ANNUAL REPORT (April-2016-March-2017)

APR SUMMARY

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	33	666	725	1391
Rural youths	2	0	109	109
Extension functionaries	3	70	14	84
Sponsored Training	15	266	290	556
Special Training (SMAM)	3	15	40	55
Total	**56**	**1017**	**1178**	**2195**

2. Frontline demonstrations

Enterprise	No. of Farmers	Area (ha)	Units/Animals
Oilseeds	60	24	60
Pulses	327	88	327
Cereals	110	52	110
Vegetables	300	104	300
Other crops	12	2	12
Hybrid crops	-	-	-
Total	809		809
Livestock & Fisheries	240	-	240
Other enterprises	150	-	150
Total	390	-	390
Grand Total	1199	270	1199

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops	6	2	30
Livestock	1	2	5
Various enterprises	1	2	5
Total	8	6	40
Technology Refined			
Crops	0	0	0
Livestock	0	0	0
Various enterprises	0	0	0
Total	0	0	0
Grand Total	8	6	40

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	125	16483
Other extension activities	26	3533
Total	**151**	**20016**

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marke-ting	Awar e-ness	Other enterprise	Total
	Text only	10809	11046	6236	-	1755	-	29846
	Voice only	-	-	-	-	-	-	-
	Voice & Text both	-	-	-	-	-	-	-
	Total Messages	**10**	**2**	**1**	**-**	**1**	**-**	**14**
	Total farmers Benefitted	10809	11046	6236	-	1755	-	29846

6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	6.14	67540
Planting material (No.)	35000	35000
Bio-Products (kg)	-	-
Livestock Production (No.)	-	-
Fishery production (No.)	-	-

7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil	-	-
Water	-	-
Plant	29	-
Total	29	-

8. HRD and Publications

Sr. No.	Category	Number
1	Workshops	6
2	Conferences	1
3	Meetings	41
4	Trainings for KVK officials	10
5	Visits of KVK officials	3
6	Book published	2
7	Training Manual	-
8	Book chapters	1
9	Research papers	3
10	Lead papers	-
11	Seminar papers	1
12	Extension folder	4
13	Proceedings	1
14	Award & recognition	2
15	On going research projects	3

DETAIL REPORT OF APR-2016-17

1. GENERAL INFORMATION ABOUT THE KVK

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

Address	Telephone		E mail
	Office	FAX	
Krishi Vigyan Kendra Navsari Agricultural University Athwa Farm, Surat Dist. Surat, Gujarat-395007	(0261) 2655565	(0261) 2668045 pp	kvkvsurat@nau.in

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

Address	Telephone		E mail
	Office	FAX	
Director of Extension Education Navsari Agricultural University Navsari	(02637) 282026	(02637) 282706	dee@nau.in

1.3. Name of the Programme Coordinator with phone & mobile No

Name	Telephone / Contact		Email
	Residence	Mobile	
Dr. J. H. Rathod	-	8128686720	**hariom.janaksinh@gmail.com**

1.4. Year of sanction: 2012

1.5. Staff Position (as on 30th March, 2017)

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale (Rs.)	Grade Pay	Present basic (Rs.)	Date of joining	Permanent /Temporary	Category (SC/ST/ OBC/ Others)	Mobile No.	Age	Email id
1	Senior Scientist and Head	Dr. J. H. Rathod	SS&H	Entomology	37400-67000	9000	38800	16.11.16	Temporary	General	8128686720	51	hariom.janaksinh@gmail.com
2	Scientist	Vacant	Scientist	Ext.Edu.	--	--	--	--	--	--	--	--	--
3	Scientist	Dr. H. C. Parmar	Scientist	Veterinary Science	15600-39100	6000	17810	02.04.12	Temporary	OBC	9727743501	35	drhitesh@nau.in
4	Scientist	Vacant	Scientist	Agronomy	--	--	--	--	--	--	--	--	--
5	Scientist	Prof. B. B. Panchal	Scientist	Horticulture	15600-39100	6000	15600	20.01.17	Temporary	OBC	9662431848	25	bbpanchal@nau.in
6	Scientist	Smt. G. J. Bhimani	Scientist	Home Science	15600-39100	6000	19050	05.02.16	Temporary	General	8511178903	41	gj2kvk@yahoo.com
7	Scientist	Dr. S. K. Chawda	Scientist	Crop protection	15600-39100	6000	17610	02.04.13	Temporary	SC	9998002502	32	sk_pathology@yahoo.com
8	Farm manager	Mr. A. T. Patel	Farm Manager	--	13700 Fix	00	00	12.07.12	Temporary	OBC	9687614098	30	atp@nau.in
9	Computer Programmer	Mr. C. G. Lad	Computer Prog.	--	13700 Fix	--	--	01.08.15	Temporary	OBC	9979393220	28	cglad@nau.in
10	Prog. Assistant	Mr. Y. D. Patel	Training Assistant	--	13700 Fix	--	--	10.08.15	Temporary	General	9586383403	28	ydpatel@nau.in
11	Accountant / Superintendent	Mr. K. N. Kothari	Acct. / Super.	--	9300-34800	4200	15140	01.07.15	Temporary	General	9725018775	55	knkothari@nau.in
12	Stenographer	J. M. Verma	Steno.	--	7800 Fix	--	--	19.08.15	Temporary	General	9426760841	32	jmverma@nau.in
13	Driver	Vacant	Driver	--	--	--	--	--	--				
14	Driver	Vacant	Driver	--	--	--	--	--	--				
15	Supporting staff	Vacant	Supp. Staff	--	--	--	--	--	--				
16	Supporting staff	Vacant	Supp. Staff	--	--	--	--	--	--				

1.6. Total land with KVK (in ha) :

S. No.	Item	Area (ha)
1	Under Buildings	-
2.	Under Demonstration Units	-
3.	Under Crops	2.00 ha
4.	Orchard/Agro-forestry	-
5.	Others (specify)	--
		-

1.7. Infrastructural Development:

A) Buildings

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	--	--	--	--	--	--	--
2.	Farmers Hostel	--	--	--	--	--	--	--
3.	Staff Quarters (6)	--	--	--	--	--	--	--
4.	Demonstration Units (2)	--	--	--	--	--	--	--
		--	--	--	--	--	--	--
5	Fencing	--	--	--	--	--	--	--
6	Rain Water harvesting system	--	--	--	--	--	--	--
7	Threshing floor	--	--	--	--	--	--	--
8	Farm godown							

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Jeep (Tata)	2012	599999	176170	Working
Tractor	2012	549900	2556.55(h)	Working

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Cultivator	2012-13	22500	Working
Plough	2012-13	22500	Working
Lenovo Computer with printer- 4	2015-16	162816	Working
Canon printer- 4	2015-16	34704	Working
Canon Copier machine	2015-16	47565	Working
Multi- media projector-2	2015-16	103691	Working
DSLR Camera	2015-16	39555	Working
Digital camera	2015-16	10305	Working
Multicrop Thresher	2016-17	180000	Working
Rotavetor	2016-17	67210	Working
Disc Harrow	2016-17	95000	Working
Multicrop seed cum fertilizer drill	2016-17	42000	Working
Bund former	2016-17	18000	Working
Cage wheel	2016-17	30450	Working
Ridger (with danti)	2016-17	13125	Working
Hydrulic luggage box	2016-17	16800	Working
V Ditcher	2016-17	12600	Working
Plank	2016-17	32550	Working
RO water purifier with cooler	2016-17	78000	Working
Mrida Parikshak Soil Testing minilab-kit	2016-17	86000	Working
.A/C-2	2016-17	80,000	Working

1.8. A). Details SAC meeting conducted in the year

Proceeding of 5th Scientific Advisory Committee Meeting of Krishi Vigyan Kendra, NAU, Surat held on 02/03/2017 at 03:30 p.m., at KVK, Surat

The Fifth Scientific Advisory Committee Meeting of Krishi Vigyan Kendra, NAU, Surat was held at KVK, Surat on 2nd March, 2017 to review the progress made by KVK during last year (1-4-2016 to 28-02-2017) and discuss the future action plan for the next year (April-2017 to March-2018). The meeting was inaugurated by Dr. C. J . Dangaria, Honorable Vice Chancellor, NAU, Navsari and Chairman of Scientific Advisory Committee, KVK, Surat. Dr. J. H. Rathod, Member Secretary & Senior Scientist and Head, Krishi Vigyan Kendra, Surat welcomed the dignitaries, committee members, farmers and other invitees. He presented the overall activities and achievements done by the KVK during the last year. Different Scientists also presented the discipline wise achievements made by them. Activities done by KVK, Surat was appreciated by the house and congratulated the Senior Scientist and Head and his team for addressing the key issues as per the need of the farmers of Surat district. The Action Plan for the next year was also presented before the house with due emphasis on mandatory activities with special reference to focus on tribal.

Dr. Anil Chinchmalatpure, Principal Scientist and Head, ICAR-CSSRI, RRS, Bharuch appreciated the technological backup provided by the KVK in tribal areas and also suggested to circulate the minutes of the meeting to all the members.

Shri N. G. Gamit, DAO, Surat suggested to do the value addition in Jowar.

Progressive farmers gave their reaction on the FLDs given by KVK and also react how the KVK is beneficial for them.

Dr. G. R. Patel, Director of Extension Education, NAU, Navsari appreciated the performance of KVK and emphasized to increase the role of farm women in decision making activities.

Hon. Vice Chancellor and Chairman of the committee, Dr. C. J. Dangaria gave very positive remarks on KVK activities and focused to create the awareness about the organic farming among the farmers. He emphasized to make some plan to double the income of the farmer.

5.1 Approval of the minutes of Fourth Scientific Advisory Committee.

The action taken report of the minutes of Fourth SAC meeting (Held on 22-2-2016) was presented before the house and it was approved by the Scientific Advisory Committee.

5.2 Progress made by KVK during April 2016 to February 2017.

Senior Scientist and Head and the scientists of the KVK, NAU, Surat presented the report on progress made by KVK, for the period of April-2016 to February 2017. The committee was satisfied with the activities and achievements made by the KVK.

5.3 Action plan for the period of April-2017 to March-2018.

Discussion was made on the Action Plan for the period of April-2017 to March-2018 which was approved by the house. However, few suggestions were made by the house to strengthen the action plan.

5.3.1 Demonstrate new variety of Ground nut for summer.

5.2.2 Demonstrate new variety of Sorghum

5.3.3 Impact study of training and FLDs should be reflected in report.

5.3.4 Give more emphasis on organic farming during training

5.3.5 In presentation, detail about FLD's treatments(inputs), observations on insect pest and disease in IPDM demonstrations, Sponsoring agency in Sponsored training should mention.

5.3.6 Conduct Demonstrations of banana sap on banana crop.

5.3.7 Arrange Kitchen Garden demonstrations with Suruchi in tribal area.

The meeting was ended with vote of thanks by Prof. G. J. Bhimani, Scientist (Home Science), KVK, NAU, Surat.

Senior Scientist and Head
Krishi Vigyan Kendra
Athwa Farm, Surat

Vice – Chancellor and Chairman SAC
Navsari Agril. University,
Navsari

Following members and invitees were remained present in 5th Scientific Advisory Committee meeting.

1	Dr. C. J. Dangaria	Hon. Vice Chancellor, NAU, Navsari	Chairman
2	Dr. G. R. Patel	Director of Extension, NAU, Navsari	Member
3	Dr. K. A. Patel	Representative Director of Research, NAU, Navsari	Member
4	Dr. Anil Chinchmalanpure	Head, CSSRI (ICAR),RRS, Bharuch	Member
5	Shri N. G. Gamit	District Agricultural Officer Surat	Member
6	Dr. R. M. Patel	Professor (Horticulture), GABI,NAU, Surat,	Member
7	Shri D. K. Padaliya	District Horticultural Officer, Surat	Member
8	Shri Ritesh T. Bhavsar	Representative Project Director ATMA, and Deputy Director (Agriculture), Surat	Member
9	Dr. H. T. Bhatt	Representative District officer of the line department – Animal Husbandry, Surat	Member
10	Shri S .N. Shah	District officer of the line department – Irrigation Dept.(WALMI), Surat	Member
11	Shri Ramsingbhai Chaudhri	Progressive farmer, Village: Moritha, Taluka: Mandvi ,	Member
12	Lataben P. Patel	Progressive woman farmer, Village: Mandroi, Taluka: Olpad,	Member
13	Ramchandrabhai Patel	Agri-entrepreneur, Village: Bhatgam, Surat,	Member
14	Smt.Sharmilaben H. Chaudhari	Chairperson of women SHG Village: Gamtalav, Taluka: Mandvi	Member
15	Dr. J. H. Rathod	Senior Scientist and Head, KVK, Surat	Member Secretary
16	Dr. B. G. Solanki	Research Scientist (Cotton), Main Research Station Cotton, Surat	Special Invitee
17	Shri B.K.Davda.	Research Scientist (Sorghum), Main Research Station Sorghum, Surat	Special Invitee
18	Smt. Dipikaben Bhaiya	Representative Project Director, Ambuja Foundation, Surat	Special Invitee
19	Smt. Bhanuben M. Chaudhari	Progressive woman farmer, Village: Rakhaskhadi, Taluka: Mandavi,Surat	Special Invitee
20	Smt. Kankuben K. Chaudhari	Progressive woman farmer, Village: Choramba, Taluka: Mandavi,Surat	Special Invitee
21	Shri Ghelabhai S. Patel	Progressive farmer, Village: Umara, Taluka: Mahuva ,Surat	Special Invitee
22		All SMS, KVK, Surat	
List of absent member:			
1	Director, ATRI,, CAZARI, Jodhpur		Member
2	Assistant Deputy Director Fisheries , Surat		Member
3	Shri Vilas P. Save , DDM, NABARD, Surat		Member

4	Dr. J. D. Thanki Professor and Head, Department of Agronomy, NMCA, NAU, Navsari	Member
5	Dr. V. B. Kharadi, Professor (LPM) Vanbandhu Veterinary College, NAU, Navsari	Member
6	Shri Gautam Naik, Chief Conservator of Forest, Surat	Member
7	Shri Ramkumar Singh, Director and Managing Trustee, Suruchi Sikshan Vasahat, Bardoli	Special Invitee

1.9 PROCEEDINGS AND ACTION OF THE FOURTH SAC MEETING HELD ON 22/02/2016

Sr. No.	Suggestions	Action Taken
1.9.1	**Demonstrations:** Following demonstrations were suggested	
	A. Front Line Demonstrations: 1 Too old (> ten years old) variety should not be taken in FLDs 2 Varieties/ hybrids released from other State Agricultural Universities should also be considered for FLDs 3 There is need to conduct FLDs on varieties/ hybrids of vegetable crops.	1. All the variety taken in FLDs was not ol more than 10 years. 2. Okra varieties GAO-5 and GJO-3 given i FLDs were from AAU and JAU respectively. 3. Okra (GAO-5 and GJO-3) and bean (NPS 1) varieties of vegetable given i the year.
1.9.2	**Awareness programmes on:** 1. Promotion of Organic farming in tribal area 2. Seed availability of improved varieties	1. In all the training, special emphasis give to the organic farming to increase th awareness among tribal farmers. 2. Whatever new varieties given to th farmers under FLDs, special emphasi given during training to store th improved variety seed properly to used i again next season.

2. DETAILS OF DISTRICT (2016-17)

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

S. No	Farming system/enterprise
1	Crop production
2	Crop production and Horticulture
3	Crop production and Livestock
4	Crop production, Horticulture and Livestock

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

Taluka (AES)	Soil texture	Rainfall (mm)	Crops	Features
(AES-1) Mandvi (30%), Mangrol (40%), Umarpada	Hilly and highly undulating fine texture, highly erosive	< 1100	Paddy, Maize, Cotton, Sorghum, Pulses	Highly erosive Shallow to medium in depth Poor permeability Low to medium N & P content
(AES-2) Bardoli, Choryasi (75%), Kamrej, Palasana, Surat and Mahuva	Leveled, deep, fine textured	> 1450	Sugarcane, Paddy, Sorghum, Pulses, Orchards	Poor drainage Water logging Very poor permeability Poor soil physical condition Low to medium in N & P content
(AES-3) Mandvi (70%), Mangrol (60%), Olpad (70%)	Deep to medium black	1000 – 1250	Sorghum, Pulses, Paddy, Cotton, Oil Seeds	Moderate to severe erosive Poor soil fertility Poor irrigation facility
(AES-4) Choryasi (25%), Olpad (30%)	Coastal plain, deep, fine texture, salt affected	900-1000	Paddy - Cotton, Sorghum, Pulses, Wheat	High salt accumulation Poor soil physical condition High water table Water logging condition

2.3 Types of soils in Surat district: (according to AES)

Taluka (AES)	Soil texture
(AES-1) Mandvi (30%), Mangrol (40%),Umarpada	Hilly and highly undulating fine texture, highly erosive
(AES-2) Bardoli, Choryasi (75%), Kamrej, Palasana,,Surat and Mahuva	Leveled, deep, fine textured
(AES-3) Mandvi (70%), Mangrol (60%), Olpad(70%)	Deep to medium black
(AES-4) Choryasi (25%), Olpad (30%)	Coastal plain, deep, fine texture, salt affected

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

Sr. No	Crop	Area (ha)	Production (MT.)	Productivity (Qt./ha)
Kharif crops				
1	Paddy Irrigated	32907	113858	3460
2	Paddy rainfed	5701	9349	1640
3	Kh. Sorghum	11052	14091	1275
4	Kh. Maize	1245	1942	1560
5	Pigeon pea irrigated	916	1032	1127
	Pigeon pea- rainfed	9506	7224	760
6	Green gram	944	690	651
7	Urid	1587	415	658
8	Other pulses	347	183	530
9	Ground nut	530	816	1540
10	Sesame	26	11	435
11	Castor	30	50	1667
12	Cotton	2352	4515	1920
13	Soybean	9830	8620	877
14	Vegetables	31991	0	--
15	Fodder	7164	0	--
16	Green manuring	7616	0	--
	Total	**123796**	**0**	--
Rabi-summer crops				
1	Paddy (Summer)	2732	12594	4610
2	Wheat	6305	24570	3942
3	Sorghum	6305	10863	1723
4	Maize	862	1873	2174
5	Bean	824	717	871
6	Pigeonpea	1085	1334	1230
7	Greengram summer	2041	1353	663
8	Gram	1453	1275	878
9	Groundnut Summer	409	889	2176
10	Sugarcane	84464	7816298	92540
11	Castor	43	78	1823
12	Mustard	79	93	1186
13	Fodder	2675	--	-
14	vegetables	9368	-	-
	Total	**118911**		

Source: DAO,Surat

2.4.2 **Area, Production and Productivity of major fruit crops cultivated in the district**

Crop	Area (Ha.)	Production (MT)	Productivity (MT)
Mango	8975	76288	8.50
Sapota	2122	22387	10.55
Lemon	75	592	7.89
Banana	7497	509796	68.00
Guava	52	598	11.50
Pomegranate	35	333	9.50
Papaya	615	35055	57.00
Custard Apple	24	144	6
Coconut	224	18.8	8.40
Cashew	30	30	2.59

2.4.3 **Area and Production of Vegetable Crops in the district**

Crop	Area (Ha.)	Production (MT)	Productivity(MT)
Brinjal	4915	93385	19.00
Onion	825	196365	23.80
Okra	10840	135500	12.50
Tomato	1645	37835	23.00
Cauliflower	1340	26800	20.00
Cabbage	820	15170	18.50
Others	11325	162442	14.34

2.4.4 **Area and Production of Flower Crops in the district**

Crop	Area(Ha.)	Production (MT)	Productivity(MT)
Rose	122	1205	9.8
Marigold	456	4553	9.90
Lily	122	1568	9.50
Other	184	1626	8.84

2.4.5 **Area, Production and productivity of Spices Crops in the district**

Crop	Area (Ha.)	Production (MT)	Productivity (MT)
Ginger	192	3298	17.00
Turmeric	180	3060	17.00
Fenugreek	82	123	1.50
Coriander	38	68	1.80
Others	26	24.7	0.95
Total	**2358**	**20824.26**	**8.83**

Source: DDH,Surat

2.5. Weather data (2016-17)

Month	Rainfall (mm)	Temperature 0 C		Relative Humidity (%)	
		Maximum	Minimum	Maximum	Minimum
April 2016	19.4	35.8	27.3	83	60
May 2016	0	38	29.9	79	62
June 2016	270	33.5	28.7	77	72
July 2016	135.2	32.5	29.2	84	79
August 2016	27	32	28.6	88	75
September 2016	174.4	32	27.4	90	77
October 2016	0	36.4	26.6	79	62
November 2016	0	34.9	23.7	82	69
December 2016	0	32.8	18	70	61
January 2017	0	32.1	18.4	71	62
February 2017	0	33.1	21.4	70	48
March 2017	0.7	35.1	23.8	72	58

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

Cattle	213107
Buffaloes	219243
Indigenous/ Cross bred cows	213107
Sheep	1086
Goat	106237
Pigs	2589
Poultry	707205
Milk production per animal (Kg/lactation) Indigenous cow @ 3.68 kg/day Cross breed cow @8.4 kg/day Buffalo @ 4.5 kg/day	1104 2520 1350

Source: DAO, Surat

2.7 Details of Operational area / Villages (2015-16)

Sr. No.	Name of Cluster	No. and Name of villages in the Cluster	Identified Thrust areas	Identified Problems	Specific activities
1	Mahuva	1. Umra 2. Vasrai	1. Increase productivity of major crops e.g. Paddy, sugarcane 2. Dissemination of production technology of fruits and vegetables and their post harvest management as well promotion of precision farming. 3.Management of natural resource, including salinity management 4. 5. Popularize eco-friendly crop production with special reference to IPDM & INM. 6. Increasing milk production by dissemination of latest technologies. 7 .Imparting skill oriented training to the tribal women for sustaining their livelihood. 8. Promotion of small scale	1.The productivity of crop is very low due to lack of technical knowhow regarding its scientific cultivation 2. Okra, brinjal and creepers are important crops but the productivity is very low, problem of insect pests and disease No technical knowhow regarding green house net house technology and crops Lack of technical knowhow about mango orchards plantation and management. 3.High use of water in canal command area and water scarcity in hilly area -Lack of knowledge about Insect pests and diseases and their management and nutrient management in	Training and demonstrations on new variety of rice and sugarcane. Demonstration on intercropping in sugarcane Training programmers on package of practices of these vegetable crops. And precision farming. Awareness programmes on protected cultivation on net house and green house. Training on drip irrigation to rural youth. Promotion of drip irrigation through awareness programmes Training and demonstrations on INM and IPDM in different crops Training and demonstrations on scientific calf rearing, feeding mineral mixture and Popularize Fodder crops and feeds and fodder management

			farm mechanization in tribal area.	crops like paddy sugar cane, okra, creepers etc, Injudicious use of fertilizers and pesticides -High incidence of wilt and parval vine borer in pointed gourd. Low milk productivity -High calf mortality -Problem of anoestrus -Lack of awareness about Feeds and fodder management Lack of knowleged of small scale agricultural base enterprises, value addition etc. Drudgery reduction through improved hand tools.	Training on value addition and income generating activity Demonstrations on use of improved sickles and other hand tools.
2	Mandvi	1. Rakaskhadi 2. Lakhgam 3. Katkuva	1. Increase productivity of major crops e.g. Paddy, sugarcane, Soybean 2. Dissemination of production technology of fruits and vegetables and their post harvest management as well promotion of precision farming. 3.Management of natural resource, including salinity management	1.The productivity of crop is very low due to lack of technical knowhow regarding its scientific cultivation 2. Brinjal and okra are important crops but the productivity is very low, problem of insect pests and disease	Training and demonstrations on new variety of rice and sugarcane. Demonstration on intercropping in sugarcane A Awareness programmes on protected cultivation on low cost net house and green house.

			4. 5. Popularize eco-friendly crop production with special reference to IPDM & INM. 6. Increasing milk production by dissemination of latest technologies. 7 .Imparting skill oriented training to the tribal women for sustaining their livelihood. 8. Promotion of small scale farm mechanization in tribal area.	No technical know how regarding green house net house technology and crops Lack of technical know how about mango orchards plantation and management. 3.High use of water in canal command area and water scarcity in hilly area -Lack of knowledge about Insect pests and diseases and their management and nutrient management in crops like paddy sugar cane, okra, creepers etc, Injudicious use of fertilizers and pesticides -High incidence of wilt and fruit and shoot borer in brinjal Low milk productivity -High calf mortality -Problem of anoestrus -Lack of awareness about Feeds and fodder management	Training on drip irrigation to rural youth. Promotion of drip irrigation through awareness programmes Training and demonstrations on INM and IPDM in different crops Training and demonstrations on scientific calf rearing, feeding mineral mixture and Popularize Fodder crops and feeds and fodder management Training on value addition and income generating activity Demonstrations on use of improved sickles and other hand tools.

				Lack of knowleged of small scale agricultural base enterprises, value addition etc. Drudgery reduction through improved hand tools.	
3	Umarpada	1. Kadvali 2. Venjali 3. Umargot	1. Increase productivity of major crops e.g. Paddy, cotton, sorghum, pigeon pea 2. Dissemination of production technology of fruits and vegetables and their post harvest management as well promotion of precision farming. 3.Management of natural resource, including salinity management 4. 5. Popularize eco-friendly crop production with special reference to IPDM & INM. 6. Increasing milk production by dissemination of latest technologies. 7 .Imparting skill oriented training to the tribal women for sustaining their livelihood. 8. Promotion of small scale farm mechanization in tribal area.	1.The productivity of crop is very low due to lack of technical knowhow regarding its scientific cultivation 2. Indian bean is an important crops but the productivity is very low, problem of insect pests and disease Lack of technical knowhow about orchards plantation and management. 3. Water scarcity in rabi / summer due hilly area	Training and demonstrations on new variety of Paddy, cotton, sorghum, pegion pea, increasing seed replacement ratio Training programmers on package of practices of these vegetable crops. And precision farming. Awareness programmes on protected cultivation on Low cost net house. Training on drip irrigation to rural youth. Promotion of drip irrigation through awareness programmes Promotion of water conservation technologies Training and demonstrations on INM and

				-Lack of knowledge about Insect pests and diseases and their management and nutrient management in crops like paddy vegetables etc, No use of bio fertilizers -	IPDM in different crops Training and demonstrations on scientific calf rearing, feeding mineral mixture and Popularize Fodder crops and feeds and fodder management
				Low milk productivity -High calf mortality -Problem of anoestrus -Lack of awareness about Feeds and fodder management Large no of non descript animals	Training on value addition and income generating activity
				Lack of knowledge of small scale agricultural base enterprises, value addition etc.	Demonstrations on use of improved sickles and other hand tools.
				Drudgery reduction through improved hand tools.	

4	Mangrol	1. Pataldevi 2. Mandan 3. Ghodbar	1. Increase productivity of major crops e.g. Paddy, cotton, sorghum 2.Dissemination of production technology of fruits and vegetables and their post harvest management as well promotion of precision farming. 3.Management of natural resource, including salinity management 4. 5. Popularize eco-friendly crop production with special reference to IPDM & INM. 6. Increasing milk production by dissemination of latest technologies. 7 .Imparting skill oriented training to the tribal women for sustaining their livelihood. 8. Promotion of small scale farm mechanization in tribal area.	1.The productivity of crop is very low due to lack of technical knowhow regarding its scientific cultivation 2. Okra, brinjal and creepers are crops but the productivity is very low, problem of insect pests and disease No technical knowhow regarding net house technology and crops Lack of technical knowhow about plantation and management. 3.Water scarcity in hilly area and rain fed farming -Lack of knowledge about Insect pests and diseases and their management and nutrient management in crops like paddy sugar cane, okra, creepers etc, Injudicious use of fertilizers	Training and demonstrations on new variety of rice, pigeon pea, sorghum and cotton. Increase seed replacement ratio of these crops. Training programmers on package of practices of these vegetable crops. And precision farming. Awareness programmes on protected cultivation on low cost net house. Promotion of farm forestry through training and demonstrations Training on drip irrigation to rural youth. Promotion of drip irrigation through awareness programmes Popularizing water conservation technologies for rain fed farming Training and demonstrations on INM and IPDM in different crops Training and demonstrations on scientific calf rearing, feeding mineral mixture and Popularize Fodder crops and feeds and

				and pesticides -High incidence of wilt and parval vine borer in pointed gourd. Low milk productivity -High calf mortality -Problem of anoestrus -Lack of awareness about Feeds and fodder management Lack of knowledge of small scale agricultural base enterprises, value addition etc. Drudgery reduction through improved hand tools.	fodder management Training on value addition and income generating activity Demonstrations on use of improved sickles and other hand tools.
5	Olpad	1. Mandroi 2. Bhatgam	1. Increase productivity of major crops e.g. Paddy, sugarcane 2.Dissemination of production technology of fruits and vegetables and their post harvest management as well promotion of precision farming. 3.Management of natural resource, including salinity management 4. Popularize eco-friendly crop production with special reference to IPDM & INM. 5. Increasing milk production by dissemination of latest	1.The productivity of crop is very low due to lack of technical knowhow regarding its scientific cultivation 2. Okra and creepers are important crops but the productivity is very low, problem of insect pests and disease No technical knowhow regarding green house net house technology and crops	Training and demonstrations on new variety of rice and sugarcane. Demonstration on intercropping in sugarcane Training programmers on package of practices of these vegetable crops. And precision farming. Awareness programmes on protected cultivation on net house and green house. Training on drip irrigation to rural youth. Promotion of drip irrigation through

			technologies. 6 .Imparting skill oriented training to the tribal women for sustaining their livelihood.	Lack of technical knowhow about fruit crops cultivation. 3.High use of water in canal command area and salinity problem in coastal area -Lack of knowledge about Insect pests and diseases and their management and nutrient management in crops like paddy sugar cane, okra, creepers etc, Injudicious use of fertilizers and pesticides -High incidence of wilt and parval vine borer in pointed gourd. Low milk productivity -High calf mortality -Problem of anoestrus -Lack of awareness about Feeds and fodder management Lack of knowleged of small scale agricultural base enterprises, value addition etc.	awareness programmes Training and demonstration on drainage system to reduce salinity and salinity tolerant crops Training and demonstrations on INM and IPDM in different crops Training and demonstrations on scientific calf rearing, feeding mineral mixture and Popularize Fodder crops and feeds and fodder management Training on value addition and income generating activity

6	Kamrej	1. Dhoranpardi 2. Choryasi	1. Increase productivity of major crops e.g. sugarcane 2. Dissemination of production technology of fruits and vegetables and their post harvest management as well promotion of precision farming. 3.Management of natural resource, including salinity management 4. Popularize eco-friendly crop production with special reference to IPDM & INM.	1.The productivity of crop is very low due to lack of technical knowhow regarding its scientific cultivation 2. Banana is an important crop but the problem of insect pests and disease No technical knowhow regarding green house net house technology and crops 3.High use of water in canal command area problem of water logging -Lack of knowledge about Insect pests and diseases and their management and nutrient management in banana	Training and demonstrations on new variety of sugarcane. Demonstration on intercropping in sugarcane Training programmers on package of practices of banana cultivation Demonstration on quality improvement in banana. . Awareness programmes on protected cultivation on net house and green house. Training on drip irrigation to rural youth. Promotion of drip irrigation through awareness programmes Training on drainage system Training and demonstrations on INM and IPDM in different crops

2.8 Priority/Thrust areas

Crop/Enterprise	Thrust area
Paddy, Sorghum, Vegetables, Sugarcane, Cotton & pulses	Crop production management (ICM)
Vegetables,	Eco friendly production
Paddy, Sugarcane, Cotton, Pigeon pea, Banana Vegetables	Integrated pest & disease management
Paddy, Sugarcane, Vegetables, ,Banana	Integrated nutrient management
Use of Bio-fertilizers	Eco-practice and to minimize the use of chemicals
Green house technology,	High tech horticulture
Salinity management & Micro irrigation	Soil and Water conservation
Formation of Self Help Groups	Women empowerment
Value addition in Fruits, Vegetables & pulses	Self employment to rural youth
Dairy management	Management of milch animals and calf rearing
Health & Nutrition	Health & nutrition for vulnerable groups.
Farm mechanization	Small scale farm mechanization
Information transfer , Marketing and credit availability	Value addition, market linkage, and Schemes

Major thrust areas

1. Increase productivity of major crops e.g. Paddy, Cotton, Sorghum, sugarcane.
2. Dissemination of production technology of fruits and vegetables and their post harvest management as well promotion of precision farming.
3. Management of natural resource, including salinity management
4. Popularizing of location specific farming system
5. Popularize eco-friendly crop production with special reference to IPDM & INM.
6. Increasing milk production by dissemination of latest technologies.
7. Imparting skill oriented training to the tribal women for sustaining their livelihood.
8. Promotion of small scale farm mechanization in tribal area.

3. TECHNICAL ACHIEVEMENTS

3.A. Details of target and achievements of mandatory activities by KVK during 2016-17

OFT (Technology Assessment and Refinement)				FLD (Oilseeds, Pulses, Cotton, Other Crops/Enterprises)			
1				2			
Number of OFTs		Number of Farmers		Number of FLDs (ha)		Number of Farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
9	8	45	40	92	270	250	1199

Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)					Extension Activities			
3					4			
Number of Courses			Number of Participants		Number of activities		Number of participants	
Clientele	Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
Farmers	60	51	1500	2002	78	151	5000	20016
Rural youth	1	2	25	109				
Extn. Functionaries	1	3	25	84				
Total	**62**	**56**	**1500**	**2195**	**78**	**151**	**5000**	**20016**

Seed Production (Qtl.)		Planting material (Nos.)	
5		6	
Target	Achievement	Target	Achievement
20.00	6.14	00	35000

Abstract of interventions undertaken

Sr. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions					
				Title of OFT if any	Title of FLD if any	Title of Training if any	Title of training for extension personnel if any	Extension activities	Supply of seeds, planting materials etc.
1	Increase productivity of major crops	Paddy, Soybean, Pigeon pea Sorghum Cotton, Sugarcane	Use of local variety High seed rate, Imbalance use of fertilizers No use of bio fertilizer lack of knowledge about SIRA & SRI technology	--	Varietal demonstrations Nutrient management Use of bio-fertilizers Demonstration on SIRA technology.	Scientific Cultivation of major crops	--	Field days, khedut shibirs, News paper coverage, film show Exhibitions etc.	Seed of improved variety
2.	Dissemination of production technology of fruits and vegetables and their post harvest management as well as promotion of precision farming	Banana Brinjal Pointed gourd Okra Mango Gerbera Green house/ net house technology High value crops	Use of local variety in brinjal Imbalance use of fertilizers in crops No use of bio-fertilizers No knowledge about post harvest management and processing Low technical know house regarding green house/ net	--	INM in brinjal	Value addition in Papaya Scientific cultivation of various crops Value addition in Palas and Bixa Scientific cultivation of crops Training on protected cultivation and precision farming	--	Khedut shibirs, News paper coverage, film show Exhibitions etc. Awareness programmes on net house/ green house	Demonstration on INM, IPDM

Sr. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions					
				Title of OFT if any	Title of FLD if any	Title of Training if any	Title of training for extension personnel if any	Extension activities	Supply of seeds, planting materials etc.
			house and production technology						
3.	Popularize eco-friendly crop production with special reference to IPDM	Cotton, Pigeon pea Brinjal, Paddy, Sugarcane	Lack of knowledge about disease and insect pest management. Injudicious use of pesticides Lack of knowledge about Bio-fungicides	--	GM technology in cotton IPDM in brinjal	IPM in cotton IPDM in Pigeon pea Management of brinjal diseases	--	Khedut shibirs, News paper coverage, film show Exhibitions etc.	Seed of Cotton and trichoderma
4	Popularize eco-friendly crop production with special reference to INM.	Brinjal Okra, Banana Paddy	Imbalance use of fertilizers lack of awareness about use of bio-fertilizers	--	SIRA technology in Paddy INM in brinjal	INM in Paddy and pigeon pea	--	Field days, khedut shibirs, News paper coverage, film show , etc.	Bio Fertilizers,
5.	Management of natural resource, including salinity management	Paddy, Sugarcane, Soybean, Vegetables	In hilly area problem of water conservation In middle canal command area due to excess irrigation	--	Demonstration on salinity tolerant paddy variety GNR2 in coastal area.	Training on micro irrigation system Training on drainage management in water logged area	--	Field days, khedut shibirs, News paper coverage, film show Exhibitions etc.	--

Sr. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions					
				Title of OFT if any	Title of FLD if any	Title of Training if any	Title of training for extension personnel if any	Extension activities	Supply of seeds, planting materials etc.
			problems of water logging and salinity In coastal area salinity problem						
6.	Increasing milk production by dissemination of latest technologies.	Animal husbandry	Poor dairy management Large number of non-descript animals with low milk production Poor availability of fodder in hilly area. Poor cultivation of fodder crops High calf mortality due to poor management	--	Use of mineral mixture Urea treatment to paddy straw Teat dip treatment with $KMNO_4$ Scientific calf rearing	Animal health and care Dairy management Animal diseases and their management Scientific calf rearing	--	Pashu palan shibirs Animal health camps, awareness programmes, Literature publication etc	Mineral Mineral mixture Urea Plastic sheets Medicines etc.
7.	Imparting skill oriented training to the tribal women for sustaining their livelihood.	Value addition Small scale agricultural based entrepreneurship development	Lack of knowledge about value addition of locally available materials Lack of	--	--	Value addition in papaya by preparing jam and other products Preparation of	--	khedut shibirs, News paper coverage, film show Exhibitions etc	--

Sr. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions					
				Title of OFT if any	Title of FLD if any	Title of Training if any	Title of training for extension personnel if any	Extension activities	Supply of seeds, planting materials etc.
			knowledge, skills regarding various small scale agricultural based enterprises			Mari- masala Preparation of syrup from *Hibiscus* Training on mushroom cultivation Preparation of various recipes from mushroom, Preparation on herbal Gulal from palas flowers As well as bixa seeds			
8	Popularizing of location specific farming system	Sugarcane, Paddy, wheat, Vegetables etc.	No proper farming system adopted by farmers according to AES	--	--	--	--	khedut shibirs, News paper coverage, film show, Mahila Shibir,	--

I. A TECHNOLOGY ASSESSMENT

Summary of technologies assessed under various crops by KVKs

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of farmers
Integrated Nutrient Management	Brinjal	Assessment of enrich banana sap for yield and quality of brinjal	5	KVK Surat
Varietal Evaluation				
Integrated Pest Management	Banana	Assessment of effective methodology for the management of Banana Pseudo stem weevil	5	KVK Surat
	Okra	Assessment of stem application method of insecticide for management of sucking pest in okra	5	KVK Surat
Integrated Crop Management	Sugarcane	Effect of trimming operation in sugarcane yield	3	KVK Surat
	Paddy	Assessment of aerobic rice in Olpad block of Surat District	5	KVK Surat
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				
Storage				

Technique				
Others (Pl. specify)				
Total				

Summary of technologies assessed under livestock by KVKs

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		Use of chelated minerals in the diet of cross bred HF cows	10	KVK Surat
		Nutritional enrichment in local "grass Fatedu"	10	KVK Surat
Production and Management				
Others (Pl. specify)				
Total				

Summary of technologies assessed under various enterprises by KVKs

Thematic areas	Farm implements	Name of the technology assessed	No. of trials	No. of farmers
Drudgery reduction technology	Improved Sickle	Assessment of different sickle for drudgery reduction	5	KVK Surat

I.B. TECHNOLOGY REFINEMENT

Summary of technologies refined under various crops by KVKs

Thematic areas	Crop	Name of the technology refined	No. of trials	No. of farmers
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				
Storage Technique				
Others (Pl. specify)				
Total				

Summary of technologies refined under various livestock by KVKs

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				

Summary of technologies refined under various enterprises by KVKs

Thematic areas	Enterprise	Name of the technology assessed	No. of trials	No. of farmers

I.C. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

INTEGRATED CROP MANAGEMENT

Technology Assessed (as the case may be) : Effect of trimming operation in sugarcane yield

Table Performance of sugarcane

Technology Option	No.of trials	Yield (t/ha)	% increase
T_1- Farmers method (No trimming with Higher doses of fertilizer 350-200-200)	3	91.00	16.48
T_2- Recommended practice (No trimming with recommended dose 250-125-125)		106.00	15.09
T_3- Trimming of first shoot at 45 days after planting with recommended dose		122.00	-

PEST AND DISEASE MANAGEMENT

Technology Assessed (as the case may be): Assessment of effective methodology for the management of Banana Pseudo stem weevil

Table

Technology Option	No.of trials	% Infestation	Yield (Kg/ha)	BCR
T_1- Stem injection with Triazophos (NRC on Banana)	5	1.25	716.2	4.21
T_2-Longitudinal Split stem traps (25 traps/0.2 ha) swabbed with Beauveria (20 gm/trap)		1.43	694.7	4.16
T_3- Farmers method (Control)		1.93	573.5	3.32

Technology Assessed (as the case may be):: Assessment of stem application method of insecticide for management of sucking pest in okra

Treatments: **T_1.** Stem application of Acetamaprid (4:1 Water: Insecticide)

T_2. Spraying of recommended insecticides

T_3. Control (farmer's method)

No. of OFT	Area	Whitefly population/3 leaves			%Decrease over control	%Decrease over Farmers method	Jassid population/3 leaves			%Decrease over control	%Decrease over Farmers method
		Treated	Farmers method	Control			Treated	Farmers method	Control		
5	0.5	1.19	2.19	2.30	48.10	45.63	1.16	2.18	2.74	57.80	46.99

Average yield (q/ha)			% Increase	BCR		
D	FM	L		D	FM	L
165.90	153.17	136.17	21.84	4.76	4.01	3.99
			12.49			

RESOURCE CONSERVATION

Technology Assessed (as the case may be): Assessment of enrich banana sap for yield and quality of brinjal

Technology Option	No.of trials	Yield (t/ha)	BCR
T_1: Farmers method	5	160.5	3.72
T_2: Drenching of banana sap @1.0 %at one month interval		169.3	3.71
T_3: Spraying of banana sap @1.0 % twice at peak flowering stage (15 days interval)		174.42	3.98

Technology Assessed (as the case may be): Assessment of enrich banana sap for yield and quality of mango

Technology Option	No.of trials	Yield (t/ha)	BCR
T_1: Farmers method	5	Result awaited	
T_2: Spraying of 1 % banana sap at flowering and pea stage			
T_3: Spraying of 1.5 % banana sap at flowering and pea stage			

LIVE STOCK ENTERPRISES

Animal Husbandry:

1. **Title: Nutritional enrichment in local grass Bhathdu**

T1: Farmers Practice - without treated dry local grass (Batedu / Full grass) ad lib. First 15 days after that 4% UTLG 6-8 kg daily up to 2 months

T2: Farmers Practice - without treated paddy straw ad lib. First 15 days after that 4% UTPS 6-8 kg daily up to 2 months

Nutritional Parameters:

Table 1: Nutritional parameters of paddy straw and local dry grass

Parameters	Paddy Straw	UTPS	Local Dry Grass	UTLG
Moisture %	11.1	53.9	7.1	51.9
CP %	3.2	7.1	3.4	8.3
CF %	36.8	34.2	38.7	36.1
EE %	1.1	1.1	1.0	1.2
NFE %	42.5	41.5	43.8	41.9
NDF%	79.6	76.7	73.5	71.8
ADF%	51.5	51.4	48.3	47.1
Ash %	16.4	16.1	13.1	12.5

UTPS: Urea treated paddy straw, UTLG: Urea treated local grass

Effect on milk production:

First Year:

Table 2: The yield and milk parameters as affected by urea treatment to local grass Bhathdu and paddy straw (2013-14)

Parameters	Paddy straw	UTPS	Local grass	UTLG
Daily milk yield (L)	8.545±3.080	9.485±3.053	8.513±2.398	9.370±2.539
Milk Fat %	3.47±0.30	4.48±0.30	3.6±0.25	4.63±0.14
4% FCM	7.813±2.943	10.17±3.14	8.01±2.226	10.39±2.612
Body wt. (Kg)	292.6±82	297.6±83	293.1±82	295.4±83
Post partum estrus (D)	75.1		72.2	

Second Year:

Table 2: The yield and milk parameters as affected by urea treatment to local grass Bhathdu and paddy straw (2014-15)

Parameters	Paddy straw	UTPS	Local grass	UTLG
Daily milk yield (L)	8.605±3.04	9.420±3.10	8.739±2.71	9.635±2.82
Milk Fat %	3.5±0.29	4.4±0.37	3.7±0.20	4.5±0.27
4% FCM	8.00±2.65	9.883±3.04	8.33±2.56	10.29±2.76
Body wt. (Kg)	302.6±86	299.6±76	300.6±71	304.2±82
Post partum estrus (D)	78.1		80.2	

Third year:

Table 3: The yield and milk parameters as affected by urea treatment to local grass Bhathdu and paddy straw (2015-16)

Parameter (Mean ± SD)	Paddy Straw	UTPS	Local Grass	UTLG
Daily Milk Yield (L)	7.833±3.4	8.907±3.4	7.756±2.8	8.770±2.9
Milk Fat %	3.4±0.2	4.6±0.2	3.6±0.3	4.7±0.1
4% FCM	6.94±3.1	9.720±3.5	7.350±2.72	9.650±3.01
Body Wt (Kg)	338±13	340±17	342±10	341±12
Post Partum Estrus (d)	84.4		88.2	
UTLG - Urea Treated Local Grass, UTPS - Urea Treated Paddy Straw				

Pooled: Average of three years Results

Parameters	Paddy straw	UTPS	Local grass	UTLG
Daily milk yield (L)	8.328	9.271	8.336	9.258
Milk Fat %	3.60	4.49	3.63	4.61
4% FCM	7.580	9.924	7.897	10.110
Body wt. (Kg)	311.1	312.2	311.9	313.4
Post partum estrus (D)	79		80	

Conclusion:

Treating the paddy straw and local grass 'Bhathdu' with 4 per cent urea improved nutritional value of both the fodders. Ad lib feeding of both the urea treated fodder to lactating crossbred cows improved daily milk yield and milk fat content without harmful effect on the health of the animals. The data on daily milk yields in paddy straw and dry local grass groups as affected by urea treatments revealed that treatment as like urea treatment to paddy straw, the local grass Bhathdu can also be utilized after treating with urea @ 4 % to increase its palatability, milk production, fat percentage and FCM in cross bred cows.

2.Title: Use of Chealated minerals in the diet of crossbred HF cows.

T1: Animal rearing as per farmers tradition (Not give Mineral Mixture)
T2: Animal give 50g chealated mineral Mixture per day

Parameters	T1	T2	Difference	% Increase
Milk Yield	10.125	11.320	1.195	11.8
Fat %	3.8	4.1	0.2	5.2
4% FCM	9.88	11.38	1.50	15.2
Body Weight	342	338	--	--
Post partum estrus (D)	112	84.4	--	--

HOME SCIENCE

1. Title: Assessment of different sickle for drudgery reduction

Title	:	Assessment of different sickle for drudgery reduction
Objective	:	To assess the performance of sickles
Location	:	Umarpada
Treatments	:	T1- Local sickle T2- Surichi sickle T3- Navin sickle
No. of beneficiaries	:	5
Season	:	Kharif-2016-17
Observations:	:	Field capacity and labour as well as cost saving
Source of technology	:	CIAE- Bhopal and SURUCHI, Bardoli

Results: OFT-Assessment of different sickle for drudgery reduction

Crop	Thematic area	Name of the Technology Demonstrated	No. of Farmer	Major Parameters	Field observation Output/Man hr) (ha/hr)		% change in major parameter	Labour saving during harvesting (Man-hr/ha)		Cost reduction*** (Rs./ha/day)	
					Demo.	Check		Demo.	Check	Demo.	Check
Paddy	Drudgery reduction	1.SURUCHI SICKLE* 2.NAVEEN SICKLE**	5	1.Field capacity(ha/hr) 2.Labour requirement(Man hr/ha) 3.Cost of operation	0.0075 (0.060ha/day) 0.0076 (0.061ha/day)	0.006 (0.048ha/day) 0.006 (0.048/day)	27.11 26.66	135 132	173 167	2966 2918	3787 3708

***SURUCHI sickle is developed by SURUCHI Vasahat Trust, Bardoli**
****NAVEEN sickle is developed by CIAE, Bhopal-MP**
*****Cost of operation is calculated as per NAU labour wages**
Feed back:
1.Improved sickle increase working efficiency in short period of time saving as compared to local sickle.
2.Improved sickle reduced labour cost as compared to local sickle

I. 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.

Sr. 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
FLDs of KVK							
1	Paddy (NAUR – 1)	ICM	New variety	FLDs	15	150	135
2	Paddy (GNR – 3)	ICM	New variety	FLDs	26	220	252
3	Paddy (GAR – 13)	ICM	New Variety	FLDs	10	50	60
4	Soybean (JS – 335)	ICM	New Variety	FLDs	23	125	90
5	Green gram (Meha)	ICM	New variety	FLDs	22	235	56
6	Pigeonpea	IDM	IDM	FLDs	2	12	5
7	Groundnut	IDM	IDM	FLDs	2	20	8
8	Sugarcane	IPDM	IPDM	FLDs	3	15	6
9	Okra	IPDM and INM	IPDM and INM	FLDs	3	10	4
10	Brinjal	IPDM and INM	I IPDM and INM	FLDs	3	20	8
11	Parvar	IPDM and INM	IPDM and INM	FLDs	4	25	10

12	Banana	IPDM and INM	IPDM and INM	FLDs	2	25	10
13	Bitter gourd	IPDM	Fruitfly traps	FLDs	3	40	16
14	Mango	IPM	Fruitfly traps	FLDs	5	40	16
FLDs of Other Agency							
AICCIP – TSP							
1	Cotton	INM	-	FLDs	7	60	30
2	Cotton	IPM	-	FLDs	7	60	30
3	Cotton	HDPS		FLDs	3	12	5
4	Maize	Variety	New variety	FLDs	3	35	15
NARP Navsari							
1	Paddy	INM	INM and New var.	FLDs	3	75	30
IARI Varietal Demo							
1	Pigeonpea	Variety	New variety	FLDs	2	10	4
2	Wheat	Variety	New variety	FLDs	2	5	2
3	Chickpea	Variety	New variety	FLDs	2	5	2
Adaptive Trials							
1	Sugarcane (GNS – 8)	ICM	New variety	FLDs	2	10	3
2	Paddy (NAUR 1)	ICM	New variety	FLDs	3	20	8
3	Paddy (GNR 3)	ICM	New variety + SIRA	FLDs	3	50	20
4	Paddy (GAR 13)	ICM	New variety	FLDs	3	50	20
5	Paddy (Purna)	ICM	New variety	FLDs	2	8	2
6	Sorghum (GJ 42)	ICM	New Variety	FLDs	3	35	15
7	Pigeon pea (Vaishali)	ICM	New variety	FLDs	3	112	45
8	Green Gram (Meha)	ICM	New variety	FLDs	5	150	57

9	Sesame (GG2)	ICM	New variety	FLDs	3	50	20
10	Cotton (G Cot. 6)	ICM	New variety	FLDs	3	25	10
11	Cotton (G Cot. 8)	ICM	New variety	FLDs	3	25	10
12	Cotton (NHH 8)	ICM	New variety	FLDs	3	25	10
13	Castor (GCH 7)	ICM	New variety	FLDs	3	45	18
14	Fodder maize (African Tall)	ICM	New variety	FLDs	2	50	54

b. **. Details of FLDs implemented during 2016-17**

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
FLDs of KVK										
Cereal crops										
1	Paddy (NAUR – 1)	ICM	New variety	*Kharif -16*	8	8	20	0	20	--
2	Paddy (GNR – 3)	ICM	New variety	*Kharif -16*	8	8	20	0	20	--
3	Paddy (GAR –13)	ICM	New variety	*Kharif -16*	4	4	0	10	10	--
4	Paddy (Purna)	ICM	New variety	*Kharif -16*	4	4	0	10	10	--
5	Paddy	IPDM	New variety	*Kharif -16*	8	8	20	0	20	--
Pulses and oilseeds										
1	Cotton (G cot-12)	ICM	New variety	*Kharif -16*	4	4	10	0	10	--

Horticulture crops										
1	Okra (GJO-3)	ICM	New variety	*Rabi-16*	4	4	10	0	10	--
2	Banana	INM	INM	*Kharif -16*	8	8	0	20	20	--
3	Banana	IPDM	IPDM	*Kharif -16*	8	8	0	20	20	--
4	Pointed Gourd	INM	INM	*Kharif -16*	4	4	0	10	10	--
5	Pointed Gourd	IPDM	IPDM	*Kharif -16*	4	4	0	10	10	--
6	Vegetable crops	Kitchen Garden	Seeds	*Rabi*- 16	20 kit	20 kit	20	0	20	--
Animal Husbandry										
1	Cow	HF cross	Nutritional Management	--	20	20	20	0	20	--
2	Calf	--	Nutritional Management	--	20	20	20	0	20	--
Home Science										
1	Sickle	Drudgery deduction	Labour saving	*Kharif*-16	20	20	20	0	20	--
2	Wheel hoe	Drudgery deduction	Labour saving	*Kharif*-16	10	10	10	0	10	--
FLDs of Other Agency										
Crop production										
NFSM										
1	Udad Bean	ICM	Variety	*Kharif* -16	20	20	93	0	93	--
2	Gram	ICM	Variety	*Rabi* 16	20	20	100	0	100	
3	Greengram	ICM	Variety	*Summer17*	20	20	40	0	40	--
NMOOP										
1	Soyabean	ICM	Variety	*Kharif* -16	20	20	74	0	74	--
2	Sesame	ICM	Variety	*Summer17*	20	20	50	0	50	--
TSP – ICAR (Mega Seed)										
1	Indian Bean	ICM	Seed	*Rabi* – 16	2	2	25	0	25	-

	(NPS 1)									
Adaptive Trials										
1	Okra (GAO 5)	Variety	New variety	*Rabi – 16*	4	4	10	0	10	
2	Banana	IPDM and INM	IPDM and INM	*Kharif-16*	20	20	10	40	50	--
3	Pointed Gourd	IPDM and INM	IPDM and INM	*Kharif-16*	20	20	40	10	50	--
4	Pigeon pea	IDM	IDM	*Kharif-16*	8	8	20	0	20	--
5	Brinjal	IPDM and INM	IPDM and INM	*Kharif-16*	20	20	10	40	50	
6	Paddy	IPDM	IPDM	*Kharif-16*	20	20	0	30	30	
7	Castor NCH 1	Variety	New variety	*Kharif-16*	2	2	0	12	12	
8	Suruchi Sickle	Drudgery Reduction	-	*Kharif-16*	-	-	70	-	70	--
9	Twin Wheel Hoe	Drudgery Reduction	-	*Summer-17*	-	-	50	-	50	--
10	Cow	Animal Feeding Managemen	Mineral mixture + Deworming Tablets	*Kharif-16*	-	200	-	-	200	-
11	Okra	IPDM	IPDM	*Rabi 17*	10	10	25	0	25	--

c. Details of farming situation

Crop	**Season**	**Farming situation (RF/ Irrigated)**	**Soil type**	**Status of soil**			**Previous crop**	**Sowing date**	**Harvest date**	**Seaso-nal rainfall (mm)**	**No. of rainy days**
				N	**P**	**K**					
Cereal Crops											

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					
Paddy – NAUR-1	*Kharif-16*	Irrigated/Rainfed	Medium Black	L	M	H	Fallow /Rabi vegetables	19th July to 15th Aug., 2016	1st Dec. to 15th Dec. 2016	569.8	59.1
Paddy – GNR-3	*Kharif-16*	Irrigated	Medium Black	L	M	H	Sugarcane Summer Paddy	23th July to 15th Aug. 2016	6th Dec. to 15th Dec. 2016		
Paddy – GAR-13	*Kharif-16*	Irrigated	Medium Black	L	M	H	Sugarcane Summer Paddy	19th July to 15th Aug. 2016	1st Dec. to 15th Dec. 2016		
Paddy – Purna	*Kharif-16*	Irrigated	Medium Black	L	M	H	Sugarcane Summer Paddy	15th July to 15th Aug. 2016	9th Dec. to 15th Dec. 2016		
Paddy-IPDM	*Kharif-16*	Irrigated	Medium black	L	M	H	Sugarcane Summer paddy	12th July to 15th Aug. 2016	10th Dec. to 15th Dec. 2016		
Pulses and oilseed											
Soybean – JS 335	*Kharif -16*	Irrigated/ rainfed	Medium black	L	M	H	Fallow /Rabi vegetables	First week of July, 2016	15th Oct. to 15th Nov. 2016		
Cotton (G cot 12)	*Kharif -16*	Irrigated/ rainfed	Medium black	L	M	H	Fallow /Rabi vegetables	First week of July, 2013	15th Oct. to 15th Nov. 2016		
Horticultural crops											
Okra (IPDM and INM)	*Rabi - 16*	Irrigated	Medium black	L	M	H	Paddy	First week of Dec. 2016	--		

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					
Parvar (IPDM &INM)	Kharif -16	Irrigated	Medium black	L	M	H	Paddy	1st week of July-16	-		
Banana (IPDM and INM)	Kharif -16	Irrigated	Loamy	L	M	H	Papaya	May to July - 16	--		
Kitchen garden	*Rabi-16*	Irrigated	Medium	L	M	H	--	1st week of Dec. 16	--		
FLDs of Other Agency											
Crop production											
NFSM											
Blackgram	*Kharif-16*	Irrigated	Medium black	L	M	H	Sorghum	19th July to 15th Aug. 2016	1st Dec. to 15th Dec. 2016		
Gram	*Rabi -16*	Rainfed	Medium black	L	M	H	Paddy	15th November to 1st week of December	-		
NMOOP											
Soybean	*Kharif-16*	Irrigated	Medium black	L	M	H	Sorghum	19th July to 15th Aug. 2016	15th July to 30th Aug., 2016		
TSP – ICAR											
Indian bean (NPS 1)	*Rabi -16*	Irrigated/Rainfed	Medium Black	L	M	H	Fallow /Rabi vegetables	15th November to 1st week of December	-		

Adaptive trails											
Okra (GAO3) and INM)	*Rabi - 16*	Irrigated	Medium black	L	M	H	Paddy	1st Dec. to 15 Jan, 2016	-		
Banana (IPDM and INM)	Kharif -16	Irrigated	Loamy	L	M	H	Papaya	May to July - 16	--		
Parvar (IPDM &INM)	Kharif -16	Irrigated	Medium black	L	M	H	Paddy	1st week of July-16	-		
Pigeonpea (IDM)	Kharif-16	Irrigated/Rainfed	Medium Black	L	M	H	Fallow /Rabi vegetables	15th June to 15th Aug., 2016	1st Feb to 15th Feb, 2016		
Paddy-IPDM	*Kharif-16*	Irrigated	Medium black	L	M	H	Sugarcane Summer paddy	12th July to 15th Aug. 2016	10th Dec. to 15th Dec. 2016		
Castor (NCH 11)	Kharif – 16	Irrigated	Medium Black	L	M	H	Paddy	15th July to 15th Aug. 2016	-		

Technical Feedback on the demonstrated technologies

S.N.	Crop	Technology demonstrated	Feed back
1	Paddy	NAUR-1	1. High yielding 2. Early maturity as compared to hybrid 3. Good taste in rice plate/roti making as compare to hybrid
2	Paddy	GNR-3	1. High yielder and preferred by the farmers 2. Good quality 3. Low incidence of insect pest
3	Paddy	GAR – 13	1. Good performance as compare to GR-11 2. Good rice quality
4	Paddy	Purna	1. Good performance as drilled paddy
5	Paddy	IPDM	1. Increase in yield by decreasing infestation of pest at earlier stages in field. 2. Pheromone trap helps farmer to monitor pest in field. 3. Low intensity of BLB in field
6	Soybean	JS – 335	1. Good performance as compare to local varieties. 2. Low incidence of pest and diseases
7	Cotton	INM Cotton	1. Reduced the cost of cultivation due to use of biofertilizers 2. Low incidence of pest and diseases
9	Banana	IPDM & INM	1. Less incidence of wilt 2. Less infestation of weevil in the field. 3. Increase in yield.
10	Parvar	IPDM & INM	1. *Less incidence of wilt*
11	Black gram (GU 1)	Variety	1. Poor performance due to heavy rainfall
12	Indian bean	NPS 1	1. Good performance as intercrop with sugarcane
13	Pigeon pea	IDM	1. Increase in yield and less incidence of wilt 2. Reduce the cost of cultivation by lowering the use of pesticide
14	Castor	NCH 1	1. Less infestation of pest and diseases

General feed back of the Farmers'/Scientists

1. Late maturing variety of Black gram need be developed for rainy season.
2. The specific name of variety should be given for popularizing varieties/ hybrids like pigeon pea Vaishali, paddy Jaya, Gurjari *etc.*
3. Mosaic resistant variety of black gram should be developed specially for summer cultivation.
4. Problem of wilt and Pseudo stem weevil in Kamrej Area is increasing day by day.
5. The problem of parval vine borer and nematode are increasing in pointed goaurd. For management of vine borer, carbaryl is recommended but now a day carbaryl is not available in the market so alternate insecticides has to be recommended

Extension and Training activities under FLD

Sr. No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1	**Field days**				
	Paddy GNR 3	1	1.04/10/2016	154	
	Paddy NAUR 1	1	2.19/10/2016	66	
	Black gram	1	3.03/10/2016	77	
	Pointed gourd	1	4.07/10/2016	86	
	Soybean	1	5.01/10/2016	89	
2	**Farmers Training**				
	Plant Protection	7	1.26-30/06/2016, 2.01 - 0 4/07/2016, 3.19-22/07/2016, 4.25-29/07/2016, 5.10/08/2016, 6.30 -02/08/2016, 7.17-20/10/2016	358	
	Horticulture	7	1.27 -30/06/2016, 2.01/07/2016, 3.01 - 04/07/2016, 4.19 -22/07/2016, 6.29/07/2016, 7.17-20/10/2016	176	
	Animal Science	6	1.05/04/22016, 2. 07 -08/09/2016, 3.04-07/10/2016, 4.17-20/10/16, 5.08/09/2016, 6.30-31/08/16,	350	
	Home Science	10	1.15-16/07/2016, 2. 26/07/2016, 3.03/08/2016, 4.10 -12/08/2016, 5.30 -31/08/2016 6.07-10/09/2016, 7.0 2 -05/10/2016, 8.19-22/01/2017, 9.23-28/01/2017 10.20-23/02/2017	309	
3	Training for extension functionaries	3	1.08/06/2016, 2.14/07/2016, 3.17/10/2016	84	

Performance of Frontline demonstrations
Front Line Demonstrations conducted in 2016-17

S.N.	Crop	Season	Variety	No. of Farmers	Area (ha)	Demonstration yield (q/ha)		Increased in Yield (%)	B:C ratio	
						Average	Local Check		Demo	Local Check
A	**Cereal crops**									
1	Paddy	*Kharif* -16	NAUR – 1	20	8	43.635	38.82	12.40	2.42	2.06
2	Paddy	*Kharif* -16	GNR – 3	20	8	45.875	42.15	8.84	2.33	2.14
3	Paddy	*Kharif* -16	GAR – 13	10	4	49.11	43.65	12.51	2.55	2.27
4	Paddy	*Kharif* -16	Purna	10	4	20.86	16.52	26.27	1.64	1.13
5	Paddy	*Kharif* -16	--	20	8	36.87	33.92	8.70	3.89	3.39
B	**Horticultural crops**									
1	Okra	*Rabi* -15	Hybrid	10	2	157.11	139.72	12.45	4.09	3.23
2	Brinjal	*Rabi* -15	Surti Ravaiya	20	8	175.73	149.88	17.25	3.09	2.87
3	Pointed Gourd	*Rabi* -15	Local	20	8	168.56	140.15	20.27	2.55	2.09
4	Mango	*Rabi* -15	-	20	8	66.25	62.49	6.01	3.81	3.52
5	Banana	*Kharif* -15	Grand nain	20	8	709.54	563.47	25.92	3.89	3.04
6	Pigeon pea	*Kharif* -15	Vaishali	10	4	11.88	10.71	10.97	2.93	2.31
C	**Cash crops**									
1	Sugarcane	*Rabi*-15	Co 7072	5	1	1066.90	977.48	9.15	3.40	3.05
D	**NFSM**									
1	Black gram	*Kharif* -16	GU 1	93	20	3.54	3.24	9.35	1.00	1.07
E	**NMOOP**									
1	Soybean	*Kharif* -16	NRC 37	74	20	16.5	12.0	37.5	2.025	2.65

Economic impact continuation of previous table

Demonstration	Average Cost of cultivation (Rs./ha)		Average Gross Return (Rs./ha)		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)	
	Demo.	Local Check	Demo.	Local Check	Demo.	Local Check	Demo.	Local Check
Cereal crops								
Paddy	22500	23500	54544	48525	32044	25025	2.42	2.06
Paddy	25000	25000	58261	53531	33261	28531	2.33	2.14
Paddy	25000	25000	63843	56745	38843	31745	2.55	2.27
Paddy	16500	19000	27118	21476	10618	2476	1.64	1.13
Paddy	37000	39000	143793	132288	106793	93288	3.89	3.39
Horticultural crops								
Okra	49425	52075	202266	168174	152841	116099	4.09	3.23
Brinjal	48020	51227	148720	136890	100700	85663	3.09	2.87
Pointed Gourd	145000	147500	370821	308319	225821	160819	2.55	2.09
Mango	26910	27500	102687	96862	75777	69362	3.81	3.52
Banana	100140	102040	390248	309907	290108	207867	3.89	3.04
Pigeon pea	14575	16670	42778	98549	28203	21878	2.93	2.31
Cash crops								
Sugarcane	112800	115300	384084	351893	271284	236592	3.40	3.05
NFSM								
Black gram	11300	11500	11344.20	12405.40	44.20	905.4	1.00	1.07
NMOOP								
Soybean	16000	16800	32400	44550	16400	27750	2.025	2.65

Use of mineral mixture + De-worming:

Category	Thematic area	Name of the Technology Demonstrated	No. of Farmer	No. of Units	Major Parameters		% change in major parameter
					Demo.	Check	
Cow	Nutrition Management	Mineral Mixture 40 mg per Day and De-worming 3 g Tablet	20	20	Avg. milk yield (L/Day)	Avg. milk yield (L/Day)	12.5
					8.78 (20)	7.80 (10)	
					Service Period (Days)	Service Period (Days)	30
					105 (19)	150 (9)	

Feed back: Use of mineral mixture increase milk production and reduced service periods and sometimes resolved reproductive problems also.

Prevention of mastitis by teat Spray:

Category	Thematic area	Name of the Technology Demonstrated	No. of Farmer	No. of Units	Major Parameters	% change in major parameter
					Demonstration	Check
Cow	Preventive Measures	Mastitis prevention by Teat Spray Visprayk@	20	20	No. of Incidence	No. of Incidence
					1 (20)	3(10)

Scientific calf rearing:

Parameters	De-worming + calf Dan up to six months		Farmers method	
	3 Month	6 Month	3 Month	6 Month
Calf No.	20		10	
Av. Body Wt. (Kg)	60.43	88.84	54.62	76.46
% Increase	**10.6**	**16.2**	-	-

Feed back

Sr. No.	Technology	Animals	Feedback reported
1	Mineral Mixture	Cow	➢ Increase the milk yield ➢ Reduce service period
2	Teat spray	Cow	➢ Reduce mastitis cases
3	De-worming and Dan to calf	Calf	➢ Increase the growth rate ➢ Reduced the parasitic problems ➢ Improve health condition

Feed back: Use of mineral mixture increase milk production and reduced service periods and sometimes resolved reproductive problems also.

Details of FLD: Home science (Kharif-2016-17)

1. FLD on Use of Wheel Hoe for weeding to reduce women drudgery

Crop	Thematic area	Name of the Technology Demonstrated	No. of Farmer	Major Parameters	Field observation Output/Man hr) (ha/hr)		% change in major parameter	Labour saving during weeding (Man-hr/ha)		Cost reduction** (Rs./ha/day)	
					Demo.	Check		Demo	Check	Demo	Check
Vegetables & Pulses	Drudgery reduction	Twin Wheel Hoe*	10	1.Field capacity(ha/hr) 2.Labour requiment(Man hr/ha) 3.Cost of operation	0.011 (0.091ha/day)	0.0076 (0.061ha/day)	44.74	88	130	1956	2918

***Twin wheel hoe technology recommended by CIAE, Bhopal-MP**

****Cost of operation is calculated as per NAU labour wages**

Feed back:

1. Reduced the labour cost
2. Improved the work efficiency
3. Time saving by increase work efficiency

2. FLD on Improved SURUCHI SICKLE to reduce women drudgery

Crop	Thematic area	Name of the Technology Demonstrated	No. of Farmer	Major Parameters	Field observation Output/Man hr) (ha/hr)		% change in major parameter	Labour saving during harvesting (Man-hr/ha)		Cost reduction** (Rs./ha/day)	
					Demo.	Check		Demo.	Check	Demo.	Check
Paddy	Drudgery reduction	Improved SURUCHI SICKLE*	90	1.Field capacity(ha/hr) 2.Labour requiment(Man hr/ha) 3.Cost of operation	0.0073 (0.058ha/day)	0.0056 (0.045ha/day)	30.35	138	178	3068	3955

***SURUCHI sickle is developed by SURUCHI Vasahat Trust,Bardoli**

****Cost of operation is calculated as per NAU labour wages**

Feed back:

1. Reduced the labour cost
2. Increase work efficiency as compared to local sickle

II. 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
(A) Farmers & Farm Women										
I Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil & water conservation										
Integrated nutrient management										
Production of organic inputs										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
II Horticulture										
a) Vegetable Crops										
Production of low value and high volume crops	2	0	0	0	29	29	58	29	29	58
Off-season vegetables										
Nursery raising										

Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)										
Total (a)	**2**	**0**	**0**	**0**	**29**	**29**	**58**	**29**	**29**	**58**
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)										
Total (b)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl specify)										
Total (c)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GT (a-g)	**2**	**0**	**0**	**0**	**29**	**29**	**58**	**29**	**29**	**58**
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water										

management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
IV Livestock Production and Management										
Dairy Management	1	0	0	0	30	19	49	30	19	49
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management	1	25	25	50	0	0	0	25	25	50
Disease Management										
Feed & fodder technology	1	0	0	0	25	32	57	25	32	57
Production of quality animal products										
Others (pl specify)										
Total	**3**	**25**	**25**	**50**	**55**	**51**	**106**	**80**	**76**	**156**
V Home Science / Women empowerment										
Household food security by kitchen gardening and nutrition gardening	2	4	48	52	0	0	0	4	48	52

Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	1	0	69	69	0	0	0	0	69	69
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify)										
Total	**3**	**4**	**117**	**121**	**0**	**0**	**0**	**4**	**117**	**121**
VI Agril. Engineering										
Farm Machinary and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										

Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
VII Plant Protection										
Integrated Pest & Disease Management	2	72	10	82	0	0	0	72	10	82
Bio-control of pests and diseases	2	0	0	0	73	18	91	73	18	91
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total	**4**	**72**	**10**	**82**	**73**	**18**	**91**	**145**	**28**	**173**
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										

Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production										
Apiculture										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
X Capacity Building and Group Dynamics										
Leadership development										

Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GRAND TOTAL	**12**	**101**	**152**	**253**	**157**	**98**	**255**	**258**	**250**	**508**

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**
(A) Farmers & Farm Women										
I Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										

Seed production										
Nursery management										
Integrated Crop Management										
Soil & water conservatioin										
Integrated nutrient management										
Production of organic inputs										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops										
Off-season vegetables										
Nursery raising	2	0	0	0	20	14	34	20	14	34
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation	1	0	0	0	25	0	25	25	0	25
Others (pl specify)										
Total (a)	**3**	**0**	**0**	**0**	**45**	**14**	**59**	**45**	**14**	**59**
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										

Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards	2	15	15	30	14	15	29	29	30	59
Plant propagation techniques										
Others (pl specify)										
Total (b)	**2**	**15**	**15**	**30**	**14**	**15**	**29**	**29**	**30**	**59**
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl specify)										
Total (c)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
f) Spices										

Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GT (a-g)	**5**	**15**	**15**	**30**	**59**	**29**	**88**	**74**	**44**	**118**
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

IV Livestock Production and Management										
Dairy Management	2	15	15	30	40	12	52	55	27	82
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management	2	0	0	0	55	57	112	55	57	112
Disease Management										
Feed & fodder technology										
Production of quality animal products										
Others (pl specify)										
Total	**4**	**15**	**15**	**30**	**95**	**69**	**164**	**110**	**84**	**194**
V Home Science / Women empowerment										
Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking	1	0	38	38	0	0	0	0	38	38
Gender mainstreaming through SHGs										
Storage loss minimization techniques										

Value addition	3	6	54	60	0	0	0	6	54	60
Women empowerment	1	0	0	0	0	10	10	0	10	10
Location specific drudgery reduction technologies	1	0	0	0	0	45	45	0	45	45
Rural Crafts										
Women and child care	1	0	0	0	0	35	35	0	35	35
Others (pl specify)										
Total	**7**	**6**	**92**	**98**	**0**	**90**	**90**	**6**	**182**	**188**
VI Agril. Engineering										
Farm Machinary and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
VII Plant Protection										
Integrated Pest & Disease Management	2	70	30	100	0	0	0	70	30	100
Bio-control of pests and diseases	1	0	0	0	30	55	85	30	55	85

Production of bio control agents and bio pesticides										
Others (pl specify)										
Total	**3**	**70**	**30**	**100**	**30**	**55**	**85**	**100**	**85**	**185**
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides										

production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production										
Apiculture										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths	2	0	0	0	118	80	198	118	80	198
WTO and IPR issues										
Others (pl specify)										
Total	**2**	**0**	**0**	**0**	**118**	**80**	**198**	**118**	**80**	**198**
XI Agro-forestry										

Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GRAND TOTAL	**21**	**106**	**152**	**258**	**302**	**323**	**625**	**408**	**475**	**883**

Farmers' Training including sponsored training programmes (Consolidated)										
		Participants								
		Others			**SC/ST**			**Grand Total**		
Thematic area	**No. of courses**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
(A) Farmers & Farm Women										
I Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil & water conservatioin										
Integrated nutrient management										
Production of organic inputs										

Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops	2	0	0	0	29	29	58	29	29	58
Off-season vegetables										
Nursery raising	2	0	0	0	20	14	34	20	14	34
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation	1	0	0	0	25	0	25	25	0	25
Others (pl specify)										
Total (a)	**5**	**0**	**0**	**0**	**74**	**43**	**117**	**74**	**43**	**117**
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards	2	15	15	30	14	15	29	29	30	59
Plant propagation techniques										
Others (pl specify)										
Total (b)	**2**	**15**	**15**	**30**	**14**	**15**	**29**	**29**	**30**	**59**
c) Ornamental Plants										

Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl specify)										
Total (c)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
g) Medicinal and Aromatic Plants										
Nursery management										

Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GT (a-g)	**7**	**15**	**15**	**30**	**88**	**58**	**146**	**103**	**73**	**176**
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
IV Livestock Production and Management										
Dairy Management	3	15	15	30	70	31	101	85	46	131
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management	3	25	25	50	55	57	112	80	82	162

Disease Management										
Feed & fodder technology	1	0	0	0	25	32	57	25	32	57
Production of quality animal products										
Others (pl specify)										
Total	**7**	**40**	**40**	**80**	**150**	**120**	**270**	**190**	**160**	**350**
V Home Science / Women empowerment										
Household food security by kitchen gardening and nutrition gardening	2	4	48	52	0	0	0	4	48	52
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking	1	0	38	38	0	0	0	0	38	38
Gender mainstreaming through SHGs										
Storage loss minimization techniques	1	0	69	69	0	0	0	0	69	69
Value addition	3	6	54	60	0	0	0	6	54	60
Women empowerment	1	0	0	0	0	10	10	0	10	10
Location specific drudgery reduction technologies	1	0	0	0	0	45	45	0	45	45
Rural Crafts										

Women and child care	1	0	0	0	0	35	35	0	35	35
Others (pl specify)										
Total	**10**	**10**	**209**	**219**	**0**	**90**	**90**	**10**	**299**	**309**
VI Agril. Engineering										
Farm Machinary and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
VII Plant Protection										
Integrated Pest & Disease Management	4	142	40	182	0	0	0	142	40	182
Bio-control of pests and diseases	3	0	0	0	103	73	176	103	73	176
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total	**7**	**142**	**40**	**182**	**103**	**73**	**176**	**245**	**113**	**358**
VIII Fisheries										

Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										

Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production										
Apiculture										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths	2	0	0	0	118	80	198	118	80	198
WTO and IPR issues										
Others (pl specify)										
Total	**2**	**0**	**0**	**0**	**118**	**80**	**198**	**118**	**80**	**198**
XI Agro-forestry										
Production technologies										

Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GRAND TOTAL	**33**	**207**	**304**	**511**	**459**	**421**	**880**	**666**	**725**	**1391**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition	1	0	0	0	0	40	40	0	40	40
Small scale processing	1	0	69	69	0	0	0	0	69	69
Post Harvest Technology										
Tailoring and										

Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl. specify)										
TOTAL	**2**	**0**	**69**	**69**	**0**	**40**	**40**	**0**	**109**	**109**

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	24	0	24	0	0	0	24	0	24
Integrated Pest Management	1	0	0	0	25	0	25	25	0	25
Integrated Nutrient management	1	0	0	0	21	14	35	21	14	35
Rejuvenation of old orchards										
Protected cultivation technology										

Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify)										
TOTAL	**3**	**24**	**0**	**24**	**46**	**14**	**60**	**70**	**14**	**84**

Table. Sponsored training programmes

Area of training	**No. of Course**	**No. of Participants**								
		General			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Crop production and management										
Productivity enhancement in field crops										
Integrated Pest Management	2	0	0	0	99	12	111	99	12	111
Integrated Nutrient management	2	32	28	60	0	0	0	32	28	60
Total	**4**	**32**	**28**	**60**	**99**	**12**	**111**	**131**	**40**	**171**
Production and value addition										
Fruit Plants										
Ornamental plants										
Spices crops										
Soil health and fertility management										

Production of Inputs at site										
Methods of protective cultivation										
Others (pl. specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Post harvest technology and value addition										
Processing and value addition										
Others (pl. specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Farm machinery										
Farm machinery, tools and implements										
Others (pl. specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Livestock and fisheries										
Livestock production and management	2	0	0	0	58	35	93	58	35	93
Animal Nutrition Management	2	26	0	26	0	0	0	26	0	26
Animal Disease Management										
Fisheries Nutrition										
Fisheries Management										
Others (pl. specify)										
Total	**4**	**26**	**0**	**26**	**58**	**35**	**93**	**84**	**35**	**119**
Home Science										
Household nutritional security	2	0	40	40	0	0	0	0	40	40
Economic empowerment of women										
Drudgery reduction of women	3	0	0	0	23	73	96	23	73	96
Processing and value addition	1	0	38	38	0	0	0	0	38	38
Others (pl. specify)										
Total	**6**	**0**	**78**	**78**	**23**	**73**	**96**	**23**	**151**	**174**
Agricultural Extension										
Capacity Building and Group Dynamics	1	0	0	0	28	64	92	28	64	92
Income generations										
Total	**1**	**0**	**0**	**0**	**28**	**64**	**92**	**28**	**64**	**92**
GRAND TOTAL	**15**	**58**	**106**	**164**	**208**	**184**	**392**	**266**	**290**	**556**

Name of sponsoring agencies involved: ATMA, Animal Husbandry Department, Agriculture Department, Ambuja Cement Foundation, NABARD, Forest Department, Reliance Foundation

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Commercial floriculture										
Commercial fruit production										
Commercial vegetable production										
Integrated crop management										
Organic farming										
Others (pl. specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Post harvest technology and value addition										
Value addition										
Others (pl. specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Livestock and fisheries										
Dairy farming										
Composite fish culture										
Sheep and goat rearing										
Piggery										
Poultry farming										
Others (pl. specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Income generation activities										
Vermi-composting										
Production of bio-agents, bio-pesticides,										
bio-fertilizers etc.										
Repair and maintenance of farm machinery										
and implements										
Rural Crafts										
Seed production										
Sericulture										
Mushroom cultivation										
Nursery, grafting etc.										
Tailoring, stitching,										

embroidery, dying etc.										
Agril. para-workers, para-vet training										
Others (pl. specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Agricultural Extension										
Capacity building and group dynamics										
Others (pl. specify)										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Grand Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

IV. Extension Programmes

A.

Sr. No.	Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
1	Advisory Services	112	1228	71	1299
2	Diagnostic visits	258	777	14	791
3	Field Day	8	3189	10	3199
4	Group discussions	8	125	4	129
5	Kisan Ghosthi	15	2362	95	2457
6	Film Show	39	1261	22	1283
7	Self -help groups Meeting	2	26	0	26
8	Mahila Shibir	2	271	0	271
9	Mahila Convergence Meeting	2	72	0	72
10	Kisan Mela	5	4093	50	4143
11	Exhibition	4	3424	45	3469
12	Scientists' visit to farmers field	86	421	0	421
13	Plant/animal health camps	2	63	2	65
14	Animal health sibir	4	1018	4	1022
15	Farm Science Club	0	0	0	0
16	Farmers' seminar/workshop	1	47	0	47
17	Method Demonstrations	15	255	0	255
18	Celebration of important days	5	354	21	375
19	Special day celebration	3	242	12	254
20	Exposure visits	5	80	0	80
21	Pre Kharif Campaign	1	340	16	356
22	BRS Students Kendra Nivas at KVK-Surat	3	-	-	-
23	Farmers School in association with (ATMA)	1	1	1	2
	Total	**581**	**19649**	**367**	**20016**

B.Details of other extension programmes

Particulars	Number
Electronic Media (CD./DVD)	0
Extension Literature	6000
News paper coverage	10
Popular articles	8
Radio Talks	2
TV Talks	2
Animal health camps (Number of animals treated)	56
Others (pl. specify)	0

Total	**6078**

C. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						
		Crop	**Livestock**	**Weather**	**Marketing**	**Awareness**	**Other enterprise**	**Total**
Surat	Text only	10809	11046	6236	-	1755	-	29846
	Voice only	-	-	-	-	-	-	-
	Voice & Text both	-	-	-	-	-	-	-
Total Messages		**10**	**2**	**1**	**-**	**1**	**-**	**14**
Total farmers Benefitted		10809	11046	6236	-	1755	-	29846

V. DETAILS OF TECHNOLOGY WEEK CELEBRATIONS -

Number of KVKs organized Technology Week	Types of Activities	No. of Activities	Number of Participants	Related crop/livestock technology
Nil	Gosthies			
	Lectures organized			
	Exhibition			
	Film show			
	Fair			
	Farm Visit			
	Diagnostic Practical			
	Distribution of Literature (No.)			
	Distribution of Seed (q)			
	Distribution of Planting materials (No.)			
	Bio Product distribution (Kg)			
	Bio Fertilizers (q)			
	Distribution of fingerlings			
	Distribution of Livestock specimen (No.)			
	Total number of farmers visited the technology week			

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

Production of seeds by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers
Cereals						
Oilseeds						
Pulses	Green-gram	CO-4		4.64	51040	55
		GAM-5		1.5	16500	13
Commercial crops						
Vegetables						
Flower crops						
Spices						
Fodder crop seeds						
Fiber crops						
Forest Species						
Others						
Total						

Production of planting materials by the KVKs - NILL

Crop	Name of the crop	Name of the variety	Name of the hybrid	Number	Value (Rs.)	Number of farmers
Commercial						
Vegetable seedlings	Tomato	-	Abhinav	23000	23000	40
	Brinjal	-	Sungrow-143	7000	7000	35
	Chilli	-	VNR-277	5000	5000	25
Fruits						
Ornamental plants						
Medicinal and Aromatic						
Plantation						
Spices						
Tuber						
Fodder crop saplings						
Forest Species						
Others						
Total						

Production of Bio-Products –NIL

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	No. of Farmers
Bio Fertilisers				
Bio-pesticide				
Bio-fungicide				

Bio Agents				
Others				
Total				

Table: Production of livestock materials – NILL

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

VII. DETAILS OF SOIL, WATER AND PLANT ANALYSIS

Samples	No. of Samples	No. of Farmers	No. of Villages	Amount realized (Rs.)
Soil				
Water				
Plant	**29**	**65**	**0**	**0**
Manure				
Others (pl. specify)				
Total	**29**	**65**	**0**	**0**

VIII. SCIENTIFIC ADVISORY COMMITTEE

Name of KVK	Number of SACs conducted
KVK, Surat	Fifth SAC dated 02/03/2017

IX. NEWSLETTER/MAGAZINE

Name of News letter/Magazine	No. of Copies printed for distribution

X. PUBLICATIONS

Research papers:

H. V. Patel1, G. G. Radadia2 and Dr. S. K. Chawda (2016). " Dissipation and decontamination of Cypermethrin And Deltamethrin Residues in/on Brinjal Fruits During Summer and Rabi Season Under South Gujarat Condition. *J. of Bioinnovation*, 605-612.

J.V.Suthar, S. K. Chawda, A. T. Patel, J. J. Pastagia and B. B. Patel (2016). "Impact of Front Line Demonstration on the Yield Of Poha Rice (*Oryza Sativa*) in Surat District*". J. of Bioinnovation,* 588-593.

Popular articles:

J.J. Pastagia (2016) Net house / green house ma paragnayan: Ek Prayas Jan-2016

P.D. Verma and J.J. Pastagia (2016) Jamin ni tandurasti mate panch supriya karyakram apanavo: Krishi Govidhya 68 (10): 14-16

Panchal Bhakti B. and Bhanderi D. R. (2017). Poat harvest management of onion: Biotecharticle: 1-3

Paper Presented in Seminars:

P. D. Verma, Hitesh Parmar and J. J. Pastagia (2016). Knowledge and adoption of dairy husbandry practices in tribal area a paper presented in National Seminar on Contemporary innovations for Quantum Extension in Agricultural Development organized by Junagadh Agricultural University and Society of Extension Education, Gujarat on 18-19 March, 2016

P. D. Verma and J. J. Pastagia (2016). FLDs : A torch Bearer Approach To Disseminate Improved Technology a paper presented in National Seminar on Contemporary innovations for Quantum Extension in Agricultural Development organized by Junagadh

Agricultural University and Society of Extension Education, Gujarat on 18-19 March, 2016.

P. D. Verma, Hitesh Parmar and J. J. Pastagia (2016). Factors prone to milk yield of dairy animals in tribal area a paper presented in National Seminar on Contemporary innovations for Quantum Extension in Agricultural Development organized by Junagadh Agricultural University and Society of Extension Education, Gujarat on 18-19 March, 2016.

XI. DETAILS ON RAIN WATER HARVESTING STRUCTURE AND MICRO-IRRIGATION SYSTEM - NIL

Activities conducted				
No. of Training programmes	**No. of Demonstration s**	**No. of plant materials produced**	**Visit by farmers (No.)**	**Visit by officials (No.)**
NIL				

XII. INTERVENTIONS ON DISASTER MANAGEMENT/UNSEASONAL RAINFALL / HAILSTORM/COLD WAVES ETC - NILL

Introduction of alternate crops/varieties

Crops/cultivars	Area (ha)	Extent of damage	Recovery of damage through KVK initiatives if any
Total			

Major area coverage under alternate crops/varieties

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

Farmers-scientists interaction on livestock management

Livestock components	Number of interactions	No.of participants
Total		

Animal health camps organised

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

Seed distribution in drought hit states

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

Large scale adoption of resource conservation technologies

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

Awareness campaign

	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												

XIII. DETAILS ON HRD ACTIVITIES

A. **HRD activities organized in identified areas for KVK staff by the Directorate of Extension**

Sr. No.	Training/ Workshop/Winter School/Seminar attended	Attended by
1	Management of Commodity Interest Groups and Farmers Organizations, NAU, Navsari during March-2017	S. K. Chawda and G. J. Bhimani
2	Seminar on *Sajiv Kheti and Pashupalan* at Gujarat vidhyapeeth, Ahmedabad during Dec., 2016.	B. B. Patel
3	21 days training on Gender empowerment through Entrepreneurship development at Dapoli during December, 2016.	G. J. Bhimani
4	21 days training on Advance in production technology of Commercial vegetable crops held at Dr. Y. S. Parmar university of Horticulture and Forestry, Solan during 2016.	B. B. Patel
5	2 days training on scientific cultivation of Rapeseed and Mustard at Bharatpur, Rajasthan during September, 2016	S. K. Chawda
6	Two days sensitization workshop cum training on Pulses production technology, CAZRI, Jodhur during October, 2016.	S. K. Chawda
7	28 days orientation programme at Sardar Patel University at Ananad during July 2016.	H. C. Parmar
8	21 days training on Quarantine Insect pest and disease management at NIPHM, Hyderabad during 2016.	S. K. Chawda
9	PPAG Seminar on Plant protection in organic farming at Navsari during June, 2016.	S. K. Chawda
10	National Conference on Palmyra Palm organized by ASPEE College of Horticulture and Forestry during 2016 at Dedvasan Mahuva	J.J.pastagia and Bhavesh patel
11	Workshop on "Farm Business Management for Extension Functioneries" held at EEI, AAU, Anand during 2016.	J. V. Suthar
12	National Seminar on Contemporary innovations for Quantum Extension in Agricultural Development organized by Junagadh Agricultural University and Society of Extension Education, Gujarat during 2016.	J. J. Pastagia, P. D. Verma

B. HRD activities organized in identified areas for KVK staff by ATARI

Title of the training programmes	No of programmes	No. of Participants	No. of KVKs involved
NIL			
Total			

XIV. CASE STUDIES

Name of the KVK: KVK, Surat
Case Study: 1

Title: Organic Farming in Sugarcane and Turmeric

Name of Farmer: Maheshbhai Babubhai Patel
Village: Erthan **Mobile no.:** 9427425310
Educational Qualification: SSC **Occupation:** Farming
Size of land holding: **Source of Irrigation:** Bore, Canal *etc*.

Introduction:

Earlier he was growing of Cotton, Pigeon pea, Sorghum and vegetable crop, *etc*. Soil is salt affected, poor in production; Productivity of all this crops was very less. Depend upon chemical fertilizers to manage the nutrients as well as chemical pesticides only to manage the pest and diseases.

KVK intervention:

Farmer came in contact with Krishi Vigyan Kendra, Surat. Soil samples of affected soil send to Navsari Agricultural University to know the actual status of Soil. As per report soil was found to be salt affected. Maximum use of organic matter *viz.*, FYM, Vermicompost, Biofertilizers and other indigenous technologies recommend to improve the soil health. His field was visited frequently by Scientists of Krishi Vigyan Kendra and suggestions made as and when required. Our KVK recommend to change the cropping pattern and to grow Sugarcane, turmeric and other vegetables to maximize the income as well as to increase the use of organic fertilizers and organic pesticides by decreasing the use of chemical fertilizers and chemical pesticides.

Output:

Soil health improved by using the above mentioned component and farmer start to grow vegetables *viz.*, Bottle gourd, Pointed gourd, Turmeric and Sugarcane. He was starting to manage insect pest and diseases by making botanical pesticides using locally available leaves and bulb extract in place of chemical pesticides. Most of the farmers of this block used biofertilizers to cut down the cost of chemical fertilizers. He also made *panchgavya*, *Jivamrut* at his own farm and use to increase the production, which help to cut the cost of production of all this crops.

Economics of crops (Last three year)

Year	2013-14	2014-15	2015-16
Crop	Turmeric	Sugarcane	Bottle gourd
Total Area (ha.)	1 ha	1 ha	1 ha
Total Production	18000 kg	166.66 ton	62500 kg
Total Income	690625	400416 ton	250000
Total Cost	145833	166666	79166
Net profit (Rs.)	544792	233750	170834

Awarded for Best ATMA farmers (2011-2012) *Gujaratni Krushi Bharatni Rushi* from Anand Agricultural University, Anand

Outcome:

Other farmers of block start to grow sugarcane with other high value vegetable crops in place of Pigeon pea, Cotton, etc. They start to use organic component and organic pesticides in place of chemical fertilizers and chemical pesticides. Most of the farmers of this region know to make Panchgavya, Panchamrut and botanical pesticide using locally available sources. Soil health of other farmers also increased.

Impact:

Farmers are this region growing sugarcane, turmeric and other vegetables organically and sell at higher price as compare to the other farmers. Some of this farmer do processing of their product and sell e.g. some farmers making organic jiggery from their sugarcane and some made organic turmeric powder.

Case Study: 2

Title: Organic farming in sugarcane

Name of Farmer: Manharbhai Chhotubhai Patel

Village: Umbhel **Mobile no.:** - 9909593924

Educational Qualification: B.Sc (Botany) **Occupation:** Farming

Size of land holding: 10 acre **Source of Irrigation:** Bore, Canal *etc.*

Introduction:

He is practicing organic farming since 25 years. He has totally 10 acre of land. In which, he is mainly cultivating sugarcane, turmeric, sapota organically. Soil is salt affected, poor in production; Productivity of all this crops was very less. Depend upon chemical fertilizers to manage the nutrients as well as chemical pesticides only to manage the pest and diseases.

KVK intervention:

Farmer came in contact with Krishi Vigyan Kendra, Surat. Soil samples of affected soil send to Navsari Agricultural University to know the actual status of Soil. As per report soil was found to be salt affected. Maximum use of organic matter *viz.*, FYM, Vermicompost, Biofertilizers and other indigenous technologies recommend to improve the soil health. His field was visited frequently by Scientists of Krishi Vigyan Kendra and suggestions made as and when required. Our KVK recommend to change the cropping pattern and to grow Sugarcane, turmeric and other vegetables to maximize the income as well as to increase the use of organic fertilizers and organic pesticides by decreasing the use of chemical fertilizers and chemical pesticides.

Output:

Soil health improved by using the above mentioned component and farmer start to grow sugarcane. Before cultivation of sugarcane, he was adding the 100 MT well decomposed FYM at the time of land preparation and sowing Sunhemp as a green manuring crop in *kharif* and buried after one month in the soil. By these practices he increases the fertility level of the soil and cut the cost of fertilizer. After green manuring, he grows Sugarcane using pair row planting method in October using the drip irrigation method. For fertilizer application he was applying castor cake @ 2 MT/ha in combination with 600 kg/ha neem cake and sugarcane compost @ 2 MT/ha after one month of planting. He was starting to manage insect pest and diseases by making botanical pesticides using locally available leaves and bulb extract in place of chemical pesticides.

Economics of crops (Last three year)

Year	**Total Production (tonn/acre)**	**Total Cost (acre) (in lakh)**	**Total Income (acre) (in lakh)**	**Net profit (in lakh)**
Crop	Sugarcane			
2008-2009	38.00	0.39	0.83	0.43
2009-2010	45.00	0.41	1.30	0.88
2010-2011	40.00	0.42	0.88	0.46

Awards received: For organic farming,

1. Awarded by Sardar Patel Krushi Sanshodan Award and cash price of Rs. 51000/- from GoG, in the year 2000-01.
2. Awarded Golden Jubilee Memorial Trust Excellence Award by the South Gujarat Chember of Commerce and Industry, Surat in year 2003-04 by Hon. CM Narendrabhai Modi.
3. ATMA farmer Award 2011-12.
4. Best District Farmer Award by ATMA in the year 2013 and cash prize of Rs. 25000/-.
5. Awarded by Productivity Council, Surat in year 2013.

6. Awarded by Gujarat Rajya Khand Udhyog Sangh at Gandhinagar in year 2011.
7. Awarded by Gujarat Ecological Commission Ahmedabad in year 2013.
8. Awarded by Gujarat Rajya Khand Udhyog Sangh at Mahuva in year 2015.
9. Awarded by Gujarat Krishi Vigyan Mandal Ahmedabad and Akhil Gujarat Sajiv Kheti Samaj, Baroda with Rs. 21000/- and Sanmanpatra at Ahmedabad in year 2015.
10. Awarded by Surat Jilla Panchayat by CM of Gujarat at Surat in year 2015.
11. Awarded by Kishan Channel Desh ki Shan Kishan at Umbhel, Surat in year 2015.

Outcome:

Other farmers of block start to grow sugarcane with other high value vegetable crops in place of Pigeon pea, Cotton, etc. They start to use organic component and organic pesticides in place of chemical fertilizers and chemical pesticides. Soil health of other farmers also increased.

Impact:

Farmers are this region growing sugarcane or other vegetables organically and sell at higher price as compare to the other farmers. Some of this farmer do processing of their product and sell e.g. some farmers making organic jiggery from their sugarcane and some made organic turmeric powder.

Case Study: 3

Title: Organic farming & processing

Name of Farmer: Manojbhai Naranbhai Patel
Village: Shekhpur **Mobile no.:** - 9426148670
Educational Qualification: SSC **Occupation:** Farming and processing
Size of land holding: 14 acre

Introduction:

He is doing organic farming since last four years. He is cultivating crops like, guava, moringa, sugarcane, turmeric, and wheat grass. He mainly focusing on value added products of different plant parts which is highly nutritive. He has made the moringa leaf powder, wheat grass powder, guava leaf powder, ginger and turmeric powder.

Brief profile of technology:

He has also provided sustainable solution in organic farm fresh and processed product to improve the health of society and encourage farmers to progress in farming business. Mainly developing the innovative methods in farming which is minimize cost of seeds, labour and maximizing yields of the crops. He has own dehydration unit to process moringa leaf powder, wheat grass powder, guava leaf powder, ginger and turmeric powder with use of advanced technology by low temperature process to maintain high nutritional

value, taste, colour and aroma of product. He has also initiative taken for organic farming awareness for farmers community by visit every week in 1 village to meet inorganic farmers to guide & motivate to initiate in organic farming with our dedicated organic farmers group will help them in any scope like organic pesticides, fertiliser, intercrop for natural fertiliser to maintain low cost inputs & high yield of crop.

Awards received:

- Innovative Farmer Award by Junagadh Agricultural University (March-2016).

Crops & Value addition of Crop:

S.N.	Crop	Products
1.	Guava (Thai Variety): 3000 Plants in 7 Acres	1. Guava Pulp 2. Guava Juice 3. Guava Leaf Powder
2.	Moringa Tree: 2200 Plants in 3.5 Acres	1. Moringa Leaf Powder 2. Drumstick Powder 3. Moringa Seeds Powder 4. Moringa Seeds Oil 5. Moringa Gum Powder
3.	Turmeric, Wheatgrass	1. Turmeric Powder 2. Wheatgrass Powder 3. Ginger Powder

XIII. STATUS REVOLVING FUNDs

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 2014 to March 2015	2.69	7.91	7.74	2.86
April 2015 to March 2016	2.86	1.00	1.96	1.90
April 2016 to February 2017	1.90	0.58	1.90	0.58

Note :

Themes of livestock FLDs and OFTs for Annual Progress Report 2016-17

The FLDs and OFTs under livestock may be classified as per themes given below for APR

SN	Theme	Different aspects to be covered
01	Animal Breeding Management	Evaluation or introduction of any livestock breed i.e. cattle, buffalo, sheep, goat, poultry etc. Improvement in fertility, reproductive traits i.e. Age at first calving, service period and calving interval etc
02	Animal Nutrition Management	Feed and fodder trials including feed additives, bypass fat and protein, colostrum feeding, mineral mixture, chelated mineral mixture, azolla, microbial feeds (probiotics etc), urea treated straws and UMMB or feed supplements etc
03	Animal Production Management	Type of housing provided, manger or water trough etc to the livestock for improving animal comfort and measures followed for clean milk production etc
04	Health and Disease Management	Deworming of all categories of livestock for control of endo-worms and ecto-parasites, vaccination and to reduce the calf mortality, mastitis incidence in livestock etc
05	Others, if any	Any other aspect which is not covered under above 4 themes mentioned can be put in this category.