	7.1	4.8		
34	30.7	25.4	91	80	7.9	5.1	4.3	38.0	3
35	30.6	24.6	94	78	10.1	4.5	4.3	129.5	3
36-S	31.4	24.7	90	66	6.9	7.6	4.5	1.0	

37	33.1	25.5	86	64	5.9	8.1	5.0		
38	32.2	25.8	88	68	8.3	5.7	4.7		
39	32.5	23.1	86	61	5.5	9.1	5.0		
40-O	33.9	23.8	85	54	5.3	9.3	5.5		
41	35.9	24.7	85	49	3.9	7.2	5.6		
42	36.1	23.8	92	46	4.3	9.3	4.7		
43	33.9	21.6	90	42	4.9	9.5	4.6		
44	33.8	18.9	69	30	3.4	9.3	4.7		
45-N	32.3	18.3	69	40	3.8	8.5	4.5		
46	30.5	17.4	69	40	5.3	7.7	4.2		
47	27.9	14.8	64	34	5.7	8.4	4.2		
48	29.2	13.9	81	32	3.3	9.1	4.2		
49-D	25.0	16.6	81	55	7.1	3.7	3.7		
50	26.3	13.9	82	41	5.5	7.4	3.6		
51	26.1	15.4	66	37	7.3	5.2	3.6		
52	27.3	11.5	74	26	4.3	9.1	3.4		
1-J (2018)	25.9	10.9	80	27	3.8	9.1	3.1		
2	26.7	15.1	70	35	5.7	6.4	3.7		
3	28.7	13.9	86	34	4.5	9.1	3.4		
4	26.6	12.5	90	26	4.3	9.1	3.3		
5	28.2	13.3	86	29	4.2	9.1	3.6		
6-F	27.6	14.9	80	31	4.3	7.6	3.8		
7	29.2	15.5	72	26	6.4	9.1	4.3		
8	31.3	17.9	95	29	5.4	8.9	4.5		
9	34.0	18.8	71	25	21.7	32.6	5.8		
10-M	33.0	18.2	85	24	6.9	10.0	6.4		
11	32.2	17.8	90	32	8.2	10.0	6.3		
12	32.7	21.0	80	28	9.1	9.7	7.0		
13	38.6	21.9	78	18	8.5	10.0	9.4		
Mean	**32.0**	**21.3**	**81**	**48**	**8.7**	**7.9**	**5.7**	**697.2**	**29**
Highest	**39.1**	**28.9**	**95**	**87**	**19.2**	**11.1**	**9.8**		
Lowest	**23.9**	**10.7**	**61**	**12**	**3.3**	**0.0**	**3.1**		

* 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 (2015-16 to 2017-18)

Sl. No	Taluka	Name of the village	Major crops& enterprises	Major problems identified	Identified Thrust Areas
1	Kalavad	Mulila, Chhatar, Chelabedi Sanosara, Golaniya, Laxmipur (Dudhala)	**Cash Crop:-**Cotton, **Oilseeds :-** groundnut, mustard, sesame, castor, **Pulses:-**green gram, Chickpea, Black gram, Soyabean **Spice:-** cumin, Coriander, Ajwain **Cereal:-** wheat, **Horticultural**:-Vegetable ,flowers, **Livestock:-** Cow, buffalo, sheep, goat, etc	Heavy infestation of sucking pest in cotton, stem rot disease 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 ➢ Introduction of new crop ➢ Recycling of farm waste ➢ Popularization of MIS ➢ Motivation of Fisheries cultivation ➢ Soil Reclamation ➢ Farm women empowerment ➢ Farm mechanization
2	Lalpur	Bhangor, Memana, Dharampur, Govana, Pipartoda, Babarjar			
3	Bhanvad	Morjar, Sahidevaliya Dudhala, Rojivada Vanavad, Fatepur			

2.8 Priority thrust areas

Sl. No	Crop/ Enterprise	Thrust area
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 ACHIEVEMENTS

3.A. Details of target and achievements of mandatory activities by KVK during 2017-18

OFT				FLD			
1				2			
Number of OFTs		Total no. of Trials		Area in ha		Number of Farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
9	9	27	27	180	180	504	499

Training				Extension Programme			
3				4			
Number of Courses		Number of Participants		Number of activities		Number of participants	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
28	29	700	1113	506	1308	56306	100816

Seed Production (Qtl.)		Planting material (Nos.)	
5		6	
Target	Achievement	Target	Achievement
230.40	297.52	500	750

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
-	-	10000	24315

3.1. B. Operational areas details during 2017-18

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	Whitegrub, Stemrot Nutrional deficiency	300000 ha.	Chandragadh, Khojaberaja, Lothiya, Nani Banugar, Suryapara, Gadhka, Patelka, Haripar, Juvanpur, Jampar	OFT, FLD and Training
2	Chilli	Thrips, Curling of leaves, nutritional deficiency	1500 ha	- " -	OFT, FLD and Training
3	Garlic	Puple blotch, wireworm, yellowing, tip burning	600 ha	- " -	OFT, FLD and Training
4	Sesame	Leaf webber, mite, blight, stem rot, root rot, yellowing	12000 ha.	- " -	OFT, FLD and Training
5	Wheat	Stem borer, Termite, nutritional deficiency,	58000 ha	- " -	OFT, FLD and Training
6	Vegetabe mittens (Okra, Brinjal)	Drudgery reduction, cut & wounds, skin hardness, blisters and abrasions,	2790 ha	- " -	OFT, 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)	- " -	OFT, FLD and Training

8	Fishereis	Direct stocking of Spawn, Mortality rate is higher during spawn to fingerling stage rearing and uncertain in production	In Majority reservoir	Nana Khadba Navi Pipar Navi Veraval	OFT
9	Fishereis	Stocking of single species, total production is reduce	In Majority reservoir	Nana Khadba Navi Pipar Navi Veraval	OFT
10	Cotton	Pink bollworm, redding & yellowing of leaves, sucking pests, weevil,	180440		FLD and Training
11	Brinjal	IPM, INM, variety	1755		FLD and Training
12	Okra	IPM, INM, variety	2790		FLD and Training
13	Chicory	ICM	50		FLD and Training
14	Cumin	IPM, IDM, INM, variety	4300		FLD and Training
15	Ajwain	IDM, Variety	5015		FLD and Training
16	Coriander	IDM, IPM, Variety	2300		FLD and Training
17	Pearl millet	Variety, IPM, IDM	3520		FLD and Training
18	Chick pea	IPM, Variety	31300		FLD and Training
19	Kitchen gardening	Nutritional balance	Majority farmers		FLD and Training
20	Seaweed	Nutrition supply	Majority farmers		FLD and Training
21	Fisheries	Inadequate use of natural resources	-	Rasulnagar	FLD and Training

* Support with problem-cause and interventions diagram

3.2. Technology Assessment and Refinement

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

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

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

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management	1	1								2
Varietal Evaluation										
Integrated Pest Management		1			1					2
Integrated Crop Management										
Integrated Disease Management					1					1
Small Scale Income Generation Enterprises										

Weed Management										
Resource Conservation Technology										
Farm Machineries										
Integrated Farming System										
Seed / Plant production										
Value addition										
Drudgery Reduction										
Storage Technique										
Mushroom cultivation										
Total	**1**	**2**			**2**					**5**

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	1							1
Disease of Management								
Value Addition								
Production and Management							2	2
Feed and Fodder								
Small Scale income generating enterprises								
TOTAL	**1**						**2**	**3**

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. Achievements on technologies Assessed and Refined

B.1. Technologies Assessed under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of farmers	Area in ha (Per trail covering all the Technological Options)
Integrated Nutrient Management					
Varietal Evaluation					
Integrated Pest Management					
Integrated Crop Management					
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries					
Integrated Farming System					
Seed / Plant production					
Post Harvest Technology / Value addition					
Drudgery Reduction	Okra	Assessment of mittens for vegetable harvesting	3	3	-
Storage Technique					
Others (Pl. specify)					
TOTAL			3	3	

B.2. Technologies Refined under various Crops

Thematic areas	Crop	Name of the technology refined	No. of trials	No. of farmers	Area in ha (Per trail covering all the Technological Options)
Integrated Nutrient Management	Groundnut	Effect of Bio fertilizer in Groundnut production	3	3	
	Wheat	Response of Bio fertilizer to wheat yield	3	3	
Varietal Evaluation					
Integrated Pest Management	Groundnut	Management of whitegrub in groundnut	3	3	
	Chilli	Management of thrips in chilli	3	3	
Integrated Crop Management					
Integrated Disease Management	Garlic	Management of purple blotch of garlic	3	3	
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries					
Integrated Farming System					
Seed / Plant production					
Value addition					
Drudgery Reduction					
Storage Technique					
Others (Pl. specify)					
Total			**15**	**15**	

B.3. Technologies assessed under Livestock and other enterprises

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Disease Management				
Evaluation of Breeds				
Feed and Fodder management				
Nutrition Management	Cattle	Role of bypass fat in rations of dairy animals	3	3
Production and Management	Fisheries	Pen cultures of Indian Major Carp(IMC) spawn to fry before stocking in village pond/ Reservoir	3	3
	Fisheries	Stocking of Freshwater prawn (*Macrobrachium rosenbergii*) with IMC fingerlings in village pond/Reservoir	3	3
Others (Pl. specify)				
		Total	**9**	**9**

B.4. Technologies Refined under Livestock and other enterprises

Thematic areas	Name of the livestock enterprise	Name of the technology refined	No. of trials	No. of farmers
Disease Management				
Evaluation of Breeds				
Feed and Fodder management				
Nutrition Management				
Production and Management				
Others (Pl. specify)				
Total				

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

OFT-1 : Home Science:

1) Title :- Assessment of Mittens for vegetable harvesting

2) Problem definition :

1. Injury due to thorns of okra
2. Drudgery to rural women
3. Muscular skeletal problem of workers

3) Details of technologies for assessment/ refinement

Category	Source of technology	Technology details		
Technology option 1	Farmer	T_1	Farmer practices 1	No use any protective wear
Technology option 2	Farmer	T_2	Farmers practices 2	Use of hand care household rubber/surgical gloves
Technology option 3	SAU (MKV-Parbhani)	T_3	Reco. practices	Use of mittens (gloves made from denim, cotton and plastic material) for Okra harvesting

4) Source of Technology:- SAUs (MKV-Parbhani, Maharshtra)

5) Production system :

Farm women suffers different health hazards *viz.* cuts and wounds in hands, hardness of skin, blisters and abrasions, irritation etc. during okra fruit picking. In the present study, for reduction of the drudgery and pain, Farm women usually not used any protective wears; some farmers use rubber gloves; however the vegetable mittens is recommended practice for reduction of drudgery. Thus, farm women use the mittens in both hand during picking of okra.

6) Thematic area : Drudgery reduction

7) Raw data about the Performance of the Technology assessed / refined with performance indicators

Sr. No.	Name of the farm women	Name of the Village	Data on Performance indicator of the technology assessed/ refined					
			Efficiency of picking (kg/hour)			Efficiency Increase (%)		
			T1	T2	T3	T1	T2	T3
1	Neetaben Devrajbhai Nakum	Harshadpur	9.5	10.7	11.2	-	12.63	17.89
2	Bhartiben Dipakbhai Nakum	Harshadpur	9.3	10	10.5	-	7.53	12.90
3	Muktaben Kantilal Nakum	Harshadpur	10	10.6	11.5	-	6.00	15.00
	Average		**9.6**	**10.4**	**11.1**		**8.68**	**15.28**

Conti…

Sr. No.	Name of the farm women	Name of the Village	Data on Performance indicator of the technology assessed/ refined										
			Effect on skin										
			Irritation			cuts and wounds in hands			hardness of skin			blisters and abrasions	
			T1	T2	T3	T1	T2	T3	T1	T2	T3	T1	T2	T3
1	Neetaben Devrajbhai Nakum	Harshadpur	3	2	0	3	1	0	3	1	0	3	3	0
2	Bhartiben Dipakbhai Nakum	Harshadpur	3	2	0	3	2	0	3	1	0	3	2	0
3	Muktaben Kantilal Nakum	Harshadpur	2	1	0	3	2	0	2	1	0	2	2	0
	Average		2.67	1.67	0.00	3.00	1.67	0.00	2.67	1.00	0.00	2.67	2.33	0.0

*Effect on skin for different hazardous effect according to grade (0= no, 1= slightly, 2= moderate, 3=heavy)

8) Final recommendation for micro level situation:

It was observed that the treatment 3 vegetable mittens technology is helpful for Effect on skin, Drudgery perceived, Efficiency of picking per hour. It was observed that helpful in reduction of physiological cost of work and body discomfort ratings and health hazards while harvesting manually. It increasing work output (15.28%) and reduction of drudgery involved in harvesting activity of okra.

9) Constraints identified and feedback for research :

- It is required to change in this mitten to stitch as all five fingers separately, will increase more efficiency.
- Long sleeves of mittens give protection to the skin of arms
- Provision of Sticking belt makes possible to adjust the mitten to any size of hand and arm
- Mittens are simple in design and easy for stitching. It made out of locally available material by local tailor. Mittens are useful for increasing speed of work. It reduces the musculo-skeletal problems of workers

10) Process of farmers participation and their reaction:

Farm women appreciate with this technology for future use. It is very useful for empowering the rural women and cost effective on large scale adoption.

11) Results of On Farm Trial

Crop/ enter-price	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter
1	2	3	4	5	6	7	8
Okra	Irrigated	Injury due to thorns of okra	Assessment of Mittens for vegetable harvesting	3	Use of mittens (gloves made from denim, cotton and plastic material) for Okra harvesting	Effect on skin Efficiency of picking per hour	100% protection 15.28% increasing

OFT – 2:- Fish

1) Title:- Pen cultures of Indian Major Carp (IMC) (*Catla catla*) from fry stage to fingerling stage before stocking in village Pond/Dam.

2) Problem definition: Due to mortality rate is higher, decrease and uncertain final production

3) Details of technologies selected for assessment/ refinement

Category	**Source of technology**	**Technology detail**		
Technology option 1	Farmer	T_1	Farmer practices	Direct stocking of spawn into village ponds/reservoir.
Technology option 2	CIFRI, ICAR Institutes	T_2	Reco. practices	First rare the fish seeds of Fry stage up to fingerlings stage in a pen system (Closer and controllable water logged area adjoining to pond/dams) and then release in to the main water bodies,

4) Source of Technology: - Central Inland Fisheries Research Institutes, Barrakpore, Calcutta.

5) Production system and thematic area:

- Fish were grown in natural water bodies without any additional treatments.

6) Thematic area: To increase the final production.

7) Performance of the Technology assessed / refined with performance indicators:

Sr. No	Name of the farmer	Name of the Village	Data on the performance indicators of the technology assessed / refined [Yield (Tone/ha), per cent Growth (Avg. Body weight] at time of harvesting.					
			T_1		T_2		T_2 compare to T_1	
			% Growth (Avg. Body weight	Total Yield (Tone/ha)	% Growth (Avg. Body weight	Total Yield (Tone/ha)	% Growth (Avg. Body weight	Total Yield (Tone/ha)

1	Siraj Umar Safiya	Luharsar	0.520	3.640	-	-	-	-
2	Rafik Umar Safiya	Nana Khadba	0.560	3.808	-	-	-	-
3	Sikandar Sidikbhai Aadmani	Khad Dhoraji	0.600	3.840	-	-	-	-
4	Ashrafmiya Habibmiya	Nana Khadba check dam	-	-	0.600	4.800	-	-
5	Mahammad Husain Hasammiya	Navi Piper	-	-	0.580	4.524	-	-
6	Al Unus Matsya Sahkari Group	Navi Veraval	-	-	0.550	4.675	-	-
		Average	**0.57**	**3.76**	**0.57**	**4.67**	**0**	**0.91**

8) Final recommendation for micro level situation: Trial is going on

9) Constraints identified and feedback for research: Trial is going on

10) Process of farmer's participation and their reaction:

11) Results of On Farm Trial

Crop/ enter-price	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter
1	2	3	4	5	6	7	8
FISH	Inland	Low Production	Pen cultures of Indian Major Carp (IMC) (*Catla catla*) from fry stage to fingerling stage before stocking in village Pond/Dam.	3	First rare the fish seeds from fry stage to fingerlings stage in a pen system (Closer and controllable water logged area adjoining to pond/dams) and then release in to the main water bodies.	1. % Growth (Avg. Body weight) 2. Total Yield (Tone/ha) at the time of harvesting	0(0%) 0.91(24% ↑)

OFT –3 :- Fish

1) **Title:-** Stocking of Freshwater prawn (*Macrobrachium rosenbergii*) with IMC fingerlings in village pond/Reservoir
2) **Problem definition:** Natural resources cannot be fully utilized due to single spp. of fish was stocked in pond/reservoir by farmers hence, lower the production and finally financial loss.

3) Details of technologies selected for assessment/ refinement

Category	**Source of technology**	**Technology detail**		
Technology option 1	Farmer	T_1	Farmer practices	stocking a single species IMC into ponds
Technology option 2	CIFRI, ICAR Institutes	T_2	Reco. practices	stocking of *M. rosenbergii* with IMC fingerlings into ponds/reservoir

4) Source of Technology: - Central Inland Fisheries Research Institutes, Barrakpore, Calcutta.

5) Production system:

- Fish and fresh water prawn were grown simultaneously in natural water bodies without any additional treatments.

6) Thematic area: Use maximum natural resources and increase the total yield and income.

7) Performance of the Technology assessed with performance indicators:

Sr. No	Name of the farmer	Name of the Village	Data on the performance indicators of the technology assessed / refined [Yield (Tone/ha), per cent Growth (Avg. Body weight] at time of harvesting.					
			T_1			T_2		
			% Growth (Avg. Body weight	Total Yield (Tone/ha)	Total Net Income	% Growth (Avg. Body weight	Total Yield (Tone/ha)	Total Net Income
1	Siraj Umar Safiya	Luharsar	0.410	2.973	74730	-	-	-
2	Rafik Umar Safiya	Nana Khadba	0.418	2.911	73008	-	-	-
3	Sikandar Sidikbhai Aadmani	Khad Dhoraji	0.417	2.850	71286	-	-	-
4	Asarafmiya Habibmiya	Nana Khadba (Chek dem)	-	-	-	0.271	1.346	66868
5	Mahammad Husain Hasammiya	Navi Pipar	-	-	-	0.288	1.325	62118
6	Al Unus Matsya Sahkari Group	Navi Veraval	-	-	-	0.282	1.300	64879
		Average	**0.415**	**2.911**	**73008**	**0.280**	**1.324**	**64622**

8) Final recommendation for micro level situation: Trial is going on

9) Constraints identified and feedback for research: Trial is going on

10) Process of farmer's participation and their reaction:

11) Results of On Farm Trial

Crop/ enter-price	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter
1	2	3	4	5	6	7	8
FISH	Inland	Low Income	Stocking of Freshwater prawn (*Macrobrachium rosenbergii*) with IMC fingerlings in village pond/ Reservoir	3	First rare the fish seeds up to fingerlings stage in a pond/reservoir then stocked the seeds of fresh water prawn in the same water bodies	1. % Growth Increase/ decrease (Avg. Body weight) of fish and fresh water prawn 2. Total Yield increase/ decrease of fish and fresh water prawn (Tone/ha) at the time of harvesting 3. Total Income generated increase/decrease	35% ↑ 9% ↓ 77% ↑

OFT-4 (Assessment)

1) Title:- Role of Bypass fat in rations of dairy animals.

2) Problem definition: Due to inadequate nutrients in the daily ration, the % fat in milk and productivity of the animal decreased hence, financial loss.

3) Details of technologies selected for assessment/ refinement

Category	**Source of technology**	**Technology detail**		
Technology option 1	Farmer	T_1	Farmer practices	Normal dietary pattern ie. Green Fodder, Dry Fodder and concentrate
Technology option 2	ANRS, AAU, Anand	T_2	Reco. practices	Add 100g bypass fat as supplement with normal rations.

4) Source of Technology: - Animal Nutrition Research Station, AAU, Anand.

5) Production system:

- Animals are treated with extra supplements having bypass fat

6) Thematic area: Increase % fat in milk and get higher rate per liter of milk and finally increase total income.

7) Performance of the Technology assessed with performance indicators:
8) Final recommendation for micro level situation:
9) Constraints identified and feedback for research:
10) Process of farmer's participation and their reaction:
11) Results of On Farm Trials : **Result Awaited**

D. Details of each On Farm Trial for refinement to be furnished in the following format separately as per the following details:

OFT – 1:- GROUNDNUT

1) Title:- Management of white grub in groundnut

2) Problem definition : incidence of white grub is increase

1. Heavy infestation of white grub was found
2. Improper cultivation practices
3. Lack of seed treatment
4. Irregular irrigation
5. Lack of knowledge about pest outbreaks and its management
6. Improper use of FYM (without decomposition)

3) Details of technologies selected for assessment/refinement

Category	Source of technology	Technology detail		
Technology option 1	Farmer	T_1	Farmer practices	Injudicious use of pesticides.
Technology option 2	SAU	T_2	Reco. practices	Recommended dose of Pesticide as chlorpyriphos or quinalphos @ 25 ml/kg seed. Drenching of Chlorpyriphos or quinalphos @ 4 lit/ha as initiation of pest incidence.
Technology option 3		T_3	Refined practices 1	Application of ready mix combination of Imidacloprid 40% + Fipronil 40% @ 2.5 g/kg seed. Drenching of ready mix combination of Imidacloprid 40% + Fipronil 40% @ 250 g/ha as initiation of pest incidence.
		T_4	Refined practices 2	Soil application of *Beauveria bassiana* @ 5 kg/ha
		T_5	Refined practices 3	Soil application of *Metarhizium anisopliae* @ 5 kg/ha
		T_6	Refined practices 4	Application urea followed by flood irrigation

4) Source of Technology: - Junagadh Agricultural University

5) Production Systemand thematic area:

- Crop grown as Integrated Crop Management system and all agronomical practices adopted commonly.

6) Thematic area: Management of white grub

7) Performance of the Technology assessed / refined with performance indicators:

Sr. No	Name of the farmer	Name of the Village	Data on the performance indicators of the technology assessed / refined [Yield (q/ha), per cent plant damage from each plot]											
			T_1		T_2		T_3		T_4		T_5		T_6	
			% Plant damage	Y	% Plant damage	Y	% Plant damage	Y	% Plant damage	Y	% Plant damage	Y	% Plant damage	Y
1	Thumar Vasantben Dineshbhai	Jasapar	40	11	21	22	8	36	25	19	17	24	23	11
2	Sorathiya Narendrbhai Shamjibhai	Jasapar	34	13	18	27	11	34	20	23	14	29	16	28

3	Ajudiya Rameshbhai Karamsibhai	Jasapar	41	10	16	28	7	37	21	20	11	28	26	10
Average			**38.33**	**11.33**	**18.33**	**25.66**	**8.66**	**35.66**	**22.00**	**20.66**	**14.00**	**27.00**	**21.66**	**16.33**

8) Final recommendation for micro level situation: Application of ready mix combination of Imidacloprid 40% + Fipronil 40% @ 2.5 g/kg seed. Drenching of ready mix combination of Imidacloprid 40% + Fipronil 40% @ 250 g/ha as initiation of pest incidence having minimum pest population and highest yield withfarmers practices.

9) Constraints identified and feedback for research:

- Time of application cannot identified for drenching
- High population of sucking pests , incidence of stem rot
- Yield increase as compare to farmers' practices.
- Reduce white grub as well as spodoptera infestation

10) Process of farmer's participation and their reaction: Farmers have good response and they have support for OFT. Recommended practices having found incidence of whitegrub where it is repeated use. However, refinement 1 is very effective treatment for the management of whitegrub and highest yield.

11) **Results of On Farm Trial**

Crop/ enter-prise	Farm-ing situ-ation	Prob-lem Diag-nosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter Q/ha	
1	2	3	4	5	6	7	8	
Ground nut	Irri-gated	IPM	Management of white grub in groundnut	3	Use of balance fertilizers	Per cent plant damage from each plot and yield (q/ha)	T_1	11.33
							T_2	25.66
							T_3	35.66
							T_4	20.66
							T_5	27.00
							T_6	16.33

Crop/ enterprise	**Results of assessment**	**Feedback from the farmer**	**Any refinement done**	**Justification for refinement**
1	9	10	11	12
Groundnut	Application of ready mix combination of Imidacloprid 40% + Fipronil 40% @ 2.5 g/kg seed. Drenching of ready mix combination of Imidacloprid 40% + Fipronil 40% @ 250 g/ha as initiation of pest incidence having minimum pest population and highest yield with farmers practices.	Farmers have good response and they have support for OFT. Recommended practices having found incidence of whitegrub where it is repeated use. However, refinement 1 is very effective treatment for the management of whitegrub and highest yield.	Application of ready mix combination of Imidacloprid 40% + Fipronil 40% @ 2.5 g/kg seed. And/or Drenching of ready mix combination of Imidacloprid 40% + Fipronil 40% @ 250 g/ha as initiation of pest incidence.	It is necessary against outbreak of pest and heavy infestation. Also resistance developed against conventional insecticide.

Crop/ enterprise	Technology Assessed / Refined		Production kg/ha	Input cost Rs./ha	Gross return Rs./ha (Rate 45.00/kg	Net Return (Profit) in Rs. / ha	BC Ratio
1	13		14	15	16	17	18
Groundnut	T_1	Injudicious use of pesticides.	1133	46881	50985	4104	0.08
	T_2	Recommended dose of Pesticide as chlorpyriphos or quinalphos @ 25 ml/kg seed. Drenching of Chlorpyriphos or quinalphos @ 4 lit/ha as initiation of pest incidence.	2566	37012	115470	78457	2.11
	T_3	Application of ready mix combination of Imidacloprid 40% + Fipronil 40% @ 2.5 g/kg seed. Drenching of ready mix combination of Imidacloprid 40% + Fipronil 40% @ 250 g/ha as initiation of pest incidence.	3566	43752	160470	116718	2.66
	T_4	Soil application of *Beauveria bassiana* @ 5 kg/ha.	2066	34369	92970	58601	1.70
	T_5	Soil application of *Metarhizium anisopliae* @ 5 kg/ha.	2700	34369	121500	87131	2.53
	T_6	Application urea followed by flood irrigation.	1633	34369	73485	39116	1.13

OFT – 2:- Chilli

1) Title:- Management of Thrips in Chilli.

2) Problem definition : Incidence of Thrips is increase

- Heavy infestation of Thrips was found
- Lack of seed treatment and improper cultivation practices
- Lack of knowledge about pest outbreaks and its management
- In judicious use of chemical fertilizer
- Resurgence of Thrips
- Mono-cropping system
- In judicious use of pesticide
- Irregular irrigation
- Multi season cropping system

3) Details of technologies for assessment/refinement:

Category	Source of technology	Technology details		
Technology option 1	Farmer	T_1	Farmer practices	Injudicious use of insecticides (Spray insecticides at weekly interval)
Technology option 2	Main vegetable research station, AAU, Anand	T_2	Reco. practices	Seed treatment with imidacloprid 70 WS (7.5 g/kg seed) and dipping of seedling before transplanting for two hours in solution of imidacloprid 17.8 SL (10 ml/10 litre water) or Thiamethoxam 25 WG (10 g/10 litre water). Spraying of spinosad 45 SC (3 ml/10 litre water)
Technology option 3		T_3	Refined practices 1	Spray of *Beauveria bassiana* @ 5 g/lit of water at 15 days interval
Technology option 4		T_4	Refined practices 2	Spray of Jeevamutra or Gomutra @ 100 ml/lit of water at 15 days interval

4) Source of Technology: Junagadh Agricultural University

5) Production system: Irrigated, *Kharif* crop and all agronomical practices adopted commonly.

6) Thematic area: Management of thrips in chilli

7) Performance of the Technology assessed/refined with performance indicators:

Sr. No.	Name of the farmer	Name of the Village	Data on the performance indicators of the technology assessed / refined [Yield (q/ha), No. of Thrips/3 Twig]							
			T_1		T_2		T_3		T_4	
			No. of Thrips	Yield	No. of Thrips	Yield	No. of Thrips	Yield	No. of Thrips	Yield
1	Hirpara Haribhai Bhagabhai	Makrani Sanosara	48	75	22	88	16	96	19	94
2	Pansuriya Jaysukhbhai Raghavbhai	Makrani Sanosara	32	82	20	92	21	93	21	90
3	Pansuriya Jivabhai Shamjibhai	Makrani Sanosara	36	79	17	94	14	99	26	85
Average			**38.66**	**78.66**	**19.66**	**91.33**	**17.00**	**96.00**	**22.00**	**89.66**

8) Final recommendation for micro level situation: Application of *Beauveria bassiana* @ 5 g/lit of water at 15 days interval as initiation of pest incidence having minimum pest population and highest yield with farmers practices.

9) Constraints identified and feedback for research:

- Time of application cannot identified for spraying
- High population of sucking pests, incidence of leaf curl
- Yield increase as compare to farmers' practices.
- Reduce the thrips as well as leaf curl incidence.

10) Process of farmer's participation and their reaction: Farmers have good response and they have support for OFT. Recommended practices having found incidence of thrips where it is repeated use. However, refinement 1 is very effective treatment for the management of thrips and highest yield.

11) Results of On Farm Trial

Crop/ enter-prise	Farm-ing situ-ation	Prob-lem Diag-nosed	Title of OFT	No. of trials *	Technology Assessed	Parameters of assessment	Data on the parameter Q/ha	
1	2	3	4	5	6	7	8	
Chilli	Irri-gated	IPM	Management of Thrips in Chilli	3	Use of balance fertilizers	No of thrips/3 twig and yield (q/ha)	T_1	78.66
							T_2	91.33
							T_3	96.00
							T_4	89.66

Crop/ enterprise	**Results of assessment**	**Feedback from the farmer**	**Any refinement done**	**Justification for refinement**
1	9	10	11	12
Chilli	Application of *Bearuveria bassiana* @ 5 g/lit of water at 15 days intervalas initiation of pest incidence having minimum pest population and highest yield with farmers practices.	Farmers have good response and they have support for OFT. Recommended practices having found incidence of thrips where it is repeated use. However, refinement 1 is very effective treatment for the management of thrips and highest yield.	Application of *Bearuveria bassiana* @ 5 g/lit of water at 15 days intervalas initiation of pest incidence.	It is necessary against outbreak of pest and heavy infestation. Also resistance developed against conventional insecticide.

Crop/ enterprise	Technology Assessed / Refined		Production kg/ha	Input cost Rs./ha	Gross return Rs./ha (Rate 40.00/kg	Net Return (Profit) in Rs. / ha	BC Ratio
1	13		14	15	16	17	18
Chilli	T_1	Injudicious use of insecticides (Spray insecticides at weekly interval)	7866	81000	314640	233640	2.88
	T_2	Seed treatment with imidacloprid 70 WS (7.5 g/kg seed) and dipping of seedling before transplanting for two hours in solution of imidacloprid 17.8 SL (10 ml/10 litre water) or thiamethoxam 25 WG (10 g/10 litre water). Spraying of spinosad 45 SC (3 ml/10 litre water)	9133	74135	365320	291185	3.92
	T_3	Spray of *Bearuveria bassiana* @ 5 g/lit of water at 15 days interval	9600	65960	384000	318040	4.82
	T_4	Spray of Gomutra @ 100 ml/lit of water at 15 days interval	8967	65000	358680	293680	4.51

OFT :-3 GROUNDNUT

1) Title:-Effect of Bio-fertilizers in groundnut production

2) Problem definition:

The productivity of groundnut, in India is low due to low consumption of fertilizers. The residual toxicities of chemical fertilizers posing problem of environmental pollution, depletion of essential nutrients due to indiscriminate use of inorganic fertilizers which has threat to the sustainability of crop production. For sustained groundnut production the modern farming demand integrated use of organic and inorganic fertilizers along with bio-fertilizers. Hence, an OFT was carried out to find out the suitable low cost input bio-fertilizer to enhance the groundnut productivity.

3) Details of technologies selected for assessment/ refinement

Category	Source of technology	Technology detail		
Technology option 1	Farmer	T_1	Farmer practices	Injudicious use of fertilizers (120 kg DAP).
Technology option 2	JAU	T_2	Reco. practices	Recommended dose of fertilizer (12.5N-25 P_2O_5-50K_2O)kg/ha
Technology option 3		T_3	Refined practices 1	75% RDF + seed treatment OF Rhizobium, PSB, PMB (Potash Mobilizing Bacteria) culture each at 25-30 ml/kg seed

4) Source of Technology: - Junagadh Agricultural University

5) Production system and thematic area:

- Crop grown as Integrated Crop Management system and all other agronomical practices adopted commonly.

6) Thematic area: To enhance the groundnut productivity.

7) Performance of the Technology assessed / refined with performance indicators:

Sr. No	Name of the farmer	Name of the Village	Data on the performance indicators of the technology assessed / refined [Yield (q/ha), from each plot]					
			T_1		T_2		T_3	
			Haulm yield (q/ha)	Pod Yield (q/ha)	Haulm yield (q/ha)	Pod Yield (q/ha)	Haulm yield (q/ha)	Pod Yield (q/ha)
1	Pansara Jentilal Naranbhai	Haripar	37.5	25	41.25	27.5	42.18	28.12
2	Pansara Odhavjibhai Lavabhai	Haripar	36	24	40.5	27	39.9	26.6
3	Pansuriya Jamanbhai Mohanbhai	Makrani Sanosara	33	33	37.2	24.8	37.95	25.3
	Average		**35.50**	**23.67**	**39.65**	**26.43**	**40.01**	**26.67**

8) Final recommendation for micro level situation:

The results of the study revealed that the application of75% RDF + seed treatment of Rhizobium, PSB, PMB (Potash Mobilizing Bacteria) culture each at 25-30 ml/kg seed (T_3)produced higher pod yield (26.67 q/ha), haulm yield (40.01 q/ha), net return (Rs. 77146/ha) and BCR (2.57) than other treatments. T_3 reduced use of chemical fertilizers and increases the use of low cost input bio-fertilizer to enhance the long term groundnut productivity.

9) Constraints identified and feedback for research:

- Lack of knowledge about bio-fertilizers & use of bio-fertilizers
- Lack of knowledge about fertilizers
- Use of higher dose of fertilizers

10) Process of farmer's participation and their reaction: Satisfactory

11) Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter Q/ha		
1	2	3	4	5	6	7	8		
Groundnut	Irri-gated	INM	Effect of Bio-fertilizers in groundnut production	3	Use of balance fertilizers	Haulm yield (q/ha) and Pod yield (q/ha)		Haulm yield (q/ha)	Pod yield (q/ha)
							T_1	35.5	23.67
							T_2	39.65	26.43
							T_3	40.01	26.67

Crop/ enterprise	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
1	9	10	11	12
Groundnut	Higher yield was produced by treatment T_3[application of 75% RDF + seed treatment of Rhizobium, PSB, PMB (Potash Mobilizing Bacteria) culture each at 25-30 ml/kg seed].It also reduced use of chemical fertilizers and increases the use of low cost input bio-fertilizer to enhance the groundnut productivity.	Farmers have good response and they have support for OFT. T_3 produced higher yield and it is very effective for longer period.	Use of bio fertilizer	It is necessary for reduced use of chemical fertilizers and increases the use of low cost input bio-fertilizer to enhance the groundnut productivity.

Crop/ enterprise	Technology Assessed / Refined		Production kg/ha		Gross return Rs./ha	Cost of cultivation Rs./ha	Net Return (Profit) in Rs. / ha	BC Ratio
			Haulm yield (Kg/ha)	Yield (Kg/ha)				
1	13		14	15	16	17	18	19
Groundnut	T_1	Farmer practices	3550	2367	111825	48880	62945	2.29
	T_2	Reco. practices	3965	2643	124898	49248	75650	2.53
	T_3	Refined practices 1	4001	2667	126032	48886	77146	2.58

Sale price: Groundnut pod: 45Rsper kg, Groundnut haulm: 1.5Rs per kg

OFT – 4 :- Garlic

1) Title:- Management of purple blotch of garlic

2) Problem definition:

- Improper cultivation practices
- Mono-cropping system
- Lack of seed treatment
- In judicious use of pesticide/fungicide
- Irregular irrigation
- Multi season cropping system
- Heavy infestation of purple blotch was found
- Lack of knowledge about diseases outbreaks and its management
- In judicious use of chemical fertilizer
- Improper use of FYM (without decomposition)

3) Details of technologies for assessment/refinement:

Category	Source of technology	Technology details		
Technology option 1	Farmer	T_1	Farmer practices	Injudicious use of fungicide (Spray insecticides at weekly interval).
Technology option 2	Director of Onion & Garlic Research Station, ICAR	T_2	Reco. practices	Foliar sprays of Mancozeb @0.25%, Tricyclazole @ 0.1% and Hexaconazole @0.01% at 30, 45 and 60 days respectively after transplanting helps in checking disease incidence.
Technology option 3		T_3	Refined practices 1	Application of *Trichoderma* @ 5 kg/ha along with FYM @ 1 tonne/ha by broadcasting method **+** Foliar sprays of Hexaconazole @ 0.01% and Tebuconazole @0.05% at 40 and 60 days respectively after transplanting helps in checking disease incidence**.**

4) Source of Technology: JAU, Junagadh and Director of Onion & Garlic Research Station, ICAR

5) Production system: Irrigated, *Rabi* crop and all agronomical practices adopted commonly.

6) Thematic area: Integrated disease management

7) Performance of the Technology assessed/refined with performance indicators:

Sr. No	Name of the farmer	Name of the Village	Data on the performance indicators of the technology assessed / refined [Yield (q/ha), No. of infected plant/ 1 meter row length]					
			T_1		T_2		T_3	
			No. of infected plant	Yield	No. of infected plant	Yield	No. of infected plant	Yield
1	Vadodariya Pravinbhai Gordhanbhai	Mulila	21	43	13	58	10	61
2	Vadodariya Sureshbhai Bhagvanjibhai	Mulila	18	46	13	54	9	64
3	Vadodariya Gopalbhai Lakhmanbhai	Mulila	21	40	16	53	13	58
Average			**20**	**43**	**14**	**55**	**10.7**	**61**

8) Final recommendation for micro level situation: Application of *Trichoderma* @ 5 kg/ha along with FYM @ 1 tonne/ha by broadcasting method + Foliar sprays of Hexaconazole @ 0.01% and Tebuconazole @0.05% at 40 and 60 days respectively after transplanting helps in checking disease incidence and having minimum infestation of disease and highest yield with farmers practices.

9) Constraints identified and feedback for research:

- Time of application cannot identify for spraying
- Yield increase as compare to farmers' practices.
- Reduce the infestation of purple blotch disease.

10) Process of farmer's participation and their reaction: Farmers have good response and they have support for conducting OFT. Recommended practices having found less infestation of purple blotch disease where it is repeated use. However, refinement 1 is very effective treatment for the management of purple blotch and highest yield.

11) Results of On Farm Trials

Crop/ enter-prise	Farm-ing situ-ation	Prob-lem Diag-nosed	Title of OFT	No. of trials *	Technology Assessed	Parameters of assessment	Data on the parameter Q/ha	
1	2	3	4	5	6	7	8	
Garlic	Irri-gated	IDM	Management of purple blotch of garlic	3	Use of fungicides	No. of infected plant/ 1 meter row length and yield (q/ha)	T_1	43.00
							T_2	55.00
							T_3	61.00

Crop/ enterprise	**Results of assessment**	**Feedback from the farmer**	**Any refinement done**	**Justification for refinement**
1	9	10	11	12
Garlic	Application of *Trichoderma* @ 5 kg/ha along with FYM @ 1 tonne/ha by broadcasting method **+** Foliar sprays of Hexaconazole @ 0.01% and Tebuconazole @0.05% at 40 and 60 days respectively after transplanting helps in checking disease incidence**.**	Farmers have good response and they have support for OFT. Recommended practices having found less infestation of purple blotch where it is repeated use. However, refinement 1 is very effective treatment for the management of purple blotch and highest yield.	Application of *Trichoderma* @ 5 kg/ha along with FYM @ 1 tonne/ha by broadcasting method **+** Foliar sprays of Hexaconazole @ 0.01% and Tebuconazole @0.05% at 40 and 60 days respectively after transplanting.	It is necessary against heavy incidence of diseases. Also resistance developed against conventional fungicide.

Crop/ enterprise	**Technology Assessed / Refined**		**Production kg/ha**	**Input cost Rs./ha**	**Gross return Rs./ha (Rate 42.00/kg**	**Net Return (Profit) in Rs. / ha**	**BC Ratio**
1	13		14	15	16	17	18
Garlic	T_1	Injudicious use of fungicide (Spray insecticides at weekly interval).	4300	122000	180600	58600	1.48
	T_2	Foliar sprays of Mancozeb @0.25%, Tricyclazole @ 0.1% and Hexaconazole @0.01% at 30, 45 and 60 days respectively after transplanting helps in checking disease incidence.	5500	112511	231000	118489	2.05
	T_3	Application of *Trichoderma* @ 5 kg/ha along with FYM @ 1 tonne/ha by broadcasting method **+** Foliar sprays of Hexaconazole @ 0.01% and Tebuconazole @0.05% at 40 and 60 days respectively after transplanting helps in checking disease incidence**.**	6100	111802	256200	144398	2.29

OFT:5 NUTRIENT MANAGEMENT(Wheat)

1) Title:- Response of Bio fertilizers to wheat yield

2) Problem definition:

Lower productivity and profitability in wheat cultivation due to imbalance application of nutrients. For sustained wheat production the modern farming demand integrated use of organic and inorganic fertilizers along with bio-fertilizers. Hence, an OFT was carried out to find out the suitable low cost input bio-fertilizer to enhance the wheat productivity.

3) Details of technologies selected for assessment/ refinement

Category	Source of technology	Technology detail		
Technology option 1	Farmer	T_1	Farmer practices	Application of only DAP & Urea in Different Doses(109 N – 57.5 P_2O_5) kg/ha
Technologyoption 2	JAU	T_2	Reco. practices	Recommended dose of fertilizer (120N-60 P_2O_5-60K_2O)kg/ha
Technologyoption 3		T_3	Refined practices 1	75% RDF + seed treatment of Azotobacter, PSB, PMB (Potash Mobilizing Bacteria) culture each at 25-30 ml/kg seed

4) Source of Technology: - Junagadh Agricultural University

5) Production system and thematic area:

- Crop grown as Integrated Crop Management system and all other agronomical practices adopted commonly.

6) Thematic area: To enhance the wheat productivity.

7) Performance of the Technology assessed / refined with performance indicators:

Sr. No	Name of the farmer	Name of the Village	Data on the performance indicators of the technology assessed / refined [Yield (q/ha), from each plot]					
			T_1		T_2		T_3	
			Grain yield (q/ha)	Straw Yield (q/ha)	Grain yield (q/ha)	Straw Yield (q/ha)	Grain yield (q/ha)	Straw Yield (q/ha)
1	Vadodariya Gordhanbhai Bhovanbhai	Mulila	41.22	60.62	42.15	61.38	44.52	63.75
2	Vadodariya Jerambhai Bhovanbhai	Mulila	42.6	63.75	45.7	65.3	47	69.16
3	Amipara Vajubhai Lakhabhai	Mulila	40	59	44.38	63.1	45.13	66.38
	Average		**41.27**	**61.12**	**44.08**	**63.26**	**45.55**	**66.43**

8) Final recommendation for micro level situation:

The results of the study revealed that the application of 75% RDF + seed treatment of Azotobacter, PSB, PMB (Potash Mobilizing Bacteria) culture each at 25-30 ml/kg seed (T_3) produced higher grain yield (45.55 q/ha), straw yield (66.43 q/ha), net return (Rs. 48310/ha) and BCR (2.18) than other treatments. T_3 reduced use of chemical fertilizers and increases the use of low cost input bio-fertilizer to enhance the long term wheat productivity.

9) Constraints identified and feedback for research:

- Lack of knowledge about bio-fertilizers & use of bio-fertilizers
- Lack of knowledge about fertilizers
- Use of higher dose of fertilizers

10) Process of farmer's participation and their reaction: Satisfactory, Farmers have good response and they have support for OFT. T3 produced higher yield and it is very effective for longer period

11) Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter Q/ha		
1	2	3	4	5	6	7	8		
Wheat	Irri-gated	INM	Response of Bio fertilizers to wheat yield	3	Use of balance fertilizers	Grain yield (q/ha) and Straw yield (q/ha)		Grain yield (q/ha)	Straw yield (q/ha)
							T_1	41.27	61.12
							T_2	44.08	63.26
							T_3	45.55	66.43

Crop/ enterprise	**Results of assessment**	**Feedback from the farmer**	**Any refinement done**	**Justification for refinement**
1	9	10	11	12
Wheat	Higher yield was produced by treatment T_3[application of 75% RDF + seed treatment of Azotobacter, PSB, PMB (Potash Mobilizing Bacteria) culture each at 25-30 ml/kg seed].It also reduced use of chemical fertilizers and increases the use of low cost input bio-fertilizer to enhance the wheat productivity.	Farmers have good response and they have support for OFT. T_3 produced higher yield and it is very effective for longer period.	Use of bio fertilizer	It is necessary for reduced use of chemical fertilizers and increases the use of low cost input bio-fertilizer to enhance the wheat productivity.

Crop/ enterprise	**Technology Assessed / Refined**		**Production kg/ha**		**Gross return Rs./ha**	**Cost of cultivation Rs./ha**	**Net return (Profit) in Rs. / ha**	**BC Ratio**
			Grain yield (Kg/ha)	**Straw Yield (Kg/ha)**				
1	13		14	15	16	17	18	19
Wheat	T_1	Farmer practices	4127	6112	80778	39871	40907	2.03
	T_2	Reco. practices	4408	6326	85962	41723	44239	2.06
	T_3	Refined practices 1	4555	6643	88994	40684	48310	2.18

*Sale price: Wheat Grain: 17.35 Rs per kg, Wheat straw: 1.5 Rs per kg

3.3 FRONTLINE DEMONSTRATION

A. Follow-up for results of FLDs implemented during previous years

List of technologies demonstrated during previous year and popularized during 2016-17 and recommended for large scale adoption in the district

S. No	Crop/ Enterprise	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area in ha
1	G'nut (WG)	Pest management	*Beauveria*	Field days, Field visit, Radio talk, On/Off Campus Training and TV Program,	16	264	1020
2	G'nut (NPV)	Pest management	NPV		6	86	454
3	G'nut (Trich)	Disease management	*Trichoderma*		32	221	1855

4	Groundnut	ICM	*Beauveria, Trichoderma*, PSB, Micro nutrient,	Exhibition and demonstration	53	945	5200
5	Sesame	ICM	DDVP, Cypermethrin, *Trichoderma*, *Azotobacter*, PSB,		17	58	235
6	Sesame (Summer)	ICM	Seed(GT-3), *Trichoderma*, *Azotobacter*, PSB		9	52	197
7	Green gram	Variety	Seed (GM-4)		12	137	446
8	Pigeon pea	ICM	*Rhizobium*, PSB, Micromix, *Trichoderma*, *Beauveria*		25	175	653
9	Chickpea	Variety	Seed (GJG-3, GG-5)		20	182	539
10	Cotton	IPM & INM	*Azotobacter*, PSB, *Beauveria* Imidachloprid		40	245	670
11	Brinjal	IPM & INM	*Beauveria*, *Azotobacter*, PSB, Profenophos		7	55	178
12	Chilly	IPM & INM			10	93	270
13	Cumin	Variety/Disease management	Seed (G.Cum.-4), *Trichoderma*		23	75	256
14	Coriander	Variety	Seed (GC-2)		18	88	189
15	Wheat	INM	PSB, Micro nutrients G-4, *Azotobacter*, Zinc sulphate		22	63	235
16	Pearl Millet	Variety	Seed (GHB-732)		12	52	114
17	Kitchen Gardening	Healthy food	vegetable seed		11	60	4
18	Solar Cooker	Resource conservation	Solar Cooker		4	15	-

B. Details of FLDs implemented during 2017-18 (Information is to be furnished in the following three tables for each category i.e. cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.)

Sr. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Prop-osed	Actual	SC/ST	Others	Total	
		Oilseeds								
1	Groundnut	ICM	*Beauveria, Metarhiziumanisopliae, Trichoderma,* PSB, *Rhizobium,* Micro Nutrient	Kharif-17-18	20	20	3	47	50	
2	Sesame	ICM	*Beauveria, Trichoderma,* PSB, *Azotobacter,* Micro Nutrient	Kharif-17-18	20	20	0	50	50	
3	Sesame	ICM	Seed(GT-3), *Trichoderma*, *Azotobacter*, PSB	Sum-16-17	40	40	8	92	100	
4	Groundnut	ICM	PSB, *Rhizobium, Trichoderma, Beauveria, Imidacloprid,*	Sum-17-18	30	30	5	70	75	

			Thiodicarb, Carbendazim+Mancozeb , Acetamiprid, Cypermethrin							
5	Sesame	ICM	PSB, *Azotobacter, Trichoderma, Beauveria, Carbendazim + Mancozeb, Acetamiprid, Cypermethrin*	Sum-17-18	30	30	4	71	75	
		Horticultural								
6	Brinjal	IPM	*Beauveria, PSB, Profenophos, Azotobacter*	Kharif-17-18	2	2	0	5	5	
7	Chilli	IPM	*Beauveria, PSB, Profenophos, Azotobacter*	Kharif-17-18	2	2	0	5	5	
8	Okra	Varietal (seed)	Variety GJO-3, GHOH-3 *Beauveria, PSB, Profenophos, Azotobacter*	Kharif-17-18	2	2	0	5	5	
		Spices crops								
9	Cumin	IPM/INM	PSB, *Azotobacter*, Beauveria, Trichoderma	Rabi-17-18	04	04	0	10	10	
10	Coriander	IPM/INM	PSB, *Azotobacter*, Beauveria, Trichoderma	Rabi-17-18	08	08	0	20	20	
11	Ajwain	IPM/INM	PSB, *Azotobacter*, Beauveria, Trichoderma	Rabi-17-18	04	04	0	10	10	
12	Cumin(ATIC)	ICM	PSB, *Azotobacter*, Beauveria, Trichoderma	Rabi-17-18	20	20	3	47	50	
13	Coriander (ATIC)	ICM	PSB, *Azotobacter*, Beauveria, Trichoderma	Rabi-17-18	20	20	9	41	50	
		Cereals								
14	Wheat	INM/IPM	PSB, Micro nutrients G-4, *Azotobacter*, Zinc sulphate	Rabi-17-18	04	04	0	10	10	
15	Pearl Millet	Variety	Seed (GHB-732)	Sum-17	04	04	0	10	10	
16	Pearl Millet	Variety	Seed (GHB-732), PSB, *Azotobacter*	Sum-17-18	04	04	1	9	10	
		Others								
17	Cotton	IPM	*Azotobacter, Beauveria, PSB, Imidacloprid*	Kharif-17	8	8	3	17	20	
18	Kitchen gardening	Kitchen gardening	Vegetable Seed	Kharif-17	2	2	5	45	50	
19	Solar cooker	Use renewable energy	Solar cooker	-	-	-	0	4	4	

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Oilseeds											
Groundnut	Kharif-17-18	Rainfed	MB	L	M	H	Cotton, Chickpea, Wheat	1 Jul-15 Jul	15 to 30 Oct	697.2	29
Sesame	Kharif-17-18	Rainfed	MB	L	M	H	Cotton, Chickpea,	1 Jul-15 Jul	1 to 15 Oct	697.2	29

							Cumin, Wheat				
Sesame	Sum-16-17	Irrigated	MB	L	M	H	Cotton, Groundnut	15 Feb-10 Mar	15 to 30 May	435	27
Horticultural											
Brinjal	Kharif-17-18	Irrigated	MB	L	M	H	Wheat, Chickpea	15July-15Aug.	1Nov-15Feb	697.2	29
Chilli	Kharif-17-18	Irrigated	MB	L	M	H	Cumin, Wheat	15July-15Aug.	15Oct-30Jan	697.2	29
Okra	Kharif-17-18	Irrigated	MB	L	M	H	G'nut, Coriander	20 Oct-15Nov	10-25 Feb	697.2	29
Spices											
Cumin	Rabi-17-18	Irrigated	MB	L	M	H	G'nut, Sesame	1 -15 Nov	1-15 Feb	697.2	29
Coriander	Rabi-17-18	Irrigated	MB	L	M	H	G'nut, Sesame	1 - 15 Nov	1-15 Feb	697.2	29
Ajwain	Rabi-17-18	Irrigated	MB	L	M	H	G'nut, Sesame	15-30 Oct	1-15 Mar	697.2	29
Cumin(ATIC)	Rabi-17-18	Irrigated	MB	L	M	H	G'nut, Sesame	1 - 15 Nov	1-15 Feb	697.2	29
Coriander (ATIC)	Rabi-17-18	Irrigated	MB	L	M	H	G'nut, Sesame	1 - 15 Nov	1-15 Feb	697.2	29
Cereals											
Wheat	Rabi-17-18	Irrigated	MB	L	M	H	G'nut, Sesame	1 - 15 Nov	15-30 Feb	697.2	29
Pearl Millet	Sum- 17	Irrigated	MB	L	M	H	Wheat, Coriander	15-30 Feb	10-20 May	697.2	29
Other crops											
Cotton	Kharif-17-18	Irrigated	MB	L	M	H	Cotton, Wheat	15-30 Jun	15 dec-30 Jan	697.2	29

Technical Feedback on the demonstrated technologies

Sl. No.	Crop	Technology Demo.	feedback
	Oilseeds		
1	NMOOP-Groundnut Kharif	IPM/IDM/INM	➢ Effective control White grub with *Beauveria* and *Metariazhum* ➢ Effective control of *Sclerotium* with *Trichoderma* ➢ Low cost ➢ Use of bio-fertilizers reduced the quantity of chemical fertilizers
2	NMOOP-Sesame Kharif	IPM/IDM/INM	➢ Effective control diseases and pests ➢ Less fertilizer requirements ➢ reduce the damage of leaf binder ➢ Low cost
3	NMOOP-Sesame Summer-17	ICM	➢ White seeded and High yielding variety ➢ Effective control of diseases ➢ Use of bio-fertilizers reduced the quantity of chemical fertilizers ➢ Low cost ➢ Improve soil health
	Horticulture		
4	Brinjal	IPM	➢ *Biopesticide* is eco-friendly and do not harmful to useful insects

			➢ No residual harmful effect ➢ Use of *Azotobacter* and PSB had reduced the quantity of chemical fertilizers
5	Chilli	IPM	➢ *Biopesticide* is less harmful to health and do not affect to useful insect ➢ The curling of leaf was not found in treated plot ➢ *Beauveria* helped in control of thrips and also other pests
6	Okra	Variety	➢ The Quality of Okra fruit was very good ➢ Less attack of pest
	Spices crop		
7	Coriander		➢ Use of Bio fertilizer had reduced the quantity of chemical fertilizers ➢ *Beauveria* helped in control of thrips and also other pests ➢ Due to Trichoderma the incidence of wilt were minimized
8	Cumin		➢ Use of Bio fertilizer had reduced the quantity of chemical fertilizers ➢ *Beauveria* helped in control of thrips and also other pests ➢ Due to Trichoderma the incidence of wilt were minimized
9	Ajwain		➢ Use of Bio fertilizer had reduced the quantity of chemical fertilizers ➢ *Beauveria* helped in control of thrips and also other pests ➢ Due to Trichoderma the incidence of wilt were minimized
	Cereals		
7	Wheat		➢ Use of Azotobacter and PSB had reduced the quantity of chemical fertilizers ➢ ZnSO4 and Sardar Micromix G-4 helped in quality production of wheat
8	Pearl Millet	Variety	➢ Higher yield of grain and fodder ➢ Quality of fodder is good ➢ Good against drought spell
	Others		
9	Cotton	Bt.Cotton IPM/INM	➢ Biopesticide saves useful insects ➢ Effective control of pink bollworm with Beauveria ➢ Effective against sucking and chewing pest ➢ Reduce cost of cultivation ➢ Use of Azotobacter and PSB had reduced the quantity of chemical fertilizers
10	Kitchen gardening	Vegetables	➢ Fresh vegetable available at doorstep with minimum cost ➢ Regulatory daily nutritious diet. ➢ They produce organic vegetables because farm women are not applying any pesticides or agrochemicals in their backyard. ➢ Cultivation kitchen gardening in scientific way. ➢ They are utilized maximum backyard space and waste water. ➢ Farm women are attracted towards hybrid vegetables. ➢ Income is generated by selling extra vegetables grown in kitchen garden.
11	Solar cooker		➢ Light weight &Easy to mobile ➢ Use less fuel ➢ Reduce fuel collection time ➢ Reduce cooking time ➢ Completely smoke less ➢ Conserve trees ➢ Allow more dung to be used as fertilizer instead of fuel ➢ Provide work for local chulha makers

Farmers' reactions on specific technologies

Sl. No.	Crop	Technology Demo.	Farmers feedback
	Oilseeds		
1	NMOOP-Groundnut Kharif	IPM/IDM/INM	➢ Effective control White grub with Beauveria and Metariazhum ➢ Effective control of *Sclerotium* with *Trichoderma* ➢ Also reduce the damage of pod borer ➢ Easy to apply ➢ Low cost and seed quality improve ➢ Use of bio-fertilizers reduced the quantity of chemical fertilizers
2	NMOOP-Sesame Kharif	IPM/IDM/INM	➢ Effective control diseases and pests ➢ Less fertilizer requirements ➢ Also reduce the damage of leaf binder ➢ Easy to apply ➢ Low cost and seed quality improve
3	NMOOP-Sesame Summer-17	ICM	➢ White seeded and High yielding variety ➢ Market price higher than other variety ➢ Effective control of diseases ➢ Use of bio-fertilizers reduced the quantity of chemical fertilizers ➢ Easy to apply ➢ Low cost and seed quality improve ➢ Improve soil health
	Horticulture		
4	Brinjal	IPM	➢ Biopesticide is eco friendly and do not harmful to useful insects ➢ No residual harmful effect ➢ Lower incidence of whitefly as well as fruit and shoot borer ➢ It reduces the cost of cultivation ➢ Use of Azotobacter and PSB had reduced the quantity of chemical fertilizers
5	Chilli	IPM	➢ Biopesticide is less harmful to health and do not affect to useful insect ➢ The curling of leaf was not found in treated plot ➢ Beauveria helped in control of thrips and also other pests
6	Okra	Variety	➢ The Quality of Okra fruit was very good ➢ The colour and shining was attractive ➢ Less attack of pest ➢ Germination was poor
	Spices crop		➢
7	Coriander		➢ Use of Azotobacter and PSB had reduced the quantity of chemical fertilizers ➢ Beauveria helped in control of thrips and also other pests ➢ Due to Trichoderma the incidence of wilt were minimized ➢ Cost of cultivation was reduced ➢ The products were easy to use
8	Cumin		➢ Use of Azotobacter and PSB had reduced the quantity of chemical fertilizers ➢ Beauveria helped in control of thrips and also other pests ➢ Due to Trichoderma the incidence of wilt were minimized ➢ Cost of cultivation was reduced ➢ The products were easy to use

9	Ajwain		➢ Use of Azotobacter and PSB had reduced the quantity of chemical fertilizers ➢ Beauveria helped in control of pests ➢ Due to Trichoderma the incidence of wilt were minimized ➢ Cost of cultivation was reduced ➢ The products were easy to use
	Cereals		
7	Wheat		➢ Use of Azotobacter and PSB had reduced the quantity of chemical fertilizers ➢ Cost of cultivation was reduced ➢ ZnSO4 and Sardar Micromix G-4 helped in quality production of wheat grains with good shining of the seed.
8	Pearl Millet	Variety	➢ Higher yield of grain and fodder ➢ Quality of fodder is good ➢ Good against drought spell ➢ Sweet taste of rotla
	Others		
9	Cotton	Bt.Cotton IPM/INM	➢ Low cost chemical control for longer time ➢ It prove that prevention is better than cure for pest management ➢ High yielding Bt. varieties require additional feed & micronutrients than local cotton variety ➢ Biopesticide saves useful insects ➢ Effective against sucking and chewing pest
10	Kitchen gardening	Vegetables	➢ Fresh vegetable available at doorstep with minimum cost ➢ Regulatory daily nutritious diet. ➢ They produce organic vegetables because farm women are not applying any pesticides or agrochemicals in their backyard. ➢ Cultivation kitchen gardening in scientific way. ➢ They are utilized maximum backyard space and waste water. ➢ Farm women are attracted towards hybrid vegetables. ➢ Income is generated by selling extra vegetables grown in kitchen garden.
11	Solar cooker		➢ Light weight &Easy to mobile ➢ Use less fuel ➢ Reduce fuel collection time ➢ Reduce cooking time ➢ Completely smoke less ➢ Conserve trees ➢ Allow more dung to be used as fertilizer instead of fuel ➢ Provide work for local chulha makers

Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1	Field days		26.05.17	33	
		16	15.05.17	16	
			17.05.17	22	
			25.05.17	27	
			26.05.17	33	
			31.08.17	16	
			22.09.17	26	
			29.09.17	30	
			12.12.17	25	
			30.01.18	15	
			31.01.18	22	

			31.01.18	18	
			5.02.18	17	
			7.02.18	23	
			7.02.18	25	
			16.03.18	13	
2	Farmers Training		1.05.17	52	
		11	19.07.17	32	
			29.07.17	25	
			8.8.17	20	
			9.08.17	25	
			11.08.18	25	
			13.09.17	30	
			15.10.17	53	
			2.02.18	90	
			12.02.18	21	
			14.03.18 to 17.03.18	47	
3	Media coverage	3			
4	Training for extension functionaries	1	17.05.17	68	

C. PERFORMANCE OF FRONTLINE DEMONSTRATIONS

Front line demonstrations on oilseed crops

Crop	Thematic Area	technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
						Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						High	Low	Average										
Groundnut (Kh-17)	ICM	*Beauveria, Metarhiziumanisopliae, Trichoderma,* PSB, *Rhizobium,* Micro Nutrient	GG-20, GJG-22	50	20	29	17	23.06	18	28.11	43736	112634	68898	2.58	50400	81000	30600	1.61
Sesame (Kh-17)	ICM	*Beauveria,Trichoderma,* PSB, *Azotobacter,* Micro Nutrient	Guj.Til.-2,3,10	50	20	9.6	5.8	7.59	6.25	21.44	22696	45552	22856	2.00	25250	37500	12250	1.49
Sesame (Sum-17)	ICM	Seed(GT-3), *Trichoderma*, *Azotobacter*, PSB	GT-3	100	40	12.5	6.5	8.98	8.0	12.25	23938	53850	29913	2.25	25925	48000	22075	1.85

FLD on Other crops

Category & Crop	Thematic Area	Name of the technology	No. of Farmers	Area (ha)	Yield (q/ha)				% Change in Yield	Other Parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demo			Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
					High	Low	Average												
Cereals																			
Wheat	INM	PSB, *Azotobacter ,Zinc Sulphate,* Micro Mix G-4	10	4	56.25	44.38	48.38	44.99	7.51	-	-	33020	90703	57683	1.75	33890	82114	48224	1.42
Pearl Millet (Sum-17)	Variety GHB-732	*Seed,* PSB, *Azotobacter*	10	4	43.75	33.75	39.06	35.47	10.13	-	-	23740	56641	32901	1.39	24330	51430	27100	1.11
Vegetables																			
Brinjal (Kh-17)	IPM	*Beauveria, PSB, Profenophos , Azotobacter*	5	2	408.75	306.25	367.75	334.75	9.86			77460	312588	235128	3.04	31180	284538	203358	2.51

Chilli (Kh-17)	IPM	*Beauveria, PSB, Profenophos, Azotobacter*	5	2	103.75	98.13	101.13	91.75	10.22			66560	379219	312659	4.70	69740	344063	274323	3.93
Okra (Kh-17)	Varietal (seed)	Variety GJO-3, GJOH-3 *Beauveria, PSB, Profenophos, Azotobacter*	5	2	168.75	158.13	162.25	143.50	13.07			56640	283938	227298	4.01	59180	251125	191945	3.24
Spices & condiments																				
Coriander	IPM/INM	*Beauveria,Trichoderma,* PSB, *Azotobacter*	20	8	19.38	12.50	15.66	14.36	9.03			32745	89398	56653	1.73	34930	81948	47018	1.35
Cumin	IPM/INM	*Beauveria,Trichoderma,* PSB, *Azotobacter*	10	4	10.0	5.63	7.19	6.61	8.80			30890	100625	69735	2.26	32930	92488	59558	1.81
Ajwain	IPM/INM	*Beauveria,Trichoderma,* PSB, *Azotobacter*	10	4	18.75	5.63	10.46	9.69	7.87			33790	115019	81229	2.40	35330	106631	71301	2.02
Coriander (ATIC)	ICM	PSB, Azotobacter, Beauveria, Trichoderma	50	20	19.38	12.50	15.66	14.36	9.03			31980	81706	49276	1.55	33934	74149	40215	1.19
Cumin (ATIC)	ICM	PSB, Azotobacter, Beauveria, Trichoderma	50	20	10.0	5.63	7.19	6.61	8.80			31630	120645	89015	2.81	32928	99925	66997	2.03
Commercial Crops																				
Cotton (Kh-17)	IPM	*Azotobacter, Beauveria, PSB, Imidaclopric*	20	8	32.50	11.88	25.02	22.80	9.73			40190	118824	78634	1.96	41275	108285	67010	1.62

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

FLD on Women Empowerment

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check
Assessment	Solar cooker	4	Fuel consumption (per day)	Solar energy + 3 kg firewood	4 to 5 kg firewood
			Time saving,	55 to 60 %	0

FLD on Other Enterprise: Kitchen Gardening

Category and Crop	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of Units	Yield (Kg)		% change in yield	Other parameters		Economics of demonstration (Rs./unit)				Economics of check (Rs./unit)			
					Demonstration	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Kitchen gardening	Nutritional garden	*Vegetable seed*	50	50 (0.04 ha)	622.76	557.08	11.80			4811.32	11210.04	6398.68	2.33	5493.28	10027.8	4534.52	1.83

Note : Remove the Enterprises/crops which have not been shown

3.4 TRAINING PROGRAMME

Farmers' Training including sponsored training programmes (on campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management				0			0	0	0	0
Resource Conservation Technologies				0			0	0	0	0
Cropping Systems				0			0	0	0	0
Crop Diversification				0			0	0	0	0
Integrated Farming				0			0	0	0	0
Micro Irrigation/irrigation				0			0	0	0	0
Seed production				0			0	0	0	0
Nursery managemeint				0			0	0	0	0
Integrated Crop Management	1	27	0	27	11	0	11	38	0	38
Soil & water conservation				0			0	0	0	0
Integrated nutrient management				0			0	0	0	0
Production of organic inputs	1	0	30	30	0	0	0	0	30	30
Others (pl specify)				0			0	0	0	0
Total	**2**	**27**	**30**	**57**	**11**	**0**	**11**	38	30	**68**
II Horticulture				0			0	0	0	0
a) Vegetable Crops				0			0	0	0	0
Production of low value and high volume crops				0			0	0	0	0
Off-season vegetables				0			0	0	0	0
Nursery raising				0			0	0	0	0
Exotic vegetables				0			0	0	0	0
Export potential vegetables				0			0	0	0	0
Grading and standardization				0			0	0	0	0
Protective cultivation				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total (a)	0	0	0	0	0	0	0	0	0	0
b) Fruits				0			0	0	0	0
Training and Pruning				0			0	0	0	0
Layout and Management of Orchards				0			0	0	0	0
Cultivation of Fruit				0			0	0	0	0
Management of young plants/orchards				0			0	0	0	0
Rejuvenation of old orchards				0			0	0	0	0
Export potential fruits				0			0	0	0	0
Micro irrigation systems of orchards	1	0	30	30	0	0	0	0	30	30
Plant propagation techniques				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total (b)	1	0	30	30	0	0	0	0	30	30
c) Ornamental Plants				0			0	0	0	0
Nursery Management				0			0	0	0	0
Management of potted plants				0			0	0	0	0
Export potential of ornamental plants				0			0	0	0	0
Propagation techniques of Ornamental Plants				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total (c)	0	0	0	0	0	0	0	0	0	0
d) Plantation crops				0			0	0	0	0

Production and Management technology				0			0	0	0	0
Processing and value addition				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total (d)	0	0	0	0	0	0	0	0	0	0
e) Tuber crops				0			0	0	0	0
Production and Management technology				0			0	0	0	0
Processing and value addition				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total (e)	0	0	0	0	0	0	0	0	0	0
f) Spices				0			0	0	0	0
Production and Management technology				0			0	0	0	0
Processing and value addition				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total (f)	0	0	0	0	0	0	0	0	0	0
g) Medicinal and Aromatic Plants				0			0	0	0	0
Nursery management				0			0	0	0	0
Production and management technology				0			0	0	0	0
Post harvest technology and value addition				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total (g)	0	0	0	0	0	0	0	0	0	0
GT (a-g)	**1**	**0**	**30**	**30**	**0**	**0**	**0**	0	30	**30**
III Soil Health and Fertility Management				0			0	0	0	0
Soil fertility management				0			0	0	0	0
Integrated water management				0			0	0	0	0
Integrated Nutrient Management	1	0	36	36	0	4	4	0	40	40
Production and use of organic inputs	1	0	52	52	0	0	0	0	52	52
Management of Problematic soils				0			0	0	0	0
Micro nutrient deficiency in crops				0			0	0	0	0
Nutrient Use Efficiency				0			0	0	0	0
Balance use of fertilizers				0			0	0	0	0
Soil and Water Testing				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**2**	**0**	**88**	**88**	**0**	**4**	**4**	0	92	**92**
IV Livestock Production and Management				0			0	0	0	0
Dairy Management	1	0	35	35	0	0	0	0	35	35
Poultry Management				0			0	0	0	0
Piggery Management				0			0	0	0	0
Rabbit Management				0			0	0	0	0
Animal Nutrition Management				0			0	0	0	0
Disease Management				0			0	0	0	0
Feed & fodder technology				0			0	0	0	0
Production of quality animal products				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**1**	**0**	**35**	**35**	**0**	**0**	**0**	0	35	**35**
V Home Science/Women empowerment				0			0	0	0	0
Household food security by kitchen gardening and nutrition gardening	1	0	40	40	0	0	0	0	40	40

Design and development of low/minimum cost diet				0			0	0	0	0
Designing and development for high nutrient efficiency diet				0			0	0	0	0
Minimization of nutrient loss in processing				0			0	0	0	0
Processing and cooking				0			0	0	0	0
Gender mainstreaming through SHGs				0			0	0	0	0
Storage loss minimization techniques				0			0	0	0	0
Value addition				0			0	0	0	0
Women empowerment				0			0	0	0	0
Location specific drudgery reduction technologies				0			0	0	0	0
Rural Crafts				0			0	0	0	0
Women and child care				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**1**	**0**	**40**	**40**	**0**	**0**	**0**	0	40	**40**
VI Agril. Engineering				0			0	0	0	0
Farm Machinary and its maintenance				0			0	0	0	0
Installation and maintenance of micro irrigation systems				0			0	0	0	0
Use of Plastics in farming practices				0			0	0	0	0
Production of small tools and implements				0			0	0	0	0
Repair and maintenance of farm machinery and implements				0			0	0	0	0
Small scale processing and value addition				0			0	0	0	0
Post Harvest Technology				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0	0	**0**
VII Plant Protection				0			0	0	0	0
Integrated Pest Management	1	18	0	18	6	0	6	24	0	24
Integrated Disease Management				0			0	0	0	0
Bio-control of pests and diseases	1	23		23	7	0	7	30	0	30
Production of bio control agents and bio pesticides				0			0	0	0	0
Others (pl specify)	1	33	5	38	7	0	7	40	5	45
Total	**3**	**74**	**5**	**79**	**20**	**0**	**20**	94	5	**99**
VIII Fisheries				0			0	0	0	0
Integrated fish farming				0			0	0	0	0
Carp breeding and hatchery management				0			0	0	0	0
Carp fry and fingerling rearing				0			0	0	0	0
Composite fish culture				0			0	0	0	0
Hatchery management and culture of freshwater prawn				0			0	0	0	0
Breeding and culture of ornamental fishes				0			0	0	0	0
Portable plastic carp hatchery				0			0	0	0	0
Pen culture of fish and prawn				0			0	0	0	0
Shrimp farming				0			0	0	0	0
Edible oyster farming				0			0	0	0	0
Pearl culture				0			0	0	0	0
Fish processing and value addition				0			0	0	0	0

Others (pl specify)				0			0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0	0	**0**
IX Production of Inputs at site				0			0	0	0	0
Seed Production				0			0	0	0	0
Planting material production				0			0	0	0	0
Bio-agents production	1	26		26	4		4	30	0	30
Bio-pesticides production				0			0	0	0	0
Bio-fertilizer production				0			0	0	0	0
Vermi-compost production				0			0	0	0	0
Organic manures production				0			0	0	0	0
Production of fry and fingerlings				0			0	0	0	0
Production of Bee-colonies and wax sheets				0			0	0	0	0
Small tools and implements				0			0	0	0	0
Production of livestock feed and fodder				0			0	0	0	0
Production of Fish feed				0			0	0	0	0
Mushroom Production				0			0	0	0	0
Apiculture				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**1**	**26**	**0**	**26**	**4**	**0**	**4**	30	0	**30**
X Capacity Building and Group Dynamics				0			0	0	0	0
Leadership development				0			0	0	0	0
Group dynamics				0			0	0	0	0
Formation and Management of SHGs				0			0	0	0	0
Mobilization of social capital				0			0	0	0	0
Entrepreneurial development of farmers/youths				0			0	0	0	0
WTO and IPR issues				0			0	0	0	0
Others (pl specify)	1		30	30	0	0	0	0	30	30
Total	**1**	**0**	**30**	**30**	**0**	**0**	**0**	0	30	**30**
XI Agro-forestry				0			0	0	0	0
Production technologies				0			0	0	0	0
Nursery management				0			0	0	0	0
Integrated Farming Systems				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0	0	**0**
GRAND TOTAL	**12**	**127**	**258**	**385**	**35**	**4**	**39**	162	262	**424**

Farmers' Training including sponsored training programmes (off campus)

Thematic area	**No. of courses**	**Participants**								
		Others			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
I Crop Production										
Weed Management				0			0	0	0	0
Resource Conservation Technologies				0			0	0	0	0
Cropping Systems				0			0	0	0	0
Crop Diversification				0			0	0	0	0
Integrated Farming				0			0	0	0	0
Micro Irrigation/irrigation				0			0	0	0	0
Seed production				0			0	0	0	0
Nursery management				0			0	0	0	0
Integrated Crop Management	1	45	0	45	2		2	47	0	47

Soil & water conservatioin				0			0	0	0	0
Integrated nutrient management				0			0	0	0	0
Production of organic inputs				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**1**	**45**	**0**	**45**	**2**	**0**	**2**	47	0	**47**
II Horticulture				0			0	0	0	0
a) Vegetable Crops				0			0	0	0	0
Production of low value and high valume crops				0			0	0	0	0
Off-season vegetables				0			0	0	0	0
Nursery raising				0			0	0	0	0
Exotic vegetables				0			0	0	0	0
Export potential vegetables				0			0	0	0	0
Grading and standardization				0			0	0	0	0
Protective cultivation				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total (a)	0	0	0	0	0	0	0	0	0	0
b) Fruits				0			0	0	0	0
Training and Pruning				0			0	0	0	0
Layout and Management of Orchards				0			0	0	0	0
Cultivation of Fruit				0			0	0	0	0
Management of young plants/orchards				0			0	0	0	0
Rejuvenation of old orchards				0			0	0	0	0
Export potential fruits				0			0	0	0	0
Micro irrigation systems of orchards				0	0	0	0	0	0	0
Plant propagation techniques				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total (b)	0	0	0	0	0	0	0	0	0	0
c) Ornamental Plants				0			0	0	0	0
Nursery Management				0			0	0	0	0
Management of potted plants				0			0	0	0	0
Export potential of ornamental plants				0			0	0	0	0
Propagation techniques of Ornamental Plants				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total (c)	0	0	0	0	0	0	0	0	0	0
d) Plantation crops				0			0	0	0	0
Production and Management technology				0			0	0	0	0
Processing and value addition				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total (d)	0	0	0	0	0	0	0	0	0	0
e) Tuber crops				0			0	0	0	0
Production and Management technology				0			0	0	0	0
Processing and value addition				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total (e)	0	0	0	0	0	0	0	0	0	0
f) Spices				0			0	0	0	0

Production and Management technology				0			0	0	0	0
Processing and value addition				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total (f)	0	0	0	0	0	0	0	0	0	0
g) Medicinal and Aromatic Plants				0			0	0	0	0
Nursery management				0			0	0	0	0
Production and management technology				0			0	0	0	0
Post harvest technology and value addition				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total (g)	0	0	0	0	0	0	0	0	0	0
GT (a-g)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0	0	**0**
III Soil Health and Fertility Management				0			0	0	0	0
Soil fertility management				0			0	0	0	0
Integrated water management				0			0	0	0	0
Integrated Nutrient Management				0			0	0	0	0
Production and use of organic inputs				0			0	0	0	0
Management of Problematic soils				0			0	0	0	0
Micro nutrient deficiency in crops				0			0	0	0	0
Nutrient Use Efficiency				0			0	0	0	0
Balance use of fertilizers				0			0	0	0	0
Soil and Water Testing				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0	0	**0**
IV Livestock Production and Management				0			0	0	0	0
Dairy Management	1	0	35	35	0	0	0	0	35	35
Poultry Management				0			0	0	0	0
Piggery Management				0			0	0	0	0
Rabbit Management				0			0	0	0	0
Animal Nutrition Management				0			0	0	0	0
Disease Management				0			0	0	0	0
Feed & fodder technology				0			0	0	0	0
Production of quality animal products				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**1**	**0**	**35**	**35**	**0**	**0**	**0**	0	35	**35**
V Home Science/Women empowerment				0			0	0	0	0
Household food security by kitchen gardening and nutrition gardening				0			0	0	0	0
Design and development of low/minimum cost diet				0			0	0	0	0
Designing and development for high nutrient efficiency diet				0			0	0	0	0

Minimization of nutrient loss in processing				0			0	0	0	0
Processing and cooking				0			0	0	0	0
Gender mainstreaming through SHGs				0			0	0	0	0
Storage loss minimization techniques				0			0	0	0	0
Value addition	2	0	58	58	1	0	1	1	58	59
Women empowerment				0			0	0	0	0
Location specific drudgery reduction technologies	1	0	33	33	0	0	0	0	33	33
Rural Crafts				0			0	0	0	0
Women and child care				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**3**	**0**	**91**	**91**	**1**	**0**	**1**	1	91	**92**
VI Agril. Engineering				0			0	0	0	0
Farm Machinary and its maintenance				0			0	0	0	0
Installation and maintenance of micro irrigation systems				0			0	0	0	0
Use of Plastics in farming practices				0			0	0	0	0
Production of small tools and implements				0			0	0	0	0
Repair and maintenance of farm machinery and implements				0			0	0	0	0
Small scale processing and value addition				0			0	0	0	0
Post Harvest Technology				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0	0	**0**
VII Plant Protection				0			0	0	0	0
Integrated Pest Management	1	47	0	47	3	0	3	50	0	50
Integrated Disease Management	1	30	0	30	0	0	0	30	0	30
Bio-control of pests and diseases				0			0	0	0	0
Production of bio control agents and bio pesticides				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**2**	**77**	**0**	**77**	**3**	**0**	**3**	80	0	**80**
VIII Fisheries				0			0	0	0	0
Integrated fish farming				0			0	0	0	0
Carp breeding and hatchery management				0			0	0	0	0
Carp fry and fingerling rearing				0			0	0	0	0
Composite fish culture				0			0	0	0	0
Hatchery management and culture of freshwater prawn				0			0	0	0	0
Breeding and culture of ornamental fishes				0			0	0	0	0
Portable plastic carp hatchery				0			0	0	0	0
Pen culture of fish and prawn	1	0	0	0	2	28	30	2	28	30
Shrimp farming				0			0	0	0	0

Edible oyster farming				0			0	0	0	0
Pearl culture				0			0	0	0	0
Fish processing and value addition				0			0	0	0	0
Others (pl specify)	1	0	25	25	0	0	0	0	25	25
Total	**2**	**0**	**25**	**25**	**2**	**28**	**30**	2	53	**55**
IX Production of Inputs at site				0			0	0	0	0
Seed Production				0			0	0	0	0
Planting material production				0			0	0	0	0
Bio-agents production				0			0	0	0	0
Bio-pesticides production				0			0	0	0	0
Bio-fertilizer production				0			0	0	0	0
Vermi-compost production				0			0	0	0	0
Organic manures production	1	75	11	86	2		2	77	11	88
Production of fry and fingerlings				0			0	0	0	0
Production of Bee-colonies and wax sheets				0			0	0	0	0
Small tools and implements				0			0	0	0	0
Production of livestock feed and fodder				0			0	0	0	0
Production of Fish feed				0			0	0	0	0
Mushroom Production				0			0	0	0	0
Apiculture				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**1**	**75**	**11**	**86**	**2**	**0**	**2**	77	11	**88**
X Capacity Building and Group Dynamics				0			0	0	0	0
Leadership development				0			0	0	0	0
Group dynamics				0			0	0	0	0
Formation and Management of SHGs				0			0	0	0	0
Mobilization of social capital				0			0	0	0	0
Entrepreneurial development of farmers/youths				0			0	0	0	0
WTO and IPR issues				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0	0	**0**
XI Agro-forestry				0			0	0	0	0
Production technologies				0			0	0	0	0
Nursery management				0			0	0	0	0
Integrated Farming Systems				0			0	0	0	0
Others (pl specify)				0			0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0	0	**0**
GRAND TOTAL	**10**	**197**	**162**	**359**	**10**	**28**	**38**	207	190	**397**

Farmers' Training including sponsored training programmes – CONSOLIDATED (On + Off campus)

Thematic area	**No. of courses**	**Participants**								
		Others			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
I Crop Production										
Weed Management	0	0	0	0	0	0	0	0	0	0
Resource Conservation Technologies	0	0	0	0	0	0	0	0	0	0
Cropping Systems	0	0	0	0	0	0	0	0	0	0

Crop Diversification	0	0	0	0	0	0	0	0	0	0
Integrated Farming	0	0	0	0	0	0	0	0	0	0
Micro Irrigation/irrigation	0	0	0	0	0	0	0	0	0	0
Seed production	0	0	0	0	0	0	0	0	0	0
Nursery management	0	0	0	0	0	0	0	0	0	0
Integrated Crop Management	2	72	0	72	13	0	13	85	0	85
Soil & water conservatioin	0	0	0	0	0	0	0	0	0	0
Integrated nutrient management	0	0	0	0	0	0	0	0	0	0
Production of organic inputs	1	0	30	30	0	0	0	0	30	30
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	3	72	30	102	13	0	13	85	30	115
II Horticulture	0	0	0	0	0	0	0	0	0	0
a) Vegetable Crops	0	0	0	0	0	0	0	0	0	0
Production of low value and high valume crops	0	0	0	0	0	0	0	0	0	0
Off-season vegetables	0	0	0	0	0	0	0	0	0	0
Nursery raising	0	0	0	0	0	0	0	0	0	0
Exotic vegetables	0	0	0	0	0	0	0	0	0	0
Export potential vegetables	0	0	0	0	0	0	0	0	0	0
Grading and standardization	0	0	0	0	0	0	0	0	0	0
Protective cultivation	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (a)	0	0	0	0	0	0	0	0	0	0
b) Fruits	0	0	0	0	0	0	0	0	0	0
Training and Pruning	0	0	0	0	0	0	0	0	0	0
Layout and Management of Orchards	0	0	0	0	0	0	0	0	0	0
Cultivation of Fruit	0	0	0	0	0	0	0	0	0	0
Management of young plants/orchards	0	0	0	0	0	0	0	0	0	0
Rejuvenation of old orchards	0	0	0	0	0	0	0	0	0	0
Export potential fruits	0	0	0	0	0	0	0	0	0	0
Micro irrigation systems of orchards	1	0	30	30	0	0	0	0	30	30
Plant propagation techniques	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (b)	1	0	30	30	0	0	0	0	30	30
c) Ornamental Plants	0	0	0	0	0	0	0	0	0	0
Nursery Management	0	0	0	0	0	0	0	0	0	0
Management of potted plants	0	0	0	0	0	0	0	0	0	0
Export potential of ornamental plants	0	0	0	0	0	0	0	0	0	0
Propagation techniques of Ornamental Plants	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (c)	0	0	0	0	0	0	0	0	0	0
d) Plantation crops	0	0	0	0	0	0	0	0	0	0
Production and Management technology	0	0	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (d)	0	0	0	0	0	0	0	0	0	0
e) Tuber crops	0	0	0	0	0	0	0	0	0	0
Production and Management technology	0	0	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (e)	0	0	0	0	0	0	0	0	0	0

f) Spices	0	0	0	0	0	0	0	0	0	0
Production and Management technology	0	0	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (f)	0	0	0	0	0	0	0	0	0	0
g) Medicinal and Aromatic Plants	0	0	0	0	0	0	0	0	0	0
Nursery management	0	0	0	0	0	0	0	0	0	0
Production and management technology	0	0	0	0	0	0	0	0	0	0
Post harvest technology and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total (g)	0	0	0	0	0	0	0	0	0	0
GT (a-g)	1	0	30	30	0	0	0	0	30	30
III Soil Health and Fertility Management	0	0	0	0	0	0	0	0	0	0
Soil fertility management	0	0	0	0	0	0	0	0	0	0
Integrated water management	1	0	36	36	0	4	4	0	40	40
Integrated Nutrient Management	1	0	52	52	0	0	0	0	52	52
Production and use of organic inputs	0	0	0	0	0	0	0	0	0	0
Management of Problematic soils	0	0	0	0	0	0	0	0	0	0
Micro nutrient deficiency in crops	0	0	0	0	0	0	0	0	0	0
Nutrient Use Efficiency	0	0	0	0	0	0	0	0	0	0
Balance use of fertilizers	0	0	0	0	0	0	0	0	0	0
Soil and Water Testing	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	2	0	88	88	0	4	4	0	92	92
IV Livestock Production and Management	0	0	0	0	0	0	0	0	0	0
Dairy Management	2	0	70	70	0	0	0	0	70	70
Poultry Management	0	0	0	0	0	0	0	0	0	0
Piggery Management	0	0	0	0	0	0	0	0	0	0
Rabbit Management	0	0	0	0	0	0	0	0	0	0
Animal Nutrition Management	0	0	0	0	0	0	0	0	0	0
Disease Management	0	0	0	0	0	0	0	0	0	0
Feed & fodder technology	0	0	0	0	0	0	0	0	0	0
Production of quality animal products	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	2	0	70	70	0	0	0	0	70	70
V Home Science/Women empowerment	0	0	0	0	0	0	0	0	0	0
Household food security by kitchen gardening and nutrition gardening	1	0	40	40	0	0	0	0	40	40
Design and development of low/minimum cost diet	0	0	0	0	0	0	0	0	0	0
Designing and development for high nutrient efficiency diet	0	0	0	0	0	0	0	0	0	0
Minimization of nutrient loss in processing	0	0	0	0	0	0	0	0	0	0
Processing and cooking	0	0	0	0	0	0	0	0	0	0
Gender mainstreaming through SHGs	0	0	0	0	0	0	0	0	0	0
Storage loss minimization techniques	0	0	0	0	0	0	0	0	0	0
Value addition	2	0	58	58	1	0	1	1	58	59
Women empowerment	0	0	0	0	0	0	0	0	0	0

Location specific drudgery reduction technologies	1	0	33	33	0	0	0	0	33	33
Rural Crafts	0	0	0	0	0	0	0	0	0	0
Women and child care	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	4	0	131	131	1	0	1	1	131	132
VI Agril. Engineering	0	0	0	0	0	0	0	0	0	0
Farm Machinary and its maintenance	0	0	0	0	0	0	0	0	0	0
Installation and maintenance of micro irrigation systems	0	0	0	0	0	0	0	0	0	0
Use of Plastics in farming practices	0	0	0	0	0	0	0	0	0	0
Production of small tools and implements	0	0	0	0	0	0	0	0	0	0
Repair and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0
Small scale processing and value addition	0	0	0	0	0	0	0	0	0	0
Post Harvest Technology	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
VII Plant Protection	0	0	0	0	0	0	0	0	0	0
Integrated Pest Management	2	65	0	65	9	0	9	74	0	74
Integrated Disease Management	1	30	0	30	0	0	0	30	0	30
Bio-control of pests and diseases	1	23	0	23	7	0	7	30	0	30
Production of bio control agents and bio pesticides	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	1	33	5	38	7	0	7	40	5	45
Total	5	151	5	156	23	0	23	174	5	179
VIII Fisheries	0	0	0	0	0	0	0	0	0	0
Integrated fish farming	0	0	0	0	0	0	0	0	0	0
Carp breeding and hatchery management	0	0	0	0	0	0	0	0	0	0
Carp fry and fingerling rearing	0	0	0	0	0	0	0	0	0	0
Composite fish culture	0	0	0	0	0	0	0	0	0	0
Hatchery management and culture of freshwater prawn	0	0	0	0	0	0	0	0	0	0
Breeding and culture of ornamental fishes	0	0	0	0	0	0	0	0	0	0
Portable plastic carp hatchery	0	0	0	0	0	0	0	0	0	0
Pen culture of fish and prawn	1	0	0	0	2	28	30	2	28	30
Shrimp farming	0	0	0	0	0	0	0	0	0	0
Edible oyster farming	0	0	0	0	0	0	0	0	0	0
Pearl culture	0	0	0	0	0	0	0	0	0	0
Fish processing and value addition	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	1	0	25	25	0	0	0	0	25	25
Total	2	0	25	25	2	28	30	2	53	55
IX Production of Inputs at site	0	0	0	0	0	0	0	0	0	0
Seed Production	0	0	0	0	0	0	0	0	0	0
Planting material production	0	0	0	0	0	0	0	0	0	0
Bio-agents production	1	26	0	26	4	0	4	30	0	30
Bio-pesticides production	0	0	0	0	0	0	0	0	0	0
Bio-fertilizer production	0	0	0	0	0	0	0	0	0	0
Vermi-compost production	0	0	0	0	0	0	0	0	0	0
Organic manures production	1	75	11	86	2	0	2	77	11	88
Production of fry and fingerlings	0	0	0	0	0	0	0	0	0	0

Production of Bee-colonies and wax sheets	0	0	0	0	0	0	0	0	0	0
Small tools and implements	0	0	0	0	0	0	0	0	0	0
Production of livestock feed and fodder	0	0	0	0	0	0	0	0	0	0
Production of Fish feed	0	0	0	0	0	0	0	0	0	0
Mushroom Production	0	0	0	0	0	0	0	0	0	0
Apiculture	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	2	101	11	112	6	0	6	107	11	118
X Capacity Building and Group Dynamics	0	0	0	0	0	0	0	0	0	0
Leadership development	0	0	0	0	0	0	0	0	0	0
Group dynamics	0	0	0	0	0	0	0	0	0	0
Formation and Management of SHGs	0	0	0	0	0	0	0	0	0	0
Mobilization of social capital	0	0	0	0	0	0	0	0	0	0
Entrepreneurial development of farmers/youths	0	0	0	0	0	0	0	0	0	0
WTO and IPR issues	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	1	0	30	30	0	0	0	0	30	30
Total	1	0	30	30	0	0	0	0	30	30
XI Agro-forestry	0	0	0	0	0	0	0	0	0	0
Production technologies	0	0	0	0	0	0	0	0	0	0
Nursery management	0	0	0	0	0	0	0	0	0	0
Integrated Farming Systems	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	**22**	**324**	**420**	**744**	**45**	**32**	**77**	**369**	**452**	**821**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops				0			0	0	0	0
Training and pruning of orchards				0			0	0	0	0
Protected cultivation of vegetable crops				0			0	0	0	0
Commercial fruit production				0			0	0	0	0
Integrated farming				0			0	0	0	0
Seed production				0			0	0	0	0
Production of organic inputs				0			0	0	0	0
Planting material production				0			0	0	0	0
Vermi-culture				0			0	0	0	0
Mushroom Production				0			0	0	0	0
Bee-keeping				0			0	0	0	0
Sericulture				0			0	0	0	0
Repair and maintenance of farm machinery and implements				0			0	0	0	0
Value addition				0			0	0	0	0
Small scale processing				0			0	0	0	0
Post Harvest Technology				0			0	0	0	0
Tailoring and Stitching				0			0	0	0	0
Rural Crafts				0			0	0	0	0
Production of quality animal products				0			0	0	0	0

Dairying				0			0	0	0	0
Sheep and goat rearing				0			0	0	0	0
Quail farming				0			0	0	0	0
Piggery				0			0	0	0	0
Rabbit farming				0			0	0	0	0
Poultry production				0			0	0	0	0
Ornamental fisheries				0			0	0	0	0
Composite fish culture				0			0	0	0	0
Freshwater prawn culture				0			0	0	0	0
Shrimp farming	1	19	0	19	5	0	5	24	0	24
Pearl culture				0			0	0	0	0
Cold water fisheries				0			0	0	0	0
Fish harvest and processing technology				0			0	0	0	0
Fry and fingerling rearing				0			0	0	0	0
Any other (pl.specify)				0			0	0	0	0
TOTAL	**1**	**19**	**0**	**19**	**5**	**0**	**5**	**24**	**0**	**24**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops				0			0	0	0	0
Training and pruning of orchards				0			0	0	0	0
Protected cultivation of vegetable crops				0			0	0	0	0
Commercial fruit production				0			0	0	0	0
Integrated farming				0			0	0	0	0
Seed production				0			0	0	0	0
Production of organic inputs				0			0	0	0	0
Planting material production				0			0	0	0	0
Vermi-culture				0			0	0	0	0
Mushroom Production				0			0	0	0	0
Bee-keeping				0			0	0	0	0
Sericulture				0			0	0	0	0
Repair and maintenance of farm machinery and implements				0			0	0	0	0
Value addition				0			0	0	0	0
Small scale processing				0			0	0	0	0
Post Harvest Technology				0			0	0	0	0
Tailoring and Stitching				0			0	0	0	0
Rural Crafts				0			0	0	0	0
Production of quality animal products				0			0	0	0	0
Dairying				0			0	0	0	0
Sheep and goat rearing				0			0	0	0	0
Quail farming				0			0	0	0	0
Piggery				0			0	0	0	0
Rabbit farming				0			0	0	0	0
Poultry production				0			0	0	0	0
Ornamental fisheries				0			0	0	0	0
Composite fish culture				0			0	0	0	0
Freshwater prawn culture				0			0	0	0	0
Shrimp farming				0			0	0	0	0
Pearl culture				0			0	0	0	0
Cold water fisheries				0			0	0	0	0
Fish harvest and processing technology				0			0	0	0	0

Fry and fingerling rearing				0			0	0	0	0
Any other (pl.specify)				0			0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0	0	**0**

Training for Rural Youths including sponsored training programmes – CONSOLIDATED (On + Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops	0	0	0	0	0	0	0	0	0	0
Training and pruning of orchards	0	0	0	0	0	0	0	0	0	0
Protected cultivation of vegetable crops	0	0	0	0	0	0	0	0	0	0
Commercial fruit production	0	0	0	0	0	0	0	0	0	0
Integrated farming	0	0	0	0	0	0	0	0	0	0
Seed production	0	0	0	0	0	0	0	0	0	0
Production of organic inputs	0	0	0	0	0	0	0	0	0	0
Planting material production	0	0	0	0	0	0	0	0	0	0
Vermi-culture	0	0	0	0	0	0	0	0	0	0
Mushroom Production	0	0	0	0	0	0	0	0	0	0
Bee-keeping	0	0	0	0	0	0	0	0	0	0
Sericulture	0	0	0	0	0	0	0	0	0	0
Repair and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0
Value addition	0	0	0	0	0	0	0	0	0	0
Small scale processing	0	0	0	0	0	0	0	0	0	0
Post Harvest Technology	0	0	0	0	0	0	0	0	0	0
Tailoring and Stitching	0	0	0	0	0	0	0	0	0	0
Rural Crafts	0	0	0	0	0	0	0	0	0	0
Production of quality animal products	0	0	0	0	0	0	0	0	0	0
Dairying	0	0	0	0	0	0	0	0	0	0
Sheep and goat rearing	0	0	0	0	0	0	0	0	0	0
Quail farming	0	0	0	0	0	0	0	0	0	0
Piggery	0	0	0	0	0	0	0	0	0	0
Rabbit farming	0	0	0	0	0	0	0	0	0	0
Poultry production	0	0	0	0	0	0	0	0	0	0
Ornamental fisheries	0	0	0	0	0	0	0	0	0	0
Composite fish culture	0	0	0	0	0	0	0	0	0	0
Freshwater prawn culture	0	0	0	0	0	0	0	0	0	0
Shrimp farming	1	19	0	19	5	0	5	24	0	24
Pearl culture	0	0	0	0	0	0	0	0	0	0
Cold water fisheries	0	0	0	0	0	0	0	0	0	0
Fish harvest and processing technology	0	0	0	0	0	0	0	0	0	0
Fry and fingerling rearing	0	0	0	0	0	0	0	0	0	0
Any other (pl.specify)	0	0	0	0	0	0	0	0	0	0
TOTAL	**1**	**19**	**0**	**19**	**5**	**0**	**5**	**24**	**0**	**24**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	1	40	1	41	27	0	27	67	1	68
ntegrated Pest Management	1	45	3	48	10		10	55	3	58
ntegrated Nutrient management				0			0	0	0	0
Rejuvenation of old orchards				0			0	0	0	0
Protected cultivation technology				0			0	0	0	0

Production and use of organic inputs	2	41	2	43	22	0	22	63	2	65
Care and maintenance of farm machinery and mplements				0			0	0	0	0
Gender mainstreaming through SHGs				0			0	0	0	0
Formation and Management of SHGs				0			0	0	0	0
Women and Child care				0			0	0	0	0
Low cost and nutrient efficient diet designing				0			0	0	0	0
Group Dynamics and farmers organization				0			0	0	0	0
nformation networking among farmers				0			0	0	0	0
Capacity building for ICT application				0			0	0	0	0
Management in farm animals				0			0	0	0	0
Livestock feed and fodder production				0			0	0	0	0
Household food security				0			0	0	0	0
Any other (pl.specify)				0			0	0	0	0
TOTAL	**4**	**126**	**6**	**132**	**59**	**0**	**59**	**185**	**6**	**191**

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

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Productivity enhancement in field crops				0			0	0	0	0
Integrated Pest Management	1	33	0	33	12		12	45	0	45
Integrated Nutrient management				0			0	0	0	0
Rejuvenation of old orchards				0			0	0	0	0
Protected cultivation technology				0			0	0	0	0
Production and use of organic inputs	1	27	1	28	4		4	31	1	32
Care and maintenance of farm machinery and implements				0			0	0	0	0
Gender mainstreaming through SHGs				0			0	0	0	0
Formation and Management of SHGs				0			0	0	0	0
Women and Child care				0			0	0	0	0
Low cost and nutrient efficient diet designing				0			0	0	0	0
Group Dynamics and farmers organization				0			0	0	0	0
Information networking among farmers				0			0	0	0	0
Capacity building for ICT application				0			0	0	0	0
Management in farm animals				0			0	0	0	0
Livestock feed and fodder production				0			0	0	0	0
Household food security				0			0	0	0	0
Any other (pl.specify)				0			0	0	0	0
TOTAL	**2**	**60**	**1**	**61**	**16**	**0**	**16**	76	1	**77**

Training programmes for Extension Personnel including sponsored training programmes – CONSOLIDATED (On + Off campus)

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Productivity enhancement in field crops	1	40	1	41	27	0	27	67	1	68
Integrated Pest Management	2	78	3	81	22	0	22	100	3	103
Integrated Nutrient management	0	0	0	0	0	0	0	0	0	0
Rejuvenation of old orchards	0	0	0	0	0	0	0	0	0	0
Protected cultivation technology	0	0	0	0	0	0	0	0	0	0
Production and use of organic inputs	3	68	3	71	26	0	26	94	3	97
Care and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0

Gender mainstreaming through SHGs	0	0	0	0	0	0	0	0	0	0
Formation and Management of SHGs	0	0	0	0	0	0	0	0	0	0
Women and Child care	0	0	0	0	0	0	0	0	0	0
Low cost and nutrient efficient diet designing	0	0	0	0	0	0	0	0	0	0
Group Dynamics and farmers organization	0	0	0	0	0	0	0	0	0	0
Information networking among farmers	0	0	0	0	0	0	0	0	0	0
Capacity building for ICT application	0	0	0	0	0	0	0	0	0	0
Management in farm animals	0	0	0	0	0	0	0	0	0	0
Livestock feed and fodder production	0	0	0	0	0	0	0	0	0	0
Household food security	0	0	0	0	0	0	0	0	0	0
Any other (pl.specify)	0	0	0	0	0	0	0	0	0	0
TOTAL	**6**	**186**	**7**	**193**	**75**	**0**	**75**	**261**	**7**	**268**

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	2	27	30	57	11	0	11	68
II Horticulture	2	1	0	30	30	0	0	0	30
III Soil Health and Fertility Management	2	2	0	88	88	0	4	4	92
IV Livestock Production and Management	1	1	0	35	35	0	0	0	35
V Home Science/Women empowerment	1	1	0	40	40	0	0	0	40
VI Agril. Engineering	0	0	0	0	0	0	0	0	0
VII Plant Protection	3	3	74	5	79	20	0	20	99
VIII Fisheries	1	0	0	0	0	0	0	0	0
IX Production of Inputs at site	1	1	26	0	26	4	0	4	30
X Capacity Building and Group Dynamics	0	1	0	30	30	0	0	0	30
XI Agro-forestry	0	0	0	0	0	0	0	0	0
Total (A)	13	12	**127**	**258**	**385**	**35**	**4**	**39**	**424**
(B) RURAL YOUTH	1	1	19	0	19	5	0	5	24
(C) Extension Personnel	2	4	126	6	132	59	0	59	191
Grand Total (A+B+C)	16	17	**272**	**264**	**536**	**99**	**4**	**103**	**639**

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	1	1	45	0	45	2	0	2	47
II Horticulture	2	0	0	0	0	0	0	0	0
III Soil Health and Fertility Management	0	0	0	0	0	0	0	0	0
IV Livestock Production and Management	1	1	0	35	35	0	0	0	35
V Home Science/Women empowerment	3	3	0	91	91	1	0	1	92
VI Agril. Engineering	0	0	0	0	0	0	0	0	0
VII Plant Protection	2	2	77	0	77	3	0	3	80
VIII Fisheries	2	2	0	25	25	2	28	30	55
IX Production of Inputs at site	1	1	75	11	86	2	0	2	88

X Capacity Building and Group Dynamics	0	0	0	0	0	0	0	0	0
XI Agro-forestry	0	0	0	0	0	0	0	0	0
Total (A)	12	10	**197**	**162**	**359**	**10**	**28**	**38**	**397**
(B) RURAL YOUTH	0	0	0	0	0	0	0	0	0
(C) Extension Personnel	0	2	60	1	61	16	0	16	77
Grand Total (A+B+C)	12	12	**257**	**163**	**420**	**26**	**28**	**54**	**474**

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	3	3	72	30	102	13	0	13	115
II Horticulture	4	1	0	30	30	0	0	0	30
III Soil Health and Fertility Management	2	2	0	88	88	0	4	4	92
IV Livestock Production and Management	2	2	0	70	70	0	0	0	70
V Home Science/Women empowerment	4	4	0	131	131	1	0	1	132
VI Agril. Engineering	0	0	0	0	0	0	0	0	0
VII Plant Protection	5	5	151	5	156	23	0	23	179
VIII Fisheries	3	2	0	25	25	2	28	30	55
IX Production of Inputs at site	2	2	101	11	112	6	0	6	118
X Capacity Building and Group Dynamics	0	1	0	30	30	0	0	0	30
XI Agro-forestry			0	0	0	0	0	0	0
Total (A)	25	22	**324**	**420**	**744**	**45**	**32**	**77**	**821**
(B) RURAL YOUTH	1	1	19	0	19	5	0	5	24
(C) Extension Personnel	2	6	186	7	193	75	0	75	268
Grand Total (A+B+C)	28	29	**529**	**427**	**956**	**125**	**32**	**157**	**1113**

Sponsored training programmes

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
				0			0	0	0	0
Crop production and management				0			0	0	0	0
Increasing production and productivity of crops	10	295	39	334	76	0	76	371	39	410
Commercial production of vegetables				0			0	0	0	0
Production and value addition				0			0	0	0	0
Fruit Plants				0			0	0	0	0
Ornamental plants				0			0	0	0	0
Spices crops				0			0	0	0	0
Soil health and fertility management	2	0	88	88	0	4	4	0	92	92
Production of Inputs at site	2	41	2	43	22	0	22	63	2	65
Methods of protective cultivation				0			0	0	0	0
Others (pl. specify)				0			0	0	0	0
Total	14	336	129	465	98	4	102	434	133	567
Post-harvest technology and value addition				0			0	0	0	0
Processing and value addition				0			0	0	0	0
Others (pl. specify)	1	0	30	30			0	0	30	30
Total	1	0	30	30	0	0	0	0	30	30
Farm machinery				0			0	0	0	0
Farm machinery, tools and implements				0			0	0	0	0
Others (pl. specify)				0			0	0	0	0

Total	0	0	0	0	0	0	0	0	0	0
Livestock and fisheries				0			0	0	0	0
Livestock production and management	1	0	35	35			0	0	35	35
Animal Nutrition Management	1	0	35	35	0	0	0	0	35	35
Animal Disease Management				0			0	0	0	0
Fisheries Nutrition				0			0	0	0	0
Fisheries Management	2	19	0	19	7	28	35	26	28	54
Others (pl. specify)	1	0	25	25	0	0	0	0	25	25
Total	5	19	95	114	7	28	35	26	123	149
Home Science				0			0	0	0	0
Household nutritional security	1	0	40	40			0	0	40	40
Economic empowerment of women	1	0	30	30	0	0	0	0	30	30
Drudgery reduction of women				0			0	0	0	0
Others (pl. specify)				0			0	0	0	0
Total	2	0	70	70	0	0	0	0	70	70
Agricultural Extension				0			0	0	0	0
Capacity Building and Group Dynamics	1	0	30	30	0	0	0	0	30	30
Others (pl. specify)				0			0	0	0	0
Total	1	0	30	30	0	0	0	0	30	30
GRAND TOTAL	23	355	354	709	105	32	137	460	386	846

Name of sponsoring agencies involved: ATMA, DAO, FTC, Agakhan trust, NGO, GGRC, ICDS, TCSRD, ANARDE foundation, Central Warehouse

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

Area of training	**No. of Courses**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Crop production and management										
Commercial floriculture				0			0	0	0	0
Commercial fruit production				0			0	0	0	0
Commercial vegetable production				0			0	0	0	0
Integrated crop management				0			0	0	0	0
Organic farming	1	0	30	30	0	0	0	0	30	30
Others (pl. specify)				0			0	0	0	0
Total	**1**	**0**	**30**	**30**	**0**	**0**	**0**	**0**	**30**	**30**
Post harvest technology and value addition										
Value addition	1	0	30	30	0	0	0	0	30	30
Others (pl. specify)				0			0	0	0	0
Total	**1**	**0**	**30**	**30**	**0**	**0**	**0**	**0**	**30**	**30**
Livestock and fisheries				0			0	0	0	0
Dairy farming				0			0	0	0	0
Composite fish culture				0			0	0	0	0
Sheep and goat rearing				0			0	0	0	0
Piggery				0			0	0	0	0
Poultry farming				0			0	0	0	0
Others (pl. specify)				0			0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Income generation activities										
Vermicomposting				0			0	0	0	0
Production of bio-agents, bio-pesticides,	1	26	0	26	4	0	4	30	0	30
bio-fertilizers etc.				0			0	0	0	0
Repair and maintenance of farm machinery				0			0	0	0	0
and implements				0			0	0	0	0

Rural Crafts				0			0	0	0	0
Seed production				0			0	0	0	0
Sericulture				0			0	0	0	0
Mushroom cultivation				0			0	0	0	0
Nursery, grafting etc.				0			0	0	0	0
Tailoring, stitching, embroidery, dying etc.				0			0	0	0	0
Agril. para-workers, para-vet training				0			0	0	0	0
Others (pl. specify)	1	19	0	19	5	0	5	24	0	24
Total	**2**	**45**	**0**	**45**	**9**	**0**	**9**	**54**	**0**	**54**
Agricultural Extension										
Capacity building and group dynamics				0			0	0	0	0
Others (pl. specify)				0			0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	**4**	**45**	**60**	**105**	**9**	**0**	**9**	**54**	**60**	**114**

3.5 EXTENSION PROGRAMMES

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	631	4113	78	4191
Diagnostic visits	35	169	4	173
Field Day	17	358	29	387
Group discussions	33	807	136	943
Kisan Ghosthi	16	708	16	724
Film Show	120	7666	784	8450
Self -help groups	2	83	2	85
Kisan Mela	4	22470	629	23099
Exhibition	4	21011	579	21590
Scientists' visit to farmers field	89	345	69	414
Plant/animal health camps	1	48	5	53
Farm Science Club	0	0	0	0
Ex-trainees Sammelan	2	121	17	138
Farmers' seminar/workshop	2	885	0	885
Method Demonstrations	23	684	89	773
Celebration of important days	7	238	59	297
Special day celebration	6	997	96	1093
Exposure visits	3	82	0	82
Lecture Deliver	228	32540	1437	33977
Implement/Crop Demonstration	38	1485	121	1606
Night Meeting	4	454	40	494
Farmer shibir/crop/shibir	6	273	8	281
Collaborative training	11	810	19	829
Others (pl. specify)	26	245	7	252
Total	**1308**	**96592**	**4224**	**100816**

Details of other extension programmes

Particulars	Number
Electronic Media (CD./DVD)	
Extension Literature distributed	15329
News paper coverage	10
Popular articles	9
Radio Talks	0
TV Talks	0

Animal health amps (Number of animals treated)	184
Advisory through Mobile	9245
Others (pl. specify)	
Total	**24774**

3.6 PRODUCTION OF SEED/PLANTING MATERIAL AND BIO-PRODUCTS

Production of seeds by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Quantity of seed(q)	Expected Value (Rs)	Expected Number of farmers
Cereals	Wheat	GW-496		130.10	292725	95
Oilseeds	Groundnut	GJG-22		101.20	742099	225
	Sesame	GT-3		25.15	201200	385
Pulses	Green gram	GM-4		2.77	22160	53
	Chickpea	GG-3		22.05	74970	45
	Chickpea	GJG-5		10.00	34000	25
Spices	Coriander	GC-2		4.00	32000	60
Others	Sun hemp	Lokal		1.80	-	-
Total				**297.07**	1399154	888

Production of planting materials by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Number	Value (Rs.)	Number of farmers
Commercial						
Vegetable seedlings	Brinjal	GJB-3		300	135	4
	Brinjal	GJB-4		450	203	8
Others						
Total				**750**	**338**	**12**

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity		Value (Rs.)	No. of Farmers
		No.	kg		
Bio Fertilizers	*Azotobactor*	404		4040	40
	Rhizobium	228		2280	21
	PSB	523		5230	65
Bio-pesticide	*Beauveria Bassiana*		15136	151360	772
	Trichoderma		9179	91790	472
Bio-fungicide					
Bio Agents					
Others	Pheromone trap				
	Lure				
Total		**1155**	**24315**	**254700**	**1370**

N.B. *Product was produced by JAU University and selling by KVK the amount is only given for revenue generation

Table: Production of livestock materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers
Dairy animals				
Cows	Gir	1	-	-
Buffaloes				

Calves				
Others (Pl. specify)				
Poultry				
Broilers s				
Layers				
Duals (broiler and layer)				
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				
Piggery				
Piglet				
Others (Pl.specify)				
Fisheries				
Indian carp				
Exotic carp				
Others (Pl. specify)				
Total				

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

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

Date of start : January -2016

Periodicity : Jan to Mar, 2016
April to June, 2016
July to Sept., 2016

Number of copies distributed : e-news letter

B. Literature developed/published

Item	Title	Authors name	Number of copies
Research papers	Impact Assessment of Front Line Demonstrations of IPM in Bt. Cotton. Gujarat Journal of Extension Education – 2018 (Special Issue)	Dr. P. S. Gorfad, Dr. K. P. Baraiya and Dr. A. M. Parakhia	
	Susceptibility of wheat cultivars against termite. Gujarat Agricultural Universities Research Journal, 42 (2) : 87-89. (ISSN: 0250-5193).	Gadhiya VC and Borad PK (2017).	
Technical reports	Annual Progress Report	Smt. A. K. Baraiya, Dr. K. P. Baraiya	7
	14th AGRESCO Report	Smt. A. K. Baraiya, Dr. K. P. Baraiya	49
	27rd ZREAC Report	Smt. A. K. Baraiya, Dr. K. P. Baraiya	54
	28thZREAC Report	Smt. A. K. Baraiya, Dr. K. P. Baraiya	54

	14th SAC Report	Smt. A. K. Baraiya, Dr. K. P. Baraiya	35
	Annual Report of ATIC(2017-18)	Dr. J. N. Thakar, Dr. K. P. Baraiya	1
	NMOOP FLD result report	Dr. S. H. Lakhani, Dr. K. P. Baraiya	1
	Monthly Report	Smt. A. K. Baraiya, Dr. K. P. Baraiya	1
	Quarterly Reports	Smt. A. K. Baraiya, Dr. K. P. Baraiya	1
	Impact of KVK	Dr. P. S. Gorfad, Dr. J. N. Thaker, And Dr. K. P. Baraiya	
Popular articles	Jamin Ane Panini Chakachanini Agtyata Ane Namuno Levani Padhdhti. Jal Jivan(April-May, 2017) Vol.-10	Lakhani SH, Gadhiya VC, Baraiya AK, Baraiya K P and Dangar RM	
	Kerinu Processing Ane Temathi Banati Vividh Vangio. Krushi jivan (May-2017), Vol. – 10	Baraiya AK, Baraiya K P, Gadhiya VC and Lakhani SH	
	Jeeruna Pakmaa Rog Vyavasthapan. Krushi Vigyan, 43 (10) : 30-31.(Nov-17)	Gadhiya VC, Baraiya K P	
	Alsiyanu Khatar Banavavani Rit Ane Teni Agtyata. Krushi Vigyan, 43 (12) : 28-30.(Jan-18)	Lakhani SH, Gadhiya VC, Baraiya AK and Baraiya K P	
	Vruksha Vavo – Khetar ane Dhartine Samrudhdha Banavo. Krushi Jeevan49(11), Vadodara, June -2017	Dr. P. S. Gorfad	
	Unalu Bajrani Vaignanik Kheti – Krushi – Jivan ne Sang. Krushi Jeevan50(08),Vadodara, March -2018	Dr. P. S. Gorfad	
	Jeeru Ma Dekhayel Molo Ane Thrips Nu Sankalit Niyantran. Bhoomi News (Gujarati daily news paper): Date: 07.12.2016.	Gadhiya VC, Baraiya KP and Lakhani SH	
	Jaivik Khatarono Upyog. Jal Jivan, 2 (10) : 10-12.	Lakhani SH, Gadhiya VC and Dangar RM	
	Kharekhma Pratham Vakhat Nondhayel Falmakhi. Aajkaal (Gujarati daily news paper): Date: 02.10.2017.	Gadhiya VC, Baraiya KP and Lakhani SH	
Leaflets/folders	Magfalima Sankalit Jivat Vyavsthapan	Baraiya KP, Gadhiya VC and Parakhiya AM	10000
	Kapasni Gulabi Eyal Ane Tenu Sankalit Vyavsthapan	Gadhiya VC, Baraiya KP and Parakhiya AM	10000
	Jamin Ane Panini Chakachanini Agtyata Ane Namuno Levani Padhdhti.	Lakhani SH, Baraiya KP and Parakhiya AM	10000

C. Details of Electronic Media Produced

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

D. Success Story/CASE STUDIES

5.1 Case Study/Success story

PROFILE OF FARM INNOVATORS

Thematic Area: Pen Culture technique in Fisheries

Use of Pen Culture technique in Fish Farming

Dr. J.N. Thaker[1], Dr. P. S. Gorfad [2], Dr. V. C. Gadhiya[3] & Dr. K. P. Baraiya[4]

Personal Profile		**Rearing the fish seed (Fry to Fingerling stage) in pen culture system before stocking in to the reservoir.**
Name of farmer	:	**Asharafmiya Habibmiya Saiyad**
Contact No.	:	9979399640
Address	:	Khatrivad, At & Post-Lalpur, Block- Lalpur, Dist. Jamnagar. State-Gujarat.
Age	:	36 Years
Education (highest level and subject)	:	7th std. Pass
Land holding	:	1. Village pond-Total 1 (1.5 ha.) 2. Dams-Total 3 (128 ha., 400 ha. & 1278 ha.)
Crops grown	:	Fish
Livestock	:	-
Business	:	Fish Farming
Special recognition	:	Innovative and Progressive farmer

Mr. Asharafmiya residing at Village- Lalpur, Block-Lalpur, Dist.-Jamnagar is a progressive fish farmer and always be ready to know and adopt the new technology in the field instead of use of traditional methods. Initially he follows the tradition methods in fish farming so the total production was restricted, income is low, and hence economic condition in society was moderate.

After linkage with KVK and proper guidance by scientist, he started to use composite fish culture technique and "Pen Culture" technique.

Due to this activities he got more revenue and hence upliftment in socio-economic condition. At present his income from fisheries activity is nearly about 5 to 6 lacs per year.

After getting positive result, he creates a group of fish farmers and hires the 4 village ponds/dams under contract basis on name of society/groups and started to rear the fish seeds from spawn to fingerling stage and supply other needy farmers.

He won district level "Best ATMA Farmers Award" and price of worth Rs. 25,000.

At present he is a president of a Co-op. society named "Al Rabbani Matsya Uchher Sahakari Mandali Limited" and main leader of ATMA group.

He also help the farmers to create groups and in departmental procedure for hiring the pond/dams etc. for fish farming activities.

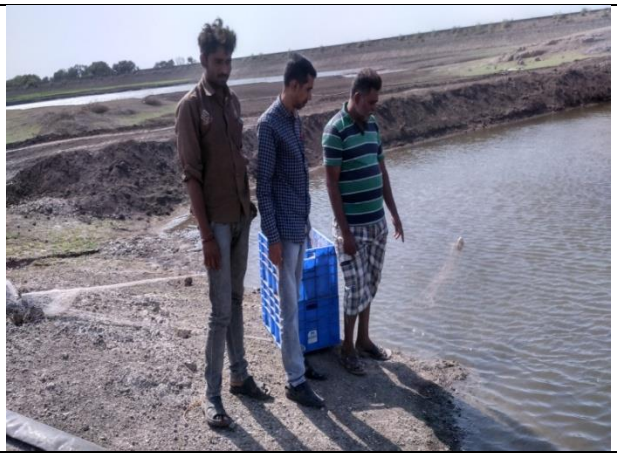
Practical Utility of the Innovation/ Mode etc.

The Pen culture is a technique in which fish seeds (spawn or fry) are reared up to certain stage into specifically identified area which is separated naturally or by other means from main water body. Due to the controllable condition in pen, fish seeds can be examined regularly for feeding, health and growth and also treated accordingly resulting in faster and maximum growth and quality assurance.

Predatory fishes, competition for food and mortality rate are the major issues when direct stocking in Dams/reservoir. Only 2 to 5% recovery achieved when spawn is directly stocked into the pond/dams etc. as per common practices while about 15 to 20% recoveries can be achieved in Pen culture system.

Gross income is near about Rs. 1,98,000 per hector and expanses for seed and rearing is Rs. 1,05,000. So the net profit is Rs. 93,000 per hector. While in case of direct stocking net profit is Rs. 2500 per hector only.

Decrease input cost, Maximum Growth and Quality production are the major benefits of this technique.

	
Structure for Pen culture adjoining to Dem site	Harvesting of IMC Fingerling

5.2 Case study/ Success story

PROFILE OF FARM INNOVATORS
Thematic Area: Organic Cultivation

"Organic cultivation of Lemon"

Shri S. H. Lakhani, Dr. V. C. Gadhiya, Dr. K. P. Baraiya & Smt. A. K. Baraiya

Personal Profile			**Organic lemon Cultivation**
Name of farmer	:	Nakum Mohanbhai Aanandbhai	**Shri Nakum Mohanbhai Aanandbhai** is young farmer from village Jam Gadhka of Kalyanpur block of Devbhumi Dwarka district. Jam Gadhka village in interior village. It is also very less rainfall area having hardly 350 to 400 mm rainfalls. Groundwater is also scar in this area. Mohanbhai and his family completely dependent on farming. He has no any side income from any business. He started farming since last 18 years with common farming practices *viz.,* Groundnut, sorghum, pearl millet and other fodder crops. He also used more pesticide and Chemical fertilizer due to that increase cost of cultivation and reduce net profit
Contact No.	:	9925992211	
Address	:	At.- Jam Gadhka, Ta.- Kalyanpur, Dist.- Devbhumi Dwarka	
Age	:	36 Years	
Education	:	8 Std pass	
Land holding	:	1.31 ha	**Practical Utility of the Innovation/ Mode etc.**
Crops grown	:	Lemon	**Shri Nakum Mohanbhai Aanandbhai** is innovative farmer. Due to above situation, Mohanbhai was helpless about farming business. In 2007 he comes in contact with scientists of KVK, JAU, Jamnagar, then after he regularly visit KVK and attends trainings, farmer and scientist interface, exposure visit, and other programme organized by KVK. In 2008 Mohanbhai linkage with ATMA project through KVK, JAU, Jamnagar. Mohanbhai was interested in organic farming, lemon cultivation and increase his farm income. In 2009 scientist from Krishi Vigyan Kendra, JAU, Jamnagar has been guided regarding cultivation lemon with the help of subsidy from Deputy Director (Horticulture). Then he decided to some innovation and during 2009 he planted lemon (Kagdi Lime) in 2 acres in his farm.
Livestock	:	8 - Gir Cow	
Business	:	Farming	
Special recognition	:	Innovative and Progressive farmer	

He was also purchased two cows for organic farming. He has changed his way of cultivation for chemical to organic cultivation. He does not use any type of chemical for protection as well as crop production. He uses Cow urine, bio fertilizer, well decomposed FYM, vermi-compost and bio pesticide in lemon cultivation.

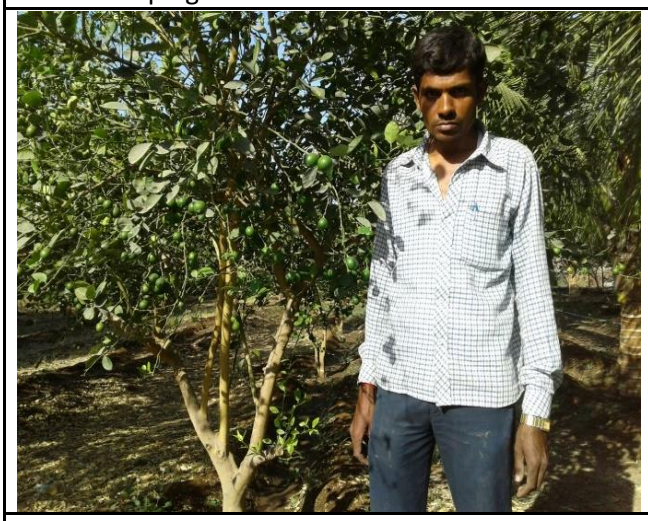
Kagdi Lime Variety of lemon cultivated in 2 acre with 554 plants, it start fruiting during third year age of transplanted lemon. Plant growth found even. The fruit size and yield is higher.

Income starts from third year, during 2016 it give yield 50 kg per tree. Market cost of this organic lemon is average Rs. 30 per kilogram. Thus, total income (554 tree x 50 kg x Rs.30 per kg = Rs. 831000/-) Rs. 415500 per acre against production cost of (554 tree x 250 = Rs. 138500/- for 2 acre) Rs. 69250/- per acre. Net Income from 2 acre Rs.761750/-

During the era of organic farming, he has appreciated for the cultivation of lemon through organic farming and started one steps in an innovative work within 2 acre of land since last nine years. Most of production marketing himself from his farm. Environmental benefits like He does not use any type of chemical for protection as well as crop production. Finally Mohanbhai become sound in economic condition

Many farmers of Devbhumi dwarka districts and surround districts were visited “Mohanbhai farm at Jam Gadhka village of Kalyanpur block of Devbhumi Dwarka district. Farmers were visited Mohanbhai and take information about the lemon cultivation and they started on their own farm.

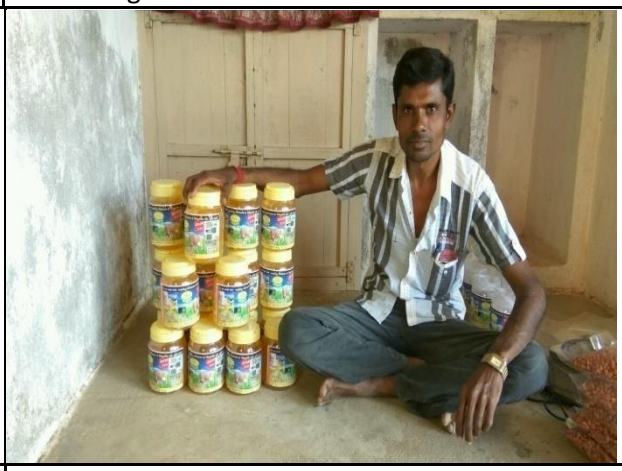
More number of farmers have been visited Mohanbhai farm for planning and cultivation of organic lemon at own farm. Mohanbhai have proven for organic farming as a best cultivation as well as low cost farming with high value of lemon. Mohanbhai also selling of organic cow Ghee and got many award for the animal keeping.



Farmer with Lemon Tree

Full fruiting Lemon tree

Lemon orchard



Selling of Organic cow ghee

5.3 Case study/ Success story

PROFILE OF FARM INNOVATORS

Thematic Area: Horticultural Production

"ORGANIC POMEGRANATE PRODUCTION"

Dr. V. C. Gadhiya, S. H. Lakhani, Dr. J. N. Thakar and Dr. K. P. Baraiya

Personal Profile		**Organic pomegranate Production**	
Name of farmer	:	Altafbhai Bodubhai Sama	**Shri Altafbhai Bodubhai Sama** is very enthusiastic, hard worker, 12 pass and animal owner of Dhichda village of Jamnagar district. Dhichda is on seashore (1.5 km away from sea). It comes just near the Jamnagar City. It has very salty land as well as water. It is also very less rainfall area having hardly 400 to 450 mm rainfalls. The possibility of horticultural crops is negligible in this area. There is also major problem of wild animal's *viz.,* blue bull, deer and pig. Altafbhai have protected the field with wire-net fencing. Altafbhai having completely dependent on farming. He has no any side income from any business, but he took farming as a business and started cultivation of pomegranate since last 5 years.
Contact No.	:	7016336041	
Address	:	At.- Dhichda, Ta.- Jamnagar, Dist.- Jamnagar	
Age	:	35 Years	
Education (highest level and subject)	:	12 pass	
Land holding	:	1.20 ha	**Practical Utility of the Innovation/ Mode etc.**
Crops grown	:	Pomegranate	Shri Altafbhai Bodubhai Sama is innovative farmer. He started Farming since last 18 years with common farming practices *viz.,* Groundnut, cotton, maize, sorghum, Lucerne and other fodder crops. After some experience, he started brinjal, garlic, chilli and onion growing in his farm. He pass from the gate of Krishi Vigyan Kendra, Daily, but he never enter in the University Campus. Once Krushi Mahotshav celebrated in his village and scientist of KVK were come in contact with him. Then he started regular visit of Krishi Vigyan Kendra. He also attend farmer training programme of KVK regularly. He touched about the cultivation of pomegranate and he decides cultivation of pomegranate. He started local practices initially and use pesticide but it is very costly practices. He faced many problems for pomegranate cultivation. After that he advised on pomegranate cultivation from scientist of Krishi Vigyan Kendra, JAU, Jamnagar. Continuous contact with scientist of KVK he resolved the problem. He is promoted for organic farming. All guideline were provided for cultivation and marketing. Then he decided to some innovation and he started organic cultivation of pomegranate in his farm.
Livestock	:	2 - Cow, 2 - bullock	
Business	:	Farming	
Special recognition	:	Innovative and Progressive farmer	

He prepare homemade bio-product by using leaves of neem, madar, aloe vera and custard apple then boiled them in to water and prepared spraying solvent himself at his farm. He also uses ***gaumutra*** and ***jivamrut/panchgavya***. With the use of these materials he suddenly stopped chemical fertilizers, pesticides and started use of bio fertilizer, liquid fertilizer, FYM, vermin-compost and bio-pesticide.

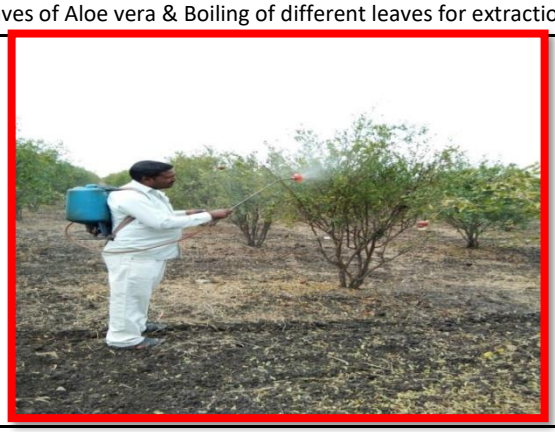
He observes clear difference between organic and inorganic cultivated pomegranate. Different characters *viz*., vegetative growth of plant, fruit size & shape, test & shining having get higher market price in case organic cultivated pomegranate as compare to in-organic cultivated.

He harvesting 6800 kg/ha pomegranate fruit and sold from the farm as well as Jamnagar market with an average price of Rs. 65/kg. He earned gross income Rs 4.42 lakhs with the cost of 0.89 lakh and net benefit remain was Rs 3.53 lakh per hectare.

During the era of organic farming, he has appreciated for the cultivation of organic pomegranate cultivation and started one steps in an innovative work within 1.20 ha of land since last five years. Many farmers visit his farm and started organic pomegranate as well as vegetable cultivation.


Leaves of Madar (Akkdo)and Neem


Leaves of Aloe vera & Boiling of different leaves for extraction

Preparation and spraying of leaves extract on pomegranate plant

5.4 Case study/ Success story

PROFILE OF FARM INNOVATORS

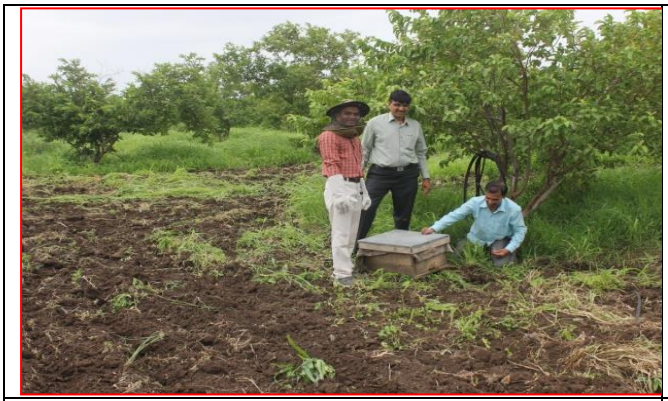
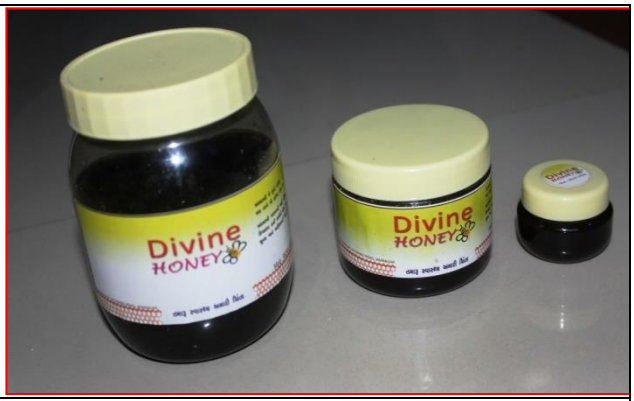
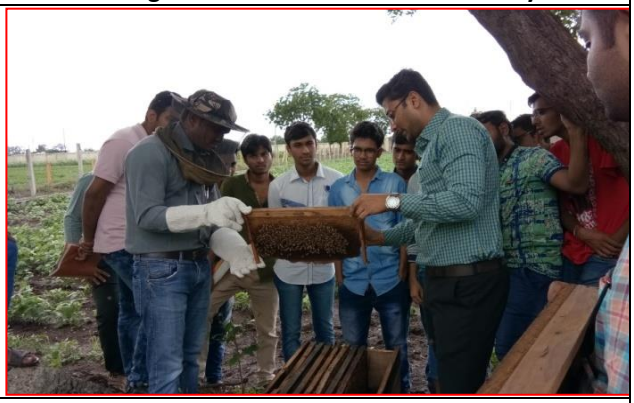
Thematic Area: Apiculture

"Honey bee farming"

Dr. V. C. Gadhiya, S. H. Lakhani and Dr. K. P. Baraiya

Personal Profile		**Honey bee farming**	
Name of farmer	:	Buddh Dhirajlal Jivandas	Shri Buddh Dhirajlal Jivandas is young and enthusiastic, hard worker, studied 4th class pass innovative person. He is land less person, lived in Jamnagar. Due to unavailability of source of income for his family, working in the brass parts at Udyog nagar, GIDC, Jamnagar at the age of 19 year. He interested in nature, capture snakes, loves wild life sanctuaries. He famous as snake capturer in his area. Occasionally he has visited Krishi Vigyan Kendra, Junagadh Agricultural University, Jamnagar with other farmer friend. At that time he has to see the activity of KVK and also visit the museum different demonstration units. Then he was advised for the different new organic farming technology as well as apiculture.
Contact No.	:	09824459568	
Address	:	Village:- Jamnagar Block:- Jamnagar District:- Jamnagar	
Age	:	49 Years	
Education (highest level and subject)	:	04 pass	He impressed with the apiculture information, and ready for cultivation. He visited many time to KVK and also visited farmers of Apiculture farming. He get training from KVK, JAU, Jamnagar and another training from Khadi Gramodyog, Ahmedabad. After completion of training and visit of many experience farmers field, finally decide for Apiculture farming.
Land holding	:	NIL	**Practical Utility of the Innovation/ Mode etc.**
No of box	:	10	Shri Buddh Dhirajlal Jivandas is very innovative person. He got training from Khadi Gram Udhyog, Ahmadabad and KVK,
Livestock	:	NIL	

Business	:	Apiculture	JAU, Jamnagar and personally takes interest and also visits many honeybees farming farmers field. Initially Shri Buddh Dhirajlal started with 10 boxes of Honey bee (*Apis mellifera* Linnaeus) under complete guidance & supervision scientist from Krishi Vigyan Kendra, Junagadh Agricultural University, Jamnagar. He kept box in crops grown at KVK, Jamnagar field during summer season and during *kharif* and *rabi* season farmers field for promotion and create awareness among the farmers. Beekeeping is one of the oldest traditions in India for collecting the honey. Honey bee farming is becoming popular due its market demand in national and international markets as well. Not only the farmers make a sweet dividends but beekeeping also help increase agriculture productivity through pollination. Honeybees also produce honey, bee wax and royal jelly thus giving additional benefits to the farmers. After successive losses in traditionally grown crops, farmers are inclining towards bee farming. In order to maximize agricultural production, honeybee can be used as an important input agent. About 80 % crop plants are cross-pollinated, as they need to receive pollen from other plants of the same species with the help of external agents. One of the most important external agents is the honeybee. They build nests which are called as “combs” with wax, which is secreted from the wax glands of worker bees. The bees use their cells to rear thin brood and store food. Honey is stored in the comb upper part. Under the comb, there should be rows of pollen storage cells, worker brood cells and drone brood cells. Some bee species build single comb in open where as others build multiple combs on dark cavities. Farmers can utilize honeybees for their pollination services or to obtain products from them. He developed his own boxes with new design and produce queen by feeding royal jelly especially for new box preparation. He is very punctual in cleaning and maintenance of boxes. One box content 70000 to 80000 bees which give average yield of 22 kg per year. The whole sale market price is Rs. 450/kg. However, Dhirajlal market himself by his own brand name “DIVINE HONEY” with attractive packing of 250, 500 and 1000 gm bottle. He sold these bottle at the rate of Rs. 450/kg. He also collect crop wise honey for different medicinal usages having additional price of Rs. 600/kg for special crop wise products. Total 10 boxes produce 220 kg @ Rs. 600/-; then he earn total Rs. 111000/- per year without land holding. He spent Rs. 18500/- for maintenance and collection of honey. Thus, net return of Rs. 92500/- per ten boxes in a year. During the era of organic farming, he has appreciated for the honey bee farming. Introducing apiculture for better pollination in cross pollinated crop for optimization of crop yield. Many farmers, student, extension functionaries and officers were visited farm/site of boxes. He has take a one step towards the aware the farmer regarding to the honey bee and its role in agriculture.
Special recognition	:	Innovative and Progressive farmer	
Photographs			

	
Scientist of KVK, JAU, Jamnagar visit to Honey bee box	**Product seling as brand name with Divine honey**
	
Visit of DEE, JAU, Junagadh	**Student visit**
	
Farmer visit	**Visitors**

5.5 Case study/ Success story

PROFILE OF FARM INNOVATORS
Thematic Area: Cultivation Of Vegetable crop

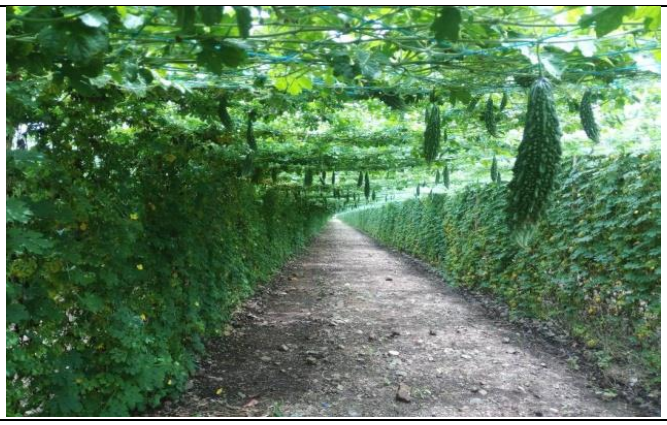
The Fruits (Income) are Very Sweet of Bitter Gourd

Dr. P. S. Gorfad Dr. J.N. Thaker, Dr. K. P. Baraiya

Personal Profile		**Cultivation of Bitter Gourd with pergola structure**	
Name of farmer	:	Marvaniya Mukeshbhai Tapubhai	After leaving the study, Shri Mukeshbhai has joined his father's occupation i.e. farming. He has been practicing traditional farming since last twenty years. Generally, he was growing cash crops like cotton, groundnut, sesame etc. Due to lack of proper guidance and information about proper doses of fertilizers and pesticides, he always adopting over doses of the same. In the initial years he harvested good yield but year after year it was decreasing. He realized that there was something lacking in his farming practices.
Contact No.	:	9879268183	
Address	:	Village: Falla, Pin - 361 120 **Tehsil:** Jamnagar	

		District: Jamnagar, Gujarat	Mean while he came in contact of scientists of Krishi Vigyan Kendra during training programme of ATMA, project. It was the turning point in his farming situation. Initially, he reduced the over doses of agro-chemicals and cost of cultivation. But, he was not satisfied with this all. He wants to do something new and better. KVK scientist nurtured and supported to his new ideas. Finally, he was attracted towards horticultural crops especially the vegetable crops.
Age	:	40 Years	
Education (highest level and subject)	:	S.S.C.	
Land holding	:	2.17 ha	**Practical Utility of the Innovation/ Mode etc.**
Crops grown	:	Bitter Gourd variety – Noor (Rasi)	As a result of change in attitude, Shri Mukeshbhai had been started to cultivate the bitter gourd (Variety- Noor) crop since last two years. In his bitter gourd plantation he used pergola structure to climb the creepers of bitter gourd with plastic net. In addition to this, he irrigated the crop through drip irrigation system and harvested more crops per drop of water. He reduced to great extent the use of agrochemicals and started plant protection measures and nutrition with "organic products" prepared by him. He harvested 70250 and 57500 kg/ha fruits of bitter gourd during year 2015-16 and 2016-17 respectively. The cost of cultivation was Rs. 153000 and 175500. The net return was Rs. 352800 and 445500 respectively. Thus, he realized that the taste of bitter gourd is 'bitter' but the income is very 'sweet' and remarkable. Due to use of drip irrigation system, organic inputs for nutrition and plant protection and proper management the cost of cultivation was reduced and more net profit realized.
Livestock	:	-	
Business	:	Farming	
Special recognition	:	Innovative and Progressive farmer	

Over View of Bitter Gourd Field



Creepers of Bitter Gourd on Pergola Structure

Sorting and Grading

Transportation

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

1. Innovative methodology:

- Farmers to farmer dissemination
- Distributed printed leaflet to farmers
- Farm School on farmer's field
- Kishan advisory through mobile SMS
- Film show
- Cluster frontline demonstration

2. Innovative technology transfer:

- Use of FYM to minimize the chemical fertilizer in cotton
- Use of Trichoderma against stem rot disease of groundnut
- Use of *Metarhizium* against white grub in groundnut
- Use of *Beauveria* against all pest of all crops.
- Use of bio-fertilizers *viz*. PSB, Rhizobium, Azatobactor etc
- Use of pheromone trap for mass trapping as well as monitoring
- Tractor mounted sprayer
- Introduction of new variety i.e.GG-3, GG-5 of Chickpea, GJG-22 of Groundnut, GW-463 of wheat
- Use of trap crop, pheromone trap etc. as a IPM component
- Cotton stalk shredder for recycling of farm waste

F. Give details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development (in detail with suitable photographs)

S. No.	Crop / Enterprise	ITK Practiced	Purpose of ITK
1.	Chilly	Use castor as a trap crop	For controlling thrips and jassids
2	Crop husbandry	Crop rotation and mixed cropping	Control weed, and diseases management
3	"	Mixing of ash with pulse/millet grains	While storing to protect from pest
4	"	Vegetable seeds placed inside cow dung	Use for next year
5	Fertility Management	Application of ash	To improve soil fertility
6	"	Sheep and goat penning	To improve soil fertility
7	"	Jivamrut	To improve soil fertility and reduce chemical fertilizers
	Crop husbandry	Panchgavya	For management of pests and diseases of crops
	Crop husbandry	Sheep and goat grazing	For pinkboll worm management
7	Harvesting	Harvest pulse crop in the morning hours	To reduce shattering
8	Fer		

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

a) Group discussion with the farmers
b) Field visits
c) Group meeting
d) Identifying general trends in the area
e) PRA survey

Rural Youth

a) Filling up research based questionnaires
b) Identification of leader and role of rural youth in agriculture (Socio-metric method)
c) Field visit for practical experience
d) General discussion about district agriculture issues

In-service personnel

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

5.2 Indicate the methodology for identifying OFTs/FLDs

For OFT :

- PRA
- Problem identified from Matrix
- Field level observations
- Farmer group discussions
- Assessment of technology
- Others if any

For FLD :

1. New variety/technology
2. Poor yield at farmers level
3. Existing cropping system :- Coriander
4. Technology – adoption gap
5. 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

6. LINKAGES

A. Functional linkage with different organizations

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 farmers field ➢ Organizing collaborative trainingto farmers ➢ For collaborative off campus training
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	➢ For collaborative training and demonstrationProgramme ➢ Collaborative on campustrainingprogramme ➢ For providing hostelfacilitiesto participants and organizing collaborative MahilaKrishiMela
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	Chachara Education & Charitable Trust, 104- Shrusti complex, Nr. Gurudwara, Jamnagar	
10	Tata Chemical Society for Rural Development Foundation, At. Mithapur, Ta.-Dwarka, Dist.-Jamnagar	
11	Agakhan Rural Development Trust	
12	ANARDE foundation trust	

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

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
Establishment of Agricultural Technology Information Centre (ATIC)	2017-18	State Govt.	2620837/-
Soil Health Card	2017-18	State Govt.	121818/-
Cluster Frontline demonstration of Oilseeds under NMOOP(B.H.:- 2704-51)	2017-18	ICAR	404250/-
Cluster Frontline demonstration of pulses under NSFM (B.H.:- 2704-50)	2017-18	ICAR	37500/-
Seed Village Programmes (B.H.;- 18018-18) (RKVY)	2017-18	State Govt.	1292450/-

C. 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		

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

Coordination activities between KVK and ATMA

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks (if any)
01	**Meetings**	Farmers meeting	17	17	ATMA staff also attended
02	**Research projects**	-	-	-	-
03	**Training programmes**	Lecture delivered	228	15	
		Training Programme	11	8	
04	**Demonstrations**	Method Demonstration	23	8	
05	**Extension Programmes**				
	Kisan Mela		4	1	
	Technology Week		1	1	
	Exposure visit		3	3	
	Exhibition		4	4	
	Soil health camps		2	2	
	Animal Health Campaigns		1	1	
	Others (Pl. specify)				
06	**Publications**				
	Video Films				
	Books				
	Extension Literature		12	12	
	Pamphlets		3	3	
	Others (Pl. specify)				
07	**Other Activities** (Pl.specify)				
	Watershed approach				
	Integrated Farm Development		1	1	
	Agri-preneurs development				

D. Give details of programmes implemented under National Horticultural Mission

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

E. Nature of linkage with National Fisheries Development Board

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

F. Details of linkage with RKVY

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

7. Convergence with other agencies and departments:

Period	Activity details	Place of activity	Officers present
24.4.17	Soil Health Card – primary meeting	DAO	KVK, DAO, ATMA
30.4.17; 11, 12 May	Sankalan meeting for Krishi Mahotshav	Collector, DDO,	KVK-ATMA, DAO, Hort, Vet., DDO, Collector
13.5.17	Krishi Mahotshav-2017	Jam Khambhalia	All Department
8.5.17	Mahilal Training	KVK	ATMA-KVK
10.5.17	ATMA Group Leaders meeting	KVK	ATMA-KVK
17.5.17	Extension Functionaries Training (New Appointed Village Level workers)	KVK	KVK-ATMA, DAO, Hort, Vet.
26.5.17	Kishan Gosthi on farmers Field	Mandasan	KVK-ATMA, DAO, Hort, Vet.
21.6.17	Sankalan meeting at District panchayat	DAO	KVK-ATMA, DAO, Hort, Vet.
23.6.17	Field Visit, Diagnostic Visit	Patelka	ATMA, KVK
3. to 5.7.2017	Farmers training for awareness on pink boll warm & White grub	KVK	ATMA-KVK
17.7.17	Meeting on contingency plan for Jamnagar & Devbhumi Dwarka districts	KVK	ADR, DAO, PD ATMA, Dy.Dir.Hort, Dy.Dr. Agri. (Ext.)
19.7.17	Farmers Training	KVK	ATMA-KVK
26.7.17	Farmers Shibir	Dwarka	IFFCO, DAO, ATMA, Hort, Vet., KVK
26.7.17	DLFMC-ATMA Devbhumi Dwarka District	Khambhalia	KVK-ATMA, DAO, Vet., Hort.,
28.7.17	Vocational Training at Champa Beraja (Farmers Shibir)	Chamba Beraja	ATMA-KVK
1 & 3 August	Sankalan meeting for mahila sashaktikaran pakhavadiyu	DDO Chamber	KVK-ATMA, DAO, Vet, Hort & all line department
6 August,	MAHILA KRISHI DIVAS	KVK	KVK-ATMA, DAO, Hort, Vet.
10 August	Extension functionaries training (New appointed village workers)	KVK	KVK-ATMA, DAO, Hort, Vet.
25 August	Sankalp Se Siddhi Programme for both district Jamnagar and Devbhumi Dwarka	KVK & Jam Khambhalila	KVK-ATMA, DAO, Hort, Vet., DDO, Collelctor
2 Sept.	Ma Narmada Mahotshav Sankalan Meeting	DDO Chamber	KVK-ATMA, DAO, Hort, Vet., DDO,
12 & 15 Sept.	Ma Narmada Mahotshav		KVK-ATMA, DAO, Hort, Vet.
3 to 7 Oct.	Technology week celebration	KVK	KVK-ATMA, DAO, Hort, Vet.
21 to 22 Dec.	Extension Functionaries training	KVK	KVK-ATMA, DAO, Hort, Vet.
28 to 29 Dec.	Farmers shibir with Central ware house corporation & ATMA collobrative	KVK	KVK, ATMA, CWC

8. Innovator Farmer's Meet

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

9. Farmers Field School (FFS)

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

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

- Demonstrated new variety
- Introduction of newer crop by KVK through different FLD as well as OFT
- Information of any crop diversification get from KVK
- Frequently visit to farmers
- Telephonic information is available 24 hours through scientist mobile
- Farmers reduce cost of production by using *Beauveria bassiana* and other bio-products
- Farmers understood the use of sulphur in oilseed crops specially in mustard through front line demonstrations in different villages
- Farmers understand the need of soil and water conservation and its future consequences in the area.
- Positive response coming from farmers about use of *Trichoderma* as seed treatment and soil application in cumin and groundnut
- Farmers are realizing the need of micronutrients and their deficiency in the different soils of the area
- Farmers are realizing the importance of seed treatment for pest and disease management
- Positive feedback coming from farmers side about the use of Pseudomonas in coriander for disease management
- Farmers getting satisfactory results from seed treatment for pest and disease control in different crops

10.2. Technical Feedback from the KVK Scientists (Subject wise) to the research institutions/universities: Director (ATARI), DEE, Comptroller of University :

- Grant for the contingency for handling different programmes is in sufficient
- Limit of food provision during training and other cost should be increase along with stipend and transportation facility (Approximately Rs. 500 to 1000 per head per training required)
- Timely release of grant for successful and perfect conducting of FLD and OFT
- Required new vehicle for field visit and other extension programme. It is also required minimum two vehicle in KVK due to work load and it is among farmers field
- Contingency grant is in sufficient (It should be minimum 30 lakhs per KVK)
- Provide grant for farm protection wall and other infrastructure facilities

Soil & Water Conservation:

- Farmers are facing the problem of malfunctioning of micro irrigation systems with poor quality irrigation water.
- Problem of soil salinity/ alkalinity is increasing day by day due to inherent salinity of soils and application of poor quality water.
- More research is required for magnetic water softener and effects of softened water on soil after continuous use.

Horticulture:

- Need to be developed nematode & wilt resistant root-stock in pomegranate
- Fertigation schedule should be developed in Datepalm

- Need to be developed value addition methods for Datepalm

Plant Protection:

- Need to be developed more insect and disease resistant varieties under different crops
- Farmers need freshly prepared bio-agents like *Beauveria, Metarhizium,Trichoderma, Pseudomonas, Paecillomyces* etc.
- Need to be effective control measures for mealybug control in cotton.
- More emphasis should be given on fruit fly management in different orchards
- Research scientists should focus on discovering best management techniques for mealybug
- Also focus on para-wilt management practices in cotton
- Need to be discover new molecules of nematicides for nematode management
- Should be focus on insecticide resistance management
- Ease availability of bio-pesticides to farmers

Agronomy:

- Need to be developed salinity resistant varieties of crops like groundnut and castor
- Need to be developed high yielding/ salinity tolerant varieties of pulse crops

11. Technology Week celebration during 2017-18 - YES

Period of observing Technology Week: From October 3rd to 7th, 2017
Total number of farmers visited : 463
Total number of agencies involved : 5
Number of demonstrations visited by the farmers within KVK campus: 10
Other Details

Types of Activities	No. of Activities	Numaber of Participants	Related crop/livestock technology
Gosthies	5	463	• 1st day: Concept of Organic Farming. • 2nd day: IPM for kharif crop with special emphasis on pink bollworm and white grub. • 3rdday:Importance of Micro irrigation system in agri. • 4th day: Integrated nutrient management. • 5th day : Ideal animal husbandry
Lectures organized	30	463	1. IPM & IDM in Groundnut 2. ICT importance in Agriculture 3. More milk produce in scientific way 4. Value addition in farm products 5. IPM in Cotton 6. Importance of Organic farming 7. Reduce rate of crop cultivation in through Integrated Pest and disease control. 8. Importance of micro irrigation system 9. Diesis management in Animal 10. Importance of Kitchen gardening 11. Pink bollworm management in Cotton 12. Importance of micronutrients in agriculture 13. Integrated Pest and disease of major crops 14. Emphasizes on adverse effect of climate change in agriculture 15. Importance of soil and water analysis 16. Mechanization in modern Agriculture 17. Irrigation management in agricultural crop
Exhibition	1	288	Farm implements were put for exhibition cum demonstration purpose
Film show	15	463	Film Show of different technologies were presented
Fair	1	463	1. NADAP Composting unit 2. Net House/Poly house

			3. Solar submersible pump (Renewable energy) 4. Vermi compost unit 5. Fisheries unit 6. Agro forestry unit 7. Orchard of chiku, custard apple, guava, pomegranate and aonla 8. Drip and sprinkler system in farm 9. Crop cafeteria of major crop of the district 10. Seed production unit 11. Nursery Unit 12. Improved Implements viz. Laser land leveler, Tractor operated sprayer, tractor operated spray gun, rotavator, groundnut digger, tractor operated reaper for sorghum, groundnut exposure, mini-tractor, Mould plough, automatic seed cum fertilizer drill, etc.
Farm Visit	5	463	During farm visit farmers were demonstrate reaper demonstration for sorghum cutting. and also other different implements were demonstrated
Diagnostic Practicals	25	54	
Supplyof Literature (No.)	13	1950	Different subject literature distributed
Supply of Seed (q)			
Supply of Planting materials (No.)	-	-	
Bio Product supply (Kg)	250	42	
Bio Fertilizers (q)	21	21	
Supply of fingerlings	00	00	
Supply of Livestock specimen (No.)	-	-	
Total number of farmers visited the technology week		463	

12. Interventions on drought mitigation (if the KVK included in this special programme)

A. Introduction of alternate crops/varieties

State	Crops/cultivars	Area (ha)	Number of beneficiaries
Gujarat	-	-	-

* Note :- It was normal distribution of rainfall therefore, there was no any issues

B. Major area coverage under alternate crops/varieties

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

C. Farmers-scientists interaction on livestock management

State	Livestock components	Number of interactions	No.of participants

Total			

D. Animal health camps organized

State	Number of camps	No.of animals	No.of farmers
Total			

E. Seed distribution in drought hit states

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

F. Large scale adoption of resource conservation technologies

State	Crops/cultivars and gist of resource conservation technologies introduced	Area (ha)	Number of farmers
Total			

G. Awareness campaign

State	Meetings		Gosthies		Field days		Farmers fair		Exhibition		Film show	
	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers
Total												

13. IMPACT

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

Name of specific technology/skill transferred	**No. of participants**	**% of adoption**	**Change in income (Rs.)**	
			Before (Rs./Unit)	**After (Rs./Unit)**

NB: Should be based on actual study, questionnaire/group discussion etc. with ex-participants.

B. Cases of large scale adoption
(Please furnish detailed information for each case)

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

14. Kisan Mobile Advisory Services

Month	**No. of SMS sent**	**No. of farmers to which SMS was sent**	**No. of feedback / query on SMS sent**

April 2017	1	1704	0
May	0		
June	2	63540	
July	0		
August	1	51854	
September	4	253076	
October			
November			
December			
January 2018			
February			
March			
	8	370174	

Name of KVK	Message Type	Type of Messages						
		Crop	Lives tock	Weath er	Marke- ting	Aware- ness	Other enterprise	Total
Jamnagar	Text only	5				3		8
	Voice only							
	Voice & Text both							
	Total Messages	**5**				**3**		**8**
	Total farmers Benefitted	**243245**				**126929**		**370174**

15. PERFORMANCE OF INFRASTRUCTURE IN KVK

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

Sl. No.	Demo Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	
1	Horticulture Unit	2012-13	3.5 Ha	Guavava	Fruit	-			
				Sapota	Fruit	9.74		9740	
				Pomegranate	Fruit	0.80		4000	
				Custard apple	Fruit	1.45		3625	
				Anola	Fruit	2.46		3690	

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

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.(q)	Cost of inputs	Gross income	
Cereals									
Wheat	18.11.17		3	GW-496	seed	130.10			
Pulses									
Green Gram	4.07.17		0.7	GM-4	seed	2.77			
Gram	13.11.17		2.3	GG-3	Seed	22.50			

Gram	14.11.17		0.7	GJG-5	Seed	10.00			
Oilseeds									
Groundnut	1.06.17		3.9	GJG-22	seed	101.20			
Sesame	5.07.17		3	G.til.-3	seed	25.15			
Fibers									
Spices & Plantation crops									
Floriculture									
Fodder									
Sorghum	15.06.16		0.3		Green Fodder Dry Fodder	2210 2300			
Vegetables									
Others (specify)									
Sunhemp	01.08.17		0.4	Local	Seed	180			

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

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1	-	-	-	-	-

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

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1	Cow	Gir	Milk	2590.8 lit	100000	82906	
			FYM	50 ton		20000	

E. Utilization of hostel facilities

Accommodation available (No. of beds):

Months	**No. of trainees stayed**	**Trainee days (days stayed)**	**Reason for short fall (if any)**
April 2017	40	3	0
May 2017	0	0	0
June 2017	40	3	0
July 2017	73	5	0
August 2017	0	0	0
September 2017	0	0	0
October 2017	0	0	0
November 2017	0	0	0
December 2017	0	0	0

January 2018	0	0	0
February 2018	0	0	0
March 2018	0	0	0

F. Database management

S. No	Database target	Database created

G. Details on Rain Water Harvesting Structure and micro-irrigation system

Amount sanction (Rs.)	Expenditure (Rs.)	Details of infrastructure created / micro irrigation system etc.	Activities conducted					Quantity of water harvested in '000 litres	Area irrigated / utilization pattern
			No. of Training programmes	No. of Demonstrations	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)		

16. FINANCIAL PERFORMANCE

A. Details of KVK Bank accounts

Bank account	Name of the bank	Location	Branch code	Account Name	Account Number	MICR Number	IFSC Number
With Host Institute	State Bank of India						
With KVK	State Bank of India	Khodiyar Colony, Jamnagar	SBIN0012211	Training Organizer	10319002389	361002098	12211

B. Utilization of KVK funds during the year 2017-18 (Rs. in lakh)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	**Pay & Allowances**	9053000	9053000	8304894
2	**Traveling allowances**	200000	200000	76668
3	**Contingencies**	1030000	1030000	1029977
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	300000	300000	299498
B	POL, repair of vehicles, tractor and equipments			
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	100000	100000	102000
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	85000	85000	83453

E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	355000	355000	355630
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	85000	85000	87681
G	Training of extension functionaries	30000	30000	30652
H	Maintenance of buildings	75000	75000	71063
I	Establishment of Soil, Plant & Water Testing Laboratory	0		
J	Library	0		
TOTAL (A)		10283000	10283000	9411539
B. Non-Recurring Contingencies				
1	**Works**	0	0	0
2	**Equipments including SWTL & Furniture**	0	0	0
3	**Vehicle** (Four wheeler/Two wheeler, please specify)	0	0	0
4	**Library** (Purchase of assets like books & journals)	0	0	0
TOTAL (B)		**0**	**0**	**0**
C. REVOLVING FUND		0	0	0
GRAND TOTAL (A+B+C)		**10283000**	**10283000**	**9411539**

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

Year	Opening balance as on 1st April	Income during the year	Expenditure during the year	Net balance in hand as on 1st April of each year
April 2015 to March 2016	3840285	993984	410462	4423807
April 2016 to March 2017	4423807	2635135	2197362	4861580
April 2017 to March 2018	**4861580**	**4171833**	**3457716**	**5557697**

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

Sr. No.	Period	Name of Officer	Title	Venue or Place	Sponsoring Agency	Duration (days)
1	21.04.17 to 22.04.17	Dr. P. S. Gorfad	National Seminar organized by SEEG	SDAU, at Sardar Krushinagar, Dantiwada	SEEG	2
2	21.04.17 to 22.04.17	Dr. K. P. Baraiya	National Seminar on 'Extension Plus: Expanding the Horizons of Extension for Holistic Agricultural Development'	SDAU, at Sardar Krushinagar, Dantiwada	SEEG	2
3	20.05.17	Dr. J. S. Chaudhari	Training programme on Proper Handling of Mini Soil Testing Machine	Director, ATARI, Jodhpur	ICAR	1
4	5.06.17 to 26.06.17	Dr. V. C. Gadhiya	Summer school on Plant Bio security & Incursion Management	NIPHM, Rajendranagar, Hyderabad	ICAR	21
5	10.06.17 to 12.06.17	Dr. K. P. Baraiya	Zonal workshop on KVKs	JAU, Junagadh	ICAR	3
6	18.08.17	Dr. K. P. Baraiya	Regional Orientation Workshop on Skill Development	State Institute of Agriculture Management, Durgapura, Jaipur	ICAR	1
7	19/8/17	Dr. V. C. Gadhiya	State level Seminar on "Adhunic Khetima Paksaraxan: Samsya ane Samadhan"	PPAG, JAU, Junagadh	PPAG	1

8	29.01.18 to 31.01.18	Mr. S. H. Lakhani	Workshop-cum-Training on CFLDs on Pulses and Oilseeds'	Navsari Agricultural University, Navsari	ICAR	3
9	16.03.18 to 17.03.18	Dr. K. P. Baraiya	National Conference on KVKs 2018	IARI Campus, New Delhi	ICAR	2
10	21.03.18 to 23.03.18	Dr. K. P. Baraiya	Training programme on "Water Conservation techniques and Micro Irrigation system for Quality Crop production"	DEE, JAU, Junagadh	ICAR	3
11	21.03.18 to 23.03.18	Dr. J. N. Thakar	Training programme on "Water Conservation techniques and Micro Irrigation system for Quality Crop production"	DEE, JAU, Junagadh	ICAR	3
12	21.03.18 to 23.03.18	Mr. S. H. Lakhani	Training programme on "Water Conservation techniques and Micro Irrigation system for Quality Crop production"	DEE, JAU, Junagadh	ICAR	3
13	21.03.18 to 23.03.18	Smt. A. K. Baraiya	Training programme on "Water Conservation techniques and Micro Irrigation system for Quality Crop production"	DEE, JAU, Junagadh	ICAR	3

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

18.1 List special programmes undertaken by the KVK, which have been financed by State Govt./Other Agencies

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
Establishment of Agricultural Technology Information Centre (ATIC)	2017-18	State Govt.	2620837/-
Soil Health Card	2017-18	State Govt.	121818/-
Cluster Frontline demonstration of Oilseeds under NMOOP(B.H.:- 2704-51)	2017-18	ICAR	404250/-
Cluster Frontline demonstration of pulses under NSFM (B.H.:- 2704-50)	2017-18	ICAR	37500/-
Seed Village Programmes (B.H.;- 18018-18)	2017-18	State Govt.	1292450/-

18.2 ESTABLISHMENT OF AGRICULTURAL TECHNOLOGY INFORMATION CENTRE (ATIC) (YEAR-2017-18).

1.	Name of the Scheme	:	Establishment of Agricultural Technology Information Centre (ATIC) B.H. 12572-03
2.	Location of the scheme	:	Krishi Vigyan Kendra, JAU, Jamnagar
3.	Officer-in charge of the scheme	:	Senior Scientist & Head, KVK, JAU, Jamnagar
4.	Objectives	:	➢ Single window system for technology dissemination. ➢ Formulation of FIGs as a process of innovativeness in technology dissemination.

			➢ Feedback from users to the research centre
5.	Justification of the scheme	:	➢ The JAU has generated a large number of technologies in different disciplines of agriculture and all allied subjects. ➢ Location specific technology and assessment technologies and demonstration of the technological models is planned.

A. Details of ATIC:

Sr. No.	Name of ATIC	Name of host institute	Name of ATIC manager	Telephone No.			E-mail address
				Office	Fax	Mobile	
1.	KVK, Jamnagar	Junagadh Agricultural University, Junagadh	Senior Scientist & Head	(0288) 2710165	(0288) 2710165	+919427980032	kvkjamnagar@jau.in

B. Details of farmers visit:

Sr. No.	Name of ATIC	Purpose of visit	No. of farmers visited
1.	KVK, Jamnagar	For agricultural information	857
2.	KVK, Jamnagar	Technology Products	407

C. Facilities in ATIC (Operational):

Sr. No.	Particulars	No. of ATIC
1.	Reception counter	No
2.	Exhibition/technology measures	Yes
3.	Touch screen kiosk	Nil
4.	Cafeteria	Yes
5.	Sales counter	Yes
6.	Farmers feedback register	Yes
7.	Others	Nil

D. Technologies Information Provided

D. 1. Details technology information, category of information:

Name of ATIC	Information Category	No. of farmers benefitted	Variety	Pest Management	Disease management	Agro tech.	SWT	PHT	AH
KVK, Jamnagar	1. Kisan call centre/ phone calls	306903	2	2	2	Nil	Nil	Nil	Nil
		54706	169	51854	1973	320	277	92	21
	2. Video shows	1910	157	560	425	238	205	145	180
	3. Letters received	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	4. Letter replied	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	5. Training to famers/ technocrats/ students	308	22	152	80	11	29	8	6
	6. Others	-	-	-	-	-	-	-	-

D. 2. Publication (Print & Electronic media):

Sr. No.	Name of ATIC	Particular	No. sold/distributed	Revenue generate	No. of farmers benefitted
1.	KVK, JAU, Jamnagar	Books/Booklet	275	Nil	275
2.		Tech. bulletin	Nil	Nil	Nil
3.		Tech. inventory	Nil	Nil	Nil
4.		CDs	Nil	Nil	Nil
5.		DVDs	Nil	Nil	Nil
6.		Leaflet	1530	Nil	1530

7.		Folders	3200	Nil	3200
8.		Video films	Nil	Nil	Nil
9.		Audio CDs	Nil	Nil	Nil
10.		Others (Poster)	215	Nil	215

E. Technology products provided:

Sr. No.	Particular	Quantity	Unit of quantity	Value in Rs.	No. of farmers benefitted
1.	**Seeds**				
(i)	Green Gram (GM-4)	3.68	Quintal	36800	-
(ii)	Groundnut (GG-22)	101.2	Quintal	742099	-
(iii)	Sesame (GT-3)	35.26	Quintal	440750	-
(iv)	Sun hemp (Local)	1.80	Quintal	18000	-
2.	**Planting materials**	750	No.	340	11
3.	**Live stock**	-	-	-	-
4.	**Poultry birds**	-	-	-	-
5.	**Bio Product**		**Quintal**	-	-
	1. *Beauveria bessianaa*	151.36	Quintal	2270400	772
	2. *Trichoderma*	91.79	Quintal	642530	472
	3. PSB	523	No.	31380	65
	4. Rhizobium	228	No.	13680	21
	5. Azatobactor	404	No.	24240	40
6.	**Others**				
	(i) Fruits				
	1. Sapota	9.74	Quintal	9740	65
	2. Anola	2.46	Quintal	3690	38
	3. Custard apple	1.45	Quintal	3625	20
	4. Pomegranate	0.80	Quintal	2000	10
	(ii) Vermi-compost	3.00kg	Quintal	1500	1
	(iii) Milk	2590.8	Lit.	82906	11

F. Technology services provided:

Name of ATIC	Particulars	No. of farmers benefitted
KVK, Jamnagar	Soil and Water testing	129
	Plant diagnosis	86
	Services to line department	42
	Others (Group Meeting, Field Visit, Field Day)	283

A. FLD conducted:

Sr. No.	Month	Crop/Inputs	Season	Variety	No. of Farmers/ Demonstration		
					Others	SC/ST	Total
1.	April-17 to March-18	**Cumin** PSB, *Azotobacter*, *Beauveria, Trichoderma*	*Rabi*	-	47	3	50
2.		**Coriander** PSB, *Azotobacter, Beauveria, Trichoderma*	*Rabi*	-	41	9	50
				Total	**88**	**12**	**100**

B. Short term training courses:

Sr. No.	Month	Title of the Training	No. of Beneficiaries			No. of SC/ST Beneficiaries		
			M	F	Total	M	F	Total
1.	April-17 to March-18	1. Management of pink bollworm in cotton	38	-	38	4	-	4

2.		2. Management of pink bollworm in cotton & management of white grub in groundnut and other *kharif* crops	68	-	68	8	-	8
3.		3. IPM & IDM in fruit, vegetable and *rabi* field crops	30	-	30	-	-	-
4.		4. IPM and IDM in *rabi* field crops	18	-	18	7	-	7
5.		5. IPM and IDM in *rabi* field crops	25	-	25	-	-	-
6.		6. Student training	36	53	89	8	13	21
		Total	**215**	**53**	**268**	**27**	**13**	**40**

C. Extension Activity:

Name of ATIC	Information Category	No. of farmers benefitted	Variety/INM	IPM	IDM	Agro Tech	SWT	PHT	AH/FISH
KVK, Jamnagar	Kisan call	306903	2	2	2	Nil	Nil	Nil	Nil
	Centre/ phone	54706	169	51854	1973	320	277	92	21
	Training	308	22	152	80	11	29	8	6

Sr. No.	Name of Activity	No. of Activity	No. of Participant		
			M	F	T
1	Group meeting, Kishan goshthi	7	166	-	166
2	Field visit/Field Day	47	117	-	117
3	Night meeting etc.	1	102	-	102
4	Literature	4268 no.	-	-	-
5	Plant Diagnosis services	86	86	-	86

18.3. OTHER PROGRAMME CELEBRATED

CELEBRATION OF TECHNOLOGY WEEK

KVK, JAU, Jamnagar celebrated technology week during October 3rd - 7th, 2017 at different places. In which total 463 Farmers/farm women from different blocks were participated and also provided extension literature to each participant. This programme was chaired by Dr. A.M. Parakhia, Director of Extension Education, Junagadh Agricultural University, Junagadh, inaugurated function by lighting the lamp. In his presidential speech he appreciates farm women for their role in Agriculture, home and child development. During this week farm women ware aware about special emphasis on Value addition of agriculture products and Animal husbandry. Farmer ware aware about pink boll worm in cotton and white grug in groundnut and other kharif crop. They also encourage for organic farming as well as reduction of cost of cultivation with improved technologies. Many demonstration and video shows were arranged during this programme.

Mahila Krushi Divas 6th August, 2017

KVK, DAO, ATMA, and Dy.Dir.-Agriculture, Animal Husbandry, Horticulture, Jamnagar Jointly celebrated "Mahila Krushi Divas" on 6th August. 2017 at KVK, JAU, Jamnagar. In this Programme **159** farm women of Jamnagar District were participated. The inaugural session was chaired by Smt. Pratibhaben Kankhara, Mayer, Jamnagar Municipal Corporation. Maltiben Bhalodia, Chairmen, women and child development, District Panchayat; Shri R. J. Makdiya (IAS),Collector, Jamnagar; Shri M. A. Pandya, DDO; Dr. K. P. Baraiya, Senior Scientist & Head, KVK, JAU, Jamnagar; Shri J. B. Mathasoliya, DAO; Dr.H.R.Jadav, PD(ATMA); Dr.B.D.Patel Dy.Dir.AH.; C. O. Lashkari, Dy.Dir.Hort., and other scientist of KVK remained present and delivered lecture. Empowerment of women by value addition in agriculture produce, Mechanized farming, High tech farming, Drudgery reduction Technology, Animal Husbandry, Varmi compost, Organic farming, Kitchen gardening etc were topic of hot discussion in this programme.

"New India Manthan – Sankalp Se Siddhi" programme on 25th August, 2017 of Jamnagar District.

The programme was started by lightening the lamp by invited guest. Su Shree Poonamben Madam, M.P. (Jamnagar), Meghajibhai Chavada MLA (76-Kalavad), Dr. V. P. Chovatiya, D.R., JAU, Jamnagar were remain present. Dr. M. D. Khanpara, R.S.(Bajara), JAU, Jamnagar welcomes all the guests as well farmer representative from different villages of the district. Video clips of Invocation song and PM's message were delivered. Dr. K. P. Baraiya, Senior Scientist & Head, KVK, JAU, Jamnagar deliver talk on minimize the cost with maximum production, he also say on seven-point strategy to double the farmers' income by 2022. Dr. V. P. Chovatiya, Director of Research, JAU, Junagadh address the house. Meghjibhai Chavda deliver his talk on developing agriculture Gujarat. Su Shree Poonamben Madam, present chief guest talk on "New India Manthan-Sankalp Se Siddhi" 125 farmers, 22 officers were participated.

"New India Manthan – Sankalp Se Siddhi" programme on 25th August, 2017 of Dev Bhumi Dwarka District.

KVK, Jamnagar celebrated "New India Manthan – Sankalp Se Siddhi" programme on August 25, 2017 at Bhagvati hall, Near Jodhpur naka, Jam Khambhaliya, Dist. Dev Bhumi Dwarka.

The programme was started by lightening the lamp by invited guest. Dr. K. P. Baraiya, Senior Scientist & Head, KVK, JAU, Jamnagar welcomes all the guests as well farmer representative from different villages of the district. Video clips of Invocation song from Junagadh Agricultural University were delivered. Also presented video clip of Prime Minister's Message on doubling the farmers income. Dr. K. P. Baraiya, deliver talk on minimize the cost with maximum production, he also say on seven-point strategy to double the farmers' income by 2022; lecture on integrated pest management. Su Shree Poonamben Madam, Hon'ble Member of Parliament (Jamnagar) present chief guest talk on "New India Manthan-Sankalp Se Siddhi". 158 farmers and 15 extension officers were participated in this programme.

Mahila Kisan Divas 15th October, 2017

Krishi Vigyan Kendra, JAU, Jamnagar Organized Mahila Kisan Divas on 15th October, 2017 at KVK, JAU, Jamnagar. In this programme arranged lectures on Kitchen Gardening, Value addition, Income generation activity and IPM in vegetable crops. 46 farm women were actively participated in this programme. We arranged Quiz competition related to Farm, animal husbandry and women related question and the participants who give the correct answer were appreciated by 1 kg anola as gift. We also arranged debates on Animal keeping and Group discussion on role of women in agriculture. Farm women visited to demonstration unit and KVK field.

World Honey Bee Day 19th August, 2017

Krishi Vigyan Kendra, JAU, Jamnagar celebrated World Honey Bee day in collaboration with ATMA Project Jamnagar at KVK premises on 19th August, 2017. During this programme the farmers were given tips for keeping healthy honey bee colonies, detailed handling of honey bee colonies from spring season to winter season and benefits of honey and gave tips on proper marketing of honey was discussed by Shri. S. H. Lakhani, Scientist, KVK, JAU, Jamnagar. Dr. P. S. Gorfad, Scientist, KVK, JAU, Jamnagar shared the information on role of honey bees in pollination of horticultural crops. Shri. Shinojia, PD, ATMA, Jamnagar gave information on subsidies under NHM for honey bees rearing. Dr. H. N. Lakhani, DPD, ATMA, Jamnagar also discussed about role of honey bee in crop production. Participating farmers were fully convinced along with their queries were also addressed by the experts. 87 farmers and farm women participated in this programme. Shri. S. H. Lakhani gave Method Demonstration of Beekeeping.

Parthenium Awareness Week (16 to 22 August)

KVK, Jamnagar organized awareness programme under the Parthenium awareness week. In this programme 100 Female farmers are participated and to create awareness about skin diseases caused by parthenium, its remedy and removal of parthenium and kept surrounding area free from Parthenium. Particle demonstration were also done at KVK, farm.

Swachh Bharat Pakhwada (15th Sept. to 2nd Oct, 2017)

Krishi Vigyan Kendra, Jamnagar celebrated Swachh Bharat Pakhwada during 15th September to 2nd October, 2017. During this celebration dated 21.09.17 Arranged Awareness programme under

"Swachhta Hi Seva" of farm women. In this programme Awareness about NADAP Composting and Vermi composting. Dated 24.09.17-Celebrated Samagra Swachhta Diwas. All the staff members of KVK, Jamnagar was participated in this programme. Cleaned KVK office premises, staff Quarters and different units by staff members of KVK and farm workers. We cleaned the campus by removing plastics, paper wastes and also weeded out parthenium. Dated 25.09.17- Celebrated Sarwatra Swachhta Divas. Cleaned farmers hostel and surround area by staff members of KVK. On the day of 27.09.17- Swachhta of nearby tourist place- Khijadiya Bird Sanctuary was cleanned by staff members of KVK, Jamnagar and Khijadiya Bird Sanctuary. in this programme cleaned Khijadiya bird sanctuary office premises, campus and bird sanctuary area.

Exposure Visit

Exposure Visit of farmers were arranged on 29th December, 2017 at central ware house corporation, KVK, Jamnagar. 45 farmers were visited Central Ware House, Hapa, Jamnagar and farmers aware about this storage techniques etc.

First report: Occurrence of *Bactrocera dorsalis* (Hendel) in date palm (*Phoenix dactylifera*)

Dr. V. C. Gadhiya, Shri. S. H. Lakhani and Dr. K. P. Baraiya, Scientists, KVK, JAU, Jamnagar collected sample of fruit fly from Haripar village of Jamnagar district in date palm plantation field and send for the identification at National Institute of Plant Health Management (NIPHM), Hyderabad and it is identified as *Bactrocera dorsalis* (Hendel). It was observed that occurrence of *B. dorsalis* is not reported in date palm.

Student training

RAWE:- Student training programme under RAWE programme of College of agriculture, JAU, Mota Bhandariya (Amareli) during 11 to 18 November, 2017 (24 Student) and College of agriculture, JAU, Junagadh during 28 Aug to 6 Sept, 2017 (24 student). During this programme students aware about practical knowledge of farm management and mandatory activity of KVK. They are also aware about research activity at this farm.

BRS Students :- 3 Students from Kum. Anya Binoibhai Gardi Gram Vidyalaya Mahavidyalaya, Shardagram, BRS College, Mangarol were come for internship of 20 days training programme.

18.4 DETAILS OF SOIL, WATER AND PLANT ANALYSIS

Samples	No. of Samples	No. of Farmers	No. of Villages	Amount realized (Rs.)
Soil	26	26	11	8485
Water	14	14	8	700
Plant	111	86	36	0
Manure				
Others (pl. specify)				
Total	**151**	**126**	**55**	**9185**

APR SUMMARY

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

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	22	369	452	843
Rural youths	1	24	0	24
Extension functionaries	6	261	7	268
Sponsored Training	23	460	286	846
Vocational Training	4	54	60	114
Total	**56**	**1168**	**805**	**2095**

2. Frontline demonstrations

Enterprise	No. of Farmers	Area(ha)	Units/Animals
Oilseeds	140	350	
Pulses	0	0	
Cereals	12	30	
Vegetables	6	15	
Other crops	10	70	
Hybrid crops			
Total	**168**	**465**	
Livestock & Fisheries	0	0	
Other enterprises	4	4	
Total	4	4	
Grand Total	**172**	**469**	

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops			
Livestock	3	9	9
Various enterprises	1	3	3
Total			
Technology Refined	**4**	**12**	**12**
Crops	5	15	15
Livestock			
Various enterprises			
Total	**5**	**15**	**15**
Grand Total	**9**	**27**	**27**

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	1308	100816
Other extension activities	24774	-
Total		

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						
		Crop	Lives tock	Weath er	Marke-ting	Aware-ness	Other enterprise	Total
	Text only	5				3		8

Jamnagar	Voice only							
	Voice & Text both							
	Total Messages	**5**				**3**		**8**
	Total farmers Benefitted	**243245**				**126929**		**370174**

6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	**297.07**	1399154
Planting material (No.)	**750**	**338**
Bio-Products (kg)	**24315**	**254700**
Livestock Production (No.)	1	
Fishery production (No.)		

7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil	26	8485
Water	14	700
Plant	86	0
Total	**126**	**9185**

8. HRD and Publications

Sr. No.	Category	Number
1	Workshops	6
2	Conferences	1
3	Meetings	3
4	Trainings for KVK officials	6
5	Visits of KVK officials	3
6	Book published	0
7	Training Manual	21
8	Book chapters	0
9	Research papers	2
10	Lead papers	0
11	Seminar papers	1
12	Extension folder	3
13	Proceedings	1
14	Award & recognition	0
15	On going research projects	0

ANNEXURE –I

PROCEEDING OF THE 14th SCIENTIFIC ADVISORY COMMITTEE MEETING OF KRISHI VIGYAN KENDRA, JAU, JAMNAGAR HELD ON 12th April, 2018

The Fourteenth Scientific Advisory Committee meeting of KrishiVigyan Kendra, JAU, Jamnagar was held at Training Hall, KrishiVigyan Kendra, JAU, Jamnagar on 12thApril, 2018.

The following members were remain present in the meeting.

Sr. No.	Name & Designation	Position
1	Dr. A. R. Pathak, Hon'ble Vice Chancellor, Junagadh Agricultural University, Junagadh	Chairman
2	Dr. A. M. Parakhia, Director of Extension Education, Junagadh Agricultural University, Junagadh -362001.	Member
3	Dr. V. P. Chovatia, Director of Research, Junagadh Agricultural University, Junagadh	Member
4	Dr. S. G. Sutariya, Associate Director of Research, Main Dry Farming Research Station, Junagadh Agricultural University, Targhadia (Rajkot).	Member
5	Dr. M. D. Khanpara, Research Scientist (Millet), Main Millet Research Station, Junagadh Agricultural University, Jamnagar- 361 006.	Member
6	District Agricultural Officer, District Panchayat, Jamnagar,	Member
7	Project Director, District Watershed Development Unit, District Rural Development Agency, Sardar Bhavan, Rameshwarnagar, Jamnagar (Navagam Ghed).	Member
8	Dy. Director of Animal Husbandry, Dept. of Veterinary & Animal Husbandry, District Panchayat, Jamnagar	Member
9	Dy. Director of Horticulture, 30, Digvijay Plot, Jodiyawala Building, Jamnagar	Member
10	Dy. Director of Agriculture (Extension), Lalbunglow, Nr. Trazery office, Jamnagar	Member
11	Dy. Director of Agriculture, Farmers Training Centre, Air Force Road, Opp. Digjam Mill, Jamnagar.	Member
12	Project Director, Agricultural Technology Management Agency (ATMA), Air Force Road, Opp. Digjam Mill, Jamnagar.	Member
13	Deputy Director, Gujarat Land Development Corporation Ltd., Near: Shubhash Market, Jamnagar.	Member
14	Asstt. Director of Fisheries, Sumer club road, Jamnagar	Member
15	Research Officer, Fisheries Research Station, Okha,	Member
16	Progressive farmer (G): Shri Kishorbhai Laljibhai Pedhadiya, At:- Sumari, Ta. & Dist.- Jamnagar., Via:- Dhutarpur	Member
17	Progressive farm women (G): Shri Hansaben Kishorbhai Pedhadiya, At:- Sumari, Ta. & Dist.- Jamnagar., Via:- Dhutarpur	Member
18	Progressive farmer (Horticulture) : Shri Jagdishsihgh Bapubha Jadeja , At:- Memana, Ta:- Lalpur, Dist:- Jamnagar	Member
19	Progressive farmer (Animal Husbandry) : Shri Jayshreeba Jagdishsihgh Jadeja, At:- Memana, Ta:- Lalpur, Dist:- Jamnagar	Member
20	Dr. K. P. Baraiya, Senior Scientist & Head, Krishi Vigyan Kendra, Junagadh Agricultural University, Jamnagar	Member Secretary
21	Smt. Anjanaben K. Baraiya, Scientist (Home Science), KVK, JAU, Jamnagar	
22	Dr. P.S. Gorfad, Scientist (Extension Education), KVK, JAU, Jamnagar	
23	Shri S. H. Lakhani, Scientist (Crop Production), KVK, JAU, Jamnagar	

Sr. No.	Name & Designation	Position
24	Dr. J.N. Thaker, Scientist (Fisheries), KVK, JAU, Jamnagar	
25	Dr. D. L. Kadvani, Research Scientist (Pl.Patho.), Main Millet Research Station, Junagadh Agricultural University, Jamnagar- 361 006	
26	Shri A. F. Kadivar, Deputy Project Director, ATMA Project, Jamnagar	
27	Shri J. B. Patel, Deputy Project Director, ATMA Project, Jamnagar	
28	Shri Jayesh Sanghani, Deputy Project Director, ATMA Project, Devbhumi Dwarka	
29	Shri S. N. Galani, Agriculture Officer, KVK, JAU, Jamnagar	
30	Shri H. S. Godhani, Farm Manager, KVK, JAU, Jamnagar	

Dr. M. D. Khanpara, Research Scientist (Pearl Millet), Pearl Millet Research Station, JAU, Jamnagar welcomed the dignitaries and all the members of the Scientific Advisory Committee and highlighted the brief achievements of the Centre.

Dr. A. R. Pathak, Hon'ble Vice-Chancellor and Chairman of Scientific Advisory Committee chaired the meeting and grant permission to proceed the meeting.

After garlanding the guests and dignitaries on the dias, and inaugurating the meeting by lightening a lamp. Dr. A. R. Pathak, Hon'ble Vice-Chancellor and Chairman of Scientific Advisory Committee advise for presentation of annual progress report and action plan.

Dr. K. P. Baraiya, Senior Scientist & Head, KrishiVigyan Kendra, JAU, Jamnagar presented action taken report of the minutes of 13th SAC meeting, progress report (April- 2017 to March-2018) and Action Plan (April 2018 to March- 2019) in brief. On behalf of Dr. V. C. Gadhiya, Scientist (Plant Protection), KVK, JAU, Jamnagar Dr. K. P. Baraiya, Senior Scientist & Head, Krishi Vigyan Kendra, JAU, Jamnagar presented progress report (April- 2017 to March-2018) and Action Plan (April 2018 to March- 2019) for discipline of Plant Protection.Smt. A. K. Baraiya, Scientist (Home Science), KVK, JAU, Jamnagar presented progress report (April- 2017 to March-2018) and Action Plan (April 2018 to March- 2019) for discipline of home science. Dr. J. N. Thaker, Scientist (Fisheries), KVK, JAU, Jamnagar presented progress report (April- 2017 to March-2018) and Action Plan (April 2018 to March- 2019) for discipline of fisheries and animal science. He also presented ATIC Scheme Progress report. Shri S. H. Lakhani, Scientist (Crop production), KVK, JAU, Jamnagar presented progress report (April- 2017 to March-2018) and Action Plan (April 2018 to March-2019) for discipline of crop production and Soil Health Fertility Management. He also presented Annual Report (April- 2017 to March-2018) and Action Plan (April 2018 to March- 2019) for the National Mission on Oilseeds and Oil palm (NMOOP). Dr. P. S. Gorfad,Scientist (Ext. Edu.), KVK, JAU, Jamnagar presented progress report (April- 2017 to March-2018) and Action Plan (April 2018 to March- 2019)for discipline of capacity building, agricultural engineering and horticulture.He also presented Annual Report (April- 2017 to March-2018) and Action Plan (April 2018 to March- 2019) for the National Food Security Mission (NFSM). The annual report and action plan both were approved by the members with suggestions.

Suggestions made by committee members during presentation:

1.	Dr. A. R. Pathak, Hon'ble Vice Chancellor, Junagadh Agricultural University, Junagadh& Chairman of the SAC suggested following points. ➢ Study the economics and required area for FLD on *raft*culture preparation.

	➢ Arrange FLD on sea weed liquid for pomegranate cultivation. ➢ Emphasis on doubling the farmers income during training thought out the year. ➢ Emphasis on value addition in pomegranate and groundnut. ➢ Arrange FLD on Matting disrupter technique for pink ball worm in cotton crop. ➢ Arrange FLD on *Metarhizium* for the management of whitegrub groundnut crop. ➢ Train the pomegranate farmers for "*bahar"* management, removal of water shoots and canopy management. ➢ Prepare list of organic certified farmers. ➢ Detail study on sea weed production technology and present it. ➢ Arrange field day on pen culture technique.
2.	Dr. V. P. Chovatiya, Director of Research, JAU, Junagadh pointed out ➢ Arrange training on value addition of Ajwain, Chikori and other spice crop. ➢ Action taken report should quantify and give details. ➢ Arrange training on stem borer infestation inwheat. ➢ Give information about weather and technical suggestion on precaution measures through SMS. ➢ Arrange training on *kharif* crop production technology, IPM and IDM during second quarter instead of first quarter. ➢ Arrange training on organic farming and bio-fertilizer and recycling of farm waste during first quarter instead of second quarter. ➢ Arrange FLD in clusters in ATIC scheme. ➢ Arrange cluster FLD on groundnut variety GJG-22 instead of GG-20.
3.	Dr. A. M. Parakhia, Director of Extension Education, JAU, Junagadh advice that ➢ Analyze maximum soil and water sample at KVK Soil Testing Laboratory. ➢ Arrange demonstration at KVK farm for production and use of *Jivamrut.*
4.	Dr. M. D. Khanpara, Research Scientist (Pearl Millet), Pearl Millet Research Station, JAU, Jamnagar suggested to arrange OFT on cotton picking kit.
	Shri C. O. Lashkari, Deputy Director of Horticulture, Jamnagar & Devbhumi Dwarka suggested for arrange training on pomegranate in collaboration with Horticulture Department.

Dr. V. P. Chovatia, Director of Research, Junagadh Agricultural University, Junagadh guided for arrange front line demonstration in clusters. He also suggested to replace old variety of groundnut (GG-20) with newer variety of GJG-22 by maximum FLD and guidance for production technology through use of information technology tools. He also suggested to maximum selling of bio-product from KVK.

Dr. A. M. Parakhia, Director of Extension Education, JAU, Junagadh gave remarks on reduction of cost of cultivation, he also suggested to maximize the training to farmers for micro irrigation system. He also suggested to maximize the area of organic farming though training and replacement of chemical use by bio-products.

After above suggestions from the house Dr. A. R. Pathak, Hon'ble Vice Chancellor, Junagadh Agricultural University, Junagadh, delivered the chairmen's remarks. He emphasized on active participation of farmers and scientistsin specific technology development for doubling the farmer's

income. He directed for the training on doubling the farmer's income with the help of seven steps suggested by Hon'ble Prime Minister Shree Narendra Modi during the programme of "Sankalp Se Siddhi". He also advised to inform farmers for planning of crop production as per the "recommendation of market intelligence survey". According to him, the impact of technology can be only derived from cluster front line demonstration. He also suggested to give integrated crop management technology through all the products produced by the University. At last he appreciated for overall work done by KVK. It wasnoted that Jamnagar KVK is the first among all JAU's KVK, where 100% micro irrigation system was used.

The meeting ended with the vote of thanks by Dr. P. S. Gorfad, Scientist (Extension Education), KVK, J.A.U., Jamnagar.

Member Secretary, SAC &
Senior Scientist & Head
KrishiVigyan Kendra
Junagadh Agricultural University
Jamnagar

Director of Extension Education,
Junagadh Agricultural University
Junagadh

Note: Proceeding for approval please.

Chairman, SAC
KVK, JAU, Jamnagar
&
Vice Chancellor
Junagadh Agricultural University
Junagadh

ANNEXURE –II

ICAR-ATARI, Pune
ANNUAL PROGRESS OF SEED HUB PROJECT

Name of KVK: Jamnagar

Physical Progress:

Season & Year	Crop	Target of Seed Production (q)	Achievement in Seed Production (q)	Variety with year of release	Seed producing centres/Farmer's Field	Area (ha)	Class of seed produced (F/S, C/S)
Kharif, 2016-17	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
Rabi, 2016-17	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
Summer, 2016-17	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
Kharif, 2017-18	Groundnut	2760	3872	GG-20 (1991)	352 Farmer's Field	140.8	C/S
Rabi, 2017-18	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
Summer, 2017-18	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-

Financial Progress:

Year	Fund allocated (Rs.)		Fund received (Rs.)		Expenditure (Rs.)		Unspent balance (Rs.)	Remarks
	Infrastructure	Revolving Fund	Infrastructure	Revolving Fund	Infrastructure	Revolving Fund		
2016-17	-	-	-	-	-	-	-	-
2017-18	-	**1292450**	**-**	**1292450**	**-**	**791716**	500734	
Total	-	**1292450**	**-**	**1292450**	**-**	**791716**	500734	

Infrastructure Development:

Item	Progress	Remarks
Seed processing unit	-	-
Seed storage structure	-	-

ANNEXURE –III

PROFORMA FOR SUBMISSION OF PHYSICAL AND FINANCIAL PROGRESS REPORT OF SEED VILLAGE PROGRAMME

Name & Address of implementing agency :
DIRECTOR OF RESEARCH, JUNAGADH AGRICULTURAL UNIVERSITY, JUNAGADH
(Senior Scientist & Head, Krishi Vigyan Kendra, Junagadh Agricultural University, JAMNAGAR)
Season & Year of Implementation : *Kharif* 2017-18

A. SEED DISTRIBUTION :

State	District	Crop	Variety	Crop / Variety wise Area (Acre)		Qty. of Foundation/ certified seed supplied (Qtl.)		Qty. of Seeds Produced (Qtl.)	No. of Seed Village Organized *		No. of Farmers Covered*					Financial Progress (Amt. Rs. in Lakh) for foundation seed/ Certified seed distribution			Remarks crop-variety wise 50% cost of seed per kg
				Target	Achievement	Target	Achievement		Target	Achievement	Gen.	SC	ST	Women	Total	Fund Received	Fund Utilised	Balance	
Gujarat	**Jamnagar**	**Groundnut**	**GG-20**	**352**	**352**	**105.60**	**105.60**	**3872**	**14**	**14**	**235**	**73**	**0**	**44**	**352**	**1292450**	**791716**	**500734**	**36.67**

B. FARMERS TRAINING :

S. No.	Crop / Variety	Place of Training	Date	No. of farmers participated *						Financial progress for farmers training (Amt. Rs. in Lakh)			Remarks
				Target	Achievement					Fund received	Fund utilized	Balance	
					Gen.	SC	ST	Women	Total				
1	Groundnut	Vavdi	13.9.17	44	36	8	0	0	44	-	-	-	-

C. DISTRIBUTION OF SEED STORAGE BINS (IF ANY):

Sr. No.	Capacity of Seed Bin	No. of Seed Storage Bins distributed*						Financial Progress (Amount Rs. in lakhs)			Cost of seed bins	Remarks
		Target	Achievement									
			General	SC	ST	Women	Total	Fund received	Fund Utilized	Balance		
1	- NIL -	-	-	-	-	-	-	-	-	-	-	-

Budget Information

Total Funds Received from GOI (A+B+C) (Amount Rs.in lakh)	Fund Utilized	Balance	Remarks
1292450	**791716**	**500734**	