

ICAR-Agriculture Technology Application Research Institute Zone-VIII, Pune
Report of the Quinquennial Review Team (QRT) for the period of 2011-12 to 2018-19

1	Name and location of KVK	Krishi Vigyan Kendra Navsari Agricultural University Eru Char Rasta Navsari-396 450 Gujarat
2	Name of the Head of KVK with postal address, Telephone / Mobile No. and email	Dr.C.K.Timbadia Senior Scientist & Head Mobile No: 98253864354, 9725006012 E-mail:kvknavsari@nau.in/ kvknavsari@yahoo.com
3	Name of District and State Head Qtrs.	Navsari District Gujarat state
4	Sanction order No. and date	13-I/2006-AE-I, Date : 18.3.06
5	Date of Establishment	18-03-2006
6	Name and Address of the Host Organization	Directorate of Extension Education, Navsari Agricultural University Eru Char Rasta Navsari-396 450 Gujarat Office : (02637) 282706 E mail : dee@nau.in
7	Type of Host Organization (ICAR/SAU/NGO/Others)	SAU
8	Name of the chairman/president/ secretary of Host Organization with postal address, Telephone / Mobile No. and email.	Navsari Agricultural University Navsari, Eru char rasta, Navsari -396450, Gujarat

9. Mandate and functions

Mandate	Functions/major activities
Arrange front-line demonstrations and on-farm trials at farmer's fields	Established production potentials of technologies on the farmers' fields, <i>Viz.</i> , SRI method in rice, Pigeon pea (HY & tolerant to pest and disease) and In land aquaculture. Identified the location specificity of agricultural technologies under various farming systems <i>viz.</i> , Nutrient management in pulses, disease and pest management in vegetables.
Organize short and long term vocational training courses	Orient them in the frontier areas of technology development; and Work as resource and knowledge centre
Organize on and off campus training programmes for farmers, rural women,	Updated their knowledge and skills in modern agricultural technologies

youth, and officers of the Department of Agriculture	
	To work as knowledge and resource centre of agricultural technologies for supporting initiatives of public, private and voluntary sector in improving the agricultural economy of the district.
	Provide farm advisories using ICT tools and other media means on varied subjects of interest of farmers
	In addition, KVKs produce quality technological products (seed, planting material, bio-agents, livestock) and make it available to farmers, organize frontline extension activities, identify and document selected farm innovations and converge with ongoing schemes and programs.

10. Staff Position (based on Sanctioned Strength) and their mobility for the period under review

S. No	Designation	No. of Sanctioned Posts	Name of person	Pay scale (Rs.)	Date of Joining	Date of Leaving	Reason for leaving if any
1	Programme Coordinator	1	Dr. C. K. Timbadia	131400 - 217100	14.06.2010	Conti	---
2	SMS	6	Dr. R. M. Naik	15,600-39,100	12.05.94		Transfer
			Dr. M.A.Katariya	15,600-39,100	1.08.09		Transfer
			Dr.B.M.Tandel	15,600-39,100	22.3.11		Promotion
			Dr. K. A. Shah	68900 - 205500	06.02.2012	Conti	---
			Prof. P. P. Patel	68900 - 205500	01.02.2013	Conti	---
			Dr.Shivam Bhatt	15,600-39,100	01.10.2015	30.04 .2016	Transfer
			Mrs. Minaxi Prajapati	15,600-39,100	1.11.10		Resignation
			Smt. G. J. Bhimani	15,600-39,100	11.09.12		Transfer
			Dr. P. H. Nayaka	68900 - 205500	23.05.2013	Conti	---

			Prof. R.A. Gurjar	57700 - 182400	30.04.2016	Conti	---
			Smt. Dipal Soni	15,600-39,100	11.09.12	30.06.2019	Resignation
			Dr. S. R. Salunkhe	57700 - 182400	12.08.2015	Conti	---
3	Programme Assistant/ (Farm manager)	2	Smt.R. B. Patel	10,000/- fix	20.08.08		Promotion
			Nital N.Patel	10,000/- fix	18.08.08		Promotion
			Mr. A. N. Lad	39900-126600	20.10.2011	Conti	---
4	Computer programmer	1	Mr. C. B. Naik	39900-126600	14.08.2008	Conti	---
5	Accountant/ Superintendent	1	Shri H.U.Solanki	5,200-20,200	01.02.12		Transfer
			Devendra Rasiklal Rana	25500-81100	20.03.2010	Conti	---
			Shri Mangesh Patel	5,200-20,200	01.02.12		Retired
6	Driver cum mechanic	2	Shri. H. Z. Chauhan	19900-63200	23.08.2007	Conti	---
7	Stenographer	1	Swapna T. R.	Fix - 5300/-	12.8.08		Promotion
8	Supporting Staff	2	Shri Mahesh Rathod	4440-7,400	28.06.11		---
			Vacant				

11. Status of fund utilization (Rs. in lakh)

A. ICAR Main

S.No.	Budget Head	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		TOTAL	
		S	U	S	U	S	U	S	U	S	U	S	U	S	U	S	U		
A.	Recurring contingencies																		
1	Pay and allowances	53.00	51.25	43.00	42.82	61.15	61.12	72.00	79.44	82.50	75.74	78.21	82.79	94.67	85.02	92.00	82.73	576.53	560.91
2	Travelling allowances	1.50	0.96	1.00	0.78	1.25	1.07	0.50		7.90	8.39	21.34	20.42	9.88	9.85	12.73	12.70	56.1	54.17
3	Contingencies	8.00	7.98	9.00	9.00	12.00	12.00	4.50											33.5
	Total (A)	62.50	60.19	53.00	52.60	74.40	74.19	77.00	79.44	90.40	84.13	99.55	103.21	104.55	94.87	104.73	95.43	666.13	644.06
B.	Non recurring contingencies																		
1	Works	13.68	13.68	-	-	-	-	-	-	-	-	3.80	3.79	-	-	-	-	17.48	17.47
2	Equipment including SWTL & Furniture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

3	Vehicle	0.50	0.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.50	0.50
4	Library	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total (B)	14.18	14.18	-	-	-	-	-	-	-	-	3.80	3.79	-	-	-	-	17.98	17.97
C.	Other if any	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total (A+B+C)	76.68	74.37	53.00	52.60	74.40	74.19	77.00	79.44	90.40	84.13	103.35	107.00	140.55	94.87	104.73	95.43	684.11	662.03

S= Sanctioned U= Utilized

B. ICAR funded research/extension projects other than main

S.No.	Name of the project	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		TOTAL		
		S	U	S	U	S	U	S	U	S	U	S	U	S	U	S	U	S	U	
1	NICRA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	ARYA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.84	0.08	6.84	0.08	
3	VATICA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4	KSHAMTA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	NARI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6	Seed hub	-	-	-	-	-	-	-	-	-	-	85.0	0.03	31.0	30.03	34.0	16.89	150.0	46.95	
7	Kisan mela									1.60	1.60	0.80	0.80	0.80	0.80	0.80	0.80	4.00	4.00	
8	Soil kit									1.25	1.23	0.86	0.86							
	Total	-	-	-	-	-	-	-	-	2.85	2.83	86.66	1.69	31.8	30.83	41.64	17.77	160.84	51.03	

C. Projects other than ICAR (Through ATARI or Direct to Host Institute)

S.No.	Name of the project	Name of funding agency/ Scheme	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		TOTAL	
			S	U	S	U	S	U	S	U	S	U	S	U	S	U	S	U	S	U
1	CFLD on Pulses	NFSM	-	-	-	-	-	-	-	-	1.50	1.50	6.60	3.56	2.06	2.02	12.38	3.72	22.54	10.8
2	CFLD on Oilseeds	NMOOI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	TSP		8.00	6.12	59.44	45.30	25.60	20.75	50.85	23.46	97.27	93.65	-	-	-	-	-	-	241.16	189.28
4	ASCI	RKVY	-	-	-	-	-	-	-	-	-	-	3.40	3.38			3.88	3.85	7.28	7.23
5	Adaptive trial	Govt.of Gujarat	22.50	22.50	19.75	19.75	3.00	3.00	14.30	14.14	12.20	12.19	9.00	8.86	12.50	12.49	12.00	11.99	105.25	104.92
6	Inland aquaculture	Govt.of Gujarat	3.50	3.50	7.50	7.49	8.50	8.50	19.40	19.40	17.68	17.66	19.25	19.24	23.70	23.61	23.25	23.22	122.78	122.62
	Total		34	32.12	86.69	72.54	37.1	32.25	84.55	57	128.65	125	38.25	35.04	38.26	38.12	51.51	42.78	499.01	434.85

D. Contribution of host institute, if any

S.No.	Name of the project/activity	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
1	KVK Building	-	-	-	-	-	-	-	-	-
2	Contingency	-	-	-	-	-	-	-	-	-
3	Soil Health day	-	-	-	-	-	-	-	-	-
4	Farm Pond	-	-	-	-	-	-	-	-	-
5	Soil Lab instrumtens	-	-	-	-	-	-	-	-	-
6	Farm Godawon	-	-	-	-	-	-	-	-	-
7	Main Building Extension	-	-	-	-	-	-	-	-	-
8	Farm Fencing	-	-	-	-	-	-	-	-	-
9	Farm Development	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-

E. Status of Revolving Fund

(Rs in Lakh)

S.No.	Particulars	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
1	Opening balance as on 1 st April	9.93	1.60	16.65	12.89	10.70	5.61	5.81	3.61	66.80
2	Income during the year	7.75	30.05	16.80	14.64	9.43	10.88	6.85	9.56	105.94
3	Expenditure during the year	16.08	14.99	20.56	16.83	14.52	10.68	9.05	7.51	110.22
4	Amount refunded to ICAR	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
5	Closing balance as on 31 st March	0.60	16.65	12.89	10.70	5.61	5.81	3.61	5.65	62.52

12. Status of Infrastructural facilities available at KVK

A. Created with ICAR funds

Items	Details
Land	20 ha
Office Buildings	550 Sq. Mtr.
Farmers' Hostel	300 Sq. Mtr.
Staff quarters	06
Vehicles	Bolerao, Tempotraveller, Qualis , Mobile soil testing Van, Bajaj Discover and E Auto
Tractors	Mahindra and Mini tractor
e-connectivity	N- Computing- 09 PC's with Internet facility
Demo units	Inland Aquaculture Units
Threshing Floor	ICAR Rs.1.44 lakh
Farm godown	ICAR Rs.3.88 lakh
Seed hub godown	ICAR Rs. 35 Lakh
Fencing	---
ATIC	---
Any other	

B. Created with funds other than ICAR

Sr. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Year	Plinth area (Sq.m)	Expenditure (Rs.)	Starting year	Plinth area (Sq.m)	Status of construction
1	Rain Water harvesting system	Under RKVY Project constructed (37000 litre capacity)						
2	ICT lab	RKVY	-	-				
3	Other							
4	Farm godown	State Plan Scheme	March-14	-	5.00 lakh			
5	Farmer's urinal	State Plan Scheme	March-17	-	5.00 lakh			
6	Block Paving	State Plan Scheme	March-17	-	2.00 lakh			
7	Fish Pond	State Plan Scheme	March-18	-	2.25 lakh			
8	Vehicle Shed	State Plan Scheme	March-18	-	3.80 lakh			
9	Road Expansion	State Plan Scheme	March-18	-	4.00 lakh			

13. Utilization of Hostel Facilities

Year of construction: 2010-11

No. of beds: 12

Year	No. of trainees stayed	Trainee days (days stayed)	Reason for shortfall if any
2011-12	132	13	-----Nil-----
2012-13	115	106	
2013-14	134	191	
2014-15	13	5	
2015-16	30	8	
2016-17	55	11	
2017-18	91	35	
2018-19	249	40	

14. Utilization of Staff Quarters

Year	No. of quarters available	No. of quarters in use	SLF generated (Rs)	Remarks if any
2011-12	-----	-----	-----	-----
2012-13	-----	-----	-----	-----
2013-14	5	3		
2014-15	5	4		
2015-16	5	4		
2016-17	5	4		
2017-18	5	4		
2018-19	5	4		

15. Status of land utilization at KVK

S.No.	Item	Area (ha)
1	Under buildings	550 sq.m.
2	Under demonstration units	0.50
3	Under crops	17.00
4	Under horticulture	-
5	Pond	1.00
6	Others(Road, Gowdown etc)	0.50
	Total	20.00

16. Details of SAC meetings conducted during last eight years

Year	No. of meetings	Date/s of meeting	No. of members attended
2011-12	1	8/8/11	26
2012-13	1	1/9/12	44
2013-14	2	10/4/13	23
		10/2/14	30
2014-15	1	19/2/15	26
2015-16	1	22/2/16	27
2016-17	1	2/3/17	26
2017-18	1	19/3/18	26
2018-19	1	20/3/19	26

17. Details of KVK jurisdiction and its profile:

Particulars	Details
Total No. of blocks in the district and their names	6 :Jalalpore, Navsari, Gandevi, Chikhali, Khergam, Vansda
No. of blocks under KVK's jurisdiction and their names	6
Names of adjoining districts / blocks	Jalalpore, Navsari, Gandevi, Chikhali, Vansda, Khergam
Climate details and agroclimatic zones	Rainfall: 2500 mm and more Type of Soil: Deep black with few patches of coastal alluvial, laterite and medium black soils. Soil Characteristics: Most of the area cultivated , some area non Cultivated under shallows and Past forest Soil fertility: Nitrogen-poor, Phosphorus medium, Potash High.
Major farming systems /enterprises	Agri - horticulture system Agri - horti- silviculture system Agri - horti- livestock production system Horti- livestock production system Horti- livestock - inland aquaculture production system
a) Soil types	Type of Soil: Deep black with few patches of coastal alluvial, laterite and medium black soils. Soil Characteristics : Most of the area cultivated. Some area non Cultivated under sallow and Past forest Soil fertility: Nitrogen-poor, Phosphorus-medium, Potash-High.
Major crops	Paddy, Pigeon pea, Sugarcane, Gram, Green gram, Maize, Mango, Sapota, Banana, Papaya, Onion, Brinjal, Okra, Cluster bean ,Cowpea, Cucurbits, Spider lily, Chilli, Garlic, Turmeric, Ginger
Major livestock	Cattle, Buffalo, Sheep, Goats, Rabbits, Pigs, Poultry Birds
Major thrust areas	
• Soil health conservation	• Kitchen gardening
• Integrated farming	• Seed treatment
• Seed production	• Fish culture method
• Scientific management of livestock	• Organic farming
• Quality feed management for animal	• Crop diversification
• Value addition	• Feed management in calf
• IPDM	• Disease management in animals
• Cropping system	• Fish stocking & fish composition
Any other	• Marine, Inland, Shrimp

18. Major Activities Undertaken during last eight years

a. Year wise activities undertaken

Year	List activities undertaken
2011-12	Innovative Farmers' Meet of Gujarat - 2011
	Cage Fish Farming
	TOT (Transfer Of Technology) through Religious Organization
	Modern Techniques to reach huge mass of the farmers
	6 th National Conference on KVKs-2011 Enhancing Farmers' income through developing value added product – A KVK Intervention
2012-13	Memorandum of Understanding (MoU) with Navsari Taluka Sangh
	Seminar On Amrit Krishi
	Kisan Goshti at Dandi
	7 th Annual Zonal Workshop for KVKs of Zone VI - 2012
	Celebration Of 'Sunhara Kal' Programme At Krishi Vigyan Kendra, Navsari
	Khedut Din at village Limzar
	'kisan goshti' on the importance of Silicylic acid in Agriculture
	Celebration of Technology week (For women empowerment)
	Sweet corn MoU with Saraf Food Ltd, Vadodra
	Mahila Shibir on integrated fish farming and cattle farming system
	Celebration of International Women's Day (9 th March-2013)
	Farmer's discussion on mango farming
	Kitchen Garden for Health improving component of rural family
2013-14	Mahindra Samridhhi India Agri Award 2014
	DG Appreciated Inland Aquaculture of KVK Navsari
	Celebration of 85 th ICAR Foundation Day by KVK, Navsari
	Awareness Programme on Small Farmers' Agribusiness Consortium (SFAC)
	Farmer's Day
	Dr. Sadamate Visit to Pathari Village Pond on 15 th October, 2013
	An awareness Programme on Protection of Plant Varieties & Farmers Rights Authority Act.
	Celebration of Farm Innovator's Day -2013

	Dr. Onaolapo O. Soleye, Former Federal Ministry of Finance, Nigeria, Visit to Krishi Vigyan Kendra, Navsari Agricultural University, Navsari
	One day orientation training programme on processing & preparation of value added products with Soybean.
	Celebration of International Women's Day (7 th March-2014)
2014-15	Awareness camp on Malnutrition
	Role of Anganwadi worker's in combating malnutrition
	Celebration of International year of family farming-2014
	86 th ICAR foundation day celebration
	Ultra High Density Plantation in mango – A new dimension in Navsari farmers
	Mahila Shibir on Importance of breast feeding and their benefits to infants
	Awareness Programme on Malnutrition
	Knowledge saves lives - Krishi Vigyan Kendra, Navsari Contribution to breast cancer awareness programme.
	Awareness Programme on Animal Husbandry
	Technology Week Celebration
	Celebration of International Women's Day (24 th March-2015) Impossible works can be possible in the world if women united together Women's achievements appreciated in the International Women's Day celebration at Navsari
2015-16	Kisan Sammelana cum Exhibition
	Mahila Sammelan- cum- Health Check Up Camp
	Fish farmers' shibir/seminar
	Training on Petroleum- Energy Conservation
	Garib Kalyan Mela
	International Soil health Day-2015
	Shivyog Holistic Farming
	Knowledge saves lives - Krishi Vigyan Kendra, Navsari Contribution to breast cancer awareness
	International Women's Day- 2016 (18 th March, 2016)
2016-17	Awarenees Programme on Pradhanantri Fasal Beema Yojana (PMFBY) And Agriculture Fair At KVK, Navsari
	Five Different States Programme Coordinators Visit To KVK, Navsari

	Famer's Interaction on Pre-Kharif Season
	Seminar on System of Rice Intensification [SRI]
	Khet ozar kit Distribution and Farmers Shibir At Village Vesma
	One-day Seminar and Interaction on organic Farming
	One day Seminar on Plant-Protection on Organic Farming" In Association With NCRI, Hyderabad
	Krishi Vigyan Kendra Participated in "Beti Bachao, Shaskta Banao Abhiyan"
	World Fisheries Day Celebration
	One day Seminar on Organic Farming in Association With Bharatiya Kisan Sangh-Guajarat Region
	International Soil Health day & Pre Rabi Campaign 2016
	21 Days ASCI Training on Floriculturist (Protected Cultivation)
	Krishi Vigyan Kendra, Navsari Contribution To Breast Cancer Awareness Camp
	Celebration of Technology Week
	21 Days ASCI Training on Shrimp/Fish Hatchery Production Work
	Farmer's Interaction on Dial out Conference With Reliance Foundation
	Farmer's Interaction on Pre- Rabi Samelan
2017-18	PRA For New Adopted Villages
	Keri Mahostav & Formation of NOFCO
	Khedut Shibir on Horticultural Crops
	World Veterinary Day
	Training on Biofertilizer
	Protection of Plant Varieties and Farmers Right Act (PPV & FRA) & Celebration of World Environment Day
	Celebration of International Yoga Day
	One day Seminar on "Organic Farming"and Launching of NOFCO In Association With Jilla Panchayat, Navsari
	Mahila Krishi Diwas
	Sankalp Se Siddhi Programme
	Mahila Kisan Diwas
	Animal Health Check Up Camp
	World Fisheries Day

	Swachhata Abhiyan
	Soil Health Day Celebration
	Agriculture Education Day
	Formation of Gramin Mahila Bank
	Sajiv Kheti Workshop
	Krishi Vigyan Kendra, Navsari Contribution To Breast Cancer Awareness Camp
	Seminar on “Happy Path To Success”
	Inservice Training on Organic Farming
	Women Empowerment Through Gender Resource Centre
	Unnat Bharat Abhiyan Programme
	Seminar on Kitchen Garden
	A New Crop – Gherkin
	Famer’s Interaction on Dial Out Conference With Reliance Foundation
	Botanical Pesticide Preparation at KVK, Navsari
	Waste Decomposer- Direction For Use
	Fruit Fly Trap (Methyl Eugenol) Preparation
	Video Conference –“Krishi Unnati Mela” Live Telecast From New Delhi
	PPV & FRA Awareness and Crop Diversity
	Celebration of international Women’s Day (28 th march) Digital era for women empowerment
2018-19	Smriti Z Irani Union Cabinet Minister of Textiles, Government of India, visited KVK Navsari and chaired a farmer’s meet.
	Celebration of Mahila Kisan Diwas
	Free Medical Health Check up Camp
	Traffic Rules Awareness Programme
	Breast Cancer Awareness Programme
	Organic Farming Seminar
	Organic farming certification procedure programme
	Celebration of Kisan Diwas
	25 Days Skill India Training on Assistant Gardener
	25 Days Skill India Training for shrimp farmers
	Women Empowerment through Skill Development on Sewing

Vocational training on Bakery Products
Awareness programme on Red Revolution
Awareness programme on Leprosy Disease
Live telecast programme of Pradhanmantri Kishan Samman Nidhhi (PM-Kishan) on 24 th February 2019
Lord Ganesh Ceremony Wastes (Flowers) Converted into organic manure
Celebration of Technology Week
International Women's Day (Rabi Crop Summit and Agriculture Fair) pre rabi farmers sammelan" and international women's day – 2019
Seminar on Organic farming in Mango and use of bio-pesticides

b. Details of targets and achievements

Name of activity	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		Total	
	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A
OFT																		
(i)No. of technologies	6	2	5	3	5	2	8	2	8	6	6	6	5	4	4	4	47	29
(ii) No. of farmers	36	12	-	22	34	14	68	16	8	6	41	41	48	38	24	38	259	187
FLD																		
(i)No. of technologies	186	580.59	103	6761.26	123	547.4	142	862.8	141	456.4	121	264.73	165	596.71	242	546.2	1223	10616.09
(ii) No. of farmers	218	2649	1030	18558	230	2613	465	3219	766	2902	846	2133	1106	3328	1616	2816	6277	38218
TRAINING																		
(i)No. of courses	76	192	81	213	35	107	27	110	108	144	55	94	51	109	33	95	466	1064
(ii) No. of participants	-	7232	2025	10457	1660	4559	940	4824	2865	6147	1425	4745	1250	5074	825	4450	10990	47488
EXTENSION ACTIVITIES																		
(i)No. of programmes	166	1882	166	895	165	798	54	1107	6780	7597	1104	4515	87	1238	75	679	8597	18711
(ii) No. of participants	-	12370	-	25703	-	70325	-	32055	30000	41890	7036	53600	4636	55442	4604	376.95	46276	291761.95
Seed production	-	4320	-	50.7	-	5618	66	656	35	72.38	57	68.52	20.4	79.30	20.4	135.32	198.8	11000.22
Planting material production	-	70100	-	54575	-	43070	7200	88853	5000	1647755	30000	32868	54000	10420	24000	3700	120200	1951341
Live stock strains production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
Bio products production	-	10331	-	103750	-	-	-	7912.5	-	11912	-	2015	-	1000	-	1170	0	138090.5

19. SWOT (Strengths, Weakness, Opportunities and Threats) Analysis of KVK, Navsari

Taluka wise SWOT analysis:

Navsari Taluka

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Adjacent to Navsari city • Paddy + Sugarcane cultivation • Chiku and mango growers • Co-operatives • MIS 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Water logging • High infestation of pest and diseases • Urbanization
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Vegetable cultivation in green houses • Food processing & Value addition of paddy • Cold storage & cold chain • Organic farming for Jaggery production & vegetables for retail market • Drainage • Farm mechanization 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Urbanization • Non availability of farm labour

Jalalpore Taluka

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Cultivable land • Neighboring Surat and Navsari city • Canal irrigation • Co-operatives 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Coastal salinity and sea water ingress • Water logging • Poor soil fertility • Poor water quality
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Chiku and Mango orchard. • Vegetable cultivation • Fisheries • Nursery activities • Rain Water harvesting • Land reclamation through drainage • Agro forestry along the coast – Ecotourism 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Non availability of farm labour • Storm – high wind velocity • Fluctuation in market price • Water logging

Vansada Taluka

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Possibility of organic farming • Technology adoption • Suitable agro climatic condition for agriculture and horticulture crop. • Nursery activity 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Marginal and land less farmers • Technical know how • Highly eroded soils • In balance use of fertilizer
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Agro forestry • Back yard poultry • Apiculture • Quality Seed production & nursery for raising planting material • Solar energy • Drip irrigation • Rain water harvesting • Organic farming • Short duration vegetable cultivation 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Migration of villagers • Fluctuation in market price

Chikhli Taluka

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Cultivable land – Sugarcane and paddy production • Dairy farming • Suitable agro climatic condition for agriculture and horticulture crop. • Irrigation facility 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Recommended practices not followed • Low SRR (Seed Replacement Ratio) • Imbalance use of fertilizer
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Banana & Vegetable cultivation • MIS • Tuber crop cultivation. • Paddy+Sugarcane cropping system 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Fluctuation in market price • Erratic and uncertainty of rain

Khergam Taluka

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Cultivable land – paddy production • Dairy farming • Suitable agro climatic condition for agriculture and horticulture crop. • Irrigation facility 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Recommended package of practices for the particular crop is not followed • Low SRR (Seed Replacement Ratio) • No information regarding fertility status of the
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<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Banana & Vegetable cultivation • MIS • Tuber crop cultivation. • Paddy+Sugarcane cropping system 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Fluctuation in market price • Erratic and uncertainty of rain
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Gandevi Taluka

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Possibility of organic farming • Technology adoption • Co-operatives • Fruit processing • Nursery activity 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Marginal and land less farmers • Higher incidence of pest and disease • Imbalance use of fertilizer • Low SRR (Seed Replacement Ratio)
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Sprinkler irrigation & MIS • Quality Seed production & nursery for raising planting material • Apiculture • Fruit processing • Inter cropping in orchard 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Fluctuation in market price • Erratic and uncertainty of rain

SWOT Addressing Issues

Non availability of Seed & Planting material

<p><u>Strength</u></p> <ul style="list-style-type: none"> • New varieties are available with Universities • Seed Corporations of Government • Farmers co-operative 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Poor seed replacement ratio • Inadequate availability quality seed at appropriate time
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Marginal farmers can get higher income through seed farms & nursery raising 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Possibility of seed borne disease if not treated • Adulteration of seeds /planting material

Soil Health

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Know how exist in the University • Government agencies exist • Scope of crop residue management • Feasibility of crop diversification 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Marginal and resource poor farmers • Poor knowledge about balance use of fertilizers
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<ul style="list-style-type: none"> • Good farmers co-operative network for fertilizer distribution 	
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Organic farming • Protective cultivation • Rain water harvesting and efficient utilization • Infrastructure for establishing industry for Food Processing & Farm machinery 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Decrease in production • Conversion to waste lands

Labour shortage

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Availability of youth 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Lack of interest in farming • Lack of Scientific information and skill • Better remuneration in industry • Drudgery in farming operations
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Training & Skill development • Support to agriculture based industry & Farm mechanization 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Farmers may shift to other occupations

Education / Training

<p><u>Strength</u></p> <ul style="list-style-type: none"> • KVK and University head quarter • Government Extension Departments • Active and dedicated NGOs • Farmers Co-operative 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Marginal and resource poor farmers • Low literacy rate in some talukas
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Employment generation in rural area • Increase production through scientific approach • Efficient utilization of input • Narrowing down gap between potential and realized productivity 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Shifting to allied professions

Water logging & Secondary Salinization

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Sugar Cooperatives • Technology available 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Non availability of technical man power for laying subsurface drains
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<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Crop diversification • Area extension under MIS • Bio reclamation and Subsurface drainage 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Decrease in production • Fluctuation in price of farm produce
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Coastal Salinity

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Coastal fisherman have dexterity for aquaculture • Government agencies exist • Feasibility of crop diversification 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Inadequate infrastructure for fish seed production • Poor facilities for soil and water testing, disease diagnosis for fisheries • Sea water ingress of inundation
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Fish farming • Rain water harvesting • Agro forestry – Eco tourism • Casuarina, Eucalyptus, Mangrove, Arjun, Acacia auriculiformis plantation • Infrastructures for fisheries • Subsurface drainage 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Decrease in production

Quality water

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Canal command area • Scope of rain water harvesting • Strong Govt. support for rain water harvesting of MIS 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Inadequate conjunctive use • Poor quality of ground water in mid plain of coastal region. • Deforestation & Urbanization
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Area expansion under MIS • Aquaculture (Fresh and brackish) • Crop diversification 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Deteriorate soil / animal / human health • Poor production • Maintenance and repair of MIS

Low Milk Production

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Dairy Cooperatives • Demand of milk and its products 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Low milk yield in buffalo and cows • Poor management practices • Repeat breeding and long calving interval • Low availability of quality fodder
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<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Cross Breeding Programmes • Proper Vaccination & Medication • Supply of good quality drinking water • Shelter to animals • Mechanized dairy farming • Use of agriculture waste as fodder 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Fluctuation milk price
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Alternate sources of Energy

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Abundant Solar Energy • Dairy cooperatives 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • High cost of SPV • Lack of Know how
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • Future energy source • Use of bio gas to meet local demands • Pollution free Environment 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Shortage of electric power supply • Widening gap between demand and supply

20. Brief account of progress made towards modernization of office, equipments, staff amenities, transport, O& M reforms etc

S. No.	Particular	Efforts made
1.	Furniture	Developed state of art interior in KVK office and provided sophisticated cabins for each SMS & PAs with good quality furniture.
2.	Rain water harvesting Structure	37,000 liter capacity, this water is used for the laboratory for analysis purpose
3.	Internet, LAN connectivity & wi-fi campus	4 GBPS speed internet connectivity and LAN connectivity among all computers. Also KVK headquarters having wi-fi connectivity.
4.	Diesel generator	With the capacity of 40 killowatt lits for the back of power loss. It helps to run the programme during power cut.
5.	Solar panel	Solar panel is installed above the KVK roof, it's a type of energy conservation and also helps in the go green concept
6.	Drinking water automatic dispenser machine	Installed blue Star automatic water dispenser machine for pure drinking water at KVK head quarter for staff & visitors.
7.	Godown for storage purpose	Storage purpose viz., seeds, bio-fertilizers and other farm materials
8.	Seed hub godown with sophisticated machine	This godown facilitates the work of cleaning, grading and packing of seeds particularly produced in the seed hub project
9.	Grain thresher	Multipurpose grain thresher
10.	Computer systems with Accessories	KVK provided modern computer systems with accessories to all technical & non technical staff with LAN connectivity as well as wi-fi for smooth connectivity & work.

11.	Office Jeep & Tractor	KVK is having office Jeep for performing the field work. Also KVK is supporting for use of two wheeler bike for field visit & technical work. one tractor and also one power tiller for field operations
12.	Traveler	14 seater traveler is utilized for the short distance exposure tour for the advantage of famers and also group of scientist to conduct field day / farmers shibir / exhibitions in and around the district
13.	E - Auto	KVK, Navsari is 3 KM away from the main gate, every year 40,000 farmers are visiting this KVK . Some of the farmers are not able to walk away Hence KVK provided E auto. As a concept of conservation of energy and environment this KVK has E auto for mobilization of farmers

21. Efforts and achievements made in the last eight years towards up gradation of knowledge and skills of staff of KVK i.e. Human Resource Development at different institutes/SAUs

Sr. No.	Name of the staff	Designation	Training/workshop attended	Name of Organization	Duration (Days)
1.	Dr.B.M.Tandel	Scientist (Horticulture)	Workshop on Farm Business management	MANAGE Hyderabad	5 days
2.	Dr.B.M.Tandel	Scientist (Horticulture)	Workshop on AGMARKNET	MANAGE Hyderabad	3 days
3.	Dr.B.M.Tandel	Scientist (Horticulture)	Workshop on Participatory rural appraisal	EEI, Anand	3 days
4.	Dr.B.M.Tandel	Scientist (Horticulture)	Training on Management of human resources and administration in agriculture	NAARM, Hyderabad	6 days
5.	Dr.B.M.Tandel	Scientist (Horticulture)	Training on Pedagogy and curriculum development	NAARM, Hyderabad	6 days
6.	Dr.B.M.Tandel	Scientist (Horticulture)	Training on Management of research project and intellectual property in agriculture	NAARM, Hyderabad	6 days
7.	Dr.B.M.Tandel	Scientist (Horticulture)	Workshop on Application of PRA tools in agril. Extension	EEI, Anand	5 days
8.	Dr.B.M.Tandel	Scientist (Horticulture)	Workshop on Indian blacksmithy forum on Agriculture tools and traditional Blacksmithy “ Present trends and future prospect ”	Agriculture tools research centre Bardoli, Gujarat	3 days

9.	Dr.B.M.Tandel	Scientist (Horticulture)	Workshop on Application of PRA tools in agril. Extension	EEI, Anand	3 days
10.	Dr.B.M.Tandel	Scientist (Horticulture)	Workshop on New approaches and methods in agril. Extension	EEI, Anand	3 days
11.	Dr.B.M.Tandel	Scientist (Horticulture)	Workshop on Human Resource development	EEI, Anand	3 days
12.	Dr.B.M.Tandel	Scientist (Horticulture)	Workshop on Urban peri urban horticulture	NAU, Navsari	1 days
13.	Dr.B.M.Tandel	Scientist (Horticulture)	Training on Protected cultivation for horticultural crops	DEE, NAU, Navsari	8 days
14.	Dr.Prabhu Nayaka	Scientist (Plant protection)	Rodent management	NIPHM, Hyderabad	7 days
15.	Dr.Prabhu Nayaka	Scientist (Plant protection)	Knowledge management system and web designing for agricultural extension	EEI, Anand	3 days
16.	Dr.Prabhu Nayaka	Scientist (Plant protection)	Participatory programme planning monitoring and evaluation	EEI, Anand	3 days
17.	Dr.Prabhu Nayaka	Scientist (Plant protection)	Establishment of mother cultures of different bio-control agents and mycorrhiza	NIPHM, Hyderabad	3 days
18.	Dr.Prabhu Nayaka	Scientist (Plant protection)	Management of commodity interest groups and farmers	EEI, Anand	3 days
19.	Dr.Prabhu Nayaka	Scientist (Plant protection)	Recent innovations in management of organic production system	ICAR-IARI, New Delhi	21 days
20.	Dr.Prabhu Nayaka	Scientist (Plant protection)	Fundamentals of plant health management for plant health doctors	NIPHM, Hyderabad	21 days
21.	Dr.Prabhu Nayaka	Scientist (Plant protection)	Writing and documentation skills for extension officers	MANAGE Hyderabad	3 days
22.	Dr. Prabhu Nayaka	Scientist (Plant protection)	Recent development in organic production system under changing climate scenario	SKUAST, Kashmir Srinagar	21 days
23.	Dr. Prabhu Nayaka	Scientist (Plant protection)	One day orientation workshop and launch of Unnat Bharat Abhiyan 2.0	New Delhi	1 days

24.	Dr.Prabhu Nayaka	Scientist (Plant protection)	Workshop on annual action plan	ABM, NAU, Navsari	2 days
25.	Dr.K.A.Shah	Scientist (Agronomy)	Recent trends in sustainable management of soil health for doubling the farmer's income	Jabalpur	21 days
26.	Dr.M.A.Katariya	Scientist (Animal Science)	Agriculture tools and traditional Blacksmith	Agriculture tools research centre Bardoli, Gujarat)	3 days
27.	Dr.M.A.Katariya	Scientist (Animal Science)	World trade organization and its impact on agriculture	AAU, Anand	1 days
28.	Dr.M.A.Katariya	Scientist (Animal Science)	Role of Veterinarians in containment of Antimicrobial resistance.	NAU, Navsari	1 days
29.	Dr.M.A.Katariya	Scientist (Animal Science)	Newer approaches for feed security and safety.	IVRI, Izatnagar (UP).	21 days
30.	Dr.M.A.Katariya	Scientist (Animal Science)	Global Conference on women in agriculture.	New Delhi.	3 days
31.	Dr.M.A.Katariya	Scientist (Animal Science)	ICT application in agriculture and allied field.	AAU, Anand	1 days
32.	Dr.M.A.Katariya	Scientist (Animal Science)	Value added Science awareness to strengthen women's role in climate resilient agriculture & sustainable develop.	NAU, Navsari	1 days
33.	Dr.M.A.Katariya	Scientist (Animal Science)	Livestock based integrated farming system for improvement of rural livelihood.	MPUAT, Udaipur	8 days
34.	Dr.M.A.Katariya	Scientist (Animal Science)	Nutrition-Health Interactions for Optimum Livestock Production & Human Welfare.	Sher-e-Kashmir University of Agricultural Science and Technology, Jammu	3 days
35.	Dr.M.A.Katariya	Scientist (Animal Science)	Community Radio for agricultural development	HAU, Hisar (Haryana)	5 days
36.	Dr.M.A.Katariya	Scientist (Animal Science)	Precision nutrition: a tool for sustainable dairy production.	NAU, Navsari	8 days
37.	Dr.M.A.Katariya	Scientist (Animal Science)	Knowledge management system and web designing for agricultural extension.	AAU, Anand	3 days

38.	Dr.M.A.Katariya	Scientist (Animal Science)	Advances in animal disease diagnosis and health management.	NAU, Navsari	1 days
39.	Mr.Chirag B.Naik	Computer Programmer	ICT Application in agriculture and allied field	EEI,Anand	3 days
40.	Mr.Chirag B. Naik	Computer Programmer	Project planning and management using MS project	NIAEM, Hyderabad	5 days
41.	Mr.Chirag B. Naik	Computer Programmer	Knowledge management system and web designing for agricultural extension	EEI, Anand	6 days
42.	Mr.Chirag B. Naik	Computer Programmer	Training programme on social media for effective and knowledge	NAID, Hyderabad	6 days
43.	Pro. P.P.Patel	Scientist (Fisheries)	Recent advances in aquaculture for popularization through KVKs	CMFRI, Kochin	6 days,
44.	Pro. P.P.Patel	Scientist (Fisheries)	workshop on Human resource development	ATIC, NAU, Navsari	3 days
45.	Pro. P.P.Patel	Scientist (Fisheries)	winter school on “Empowerment of Fish farmers and Entrepreneurship development”	KVAFSU, Hebbal, Bengaluru	21 days
46.	Pro. P.P.Patel	Scientist (Fisheries)	Skill development in ornamental Fisheries	OFTRI, Udaipur	5 days
47.	Pro. P.P.Patel	Scientist (Fisheries)	Participatory programme planning, monitoring and evaluation	ATIC, NAU, Navsari	3 days
48.	Pro. P.P.Patel	Scientist (Fisheries)	National seminar on “Magnitude of extension approaches in agricultural development”	ATIC, NAU, Navsari	2 days
49.	Pro. P.P.Patel	Scientist (Fisheries)	Role and function of drawing and disbursing officer	SPIPA, Ahmedabad	2 days
50.	Pro. P.P.Patel	Scientist (Fisheries)	New Dimension in Extension	MANAGE, Hyderabad	5 days
51.	Pro. P.P.Patel	Scientist (Fisheries)	domain skill training for Hatchery production workers	CAZRI, Jodhpur	2 days
52.	Pro. P.P.Patel	Scientist (Fisheries)	National orientation workshop for Fisheries subject Matter specialists.	NFDB, Hyderabad	2 days
53.	Pro. P.P.Patel	Scientist (Fisheries)	workshop on Management of	ATIC, NAU, Navsari	3 days

			commodity interest groups and farmers organization		
54.	Pro. P.P.Patel	Scientist (Fisheries)	Summer school on integrated farming system for farmers' empowerment and entrepreneurial development	Agronomy Division, IARI, New Delhi	21 days
55.	Dr.Sumit R. Salunkhe	Scientist (Extension Education)	Recent development in organic production system under changing climate scenario	SKUAST, Kashmir Srinagar	21 days
56.	Prof R.A. Gurjar	Scientist (Horticulture)	Pulses post harvest loss reduction	CIPHET Punjab	21 days
57.	Dr.Sumit R. Salunkhe	Scientist (Extension Education)	National Seminar on extension strategies for doubling the farmer's income for livelihood security	AAU,Anand	2 days
58.	Dipal N.Soni	Scientist (Home science)	National Seminar on extension strategies for doubling the farmer's income for livelihood security	AAU,Anand	2 days
59.	Dr.C.K.Timbardia	Scientist (Senior Scientist & Head)	National Seminar on Agri Food processing connect to prime minister-Kisahn Smpada Yojana	Surat	1 days
60.	Dr.Sumit R. Salunkhe	Scientist (Extension Education)	International conference on agricultural , horticultural & plant science	Shimla	2 days
61.	Dr.Sumit R. Salunkhe	Scientist (Ext Educ)	Workshop on annual action plan	ABM, NAU, Navsari	2 days
62.	Dr. K.A.Shah	Scientist (Agronomy)	Natural resource managements strategies in a climate change scenario	Collage of Horticulture, KAU, Thrissur,	21 Day
63.	Dr.K.A.Shah	Scientist (Agronomy)	Farming system for the future:- Approaches and applications	Center of Advanced Faculty Training in Agronomy, Tamil Nadu Agri Uni, Coimbatore	21 Day
64.	Dr.K.A.Shah	Scientist (Agronomy)	Advancement technologies in land and water remediation and management	CSSRI, Karnal	10 Days
65.	Dr.K.A.Shah	Scientist (Agronomy)	New Approaches and Methods in Agril. Extension	EEI, AAU, Anand	2 Days

66.	Dr.K.A.Shah	Scientist (Agronomy)	Managing stress in dry lands under climate change scenarios	CAZRI, Jodhpur	2 Days
67.	Dr.K.A.Shah	Scientist (Agronomy)	India cotton: Gearing up or global leadership	Navsari Agricultural University, Surat	3 Days
68.	Dr.K.A.Shah	Scientist (Agronomy)	ICAR- Post linkage model	Indian council of Agricultural Research, New Delhi	1 Days
69.	Dr.K.A.Shah	Scientist (Agronomy)	Technological challenges and Human Resources for climate smart horticulture- issues and strategies	ASM foundation, New Delhi and NAU, Navsari	3Days
70.	Dr.K.A.Shah	Scientist (Agronomy)	Enhancing the preparedness of agricultural contingencies in Kharif 2015 for Gujarat	AAU, Anand	1 Days
71.	Dr.K.A.Shah	Scientist (Agronomy)	Sensitization cum workshop on Rabi pulses crop – integrated crop management	ATARI, CAZRI Campus, Jodhpur	2 Days
72.	Dr.K.A.Shah	Scientist (Agronomy)	Review cum workshop on IARI- Post office Linkage Extension Model	ATARI, CAZRI Campus, Jodhpur	1 Days
73.	Dr.K.A.Shah	Scientist (Agronomy)	SMART SUMMIT- 2016	PEARL- A Foundation for educational excellence	1 Days
74.	Dr.K.A.Shah	Scientist (Agronomy)	Workshop cum Training on Cluster Front Line Demonstration (CFLDs) on pulses and oil seeds for Krishi Vigyan Kendra of Gujarat	ATARI, Zone VI, Pune at NAU, Navsari	3 Days
75.	Dr.K.A.Shah	Scientist (Agronomy)	Regional workshop on Protection of Pant varieties and farmers right Act	Dept. of Plant variety and Farmers right act Dept. of Agri. and farmer welfare, New Delhi, GOI at NAU, Navsari	1 Days
76.	Dr.K.A.Shah	Scientist (Agronomy)	International Conference on Agriculture, Horticulture and Plant Sciences	The society of tropical Agriculture, New Delhi	2 Days

77.	Dr.K.A.Shah	Scientist (Agronomy)	National Workshop on Digital field book	Main Sorghum Research Station, NAU, Surat and Indian Inst of Millet Res, Hydrabad.	1 Days
78.	Dr.K.A.Shah	Scientist (Agronomy)	Value added science awareness to strengthen women's role in climate resilient agriculture and sustainable development	Navsari agricultural University, Navsari	1 Days
79.	Dr.K.A.Shah	Scientist (Agronomy)	Gandhiji and Global piece	Lokseva Mahavidhalaya, Lokbharti, Sanosar Bhavnagar	2 Days
80.	Dr.K.A.Shah	Scientist (Agronomy)	Tropical and Subtropical fruits	Navsari agricultural University, Navsari	3 Days
81.	Dr.K.A.Shah	Scientist (Agronomy)	Role of organic farming in climate resilient and sustainable agriculture	ASPEE Collage of Horticultural and Forestry NAU, Navsari	2 Days
82.	Dr.K.A.Shah	Scientist (Agronomy)	Dimension of Extension Education in Holistic Development of farmers	Society of Extension Education, Gujarat and Anand Agricultural University, Anand	1 Days
83.	Dr.K.A.Shah	Scientist (Agronomy)	Conservation of biodiversity and sustainable development	science and Technology, Department of Science and Technology, Gandhinagar	1 Days
84.	Dr.K.A.Shah	Scientist (Agronomy)	Magnitude of Extension Approaches in Agricultural Development	Society of Extension Education, Gujarat and Navsari Agricultural University	2 Days
85.	Dr.K.A.Shah	Scientist (Agronomy)	Enhancement of crop productivity through physiological intervention	N. M. Collage of Agricultural, NAU, Navsari and Indian Society for Plant Physiology, New Delhi	1 Days
86.	Dr.K.A.Shah	Scientist (Agronomy)	Gujarat ma Sajiv Kheti	The Gujarat Association for Agricultural Sciences, Ahmedabad	1 Days
87.	Dr.K.A.Shah	Scientist (Agronomy)	Plant Protection in organic Farming	PPAG, MIDH, GAAS, NAU, Navsari	1Days
88.	Dr.K.A.Shah	Scientist (Agronomy)	Extension Plus: Expanding the horizons of extension for holistic agricultural development	Society of extension education, Gujarat and Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar	2 Days

89.	Dr.K.A.Shah	Scientist (Agronomy)	Integrated Farming System for Enhancing Farmers' Income and Nutritional Security	Indian Society of Extension Education, New Delhi & West Bengal University of Animal & Fisheries Sciences, Kolkata	3 Days
90.	Shri A.N.Lad	Farm manager	Plant Protection in organic Farming	PPAG, MIDH, GAAS, NAU, Navsari	1Days
91.	Shri A.N.Lad	Farm manager	National Workshop on Digital field book	Main Sorghum Research Station, NAU, Surat and Indian Institute of Millet Research, Hydrabad.	1 Days
92.	Shri A.N.Lad	Farm manager	National workshop on "Pesticide Residue : management and techniques for food safety and security	NAU,Navsari	2 Day
93.	Dr. C. K. Timbadia	Senior Scientist & Head	Regional Seminar on "Awareness, Motivation and Technology Transfer for Development of Beekeeping in Gujarat"	Kashmir Gram Udyog Sangh and Navsari Agricultural University held at NAU., Navsari	2 days
94.	Dr. C. K. Timbadia	Senior Scientist & Head	State level Seminar on "Organic Farming for Environment Safety and Agriculture Sustainability"	Navsari Chapters Indian Society of Agronomy Gujarat Association for Agricultural Science and Navsari Agricultural University held at NAU., Navsari .	2 days
95.	Dr. C. K. Timbadia	Senior Scientist & Head	State Level Seminar of Library and Information Science 2011 on "Role of Library in Digital Era"	NAU, Navsari	1 days
96.	Dr. C. K. Timbadia	Senior Scientist & Head	regional seminar jointly "High-Tech cultivation & Marketing in Chickoo crops"	N.H.B. Gurgav and Amalsad Vibhag Vividh Karyakari Sahkari Khedut Mandli Ltd., Amalsad	1 days
97.	Dr. C. K. Timbadia	Senior Scientist & Head	National Seminar on 'Agro forestry: An Evergreen Agriculture for Food Security and Environmental Resilience'	ASPEE College of Horticulture & Forestry at NAU., Navsari	1 days
98.	Dr. C. K. Timbadia	Senior Scientist & Head	National Level Seminar on "Value Added Science Awareness to	Navsari Agricultural University, Navsari.	1 days

			Strengthen Women's Role in Climate Resilient Agriculture & Sustainable Development"		
99.	Dr. C. K. Timbadia	Senior Scientist & Head	National Seminar on 'Tropical and Subtropical Fruits'	The Navsari Agricultural University, Navsari, The Horticultural Society of Gujarat, The Gujarat Association for Agricultural Sciences and Confederation of Horticulture Associations of India (CHAI)	3 days
100.	Dr. C. K. Timbadia	Senior Scientist & Head	State level Seminar on "Plant Protection in Nursery and Protected Cultivation"	Plant Protection Association of Gujarat (PPAG), State Horticulture Mission, Department of Horticulture, Gandhinagar, Gujarat Association of Agricultural Sciences (GAAS) and NAU, Navsari	1 days
101.	Dr. C. K. Timbadia	Senior Scientist & Head	State level Seminar on "Medicinal Plant"	State level Seminar on "Medicinal Plant"	2 days
102.	Dr. C. K. Timbadia	Senior Scientist & Head	National Seminar on "Role of organic farming in climate resilient and sustainable agriculture"	ASPEE College of Horticulture and Forestry, NAU, Navsari and The Horticultural Society of Gujarat, Navsari in collaboration with NCCSD, Ahmedabad	
103.	Dr. C. K. Timbadia	Senior Scientist & Head	National Seminar on "Magnitude of Extension Approaches in Agricultural Development"	Society of Extension Education, Gujarat and NAU, Navsari	2 days
104.	Dr. C. K. Timbadia	Senior Scientist & Head	National Seminar SEEG-2016 on "Contemporary Innovations for Quantum Extension in Agricultural Development"	Society of Extension Education, Gujarat and JAU, Junagadh	2 days
105.	Dr. C. K. Timbadia	Senior Scientist & Head	Seminar on "Plant Protection in Organic Farming"	Plant Protection Association of Gujarat (PPAG); Mission for	1 days

				Integrated Development of Horticulture, Gandhinagar; Gujarat Association for Agricultural Science (GAAS) and NAU, Navsari	
106.	Dr. C. K. Timbadia	Senior Scientist & Head	International seminar on “ Agriculture & food for inclusive Growth and Development”	Society of Extension Education, Gujarat at Samagra Vikas welfare Society, Lucknow.	2 days
107.	Dr. C. K. Timbadia	Senior Scientist & Head	National seminar on “ Sustainable food value chain in Area of Climate change”	ASPEE College of Horticulture and Forestry, NAU, Navsari at NAU, Navsari.	1 days
108.	Dr. C. K. Timbadia	Senior Scientist & Head	National seminar on “ Agro food Processing connect through Prime minister kisan sampada yojana”	Sourthen chamber of commerce at surat.	1 days
109.	Dr. C. K. Timbadia	Senior Scientist & Head	Integrated workshop on Watershed Development	GWSAM, Gandhinagar at Sasangir, Junagadh.	1 days
110.	Dr. C. K. Timbadia	Senior Scientist & Head	Zonal Review workshop of KVKs	Rajasthan	5 days
111.	Dr. C. K. Timbadia	Senior Scientist & Head	Worked as Organizing Secretary on National Workshop of Indian Black smithy Forum on agriculture tools and traditional black smithy present trends and future prospects is jointly	Visvesvaraya National Institute of Technology- Nagpur, Sardar Vallabhbhai National Institute of Technology- Surat, Agriculture Tools Research Centre- Bardoli and Navsari Agricultural University- Navsari	3 days
112.	Dr. C. K. Timbadia	Senior Scientist & Head	Annual Zonal Workshop for KVKs of zone VI	JAU., Junagadh	3 days
113.	Dr. C. K. Timbadia	Senior Scientist & Head	Regional Workshop on “Ensuring Livelihood Security in Watershed Project Areas”	Gujarat State Watershed Management Agency (GSWMA), Gandhinagar at Saputara, Dang	2 days
114.	Dr. C. K. Timbadia	Senior Scientist & Head	Annual Zonal Workshop for KVKs of zone VI	NAU., Navsari	3 days
115.	Dr. C. K. Timbadia	Senior Scientist & Head	National Workshop on ‘Floral Craft: The Art and Technique for Value Addition in Flowers’	NAU, Navsari	2 days

116.	Dr. C. K. Timbadia	Senior Scientist & Head	National level workshop on 'Micro level action at district level for climate resilient agriculture'	AAU, Anand	2 days
117.	Dr. C. K. Timbadia	Senior Scientist & Head	Workshop on "Balanced Fertilization" for farmers in collaboration with KVK, Navsari and The Fertilizer Association of India, Mumbai	NAU., Navsari	1 days
118.	Dr. C. K. Timbadia	Senior Scientist & Head	Workshop on "Human Resource Development"	Extension Education Institute, Anand Agril. University, Anand at NAU, Navsari	2 days
119.	Dr. C. K. Timbadia	Senior Scientist & Head	National workshop on "Urban and Peri Urban Horticulture"	Horticultural Society of Gujarat, Navsari; Navsari Agril. University, Navsari; CHAI, New Delhi; ASPEE College, Navsari and GAAS, Navsari	1 days
120.	Dr. C. K. Timbadia	Senior Scientist & Head	Training Workshop on 'Institutional Innovations in Agri Extension for Inclusive Growth'	National Academy of Agril. Research Management, Hyderabad (NAARM).	6 days
121.	Dr. C. K. Timbadia	Senior Scientist & Head	Workshop on "Annual Zonal Workshop"	Sardar krishi University, Dantiwada.	3 days
122.	Dr. C. K. Timbadia	Senior Scientist & Head	Workshop on "Annual workshop"	Udaipur.	2 days
123.	Dr. C. K. Timbadia	Senior Scientist & Head	Workshop on 'Participatory Programme Planning, Monitoring and Evaluation'	Extension Education Institute, Anand Agril. University, Anand at NAU, Navsari	3 days
124.	Dr. C. K. Timbadia	Senior Scientist & Head	Workshop on " Agro Climatic zone Workshop"	Anand Agriculture University, Boriavi, Anand	1 days
125.	Dr. C. K. Timbadia	Senior Scientist & Head	Workshop on " Fuel Conservation for Farmer's"	PCRA, Ahmedabad.	1 days
126.	Dr. C. K. Timbadia	Senior Scientist & Head	Workshop on " Seed Production - Seed hub Evaluation and demonstration "	New delhi	3 days
127.	Dr. C. K.	Senior	Workshop on "Skill	ICAR at NASC	1 days

	Timbadia	Scientist & Head	Development”	Comlex, New Delhi	
128.	Dr. C. K. Timbadia	Senior Scientist & Head	Workshop on “ ASPEE Foundation, Mumbai”	Aspee foundation at Mumbai.	3 days
129.	Dr. C. K. Timbadia	Senior Scientist & Head	Workshop on “ Nomination of NAU Scientist for the workshop	NAU, Navsari.	3 days
130.	Dr. C. K. Timbadia	Senior Scientist & Head	One day workshop on "Phool Pako ni Aadhunic Kheti Paddhati"(Advanced Production Technology of Flower Crops)	AICRP on Floriculture,ASPEE College of Horticulture and Forestry,NAU,Navsari,	1 days
131.	Dr. C. K. Timbadia	Senior Scientist & Head	“ Regional Workshop and Plant Variety Diversity Exhibition”	NAU, Navsari at NAU, Navsari	1 days
132.	Dr. C. K. Timbadia	Senior Scientist & Head	A National Workshop on “ Yogik Farming, Organic Farming and Zero Budget Natural Farming”	Anand Agriculture Univarsity, Anand.	2 days
133.	Dr. C. K. Timbadia	Senior Scientist & Head	Workshop on “ Annual action plan “	Agri business management college, NAU, Navsari.	2 days
134.	Dr. C. K. Timbadia	Senior Scientist & Head	Training programme on Inter Personal Communication Skill (GOI)	Sardar Patel Institute of Public Administration (SPIPA), Ahmedabad.	3 days
135.	Dr. C. K. Timbadia	Senior Scientist & Head	Participated training workshop on “Human Resource Development”	EEl, Anand at NAU, Navsari.	3 days
136.	Dr. C. K. Timbadia	Senior Scientist & Head	Training workshop on “Institutional Innovations for Agri-Extension for Inclusive Growth”	National Academy of Agricultural Research Management , Hyderabad	6 days
137.	Dr. C. K. Timbadia	Senior Scientist & Head	Training on “ Collection Centre, Wadi Yojna and Bee Keeping”	Tribal Sub-Plan, Vansda held at Vansda.	1 days
138.	Dr. C. K. Timbadia	Senior Scientist & Head	Training on ”Extension:”All-in-one” Mobile Phones for Agricultural Extension’	National Institute of Agricultural Extension Mang., Hyderabad at AC & RI, TNAU, Madurai.	5 days
139.	Dr. C. K. Timbadia	Senior Scientist & Head	Summer School on Modern Tools for Agri-Business Management	ABM institute of NAU, Navsari	20 days

140.	Dr. C. K. Timbadia	Senior Scientist & Head	Winter School on 'Participatory Extension Research Management'	SKRAU, Bikaner.	20 days
141.	Dr. C. K. Timbadia	Senior Scientist & Head	National symposium on Managing Water Resources for Sustainable Agriculture and Environment	GAU and Indian Society of Water Management at Navsari.	3 days
142.	Dr. C. K. Timbadia	Senior Scientist & Head	National symposium on Recent Advances in Floriculture	NAU, Indian Society of Ornamental Horticulture, IARI, New Delhi and Horticultural Society of Gujarat, Navsari	3 days
143.	Dr. C. K. Timbadia	Senior Scientist & Head	National symposium on Pragmatic Perspectives of Agricultural Development Programmes in Present Scenario	Society of Extension Education, Gujarat and Navsari Agricultural University, Navsari	2 days
144.	Dr. C. K. Timbadia	Senior Scientist & Head	National Conference on Farm Innovations for Agripreneurs	Udaipur, Rajasthan	3 days
145.	Dr. C. K. Timbadia	Senior Scientist & Head	Conference on Agriculture based livelihood promotion under Integrated Watershed Manag Programme	Navsari Agricultural University, Navsari	1 days
146.	Dr. C. K. Timbadia	Senior Scientist & Head	National Conference on Agricultural Marketing	Navsari Agricultural University, Navsari in collaboration with Indian Society of Agricultural Marketing.	3 days
147.	Dr. C. K. Timbadia	Senior Scientist & Head	International conference on "Innovative approaches for agri knowledge management"	At Vigyan Bhavan NASC Complex, New Delhi organized by International Society of Exte Educ, Nagpur and ICAR, New Delhi.	3 days
148.	Dr. C. K. Timbadia	Senior Scientist & Head	6 th National Conference on KVKs -2011 on the theme "Enabling Farmers 4 Secondary Agriculture"	ICAR, New Delhi in collaboration with Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur.	3 days
149.	Dr. C. K. Timbadia	Senior Scientist & Head	Global Conference on Women in Agriculture	PUSA, New Delhi, organized by Indian Council of Agricultural Research and Asia-	3 days

				Pacific Association of Agricultural Research Institutions (APAARI).	
150.	Dr. C. K. Timbadia	Senior Scientist & Head	7 th National Conference on KVKs -2012 on the theme “Integrating Technologies and Best Practices”	ICAR, New Delhi at Punjab Agricultural University, Ludhiana	3 days
151.	Dr. C. K. Timbadia	Senior Scientist & Head	International conference on “Extension Education in the Perspectives of Advances in Natural Resource Management in Agriculture (NaRMA-IV)”	Swami Keshwanand Rajasthan Agricultural University, Bikaner.	3 days
152.	Dr. C. K. Timbadia	Senior Scientist & Head	Global conference on ‘Technological challenges and human resources for climate smart horticulture-issues and strategies’	NAU, delivered a Keynote lecture entitled ‘Role of KVKs in climate smart horticulture’. The conference has organized by ASM Foundation, New Delhi; NAU, Navsari; Confederation of Horticultural Associations of India; Jain Irrigation Systems Ltd. and The Horticultural Society of Gujarat.	4 days
153.	Dr. C. K. Timbadia	Senior Scientist & Head	Contributions made in the organizing of the International Conference on “Strengthening Climate Justice Initiatives: Livelihood Challenges at Local Level with a Focus on Farmers”	Rapporteur at Institute of Law, Nirma University, Ahmedabad.	2 days
154.	Dr. C. K. Timbadia	Senior Scientist & Head	National Consultation on “System of Rice Intensification for Increased Productivity and Ecological Security”	Govind Ballabh Pant Social Science Institute, Allahabad.	2 days
155.	Dr. C. K. Timbadia	Senior Scientist & Head	National Conference on “9 th National conference of KVKs	Patna (Bihar)	2 days

			87 th ICAR foundation & Award ceremony		
156.	Dr. C. K. Timbadia	Senior Scientist & Head	International Conference on “Extension-Research Interface Promoting Exportable Rice Varieties and Evolving a Sustainable Development Model”	Pusa, New Delhi and organized by Voluntary Action for Research Development And Networking (VARDAN), New Delhi	3 days
157.	Dr. C. K. Timbadia	Senior Scientist & Head	National Conference on ‘Palmyra Palm’ organized by ASPEE College of Horticulture & Forestry, NAU, Navsari in association with Dakshin Gujarat Neera Tadgud Gramodhyog Sangh and Khadi & Village Industries Commission	Dedvasan, Surat	2 days
158.	Dr. C. K. Timbadia	Senior Scientist & Head	Conference on Farmers First for Conserving Soil And Water Resources in Western Region (FFCSWR-2018)	Anand Agricultural University, Anand , Gujarat	3 days
159.	Dr. C. K. Timbadia	Senior Scientist & Head	National Conference on " Family Empowerment – A path towards better life "	Human Development Department & Library, at Sheth Purushotamdas Thakurdas Mahila College Of Arts,Home Science & Science Unit,Managed by Vanita Vishram, Surat.	1 days
160.	Dr. C. K. Timbadia	Senior Scientist & Head	National Conference & Unnati Krishimela	New delhi	2 days

22. Give a brief account of technical back-up to the KVK received from ICAR Institutes/SAUs in planning, execution, monitoring and evaluation of the programs.

Sr. No.	Name of Institute	Technical back-up to the KVK
1.	IARI, New Delhi	Improved Paddy Varieties- S-2511, Pusa-44
2.	Fodder research station	Improved fodder crop varieties- CVS-21 F, PC-9, M.P.Chari, PC-23, Bajara SC-20
3.	Central of excellence in post harvest technology	Expertise in post harvest value addition technologies in flower & fruit & vegetables crops
4.	Director of ground nut research station	Improved groundnut varieties- GG-20, TAG-37 ect
5.	NAU,Navsari	Improved seeds of paddy, vegetable, pulses, ect. Biofertilizer viz, aztobactor, azospirillum, PSB,KMB Organic liquid fertilizer namely novel, novel plus Seedlings, graft plant material, rhizomes IPM & IDM, Fertigation in vegetable, cereals and pulses Raise bed techniques + mulching in vegetables and cereals and cash crops Feeding techniques in animals and deworming & vaccines Composting and vermi compost techniques Fish seed stocking density, fish feed management, fish health management
6.	CIBA, Channai	Shrimp farming system, Sea bass
7.	AAU,Anand	Tissue seedling of pointed gourd , Bio pestiside, Bio fungiside
8.	Central Institute for arid horticulture	Plant of black Jambu, bael
9.	CIFA, Bhubaneswar	Indian major carp culture management (Stocking density, Feeding management, Fish seed rearing)

23. A) Details of technologies assessed / refined during the period under review

a) Agriculture b) Horticulture c) Livestock d) Poultry e) Fishery f) Any other

Sr. No	Discipline	Technology assessed / refined	Problem solved	Salient findings	Status of transfer and adoption
2011-12 to 2018-19					
1	Agriculture	Management of seed rate in transplanted paddy	less numbers of tillers in paddy due to more number of seedling poohill in transplanted paddy.	Seed rate is reduce and it helps increase in the yield up to 10-15 % of paddy	>8680 ha. area of Chikhali, Vasnda, Navsari, Khergam and Jalalpor
2	Agriculture	Nutrient management in transplanted paddy	Indiscriminate and Judicious use of fertilizers	Balance nutrient paddy crop quantity and yield is increased up to the 14-28%	>7230 ha. area of Chikhali, Vasnda, Navsari, Khergam and Jalalpor
3	Agriculture	Introduction of New Variety in Green gram	Yellow vein mosaic virus disease incidence in Green gram is reduced	seed size is medium ultimately yield is increase up to 18-30 %	>430 ha. area of Chikhali, Vasnda, Khergam and Jalalpor
4	Agriculture	Effect of seed treatment of bio pesticides on disease incidence in Tur	Wilt problem in pigeonpea is addressed	Reduced seedling mortality and adequate plants per area. Increase yield by 10-12 %	>370 ha. area of Chikhali, Vasnda and Khergam
5	Agriculture	Wilt Management in Brinjal	Use of bio-pesticides reduced the production cost as well as Wilt problem in Brinjal is solved	Average yield was 3 q/ha was increased along with less cost of cultivation	>400 ha. area of chikhali, vasnda, khergam and Jalalpor
6	Agriculture	Sucking pest management in Chilli	Reduced indiscriminate use of pesticides/acaricides, thereby reduction in pesticide residue	Effective utilization of all the IPM tools	>180 ha. area of Chikhali, Vasnda, Khergam and Jalalpor
7	Horticulture	Induction of early flowering in mango through paclobutrozol	Early flowering in mango through paclobutrazol @ 30 ml/tree soil drenching	Inducing of early flowering through paclobutrazol	>1837 ha. area of Navsari, Jalalpor, Chikhali and Gandevi
8	Horticulture	Increase the productivity of	Biofertilizer increased the productivity of	Biofertilizer use increase	>1159 ha. area of Navsari,

		sapota through use of biofertilizer	sapota tree	the productivity of sapota tree	Jalalpure, and Gandevi
9	Horticulture	New okra variety in Navsari district	Variety did not perform well under south Gujarat condition	Farmer did not accept the variety	-
10	Fishery	Effect of vermicompost mixed fish feed on the growth of Indian major corps in village	Increased growth along with natural productivity	Imported growth higher survival 38% higher production	20-30% farmers those are preparing vermi compost
11	Fishery	Stocking density of fingerlings (catla, rohu, mrigal, and grass corps) for production of stunted yearlings in cage culture system	Too deep water body can be used for stunted fingerlings in cage culture	Easy to harvest when required higher survival feed management	In process
12	Home Science	Effect of low cost food supplements in malnourished preschool children	Problem of Prevalence of Anemia among rural tribal adolescent girls (16 to 18 yrs) was solved	1.Low iron content in diet 2.Use of traditional diet 3.Lack of knowledge about nutritional foods 4.Prevalence of infectious diseases 5.Poor socio-economic condition	Daily use of iron rich diet (100gm roasted Bengal gram + 100gm roasted Rice flakes) and one iron tablet with existing dietary pattern increased Hb level and body weight of tribal adolescent girls as compared to other treatment.
13	Home Science	Reduction of Anaemia among rural adolescent girls	Problem of Design and development of high iron rich diet to prevent iron deficiency Anemia in tribal farm women (18 to 35 yrs) was solved	Low haemoglobin level in tribal farm women due to iron deficiency Anemia	on Farm Trial on design and development of high iron rich diet to prevent iron deficiency Anemia in tribal farm women. The assessed practice of daily use of 100 gm Carrot +

					80 gm tomato + 50 gm Chickpea + 50 gm Jaggery with existing dietary pattern increased Hb level and body weight of tribal farm women was about 1.10 gm % & 2.100 Kg respectively during three months
14	Live stock	To assess the effect of mineral supplement and dewormer on milk production	Lack of knowledge in the use of feed supplements, mineral mixture and deworming	Milk yield increased	> 28% of Adoption-
15	Live stock	Need assessment of microbial feed supplement (probiotics)	Lack of knowledge in the use of probiotics	Milk yield increased	> 23% of Adoption-

23. B) Enlist most accepted technologies assessed during the period under review

S. No.	Name of the technology	Extent of adoption	Reasons for adoption
1	System of Rice Intensification Cultivation in paddy	Total 2838 farmers of 42 villages were adopt and use Novel nutrient liquid	Higher Yield, seed and water saving
2	Nutrient management in paddy	Total 4389 farmers of 76 villages were adopt	Reduce the fertilizer cost and higher yield
3	Introduction of New paddy variety viz., GNR-3	Total 2785 farmers of 44 villages were adopt	Higher yield and good quality "pahuva" is prepared out of it
4	Application of Bio-fertilizers in Sapota	Total 3872 farmers of 39 villages were adopt	Higher Yield and Soil conservation
5	High density mango plantation	Total 1027 farmers of 23 villages were adopt	Higher yield in short duration and height of the plant is short so that harvesting is easy
6	NOVEL nutrient liquid	Total 4968 farmers of 173 villages were adopt and use Novel nutrient liquid	Very good results in vegetable crops and increase production
7	Vaishali (Pigeonpea)	Total 1858 farmers of 78 villages were adopt and cover	Give Higher yield and Suitable in Navsari district

S. No.	Name of the technology	Extent of adoption	Reasons for adoption
		109 ha area for cultivation	
8	GJG-3 (Gram)	Total 345 farmers of 58 villages were adopt and cover 233 ha area	Give Higher yield and suitable for Navsari district
9	Management of mango fruit fly by using fruit fly trap	Total 3879 farmers of 73 villages were adopt and cover 3892 ha	Loss occur due to fruit fly is reduced and easily available at KVK
10	Management of fruit fly in cucurbitaceous crops by using fruit fly trap	Total 362 farmers of 42 villages were adopt and cover 374 ha area	Loss occur due to fruit fly is reduced and easily available at KVK
11	Management of brinjal shoot and fruit borer by using sex pheromone traps	Total 289 farmers of 63 villages were adopt and cover 467 ha area	Loss occur due to shoot and fruit borer is reduced in brinjal
12	Introduction of high value sweetcorn crop	Total 1076 farmers of 47 villages were adopt and cover 308 ha	Short duration, high return and assured market price
13	Area Specific Chelated Mineral Mixture	Total 1798 farmers of 53 villages who doing animal husbandry were adopt	Helpful for dairy animals
14	By-pass fat for high producing animals	Total 3216 farmers of 72 villages were adopt	Helpful for dairy animals and increasel milk production
15	Fish seed stocking density	Total 388 farmers of 32 villages were adopt	Village ponds are utilized for revenue generating
16	Fish feed management	Total 269 farmers of 24 villages were adopt	Helpful for increases fish production
17	Silage bag and urea treatment of paddy straw for livestock feeding	Total 308 farmers of 53 villages were adopt	Higher milk yield
18	Summer green gram in mango as intercrop as well as cover crop	Total 1127 farmers of 47 villages were adopt	It helps in Nitrogen fixation acts as a green manure crop Helps in reduction of sun scorch of mango fruit during summer

24. Details of Front Line Demonstrations conducted during the period under review

A) Front-line demonstration in *Kharif* season (Including CFLDs on Oilseeds and Pulses)

Condition: Rainfed/Irrigated

Year wise	Crops	No. of farmer	Area (ha)	Avg. yield (q/ha)	Local check			Improved Variety			Increase		Net loss (Rs)	Effective gain (Rs.)
					Av. Yield	C (Rs.)	R (Rs.)	Variety	C (Rs.)	R (Rs.)	C (Rs.)	R (Rs.)		
I (2011-12)	Paddy	1316	263.2	44.38	40.13	25,550	48,156	NAUR-1	23,950	53,256	-1,600	5,100	-	6,700
	Paddy	137	35.34	36.03	35.92	25,550	43,104	GNR-2	23,950	43,236	-1,600	132	-	1,732
	Paddy	17	9.5	51.55	40.9	25,550	49,080	GNR-3	23,950	61,860	-1,600	12,780	-	14,380
	Paddy	4	1.6	48.8	45.98	25,550	55,176	PRH-10	23,950	58,560	-1,600	3,384	-	4,984
	Paddy	4	1	42.83	40.25	25,550	48,300	GAR-1	23,950	51,396	-1,600	3,096	-	4,696
	Paddy	4	1	44.38	40.13	25,550	48,156	GR-13	23,950	53,256	-1,600	5,100	-	6,700
	Finger millet	17	4.25	0.1255	0.1015	12,550	18,825	GN-4, GN-5	10650	21,150	-1,900	2,325	-	4,225
	Tur	80	10	11.24	9.32	21600	45200	Vaishali	20122	56200	-1,478	11,000	-	12,478
	Paddy (IPDM)	10	2	0.4745	47.38	25,525	54,056	NAUR-1	23950	56,940	-1,575	2,884	-	4,459
II (2012-13)	Paddy	550	89.4	52.03	39.35	26230	22957	NAUR-1	24680	40357	-1,550	17,400	-	18,950
	Paddy	246	49.2	45.54	42.17	26230	26483	GNR-2	24140	32785	-2,090	6,302	-	8,392
	Paddy	307	61.4	48.14	42.33	26230	26683	GNR-3	23230	36945	-3,000	10,262	-	13,262
	Paddy	10	2.5	81	50.83	26230	37308	SRI	38250	62550	12,020	25,242	-	13,222

								6201, 6444						
	Paddy (IPM)	25	10	44.85	39.85	26230	23582	Gurjari	25910	30152	-320	6,570	-	6,890
	Tur	656	113.3	8.37	7.64	9410	19100	Vaishali	12320	21160	2,910	2,060	-	-850
III (2013-14)	Paddy	40	8	41.62	36.34	24510	54510	GNR-2	23460	62430	-1,050	7,920	-	8,970
	Paddy	102	20.4	45.44	37.2	23470	55800	GNR-3	22590	65888	-880	10,088	-	10,968
	Paddy	8	0.8	33.5	37.2	23470	55800	GNR-4	25810	67000	2,340	11,200	-	8,860
	Paddy	155	31	48.26	44.86	24130	58318	NAUR-1	22840	67564	-1,290	9,246	-	10,536
	Paddy	12	2.4	46.26	44.86	24130	58318	PRH-10	22340	60138	-1,790	1,820	-	3,610
	Paddy	36	8.6	81.68	47.86	22660	62218	Hybrids (5251, 6444)	30190	106184	7,530	43,966	-	36,436
	Paddy	20	4.8	78.97	47.86	22660	62218	NAUR-1	28910	102661	6,250	40,443	-	34,193
	Paddy	55	13.7	43.14	42.9	23470	55770	GR-13	21800	60396	-1,670	4,626	-	6,296
	Paddy	20	5	43.75	36.78	31643	51492	Gurjari	30945	61250	-698	9,758	-	10,456
	Pigeon pea	10	1.3	7.49	5.52	14350	24840	GT-103	16350	33705	2,000	8,865	-	6,865
	Pigeon pea	50	6.7	7.32	5.4	15200	24300	AGT-2	17000	32940	1,800	8,640	-	6,840
	Pigeon	400	53.3	6.08	5.35	15500	24075	Vaishali	16800	27360	1,300	3,285	-	1,985

	pea													
IV (2014-15)	Paddy	45	9	56.16	48.84	29525	58608	NAUR-1	28764	78624	-761	20,016	-	20,777
	Paddy	28	6	52.25	48.84	26540	58608	PRH-10	25670	73150	-870	14,542	-	15,412
	Paddy	10	2	51.8	48.84	25930	58608	PS-5	24920	72520	-1,010	13,912	-	14,922
	Paddy	114	35	48.3	37.35	28410	44820	GNR-3	28180	67620	-230	22,800	-	23,030
	Paddy	50	10	42.44	37.35	26230	44820	GNR-2	24880	59416	-1,350	14,596	-	15,946
	Paddy	700	140	54.1	39.7	26230	51610	GNR-3	24880	75740	-1,350	24,130	-	25,480
	Paddy	35	7	82.78	48.84	25610	58608	Hybrids (312, 6444)	32290	115892	6,680	57,284	-	50,604
	Paddy	23	4.6	39.7	34.3	25920	41160	GNR-4	30640	55580	4,720	14,420	-	9,700
	Paddy	20	10	47.68	37.35	26670	48555	GNR-3	25750	66752	-920	18,197	-	19,117
	Pigeon pea	260	52	11.05	9.45	15400	56700	Vaishali	16900	66300	1,500	9,600	-	8,100
	Pigeon pea	30	5	11.22	9.45	16100	56700	Available	17200	67320	1,100	10,620	-	9,520
V (2015-16)	Pigeonpea	210	34	7.57	6.87	20350	48098.79	Vaishali	21350	52999.69	1,000	4,901	-	3,901
	Pigeonpea	20	4	6.94	6.72	20350	47048.6	BDN-711	20350	48588.88	0	1,540	-	1,540
	Pigeonpea	25	5	7.69	6.42	20350	44948.22	Vaishali,	22050	53839.84	1,700	8,892	-	7,192

	Pigeonpea			7.02	6.54	20350	44948.22	BDN-711	22050	53839.84	1,700	8,892	-	7,192
	Paddy	600	120	54.21	42.17	28550	54892.86	NAUR-1	28950	70565.37	400	15,673	-	15,273
	Paddy	261	52.2	49.25	38.62	28750	54133.81	GNR-3	29150	69033.92	400	14,900	-	14,500
	Paddy	20	4	38.52	33.67	27550	43828.37	GNR-4	28950	56639.81	1,400	12,811	-	11,411
	Paddy	38	7.6	80.15	46.52	28750	60555.27	VNR-2111	31990	104331.6	3,240	43,776	-	40,536
	Paddy	20	4	41.07	38.62	29270	50276.29	kl-15	28990	53465.75	-280	3,189	-	3,469
	Paddy	20	10	48.54	43.12	28050	58284.44	Available	28950	65610.55	900	7,326	-	6,426
	Paddy	20	10	49.58	48.39	28350	65407.8	Available	28950	67016.29	600	1,608	-	1,008
VI (2016-17)	Pigeon pea	385	52	11.34	7.8	20350	40257	Vaishali	21350	52362	1,000	12,105	-	11,105
	Paddy	405	81	49.34	42.17	34850	62606	GNR-3	30150	73250	-4,700	10,644	-	15,344
	Paddy	20	4	43.7	41.68	32850	61878	S-2511	30150	64877	-2,700	2,999	-	5,699
	Paddy	127	21	51.25	38.62	34850	61197	NAUR-1	30350	81211	-4,500	20,014	-	24,514
	Paddy	20	4	39.52	35.67	32500	52956	PUSA-44	30150	59699	-2,350	6,743	-	9,093
	Paddy	32	6.4	82.26	49.32	28750	69064	US-312	31990	115865	3,240	46,801	-	43,561
	Paddy	24	2.4	45.47	42.17	34850	62606	GNR-4	30150	67505	-4,700	4,899	-	9,599
VII (2017-18)	Pigeonpea	399	33.33	11.28	9.83	21350	56857	Vaishali	20400	65695	-950	8,838	-	9,788

	Pigeonpea	163	20	10.34	9.5	21350	56297	Vaishali	20400	61895	-950	5,598	-	6,548
	Pigeonpea	20	5	10.98	8.97	20350	53641	Vaishali	21350	65660	1,000	12,019	-	11,019
	Paddy	484	103.4	46.98	39.8	36450	72675	NAUR-1	33600	85785	-2,850	13,110	-	15,960
	Paddy	188	61.66	43.74	38.15	35850	69662	GNR-3	33400	79869	-2,450	10,207	-	12,657
	Paddy	20	4	71.28	43.59	36450	79595	VNR-2233/ VS-312	36850	130157	400	50,562	-	50,162
	Paddy	13	5	38.82	36.69	36750	66996	GNR-2	33400	72711	-3,350	5,715	-	9,065
	Paddy	51	8.33	44.54	40.24	36450	71652	GNR-5	33400	82041	-3,050	10,389	-	13,439
	Paddy	68	5	45.28	40.22	35750	73442	Available	32990	83512	-2,760	10,070	-	12,830
	Paddy	20	10	48.74	44.21	36850	71141	Available	33850	78835	-3,000	7,694	-	10,694
VIII (2018-19)	Pigeonpea	10	5	11.87	10.98	21360	36584	Vaishali	22300	53200	940	16616	-	15676
	Pigeonpea	161	31	10.89	8.56	27650	47946	BSMR-853	27050	60997	-600	13051	-	13651
	Paddy	313	110	46.89	41.13	38550	75103	NAUR-1	36950	86184	-1600	11081	-	12681
	Paddy	100	75	48.34	42.26	38550	81139	GNR-3	37150	93103	-1400	11964	-	13364
	Paddy	2	1	38.59	34.12	36350	58891	GNR-4	37250	66606	900	7715	-	6815
	Paddy	49	14	45.64	41.42	37750	75384	GNR-5	36990	83339	-760	7955	-	8715
	Paddy	10	4	42.75	39.17	38640	71524	GNR-6	37460	78062	-1180	6538	-	7718

	Paddy	2	0.5	68.57	44.72	40490	81659	Pusha-44	46700	127266	6210	45607	-	39397
	Paddy	8	2	53.21	50.81	38380	85869	S-2511	37600	89925	-780	4056	-	4836
	Paddy	14	3	49.13	46.93	39270	77904	SRI	38190	83030	-1080	5126	-	6206
	Paddy	20	10	45.25	40.22	34569	72445	GNR-3/NAUR-1	31950	82561	-2619	10116	-	12735
	Paddy	20	10	43.12	40.24	34650	72444	GNR-3/NAUR-1	30951	82532	-3699	10088	-	13787

C= Cost (Rs./ha); R= Return (Rs./ha); The results of front-line demonstrations (q/ha) are indicated year-wise.

B) Front-line demonstration in *Rabi/Summer* season (Including CFLDs on Oilseeds and Pulses)

Condition: Rainfed/Irrigated

Year wise	Crops	No. of farmer	Area (ha)	Avg. yield (q/ha)	Local check			Improved Variety			Increase		Net loss (Rs)	Effective gain (Rs.)
					Av. Yield	C (Rs.)	R (Rs.)	Variety	C (Rs.)	R (Rs.)	C (Rs.)	R (Rs.)		
I (2011-12)	Castor	4	4	20.19	18.75	19,250	60,125	GCH-4	19,625	66,350	375	6,225	-	5,850
	Castor	4	4	31.6	26.6	17,620	70,605	GCH-7	18,620	90,525	1,000	19,920	-	18,920
	Sugarcane	10	5	115.8	103.6	90600	147680	Available	95400	170940	4,800	23,260	-	18,460
	Oat	20	2	363				Kent,JHO-822	11910	72570	0	0	-	0
	Sweet Corn	367	59	84				S-75	20640	49920	0	0	-	0
	Green	537	88	16.95	13.4	15,350	36,268	Meha	15,210	44,425	-140	8,157	-	8,297

	gram													
II (2012-13)	Sorghum	62	13.3	38.28	35.78	8370	52456	GJ-38	9470	65606	1,100	13,150	-	12,050
	Sorghum	10	2.5	39.74	36.87	8370	54309	GJ-42	9470	78088	1,100	23,779	-	22,679
	Sorghum	8	2	38.47	35.09	8370	51283	GFS-5	9470	66929	1,100	15,646	-	14,546
	Castor	275	68.75	25.67	18.3	20350	54900	GCH-7	19290	77010	-1,060	22,110	-	23,170
	Sweet corn	500	100	71.8	615.05			Sugar-75	11200	21375	11,200	21,375	-	10,175
	Finger millet	20	8	25.32	21.97	9410	23495	GN-5	11150	26830	1,740	3,335	-	1,595
	Kidney bean	57	5.7	8.75	5.9	15800	17740	Guj.val-1/2	17900	21500	2,100	3,760	-	1,660
	Gram	46	5	9.85	8.6	11430	40170	GG2	13960	49250	2,530	9,080	-	6,550
	Green gram	80	20	9.8	8.45	13450	33800	CO4	14670	39200	1,220	5,400	-	4,180
	Green gram	500	108	11.4	9.3	7620	29580	Meha	8940	42360	1,320	12,780	-	11,460
	Sugarcane (IPDM)	2000	1000	122.4	110.2	97800	199740	Available	103000	227480	5,200	27,740	-	22,540
	Black gram	110	25	7.9	5.8	5710	23290	T-9	6930	32570	1,220	9,280	-	8,060
	Ground	44	9	18.11	15.19	27620	48330	TAG-37	26116	64434	-	16,104	-	17,608

	nut										1,504			
III (2013-14)	Green gram	42	8	9.36	8.24	15680	28840	CO-4	14350	32760	- 1,330	3,920	-	5,250
	Gram	82	6.5	9.4	7.9	16700	31600	GG-2	15680	37600	- 1,020	6,000	-	7,020
	Gram	20	2	11.3	7.9	17300	31600	PKV-2	16800	50850	-500	19,250	-	19,750
	Indian bean	57	5.7	8.85	7.65	17150	30600	G.Val-2	16500	35400	-650	4,800	-	5,450
	Green gram	600	100	10.8	8.84	8260	35940	Meha	9450	55350	1,190	19,410	-	18,220
	Sweet corn	300	46	104.8	-			Sugar-75			0	0	-	0
IV (2014-15)	Sorghum	25	1.3	180.5	165	17630	49500	CSV-21	19460	54150	1,830	4,650	-	2,820
	Sugarcane	10	5	948	817	106570	294690	GNS-5, GNS-7, GNS-8	114680	344850	8,110	50,160	-	42,050
	Sweet corn	245	25	103.75	0			S-75	25400	83000	0	0	-	0
	Indian bean	42	1.7	9.25	7.45	16400	44700	G. Val-2	18100	55500	1,700	10,800	-	9,100
	Gram	130	7	9.9	8.42	17800	58940	GG 2	16300	69300	- 1,500	10,360	-	11,860
	Green	100	18	9.4	8.2	19200	53300	Co-4	20600	61100	1,400	7,800	-	6,400

	gram													
	Sugarcane	10	2.5	964	896.7	106570	294690	GNS-5, GNS-7, GNS-8	114680	344850	8,110	50,160	-	42,050
	Groundnut	50	5	15.16	12.96	23830	77760	GG-2	25390	90960	1,560	13,200	-	11,640
V (2015-16)	Indian bean	69	4.3	8.1	7.5	18850	49500	GV-2	19500	57510	650	8,010	-	7,360
	Greengram	36	7.2	8.84	7.6	21050	57760	CO4	22050	67184	1,000	9,424	-	8,424
		25	5					Meha			0	0	-	0
	Chickpea	122	11.5	7.85	7.23	18550	42657	GG-2	19550	46315	1,000	3,658	-	2,658
		17	1.6	8.4	7.23	18650	42657	GG-3	19550	49560	900	6,903	-	6,003
		26	2	8.9	7.23	18650	44826	PKV-2	22050	64080	3,400	19,254	-	15,854
	Sweet corn	142	24					S-75			0	0	-	0
VI (2016-17)	Greengram	119	20	8.78	6.92	21050	52592	CO4	23050	66728	2,000	14,136	-	12,136
	Chickpea	92	16	9.76	7.32	18750	46020	GG 2	20550	57584	1,800	11,564	-	9,764
	Chickpea	24	5	10.11	7.32	18750	43188	GG 3	23350	59649	4,600	16,461	-	11,861
	Chickpea	10	1.4	10.78	7.32	18750	45384	PKV-2	23350	72226	4,600	26,842	-	22,242
	Indian bean	50	5	8.68	7.47	18850	49302	Guj.Indian bean1/2	22400	61628	3,550	12,326	-	8,776

	Indian bean	22	1.6	21.18	16.79	31850	118369.5	GNIB-21	36600	149319	4,750	30,950	-	26,200
VII (2017-18)	Greengram	100	20	8.13	6.44	23150	40379	Co-4	22050	50975	-1,100	10,596	-	11,696
	Greengram	37	7.6	7.97	6.07	23150	38059	Co-4	22050	49972	-1,100	11,913	-	13,013
	Chickpea	20	4	11.85	9.77	24300	45372	GG-1	21650	55031	-2,650	9,659	-	12,309
	Chickpea	160	33.33	12.72	9.98	24300	46347	GG-3	22000	59072	-2,300	12,725	-	15,025
	Indian bean	26	2	9.14	7.67	23750	35619	G.Indain bean-2	22350	51586	-1,400	15,967	-	17,367
	Indian bean	7	1	49.78	37.62	43820	80657	GNIB-21	37350	106728	-6,470	26,071	-	32,541
	Sorghum	49	7.7	323	287	20450	43050	CSV-21-F	19220	48450	-1,230	5,400	-	6,630
	Sorghum	12	1.5	587.8	502.6	22550	50260	M.P.	21320	58780	-1,230	8,520	-	9,750
VIII (2018-19)	Greengram	144	18.5	7.88	6.45	-	-	Co-4	27050	61621.6	-	-	-	-
	Indian bean	47	2	49.64	38.47	39850	175039	GNIB-21	41600	225862	1750	50823	-	49073
	Indian bean	71	6.5	8.95	7.58	26950	57608	Guj.Indian bean-2	26050	63545	-900	5937	-	6837
	Sorghum (F)	20	2	438	402	33450	110550	M.P.Chari	31950	120450	-1500	9900	-	11400

	Sorghum (F)	10	1	421	388	34350	106700	PC-9	31950	115775	-2400	9075	-	11475
	Bajara (F)	10	1	398	0	0	0	HC-20	28650	99500	-	-	-	-
	Greengram	194	20	8.34	5.86	27650	44536	Meha	26450	63384	-1200	18848	-	20048
	Greengram	88	10	9.12	5.86	27650	44536	GM-6	26450	69312	-1200	24776	-	25976
	Chickpea	79	10	12.81	10.17	26990	55528	GG-3	28480	69942	1490	14414	-	12924
	Chickpea	80	10	15.32	10.17	26990	55528	GG-5	28480	83647	1490	28119	-	26629

C= Cost (Rs./ha); R= Return (Rs./ha); The results of front-line demonstrations (q/ha) are indicated year-wise.

C) Front-line demonstration on horticultural crops including fruits, vegetables and flowers

Year wise	Crops	No. of farmer	Area (ha)	Avg. yield (q/ha)	Local check			Improved Variety			Increase		Net loss (Rs.)	Effective gain (Rs.)
					Av. Yield	C (Rs.)	R (Rs.)	Variety	C (Rs.)	R (Rs.)	C (Rs.)	R (Rs.)		
I (2011-12)	Turmeric	10	1	249.48	208	140160	72040	Sugandham	115160	84372	- 25,000	12,332		37,332
	Turmeric	3	0.3	242.25	208	140160	72040	NAUT-1	115160	77865	- 25,000	5,825		30,825
	Elephant foot yam	10	1	849.7	546.8	74960	198440	Gajendra	111375	255475	36,415	57,035		20,620
	Chiku	500	200	156.3	123.48	11930	111550	Available	17840	138460	5,910	26,910		21,000
II (2012-13)	Turmeric	75	15	253.5	169.1	59652	117015	Sugandham	74500	193925	14,848	76,910		62,062
	Elephant foot	8	1	424.54	396.75	102600	135450	Gajendra	89700	165029	- 12,900	29,579		42,479
	Mango(50	25	105.2	80.92	21690	54690	Cultar	28544	106816	6,854	52,126		45,272

	Fruit setting)													
	Mango(Fruit setting)	300	120	100.142	82.716	28690	95384	Available	31870	118343	3,180	22,959		19,779
	Brinjal (IPM)	25	2.5	213.97 (9.48 % damage)	182.19 (22.38 % damage)	22840	68255	Available	20820	86165	-2,020	17,910		19,930
	Chilli (Mulching)	16	3.2	185.45	146.93	78435	141960	Available	88450	189725	10,015	47,765		37,750
	Okra	500	100	107.3	76.3	83308	93359	Shakti, Shahiba, Kajal,	70179	131228	- 13,129	37,869		50,998
	Chiku (Use bio fertilizer)	2000	400	183	160	12739	240000	Available	14739	274500	2,000	34,500		32,500
	Fruit fly control in mango	8000	4000	106.23 (% damage 3.99)	78.98 (% damage 30.31)	-	197450	Available	350	265575	-	68,125		-
	Fruit fly control in vine vegetable	800	250	11270 (3.45 % damage)	9520 (29.2% damage)	--	95200	Available	520	112700	-	17,500		-
	Yellow sticky trap in okra	600	250	141.2	123.4	8500	114900	Available	5500	135700	-3,000	20,800		23,800
III (2013-14)	Turmeric	24	2.7	193.5	161.3	115680	237950	NAUT-1	79800	251550	- 35,880	13,600		49,480
	Elephant foot	33	3.5	633.6	675.9	24510	191492	Gajendra	98790	316800	74,280	125,308		51,028
	Brinjal	20	5	228.42 (8.92 %)	193.62 (19.92)	25680	98840	Hybrid	39430	159894	13,750	61,054		47,304

				damage)	% damage)									
	Sapota	250	100	195	158	13400	190500	Kallipatti	15980	253500	2,580	63,000		60,420
	Mango	47	18.8	110.6	89.4	28140	104280	Kesar	30980	138250	2,840	33,970		31,130
IV (2014-15)	Elephant foot	8	1	564.6	424.6	139340	424600	Gajendra	112480	564600	- 26,860	140,000		166,860
	Sapota	200	80	148.4	129.6	17490	194400	Kallipatti	19830	222600	2,340	28,200		25,860
	Okra	10	2	111	98.4	32300	147600	Available	27900	166500	-4,400	18,900		23,300
	Mango	150	30	98.4	84.8	31400	169600	Kesar	35200	196800	3,800	27,200		23,400
	Okra	8	1	127.8	87	32300	130500	Hybrid	27300	191700	-5,000	61,200		66,200
V (2015-16)	Elephant fruit	10	2	582	413	94670	247800	Gajendra	103460	349200	8,790	101,400		92,610
VI (2016-17)	-	-	-	-	--	-	-	-	-	--	-	-	-	-
VII (2017-18)	Little guard	40	1	19	13	50000	45500	GNT-1	45000	66500	-5,000	21,000		26,000
	Pointed guard	4	0.1	18	16	50000	56000	GNPG-1	45000	63000	-5,000	7,000		12,000
	Cluster beans	17	0.5	39	38	32000	114000	Guajarat Guar 1	33000	117000	1,000	3,000		2,000
	Cluster beans	17	0.5	36	35	31000	105000	Pusa Navbahar	32000	109800	1,000	4,800		3,800
	Brinjal	20	5	204.7	165.9	49492	165900	Available	53480	204700	3,988	38,800		34,812
	Okra	70	15	70	60	40000	120000	GO-5	50000	140000	10,000	20,000		10,000
VIII (2018-19)	Brinjal	25	10	200	185	50000	165000	Gulabi	60500	220000	10500	55000		44500
	Mango	226	90	95	82	31400	169600	Kesar	35200	196800	3800	27200		23400

C= Cost (Rs./ha); R= Return (Rs./ha); The results of front-line demonstrations (q/ha) are indicated year-wise.

D) Front-line demonstration on Livestock and Fisheries

Livestock:

Year wise	Animal/ bird	Breed	No. of Raisers	Total no of animals/ birds	Avg. Prodn.	Local check			Improved breed / tech.		Increase		Net loss (Rs.)	Effct. Gain (Rs)
						Av. Prod.	C	R	C	R	C	R		
I (2011-12)														
II (2012-13)	Cow	crossbred	345	345	12.0 lit/day		140 Rs/day	162 Rs.day	145Rs/day	210 Rs./day	5 Rs/day	48Rs/day	-	43
III (2013-14)	Cow	crossbred	20	20	8.2	7.1	113	195	120	217	7	22	-	15
IV (2014-15)	Buffalo	Surti	15	15	6.6	4.7	93.75	118	98.25	165	4.5	47	Nil	42.5
V (2015-16)	Buffalo	Surti	20	20	8.8	6.3	125	157.50	131	220.00	6	62.5	Nil	56.5
VI (2016-17)	Nil	Nil												
VII (2017-18)	Nil	Nil												
VIII (2018-19)	Nil	Nil												

Fisheries:

Year wise	Crops	Technology	No. of farmers	Area (ha)	Avg. prod. (q)/ha	Local check			Demonstration		Increase		Net loss (Rs.)	Effct. Gain (Rs)
						Av. Prod.	C	R	C	R	C	R		
I (2011-12)	Not conducted													

II (2012-13)	Inland fisheries	Carp farming management	200	10	14.56	12.30	82000	135000	86000	160000	4000	25000	-	21000
III (2013-14)	Inland fisheries	Carp farming management	72	08	24.40	18.10	105000	199100	165410	268400	60410	69300	-	8890
	Inland fisheries	Carp seed rearing (Fry to fingerlings)	06	1.5	45000 numbers (26% survival)	25000 Numbers (12% survival)	35000	156000	47000	315000	12000	69300	-	57300
IV (2014-15)	Inland fisheries	Carp seed stocking and species ratio	90	8.25	27.76	17.50	170000	192500	185000	273120	0			
	Inland fisheries	Fish nutrition and feeding management	129	11.25	28	17.50	170000	192500	185000	336000	15000	80620	-	65620
	Inland fisheries	Carp seed rearing (Fry to fingerlings)	15	1	21% survival	18% survival	18000	110000	15000	176000	15000	143500	-	128500
V (2015-16)	Inland fisheries	Carp seed stocking and species ratio	90	7.35	25.96	16.44	80896	197280	114656	311510	13000	66000	-	53000
	Inland fisheries	Carp seed rearing	4	0.75	42666 yearlings	12000 yearlings	47000	120000	116000	34000	33760	114230	-	80470
	Inland fisheries	Composite fish culture	22	2.25	26 + 4 prawns	17 + 1.5 prawns	11000	264000	136400	472000	69000	220000	-	151000
	Inland fisheries	Carp fish nutrition and feeding management	84	9.25	24.60	16.44	80896	197280	108600	295200	125400	208000	-	82600
VI (2016-17)	Inland fisheries	Carp seed stocking and species ratio	104	12	26.83	17.22	83800	189440	108000	335375	27704	97920	-	70216

	Inland fisheries	Carp seed rearing	5	1	32200 yearlings	18400 yearlings	62000	165600	80000	289800	24200	145935	-	121735
	Inland fisheries	Composite fish culture	10	1	24.30 + 4.30 prawns	16 + 2 prawns	112000	270000	137000	448750	18000	124200	-	106200
	Inland fisheries	Carp fish nutrition and feeding management	116	13	27.40	17.22	83800	189440	109600	342500	25000	178750	-	153750
VII (2017-18)	Inland fisheries	Carp seed stocking density and species ratio	92	18.75	21.95	16.80	86800	184800	102000	263400	25800	153060	-	127260
	Inland fisheries	Stunted carp yearling production	5	1.0	32000 numbers	18600 numbers	62000	148800	78000	256000	15200	78600	-	63400
	Inland fisheries	Carp fish nutrition and feeding management	118	22.45	24.70	17.20	106000	189200	122000	296400	16000	107200	-	91200
	Inland fisheries	Integrated fish farming	10	1.5	28.32 +400 eggs	16.80 + 110 eggs	83800	189420	109600	339840	16000	107200	-	91200
VIII (2018-19)	Inland fisheries	Carp seed stocking density and species ratio	88	14.5	26.10	13.20	84300	158400	104000	313200	25800	150420	-	124620
		Stunted carp yearling production	6	1.0	41000 numbers yearlings	18300 numbers yearlings	61000	144000	80000	358000	19700	154800	-	135100
		Carp fish nutrition and feeding	118	22.50	22.10	14.30	10700	171600	114000	265200	19000	214000	-	195000

		management												
		Cage farming pangasius fish	10	2 cages of size 5m x 4m x 4m	30.00	24.00	182000	264000	180000	330000	7000	93600	-	86600

C= Cost (Rs./ha); R= Return (Rs./ha); The results of front-line demonstrations (q/ha) are indicated year-wise.

E) Front-line demonstration on other enterprises

Year wise	Enterprise	Technology demonstrated	No. of farmer	No. of units	Major parameters		Economics of demonstration		Increase		Net loss (Rs.)	Effective gain (Rs.)
					Demo.	Local check	C (Rs.)	R (Rs.)	C (Rs.)	R (Rs.)		
I (2011-12)	1	-	-	-	-	-	-	-	-	-	-	-
II (2012-13)		-	-	-	-	-	-	-	-	-	-	-
III (2013-14)		-	-	-	-	-	-	-	-	-	-	-
IV (2014-15)		-	-	-	-	-	-	-	-	-	-	-
V (2015-16)		-	-	-	-	-	-	-	-	-	-	-
VI (2016-17)		-	-	-	-	-	-	-	-	-	-	-
VII (2017-18)		-	-	-	-	-	-	-	-	-	-	-
VIII (2018-19)		-	-	-	-	-	-	-	-	-	-	-

C= Cost (Rs./ha); R= Return (Rs./ha); The results of front-line demonstrations (q/ha) are indicated year-wise.

F) Front-line demonstration on women empowerment (Home Science + Kitchen garden)

Year wise	Category	Name of technology	No. of demonstrations	Name of observations	Results (kg)		Economics of demonstration	
					Demo.	Local check	C (Rs.)	R (Rs.)
I (2011-12)	Kitchen garden	To provide nutritional diet	50	Yield	72.8	38	2017	4157
II (2012-13)	Kitchen garden	To provide nutritional diet	250 unit	Yield	68.4	40.4	2140	4257
III (2013-14)	Kitchen garden	To provide nutritional diet	100 unit	Yield	73.8	39.8	2267	4350
IV (2014-15)	Kitchen garden	To provide nutritional diet	100 unit	Yield	75.4	42.9	2289	4385
V (2015-16)	Kitchen garden (Veg.kit)	To improve nutritional status of family	200 unit	Yield	80.7	44.5	2270	4590
VI (2016-17)	Vegetable kit	- To introduce them scientific model for maintaining Kitchen gardening in Rabi and Summer	200 unit	Yield	78.9	43.1	2183	4478
VII (2017-18)	Vegetable Kit	To introduce them scientific model for maintaining kitchen gardening in rabi and summer	100	Yield	81.2	44.6	2340	4567
	Plastic bags	To reduce storage loss	30	Yield	80.6	43.7	2289	4479
VIII (2018-19)	Kitchen garden (Veg.kit)	To improve nutritional status of family	500 unit	Yield	81.7	44.6	2280	4560

C= Cost (Rs./ha); R= Return (Rs./ha); The results of front-line demonstrations (q/ha) are indicated year-wise.

G) Front-line demonstrations on Farm Implements and Machineries

Name of the implement	crop	No. of farmers	Area (ha)	Performance parameters / Indicators	* Data on parameter in relation to technology demonstrated		% change in the parameter	Remarks
					Demon.	Local check		
2011-12					NIL			
2012-13					NIL			
2013-14					NIL			
2014-15								
Naveen sickle	Paddy	50	-	Field efficiency & reduce labour	0.062 harvest by local sickle (ha/h)	0.080 harvest by naveen sickle (ha/h)	29.03	
2015-16					NIL			
2016-17					NIL			
2017-18					NIL			
2018-19					NIL			

25. DETAILS OF TRAINING PROGRAMMES CONDUCTED

I. Training programmes conducted for farmers/farm women (last 8 years)

S. N	Discipline	I (2011-12)			II (2012-13)			III (2013-14)			IV (2014-15)			V (2015-16)		
		T	C	P	T	C	P	T	C	P	T	C	P	T	C	P
1.	Crop Production	12	12	652	12	54	3368	12	27	1336	12	30	1452	13	27	1579
2.	Horticulture	20	26	1006	12	35	1721	12	23	695	10	26	940	14	22	981
3.	Livestock	25	52	2037	14	28	1336	14	20	1129	11	24	1082	9	31	921

4.	Fisheries	10	13	403	-	26	700	7	18	515	12	13	402	11	21	820
5.	Home Science	15	20	594	12	14	665	12	17	830	16	19	653	18	14	775
6.	Plant protection	10	19	667	12	4	95	10	-	-	12	13	504	12	14	613
7.	Extension Education	25	34	1108	8	14	842	8	8	221	8	12	710	8	12	394
8.	Others															
	Total	117	176	6467	70	175	8727	75	113	4726	81	137	5743	85	141	6083

I. Training programmes conducted for farmers/farm women (last 8 years) conti.

S. N	Discipline	VI (2016-17)			VII (2017-18)			VIII (2018-19)			TOTAL		
		T	C	P	T	C	P	T	C	P	T	C	P
1.	Crop Production	21	25	1404	13	32	1657	10	30	1569	105	237	13017
2.	Horticulture	15	10	495	8	14	615	5	9	718	96	165	7171
3.	Livestock	13	14	523	7	8	362	-	-	-	93	177	7390
4.	Fisheries	11	9	309	6	7	369	4	13	413	61	120	3931
5.	Home Science	20	15	600	8	14	574	4	11	444	105	124	5135
6.	Plant protection	11	8	381	2	8	772	4	10	386	73	76	3418
7.	Extension Education	10	7	262	4	6	297	2	12	568	73	105	4402
8.	Others												
	Total	101	88	3974	48	89	4646	29	85	4098	606	1004	44464

T=Target; C=Conducted; P=Participants

II. Training programme conducted vs targets fixed (discipline-wise) for extension functionaries (last 8 years)

S. N	Discipline	I (2011-12)			II (2012-13)			III (2013-14)			IV (2014-15)			V (2015-16)			VI (2016-17)			VII (2017-18)			VIII (2018-19)			TOTAL		
		T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P
1.	Crop Production	1	1	29	1	1	67	1	1	21	1	1	16	-	-	-	1	1	14	1	1	26	-	-	-	6	7	220
2.	Horticulture	1	1	34	1	1	34	1	1	35	1	1	45	-	-	-	1	1	33	1	1	42	-	-	-	5	6	223
3.	Livestock	-	1	84	-	1	37	-	1	31	-	-	-	1	25	-	-	-	-	-	-	-	-	-	-	0	4	177
4.	Fisheries	-	-	-	-	1	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	57
5.	Home Science	-	-	-	-	1	54	1	1	32	1	2	262	1	64	-	1	1	28	1	1	35	-	-	-	3	7	475
6.	Extension edu.	1	1	19	-	1	24	-	1	24	3	89	-	1	23	-	1	1	89	-	-	-	-	-	-	2	8	268
7.	Plant protection	1	1	73	-	2	161	-	-	-	-	-	-	-	-	-	-	-	-	-	1	70	1	1	28	2	5	332
	Total	4	5	239	2	8	434	3	5	143	3	7	412	0	4	159	4	4	164	1	4	173	1	1	28	18	38	1752

T=Target; C=Conducted; P=Participants

III. Training programmes conducted for rural youths (last 8 years)

S. N	Discipline	I (2011-12)			II (2012-13)			III (2013-14)			IV (2014-15)			V (2015-16)			VI (2016-17)			VII (2017-18)			VIII (2018-19)			TOTAL		
		T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P
1.	Crop Production	1	1	31	-	2	124	-	1	50	-	2	68	1	3	126	1	2	127	1	1	34	1	1	38	5	13	598
2.	Horticulture	1	1	30	-	1	33	-	1	25	2	1	40	3	3	139	1	2	123	-	1	50	-	-	-	7	10	440

3.	Livestock	1	2	102	-	-	-	-	1	14	-	1	19	3	2	70	1	1	130	-	1	45	-	-	-	5	8	380
4.	Fisheries	-	-	-	-	2	54	-	1	12	-	-	-	2	1	72	1	1	138	-	-	-	1	2	101	4	7	377
5.	Home Science	1	1	22	-	2	59	-	1	49	-	2	50	2	1	51	-	-	-	1	1	30	1	1	24	5	9	285
6.	Extension Education	1	1	24	-	-	-	-	-	-	1	2	37	2	2	142	-	-	-	-	1	34	-	-	-	4	6	237
7.	Plant protection	1	3	82	-	1	24	-	-	-	-	-	-	2	3	106	1	2	93	-	1	40	-	1	76	4	11	421
8.	Others																											
	Total	6	9	291	0	8	294	0	5	150	3	8	214	15	15	706	5	8	611	2	6	233	3	5	239	34	64	2738

T=Target; C=Conducted; P=Participants

IV. Skill development training programmes conducted for entrepreneurship development (last 8 years)

S. N	Discipline	I (2011-12)			II (2012-13)			III (2013-14)			IV (2014-15)			V (2015-16)			VI (2016-17)			VII (2017-18)			VIII (2018-19)			TOTAL			
		T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	
1.	Crop Production	-	-	-	-	-	-	-	1	15	-	-	-	1	1	50	-	-	-	-	-	-	-	-	-	-	1	2	65
2.	Horticulture	1	1	31	1	1	15	-	1	25	-	-	-	-	-	-	-	-	-	-	-	-	1	1	20	3	4	91	
3.	Livestock	-	-	-	-	1	15	-	1	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	2	29	
4.	Fisheries	-	-	-	-	-	-	-	1	12	-	-	-	-	-	-	-	-	-	-	-	-	1	1	20	1	2	32	
5.	Home Science	1	2	48	2	2	21		2	49		6	147	-	-	-	1	1	28	1	2	35	1	2	45	6	17	373	

6	Extension Education	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
7.	Plant protection		2	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	2	45
	Total	2	5	124	3	4	51	0	6	115	0	6	147	1	1	50	1	1	28	1	2	35	3	4	85	11	29	635

T=Target; C=Conducted; P=Participants

V. Impact of major Training programmes conducted (last 8 years)

Sr. No.	Name of the specific technology / skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
				Before (Rs./Unit)	After (Rs./Unit)
1	Integrated Nutrient management	1850	37	71168 (ha)	828279(ha)
2	Use of biofertilizers in Sapota	980	28	200879 (ha)	278690 (ha)
3	Use of micronutrient in vegetables fruits crops	756	24	78693 (ha)	88724 (ha)
4	Use of biofertilizers in Mango	1760	35	120480 (ha)	150870 (ha)
5	Off seasonal cultivation of okara	1459	49	98790 (ha)	144590 (ha)
6	Soil testing and Soil Health Management	1598	29	39780(ha)	58790 (ha)
7	Vermicompost production technology	890	21	00	28970
8	Nutrient management Inland fish farming	1259	28	183413(ha)	285600(ha)
9	Fish seed stocking density	1471	24	193073(ha)	306668(ha)

26. Critical input supplied during the period under review:

a) Agri-inputs

Inputs	I (2011- 12)	II (2012- 13)	III (2013- 14)	IV (2014- 15)	V (2015- 16)	VI (2016- 17)	VII (2017- 18)	VIII (2018- 19)	Total
i) Seed - crop-wise & \variety-wise									
Paddy									
NAUR-1	65.75	22.50	10.0	2.25	30.0	20.25	26.00	28	204.75
GNR-3	4.80	18.50	6.30	52.50	16.0	6.3	18.60	22.5	145.5
GNR-2	8.85	12.50	2.00	3.00	-	1.00	1.25	-	28.6
GNR-4	-	-	0.24	1.25	1.0	1.00	-	0.5	3.99
GNR-5	-	-	--	-	-	-	2.25	3.5	5.75
GNR-6	-	-	--	-	-	-	-	1.0	1
Hybrid Paddy (SRI)		0.80	0.52	0.25	0.5	0.4	0.30	1.0	3.77
Pigeon pea Vaishali	1.50	17.00	8.10	7.80	5.7	7.80	8.1	3.75	59.75
Green gram (Co4)	-	5.00	2.25	4.5	1.7	5.0	2.5	46.25	67.2
Green gram (Meha)	22.00	27.0	25.0	15.00	6.25	20.00	13.00	-	128.25
Gram(GG-2/3)	-	3.50	5.6	4.9	9.10	15.5	2.90	-	41.5
Indian bean	-	-	4.20	1.40	3.5	3.5	2.00	5.9	20.5
Castor	-	4.50	-	-	--	-	-	-	4.5
Sugar cane	-	-	-	-	--	-	-	-	0
Sweetcorn	6.00	10.00	5.0	5.00	2.5	1.1			29.6
Finger millet	0.20	0.50	-	-	-	-	-	-	0.7
Sorghum (GJ-38/42)	-	1.80	2.4	0.2	-	-	-	-	4.4
Ground nut	-	10.00		6.0	-	-	-	-	16
ii) Biofertilizers	100	200	250	250	300	300	300	300	2000
iii) Novel liquid fertilizers	-	50	100	100	150	150	175	175	900
iii) Any other	-	-	-	--	-	-	-	--	-
Paddy (Fungicides)	5 kg +5 lit	5 kg	5 kg	5 kg +5	5 kg	5 kg +5	5 kg	5 kg +5	40 kg + 40 L

and pesticides)		+5 lit	+5 lit	lit	+5 lit	lit	+5 lit	lit	
Brinjal (Shoot and fruit borer phromonetr ap)	100 no.s	100 no.s	100 no.s	----	----	----	----	----	300 no.s
Mango (Methyl eugenol traps)	1100 no.s	1100 no.s	1100 no.s	2000 no.s	2000 no.s	2000 no.s	2000 no.s	2000 no.s	13000 no.s
Sugarcane Set treatment Fungicide	5 kg	5 kg	5 kg	----	----	----	--	----	15 kg
pigeon pea (Biopesticides +Neem oil	-	-	-	10 kg + 10 lit	10 kg + 10 lit	10 kg + 10 lit	10 kg + 10 lit	10 kg + 10 lit	50 kg +50 L

b) Horti-inputs

Inputs	I (2011-12)	II (2012-13)	III (2013-14)	IV (2014-15)	V (2015-16)	VI (2016-17)	VII (2017-18)	VIII (2018-19)	Total
i) Seed	500	0	0	0	0	40.1	68	5	613.1
ii) Saplings	100	250	500	20	100	6650	12340	7700	27660
iii) Root / tubers	9500	8000	2500	5000	0	500	25000	0	50500
iv) Spraying of Novel organic fertilizers in vegetates	40	100	350	40	100	150	200	200	1180
v) Use of bio fertilizers in horticulture crop	0	900	1200	0	500	0	894	1080	4574
vi) Kitchen garden seed kits	150	200	213	84	500	500	500	500	2647

c) Livestock/ Poultry/ Fishery -inputs

Inputs	I (2011-12)	II (2012-13)	III (2013-14)	IV (2014-15)	V (2015-16)	VI (2016-17)	VII (2017-18)	VIII (2018-19)	Total
Fish Seed (Carps)	-	60000 No.	299500 No.	54400 No.	192282 No.	71500 No.	80750 No.	368300 No.	1126732 No.
Prawns Seed	-	62000 No.	30000 No.	-	-	-	-	-	92000 No.

Fish Feed									
(I) Floating feed	-	-	-	14000 kg	11760 kg	13320 kg	12675 kg	14820 kg	66575 kg
(II) Sinking Pelleted	-	-	-	-	5000 kg	6750 kg	4000 kg	3500 kg	19250 kg
(III) Sumul Dan	-	4000 kg	6500 kg	600 kg	1000 kg	1500 kg	-	400 kg	17600 kg
(IV) Rice Bran	-	-	3000 kg	-	-	2250 kg	12500 kg	20500 kg	38250 kg
GNOC	-	20000 Kg	1000 kg	-	-	-	-	-	21000 kg
MOC	-	-	3000 kg	-	-	-	-	-	3000 kg
Manure	-	-	-	-	5000 kg	27000 kg	-	-	32000 kg

27. Soil Testing and Soil Health Cards Issued

Inputs	I (2011-12)	II (2012-13)	III (2013-14)	IV (2014-15)	V (2015-16)	VI (2016-17)	VII (2017-18)	VIII (2018-19)	Total
Soil samples tested	1278	1303	1698	867	1271	828	288	337	7870
Soil health card issued	-	-	-	-	286	196	42	196	720
No of farmers benefitted	1278	1289	1303	438	1271	828	288	310	7005

28. Linkage establishment with other Govt. Department/NGOs

S.No.	Name of the organization	Area of collaboration/ interaction
1.	N.A.U., Navsari	Provides administrative and technical support
2.	Ministry of Agriculture & Farmers welfare GOI, New Delhi	Seed village project, Inland aquaculture
3.	Navsari Taluka Sangh, Navsari	For seed production of paddy variety
4.	Bank of Baroda	Collaborative training programmes
5.	Gandevi vividh vibhag sahakari mandali Co-operative Multipurpose Society, Gandevi	Collaborative training and Khedut shibirs organize
6.	Gadat vividh vibhag sahakari mandali Co-operative Multipurpose Society, Gadat	Collaborative training/extension programmes
7.	Amalsad vividh vibhag sahakari mandali Co-operative Multipurpose	Collaborative training/extension programmes

	Society, Amalsad	
8.	Abrama vividh vibhag sahakari mandali Co-operative Multipurpose Society, Abrama	Collaborative training/extension programmes
9.	Dhanori vividh vibhag sahakari mandali Co-operative Multipurpose Society, Dhanori	Collaborative training/extension programmes
10.	Kharel vividh vibhag sahakari mandali Co-operative Multipurpose Society, Kharel	Collaborative training/extension programmes
11.	Vedchha vividh vibhag sahakari mandali Co-operative Multipurpose Society, Vedchha	Collaborative training/extension programmes
12.	Gandevi taluka kharid vichan sangh	Collaborative training/extension programmes
13.	Department of Agriculture, Navsari	Collaborative training, extension programmes
14.	Department of Horticulture, Navsari	Collaborative extension programmes
15.	Department of Animal Husbandry, Navsari	Collaborative training, extension programmes
16.	Department of Fisheries, Navsari	Collaborative training, extension programmes
17.	Forest Department, Navsari	Collaborative training programmes on Agro-Forestry
18.	Central ware house corporation Ahmedabad	Collaborative training, extension programmes
19.	Veterinary College, NAU, Navsari	Collaborative training, extension programmes
20.	State Bank of India	Collaborative extension programmes
21.	Cohesion foundation trust Navsari.	Collaborative extension programmes
22.	ATMA, Tapi, Valsad, Surat, Navsari, Junagadh, Amreli	Collaborative training and extension programmes
23.	Tribal Sub plan, Vansda	Collaborative extension programmes
24.	Gujarat State Water Shed Management, Gandhinagar	Collaborative training and extension programmes
25.	ASPEE foundation, Mumbai	Collaborative training, extension programmes
26.	Gandhi Memorial project, Dandi	Collaborative training, extension programmes
27.	Desai Fruits and vegetables, Navsari	Collaborative training, extension programmes
28.	FAI, New Delhi	Conducted FLDs and Collaborative training, extension programmes
29.	PPV & FRA, New Delhi	Collaborative training, extension programmes
30.	Ramkrishna Cheritable Trust, Surat	Kitchen garden kit
31.	P.P.Savani group, Surat	Collaborative extension programmes
32.	Shri D.L.Patel, NRI, Khadsupa	Meals for labours of KVK
33.	Uka Tarsadiya foundation, Bardoli	Collaborative training and extension programmes
34.	Brahmakumaries, Navsari	Collaborative training and extension programmes
35.	JCI, Navsari	Collaborative training and extension programmes
36.	Lioness club, Navsari	Collaborative training and extension programmes
37.	Manav Kalyankari Trust, Navsari	Collaborative training and extension programmes
38.	Lok Seva Trust, Kharel	Collaborative training and extension programmes

39.	Sneh-setu cheritable trust	Collaborative training and extension programmes
40.	IFFCO, Surat	Collaborative training and extension programmes
41.	ASCI, New Delhi	Skill training programmes
42.	New Holland fiat india	Collaborative training and extension programmes
43.	Mega seed unit, NAU, Navsari	Collaborative training and extension programmes
44.	KVKs for organizing kisan sammelans, Krishi mela	Collaborative training and extension programmes
45.	Labham build con Surat	Health and hygiene support in tribal area
46.	Anavil Sanskar Trust, Navsari	Collaborative training and extension programmes
47.	Samarpan Dhyan Kendra, Navsari	Collaborative training and extension programmes
48.	Senior Citizen Trust, Navsari	Collaborative training and extension programmes
49.	Gender Resource Center, Gandhinagar	Collaborative training and extension programmes
50.	Navsari Jilla Panchayat, Navsari	Collaborative programmes
51.	Rotary club of Navsari	Collaborative programmes
52.	Hanuman seva trust	Collaborative programmes

29. Activities carried out by using revolving fund(Rs. in lakh):

S.No.	Activity	I (2011- 12)	II (2012- 13)	III (2013- 14)	IV (2014- 15)	V (2015- 16)	VI (2016- 17)	VII (2017- 18)	VIII (2018- 19)	Total
1	MIS installation /Material	-	-	0.99	0.22	-	-	-	-	-
2	Horticulture Plant	-	-	-	0.40	-	-	-	-	-
3	Green Shad Net	-	-	-	0.09	-	-	-	-	-
4	Sound System	-	-	-	0.28	-	-	-	-	-
5	Soil testing mini kit reagents	-	-	-	-	-	0.04	-	-	-
6	Celebration of Mahila Krushi Divas	-	-	-	-	-	-	0.08	-	-
	Total	-	-	0.99	0.99	-	0.04	0.08	-	-

30. Resource generation (Rs. in lakh):

S. No.	Activity	I (2011- 12)	II (2012- 13)	III (2013- 14)	IV (2014- 15)	V (2015- 16)	VI (2016- 17)	VII (2017- 18)	VIII (2018- 19)	Total
1	Seed production	1.79	1.14	1.89	0.88	1.65	2.14	3.60	3.27	16.38
2	Vermi compost production	6.10	5.33	1.15	0.49	0.67	0.38	0.01	0.01	14.13
3	Seedling prepare	0.14	0.10	0.18	0.83	1.15	0.39	0.05	0.02	2.86
4	Vegetable production	0.39	0.85	0.70	0.47	0.47	0.41	0.38	0.48	4.16

5	Fruit crops	0.00	1.09	0.17	0.37	0.41	3.99	0.87	0.17	7.07
6	Fruit fly trap	0.00	0.00	0.00	0.00	0.00	0.00	3.65	0.00	3.65
7	Fish	0.00	0.00	0.00	0.00	0.00	0.67	1.64	0.54	2.85
	Total	8.43	8.52	4.08	3.04	4.34	8.00	10.19	4.49	51.10

31. Impact studies carried out during reporting period. Give brief account with copies of report

Sr. No.	Title of the impact Study
A	Scientific cultivation practices of high yielding variety of paddy NAUR-1, GNR-2 and GNR-3
B	Impact of frontline demonstration of SRI technology of paddy cultivation in Navsari district of Gujarat state
C	Impact in yield improvement of Pulses through Cluster approach
D	Livelihood and nutritional security increase through the Inland fisheries
E	Crop diversification through high value sweet corn crop
F	Strengthening of livelihood among livestock owners
G	Nutritional security through kitchen garden
H	Formation of Navsari Organic Farmers Co-operative Society (NOFCO)

A. Scientific cultivation practices of high yielding variety of paddy NAUR-1, GNR-2 and GNR-3

Crop for which impact studies	Innovative Farming Technology (IFT)	Average yield of paddy variety (kg/ha)			Impact
		NAUR-1	GNR-3	GNR-2	
Paddy	Introduction of newly released high yielding variety of paddy NAUR-1 and GNR-3	4822	4847	4106	Presently, total 27570 farmers are self motivated and started to cultivate paddy variety NAUR-1, GNR-2 and GNR-3

Impact study methodology adopted

Scientist dialoged with farmers and suggested to adopt new paddy varieties NAUR-1, GNR-2 and GNR-3 depend on area specific situation. KVK scientist had selected interested young farmers and invited them at KVK for explaining detail package of practices of paddy. For “Seeing is believing” and “Learning by doing” KVK demonstrated this new paddy varieties. Attempts were also made to study the extent of adoption of recommended package of practices of paddy cultivation before and after FLD conducted.

The present impact study was conducted in Navsari district of South Gujarat during year 2014. The village namely Nani kadod, Mora mogar, Partapore, Aat, Panar, Matwad, Onjal, Katasvel, Kandolpada, Zari, Chondha, Mahuvas, Kavdej, Bartad, Limzar, Vadi Chondha, Panikhadak, Mograwadi, Dharpuri and Jamanpada were selected purposively in which paddy FLDs had been given by KVK, Navsari. List of farmers to whom FLD paddy

had been allotted were prepared and ten farmers from each village were randomly selected. Thus, total two hundred farmers/ respondents were selected for present study.

The data were collected by personal interview. The interview schedule was prepared by keeping the objective of the study in mind. The interview schedule was developed through discussion with expert, scientist and extension officers working in the Navsari Agricultural University, Navsari. The respondents were same for before and after FLD data collection. The data were analyzed with appropriate statistical procedures.

Impact:

The result of overall knowledge of scientific cultivation practices of paddy indicated that the farmer having low, medium and high level of knowledge before contact with KVK was 73, 20 and 7 per cent, but it was increase up to 19, 67 and 14 per cent after contact with KVK (Table-1), respectively.

Table: 1 Distribution of farmers according to overall knowledge of scientific cultivation practices of paddy **n= 200**

Category	Before contact with KVK		After contact with KVK	
	F	%	F	%
Low level of knowledge (Below 60 score)	146	73	38	19
Medium level of knowledge (61 to 75 score)	40	20	134	67
High level of knowledge (Above 75 score)	14	7	28	14

Data presented in Table-2 clearly indicated that majority of the farmers had medium levels of knowledge regarding different practices of paddy cultivation like high yielding varieties, time of sowing, spacing, irrigation management, weed management, time of harvesting and pest management. Whereas, majority of farmers having low levels of knowledge regarding seed rate, seed treatments, use of bio-fertilizer and fertilizer management practices.

Table: 2 Practice wise level of knowledge of farmers regarding paddy cultivation technology **n=200**

Sr. No.	Package of practices	Low	Medium	High
1	High yielding variety	26	111	63
2	Seed rate	124	61	15
3	Seed treatment	129	52	19
4	Use of bio fertilizer	141	47	12
5	Time of sowing	9	121	70
6	Plant to plant and row to row spacing	57	113	30
7	Fertilizer management	98	54	48
8	Irrigation management	8	123	69

9	Weed management	38	114	48
10	Time of harvesting	21	107	72
11	Pest management	50	102	48

The data presented in Table-3 revealed that levels of adoption of recommended practices of paddy cultivation *viz*;
new variety, seed rate, nursery management, line sowing, fertilizer management, pest disease management, irrigation management and weed management etc were also increase after FLD's conducted.

Table 3 : Extent of adoption of recommended package of practices of paddy crop before and after FLDs
n = 200

Sr. No.	Package of practices	Adoption of recommended practice (Before FLD)		Adoption of recommended practice (After FLD)	
		No.	Per cent	No.	Per cent
1	New variety				
	NAUR-1	16	08	78	39
	GNR-3	36	18	84	42
	GNR-2	08	04	38	19
2	Seed rate	30	15	112	56
3	Nursery management	44	22	118	59
4	Line sowing	92	46	146	73
5	No. of plant per dibble	56	28	116	58
6	Fertilizer application				
	Basal	96	48	142	71
	Top dressing	128	64	158	79
	Panicle emergence	78	39	106	53
7	Pest and disease management				
	Pest control	70	35	132	66
	Disease control	48	24	106	53
	IPDM	14	7	70	35
8	Irrigation Management	116	58	146	73
9	Weed management				
	Pre emergence use	52	26	114	57
	Post emergence use	10	05	42	21

The results obtained during the three year presented in Table-4. The results shows that the paddy variety of NAUR-1, GNR-3,GNR-2 were produced average highest yield of 4438, 5155 and 3603 kg/ha during the year 2011-12, 5203, 4814 and 4554 kg/ha during the year 2012-13 and 4826, 4544 and 4162 kg/ha during the year 2013-14 under FLD plots as compared to farmer plots, respectively. The per cent increasing yield of 25.9, 22.03 and 3.0 per cent during the year 2011-12, 32.22, 19.36 and 13.3 per cent during the year 2012-13 and 30.9, 22.1 and 14.5 per cent during the year 2013-14 were found under the paddy variety NAUR-1, GNR-3 and GNR-2 over control (farmer's variety), respectively.

The benefit cost ratio of 2.9, 3.37 and 1.8 during the year 2011-12, 2.6, 2.59 and 2.36 during the year 2012-13 and 2.96, 2.92 and 2.66 were recorded higher under the FLDs of paddy variety NAUR-1, GNR-3 and GNR-2 over other varieties were grow by farmer's. The results clearly showed that due to increasing in level of knowledge and adoption of scientific cultivation practice, yield was increased ultimately benefit cost ratio also obtained higher.

Table: 4 Impact of paddy grown under FLD's and

Year	Variety	Area (ha.)	No. of demon.	Av. Yield kg/ha		% increase in yield	BCR	
				Demo.	Control		Demo.	Control
2011-12	NAUR-1	263.2	1316	4438	3525	25.9	2.9	1.88
	GNR-3	9.5	17	5155	4190	23.03	3.37	1.92
	GNR-2	35.34	137	3603	3492	3	1.8	1.58
Av. (A)				4399	3736			
2012-13	NAUR-1	89.4	550	5203	3935	32.22	2.6	1.87
	GNR-3	61.4	307	4814	4033	19.36	2.59	1.81
	GNR-2	49.2	246	4554	4017	13.3	2.36	1.91
Av. (B)				4857	3995			
2013-14	NAUR-1	31	155	4826	3686	30.9	2.96	1.92
	GNR-3	8	40	4544	3720	22.1	2.92	1.73
	GNR-2	20.4	102	4162	3634	14.5	2.66	1.68
Av.(C)				4511	3680			

CONCLUSION:

For the above discussion, it can be concluded that knowledge level and adoption level of tribal farmers were amplified after & imparting training and conducting FLD by KVK scientists. The FLD conducted on variety of paddy at farmer's field in Navsari district revealed that farmer's could grow the newly released high yield variety of paddy. In demonstration the high yield improved variety of paddy perform better than other variety of paddy. It improved the productivity by 20.64 percent. The productivity under FLD over farmer's practices created awareness and motivated the other farmer's to adopt new variety of paddy and other technology of paddy in the district.

Output of this technology

Adopting of Paddy cultivation of new varieties NAUR-1 and GNR-3 by farmers of Navsari, Jalalpor, Vansda and Chikhli talukas are increase significantly.

The feedback received from the farmers' stated that paddy varieties NAUR 1 performed better (15-20% higher yield) than traditionally grown varieties as well as some hybrids. It creates positive effect on farmers and there is a demand for seeds of these varieties from farmers.

Out Put of Trainings: On the basis of pre and post training evolution

- Remarkable increase in knowledge of farmers regarding new varieties of paddy NAUR-1 and GNR-3. Therefore, 38 per cent farmers have adopted these new varieties.
- **Line planting in paddy:** It was a traditional practice of random planting of paddy in the puddled field. After continues efforts of KVK by training and demonstration, 50 % farmers are now adopting the line planting in their field.

Sr. No.	Name of technology	Extent of adoption in % (approx)	Reasons for formal adoption
1	New variety in paddy	38	Improve the productivity

Output of Frontline Demonstrations

Sr.No	Name of crop	Outcome of Various FLD
1	Paddy	<ul style="list-style-type: none"> • Farmers have adopted new varieties. • Farmers get 10 per cent more yield than those cultivation. • Need base application of carbofuran 3G @ 25kg/ha adopted by 65% farmer. Farmers are came to know the importance of seed and avoid selection of seed from false smut infested plot. • About 70% farmer came to know about spot application of insecticide for the control of brown plant hopper in early stage of infestation for saving pesticide. • New variety gave higher yield as compared to hybrids.



Demonstration of paddy cv. NAUR-1



GNR-3

B. IMPACT OF FRONTLINE DEMONSTRATION OF SRI TECHNOLOGY OF PADDY CULTIVATION IN NAVSARI DISTRICT OF GUJARAT STATE

SUMMARY OF THE WORK

The front line demonstration on SRI technology of paddy cultivation was conducted for three year (2012-13 to 2016-17) on farmers' field in Vansda and Chikhali talukas of Navsari district in *Kharif* season. It was observed that average yield performance of SRI technology of 10, 36, 35,38 and 32 demonstrations in area of 2.5, 8.6 ,7.0 and 6.4 hectares of 8064, 8168, 8278 8015 and 8226 kg/ha during the year 2012-13, 2013-14 2014-15, 2015-16 and 2016-17 respectively. The percentage increase in demonstration yield over local cultivation practices was 58.6, 70.6, 69.5,72.29 and 66.79 per cent during the year 2012-13, 2013-14, 2014-15, 2015-16 and 2016-17 respectively. The farmers have incurred average higher gross return of Rs. 106632/ha and benefit cost ratio of 3.24 through these

demonstrations over local paddy cultivation practices, which was recorded Rs. 63499/ha and 2.23, respectively. The average additional gain of Rs. 43133/ha was obtained by farmers through adoption of SRI technology over farmers practices. Results of the demonstration had shown that the SRI technology of paddy cultivation obtained higher productivity of paddy.

METHODOLOGY FOLLOWED TO CONDUCT SRI Method in paddy

Krishi Vigyan Kendra, Navsari were conducted the front line demonstration on SRI technology during the year of 2012-13 to 2016-17 in *Kharif* season. Totally 10, 36, 35,38 and 32 demonstrations in area of 2.5, 8.6 ,7.0 and 6.4 hectare area were conducted on SRI technology on farmers field of Vansda and Chikhali taluka of Navsari Districts, respectively. The demonstration conducted in irrigated condition and having good drainage facility. The necessary step for selection of site and farmers, layout of demonstration were followed. Before conducting the FLDs, a list of farmer of different village were prepared form survey and farmer's meeting and specific skill training was imparted in the form of practicing the farmer's training at farmer's field or at KVK campus regarding the different aspect of SRI cultivation and plant protection measures. The traditional practices followed by farmers were maintained in case of local checks. The data output were collected from both FLD plots as well as check plots and finally the benefit cost ratio were work out.

OUT COME OF THE WORK

The data of presented in Table-1 revealed that yield of paddy found higher in SRI technology as compared to farmer practices (control). The maximum yield recorded in SRI demonstrated plots was 10580, 10870 ,10690,12650 and12720 kg/ha during the year 2012-13, 2013-14 2014-15 ,2015-16 and 2016-17 respectively. The average yield of demonstration plots were 8064, 8168, 8278 , 8015 and 8226 kg/ha whereas, control plots recorded 5083, 4786, 4884 4652 and 4932 kg/ha during the year 2012-13, 2013-14, 2014-15 ,2015-16 and 2016-17 respectively. The increase in the yield under SRI technology was found 58.6, 70.6, 69.5 ,72.29 and 66.79 per cent over farmer's practices during the year 2012-13, 2013-14, 2014-15 ,2015-16 and 2016-17 respectively. The reason for higher yield in FLDs is due to use of recommended practices in SRI and control of pest and disease in paddy by proper application of insecticide at appropriate time and methods in addition to this efficient utilization of the natural resources.

Table-1 Yield performances of frontline demonstration of SRI technology

Sr. No.	Year	Name of taluka	Name of Variety	No. of farmers	Area (ha)	Av. yield (kg/ha)			Increase the yield (%)
						Demonstration		Control	
						Max	Avg.	Avg.	
1	2012-13	Vandsa Chikhali	NAUR-1 US-312 Pro-6444	10	2.5	10580	8064	5083	58.60
2	2013-14	Vandsa Chikhali	NAUR-1 US-312 Pro-6444	36	8.6	10870	8168	4786	70.60
3	2014-15	Vandsa Chikhali	NAUR-1 US-312 Pro-6444	35	7.0	10690	8278	4884	69.50
4	2015-16	Vandsa Chikhali	NAUR-1 VNR-2111	38	7.6	12650	8015	4652	72.29
5	2016-17	Vandsa Chikhali	NAUR-1 VNR-2111	32	6.4	12720	8226	4932	66.79
				151	32.1				

Table 2 Economics of front line demonstration of SRI technology

Sr. No.	Year	Av. cost of cultivation (Rs/ha)		Av. gross return (Rs/ha)		Av. net return (Rs/ha)		B:C ratio		Additional gain (Rs/ha)
		Demo.	Control	Demo.	Control	Demo.	Control	Demo.	Control	
1	2012-13	33250	28230	96768	60996	63518	32766	2:91	2:16	35772
2	2013-14	33190	27660	106184	62218	72994	34558	3:20	2:25	43966
3	2014-15	33370	28120	107614	63492	74244	35372	3.22	2.26	44122
4	2015-16	31990	28750	104331	60555	72341	31805	3.26	2.11	43776
5	2016-17	32962	29635	118265	70235	85303	40600	3.59	2.37	48030
	Total	164762	142395	533162	317496	368400	143296	-	-	215666
	Average	32952	28479	106632	63499	73680	28659	3.24	2.23	43133

The data presented in the Table-2 indicated that the average gross return, average net return and B:C ratio were recorded higher in SRI technology of paddy cultivation as compared to farmer practices. The average gross return (Rs. 106632/ha), net return (Rs. 73680/ha) and benefit cost ratio (3:24) were recorded higher in the SRI demonstration plots as compared to control. The benefit cost ratio was recorded higher under demonstration plots against check during all the years. The average additional grain of Rs. 43133/ha was incurred in

demonstration plots against the farmers' practices (control). The results clearly indicated the positive effect of FLDs over existing paddy cultivation practices towards enhancing the yield and income of paddy cultivating farmers of Navsari district of Gujarat.



SRI DEMO PLOT VISITED BY Dr. A R PATHAK HON'BLE VC NAU



SRI PLOT VISITED BY KVK SCIENTIST



Dr. C.J DANGARIA HON'BLE VC NAU NAVSARI



District Extension functionaries visited SRI plots

Out Put of Trainings/ demonstration:

- Improvement in cultivation practices of paddy particularly SRI
- Therefore, 18 per cent farmers have adopted these new techniques.
- **Line planting in paddy:** It was a traditional practice of random planting of paddy in the puddled field. After continues efforts of KVK by training and demonstration, 45% farmers are now adopting the line planting in their field.

Sr. No.	Name of technology	Extent of adoption in % (approx)	Reasons for formal adoption
1	SRI technologies of Paddy	18	Reduce the seed rate and Improve the productivity

Output of Frontline Demonstrations

Sr.No	Name of crop	Outcome of Various FLD
1	Paddy	<ul style="list-style-type: none"> • Farmers have adopted SRI techniques. • Farmers get 25-80 per cent more yield than normal cultivation. • Reduced the seed rate and cost of cultivation. • About 40% farmer came to know about importance of age of seedling in paddy cultivation..

C. Impact in yield improvement of Pulses through Cluster approach

Back ground information

The cluster frontline demonstrations (CFLDs) on pigeon pea, chickpea and rabi green gram and summer green gram were conducted by Krishi Vigyan Kendra, Navsari – Gujarat during last three year different talukas of Navsari district, *i.e.*, Chikhli, Khergam and Vansda.

Total 630 demonstrations on pigeon pea, chickpea, *rabi* green gram and summer green gram pulse crops were carried out in an area of 100 ha by the active participation of farmers with the objective to demonstrate the scientific cultivation practices of major pulses. The scientific cultivation practices consisting use of improved varieties, seed treatment with Thiram, *rhizobium* and PSB culture, and management of weeds, insects and diseases. CFLD recorded higher yield as compared to farmer's local practice. By incorporating proven scientific technologies of pigeon pea, chickpea, *rabi* green gram and summer green gram, yield potential and net income from black gram cultivation can be enhanced to a great extent with increase in the income level of the farming community of the district.

NFSM Project:

1. FLD Organized Year 2016-17

Sr. No	FLD organized			Area (ha)	Beneficiaries		
	Crop	Variety	Season		SC/ST	Others	Total
		2016-17					
1	Pigeon pea	BSMR-853	Kharif-16	00	-	--	-
2	Chick pea	GG-2	Rabi-16	22.4	126	0	126
3	Green gram	Co-4	Rabi-16	8.0	42	0	42
4	Green gram	Meha	Summer-16	32.0	100	50	150
		Sub TOTAL		62.4	268	50	318
2017-18							
1	Pigeon pea	BSMR-853	Kharif-17	20	58	105	163
2	Chick pea	GG-3	Rabi-17	30	160	0	160
3	Green gram	Co-4	Rabi-17	20	38	62	100
4	Green gram	Meha	Summer-18	30	128	79	207
		Sub TOTAL		100	384	246	630
2018-19							
1	Pigeon pea	BSMR-853	Kharif 2018	31	37	126	163
2	Chick pea	GG-5	Rabi-2018	10	65	15	80
3	Chick pea	GG-3	Rabi-2018	10	79	0	79
4	Green gram	Meha	Summer 2019	21	74	93	167

5	Green gram	GM-6	Summer 2019	10	73	15	88
		Sub TOTAL		82	328	249	577
		Grant Total		244.4	980	545	1525

2. Training on pulses

Sr. No.	Year	Title of training	No. of training	SC/ST		Other		Total		Grand Total
				M	F	M	F	M	F	
1	2016-17	Scientific cultivation practices of pulse crop	3	252	30	-	-	252	30	282
2	2017-18		17	336	145	231	193	567	338	905
3	2018-19		17	368	265	77	115	445	380	825
	Total		37	956	440	308	308	1264	748	2012

3. Field day on pulses (Rabi) 2017-18

Sr. No.	Date	Crop	Variety	SC/ST		Other		Total		Grand Total
				M	F	M	F	M	F	
2016-17										
1	1/2/17	Chick pea	GG-3	22	24	0	0	22	24	46
2	2/2/17	Chick pea	GG-3	30	38	0	0	30	38	68
3	3/2/17	Chick pea	GG-3	58	4	0	0	58	4	62
4	10/2/17	Chick pea	GG-3	0	0	3	43	3	43	46
		Sub total		110	66	3	43	113	109	222
2017-18										
1.	5/5/17	Green gram	Co-4	43	53	-	-	43	53	96
2.	22/1/18	Chick pea	GG-3	8	24	-	-	8	24	32
3.	23/1/18	Chick pea	GG-3	25	9	-	-	25	9	34
4.	24/1/18	Chick pea	GG-3	34	34	-	-	34	34	68
5.	25/1/18	Chick pea	GG-3	-	-	14	26	14	26	40
6.	25/1/18	Chick pea	GG-3	-	-	20	20	20	20	40
7.	24/2/18	Chick pea	GG-3	32	65	-	-	32	65	97
		Sub total		142	185	34	46	176	231	407
2018-19										
1	18/5/18	Greengram	Meha	18	9	0	0	18	9	27
2	18/5/18	Greengram	Meha	6	18	0	0	6	18	24
3	27/10/18	Pigeonpea	Vaishali	12	7	28	32	40	39	79

4	31/10/18	Pigeonpea	Vaishali	34	36	3	0	37	36	73
5	17/12/18	Pigeonpea	Vaishali	32	6	0	0	32	9	41
6	17/10/19	Chickpea	GG-3	27	17	7	5	34	12	56
7	18/01/19	Chickpea	GG-3	50	10	0	0	50	10	60
8	19/01/19	Chickpea	GG-3	0	0	18	52	18	52	70
9	24/01/19	Chickpea	GG-3	3	13	15	45	18	58	76
10	02/02/19	Chickpea	GG-3	48	8	2	12	50	20	70
		Sub total		230	124	73	146	303	263	576
		Grand total		482	375	110	235	592	603	1205

4. Field visit of pulses crop

Sr. No.	No fo field visit	SC/ST		Other		Total		Total
		M	F	M	F	M	F	
2016-17								
1	8	44	07	10	0	54	07	61
2017-18								
2	24	55	48	15	6	70	54	124
2018-19								
3	16	40	35	10	0	50	35	85
	48	139	90	35	6	174	96	270

5. Yield performance of CLFDs on pulses

Sr. No.	Name of crop and variety demonstrated	Yield obtained (q/ha)						Yield increase (%)
		Check			Demo			
		Max.	Min.	Av.	Max.	Min.	Av.	
2016-17								
1	Gram (GG-2)	8.34	6.48	7.32	10.36	7.62	9.76	33.33
2	Gram (GG-3)	8.34	6.48	7.32	11.46	8.19	10.11	38.11
3	Green gram (Co-4)	7.12	5.89	6.92	9.89	6.9	8.78	26.88
4	Green gram (Meha)	6.12	4.19	5.87	8.36	6.74	7.14	21.63
2017-18								
1	Pigeon pea BSMR-853 (Vaishali)	9.34	6.48	8.87	12.36	7.62	11.49	29.53
2	Gram (GG-3)	11.34	6.48	10.79	13.46	8.19	12.32	14.18
3	Green gram (Co-4)	-	-	-	9.89	6.9	8.27	-
4	Green gram (Meha)	6.12	4.07	5.72	8.36	6.74	8.45	47.12
2018-19								
1	Pigeon pea (Vaishali)	9.78	5.48	8.56	12.18	6.75	10.89	27.21

2	Gram (GG-3)	11.84	8.53	10.17	13.94	9.84	12.81	25.96
3	Gram (GG-5)	11.84	8.53	10.17	16.43	12.62	15.32	50.64
4	Green gram (Meha)	7.62	4.94	5.86	8.94	7.11	8.34	42.34
5	Green gram (GM-6)	7.62	4.94	5.86	10.23	7.84	9.12	55.63

(C) Economic parameters of CLFDs on pulses

Sr. No.	Name of crop and variety demonstrated	Expenditure and returns (Rs./ha)								Net returns increase (%)
		Check				Demo				
		Gross Cost (Rs/ ha)	Gross return (Rs/ ha)	Net Return (Rs/ha)	B:C ratio	Gross Cost (Rs/ ha)	Gross return (Rs/ ha)	Net Return (Rs/ha)	B:C ratio	
2016-17										
1	Gram (GG-2)	18750	46020	27270	2.45	20550	57584	37034	2.80	14.29
2	Gram (GG-2)	18750	43188	24438	2.30	23350	59649	36299	2.55	10.87
3	Green gram	21050	52592	31542	2.50	23050	66728	43678	2.89	15.60
4	Green gram (Meha)	19950	35220	15270	1.77	17970	42840	24870	2.38	62.87
2017-18										
1	Pigeon pea (BSMR-853)	23550	48796	25246	2.07	25050	63209	38159	2.52	51.14
2	Gram (GG-)	27650	53518	25868	1.94	24550	61107	36557	2.49	41.32
3	Green gram (Co-4)	-	-	-	-	26050	58717	32667	2.25	-
4	Green gram (Meha)	27650	43477	15827	1.97	26450	59995	33545	2.27	112.0
2018-19										
1	Pigeon pea	27650	47946	20296	1.73	27050	60997	33947	2.26	67.25
2	Gram (GG-3)	26990	55528	28538	2.05	28480	69942	41462	2.45	45.29
3	Gram (GG-5)	26990	55528	28538	2.05	28480	83647	55167	2.93	93.31
4	Green gram (Meha)	27650	44536	16886	1.61	26450	63384	36934	2.39	118.72
5	Green gram (GM-6)	27650	44536	16886	1.61	26450	69312	42862	2.62	153.83

Action photograph of CFLs of pulses under NFSM project year 2017-18



Training on Pigeon pea



Critical inputs given to farmer



Stage wise photo graph of Cluster Frontline Demonstration on pigeon pea



Stage wise photo graph of Cluster frontline demonstration on pigeon pea



Stage wise photo graph of Cluster frontline demonstration on pigeon pea



Shri Ram Narayan STA from Director. of Millet Development, Jaipur visit the CFLDs plots of pigeon pea

Action photograph of CFLDs of pulses under NFSM project year 2018-19



Growth stage of pigeon pea



Branching stage of pigeon pea



Flower initiation stage of pigeon pea



Pod initiation stage of pigeon pea



Field day on Pigeon pea





Field day on Chick pea

Impact of cluster front line demonstration of pulses

Table 1: overall knowledge of scientific cultivation practices of pulses

n= 300

Category	Before contact with KVK		After contact with KVK	
	F	%	F	%
Low level of knowledge (Below 60 score)	245	81.67	78	26.0
Medium level of knowledge (61 to 75 score)	38	12.66	190	63.33
High level of knowledge (Above 75 score)	17	5.67	32	10.67

Data presented in Table-2 clearly indicated that majority of the farmers had medium levels of knowledge regarding different practices of pulses cultivation like high yielding varieties, time of sowing, spacing, irrigation management, weed management, time of harvesting and pest management. Whereas, majority of farmers having low levels of knowledge regarding seed rate, seed treatments, use of bio-fertilizer and fertilizer management practices.

Table: 2 Practice wise level of knowledge of farmers regarding pluses cultivation technology

N=300

Sr. No.	Package of practices	Low	Medium	High
1	High yielding variety of pulses	49	147	104
2	Seed rate	183	83	34
3	Seed treatment	179	92	29
4	Use of bio fertilizer	165	111	24

5	Time of sowing	46	173	81
6	Plant to plant and row to row spacing	79	162	59
7	Fertilizer management	141	80	79
8	Irrigation management	41	196	63
9	Weed management	62	168	70
10	Time of harvesting	38	160	102
11	Pest management	78	154	68

Output of this technology

Adopting of pulses cultivation of new varieties Vaishali, Meha, Gram (GG-3) by farmers of Navsari, Jalapor, Vansda and Chikhli talukas are increased significantly.

The feedback received from the farmers' stated that pulses varieties Vaishali, Meha, Gram (GG-3) by performed better (25-40% higher yield) than traditionally grown varieties.. It creates positive effect on farmers and there is a demand for seeds of these varieties from farmers.

Out Put of Trainings: On the basis of pre and post training Evaluation

- Remarkable increase in knowledge of farmers regarding new varieties of pulses Therefore, 31 per cent farmers have adopted these new varieties.
- **Line planting in paddy:** It was a traditional practice of random planting of pulses field. After continues efforts of KVK by training and demonstration, 50 % farmers are now adopting the line planting in their field.

Sr. No.	Name of technology	Extent of adoption in % (approx)	Reasons for formal adoption
1	New variety of pulses Vaishali, Meha, Gram (GG-3)	31	Improve the productivity and less incidence of pest and disease

Output of Frontline Demonstrations

Sr.No	Name of crop	Varierty	Outcome of Various FLD
1	Pigeon pea	Vaishali	<ul style="list-style-type: none"> • Farmers have adopted new varieties. • Farmers get 25-40 per cent more yield than those cultivation. • Application of seed treatment with fungicide and biofertilizers. Farmer are came to know the importance
	Greengram	Meha	

	Chick pea	GG-3	<p>of seed and avoid the broad casting method of sowing .</p> <ul style="list-style-type: none"> • About 70% farmer came to know about the importance of variety of pulses in seed production • New variety gave higher yield as compared to local.
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D. Lively hood and nutritional security increased through inland fisheries Technologies

(IFTs):- Two

Crop for which IFT was Developed/ Disseminated	Innovative Farming Technology (IFT)	Average yield for the Operational Area in the Current Season (Kg/Acre) Rabi-2012-13	Current Season (Rabi 2013-14)
Fresh water fish (Catla, Rohu, Mrigal and exotic carps)	Inland Aquaculture in village ponds.	<p>Total 158 farmers of 13 village ponds covering about 41 ha area in 6 villages are benefited. They were provided all technical information and knowledge along with all inputs Fish seed, Feed and Feed supplements for fish production</p> <p>Av. yield is 1200kg/ha</p>	At present Inland aquaculture activities are being carried out through KVK in six villages. It has encouraged and built up the confidence among farmers of surrounding more than 30 villages and about 40 ponds are actively engaged in fish farming.

D 1. Explanation of IFT disseminated

Inland Aquaculture (Fresh water Fish culture) in Village ponds

Back ground information

Navsari District falls under south Gujarat heavy rain fall zone. More than 600 village ponds exist in this District. Majority of the village ponds are infested with aquatic weeds and siltation. Many of them are being utilized only for domestic and minor irrigation purpose and very few are used for traditional fish farming. Awareness about utilization of village ponds for inland aquaculture being created among the farmers to earn their livelihood by imparting training on scientific fish farming along with providing front line demonstration of improved varieties of fish seed and fish feed and supplements. Now awareness creating and skill

developing works are continued by selecting new clusters of beneficiaries and village ponds for increasing inland fish production, socio-economical development of poor segment of society and horizontal distribution of the knowledge of inland aquaculture through trained beneficiaries.

Intervention

The project was aimed to motivate small and marginal fish farmers to develop opportunity for earning their livelihood through scientific fish farming. Six villages viz., Ancheli, Matwad, Sultanpur, Pathri and Sadlav of Navsari District were selected for the purpose. The project was implemented in the village ponds of the about 41 ha area. Total 13 SHGs groups including 3 SHGs of female and 10 SHGs of male farmers comprising 158 were selected as beneficiaries of all categories.

Many beneficiaries of the project were unknown about fish farming and its culture technology. Main objectives of the project were to create awareness on fish culture practices for efficient utilization of village pond by adopting scientific culture technology among the farmers. To increase production and productivity of fish, ultimately leads to enhance the income and creating opportunity for earning livelihood. The whole project was divided into three phase 1. Training 2. To deliver recommended inputs of fish culture as demonstration 3. To involve beneficiaries directly in fish culture activities

Technology

The farmers were provided with training on various courses of inland fish culture such as pond preparation, water quality management, fish feed and nutrition, Fish disease and health management, prawn farming and integrated fish farming extensively to beneficiaries and other those were interested in inland aquaculture. Thus over all 23 such trainings were organized during the project period covered about 549 beneficiaries. As per the scientific recommendation and method, all village ponds were prepared for fish seed stocking. The physico-chemical parameters of the ponds were measured. Application of lime was done according to the water pH of the pond. Farmers were advised to use cow dung of their own cattle farming in order to increase the primary productivity and to avail natural fish food for fish seeds to be stocked for rearing.

Indian major carps such as catla, Rohu, Mrigal and exotic carps such as grass carps, silver carps and common carps were decided to be stocked for rearing. Before stocking the

fish into ponds all the groups were trained on method of fish stocking and fish feed management. About 13 ponds of about 41 ha areas were stocked with above species as per recommended ratio and rate. When pond water became light green in colour was stocked with fish seed measuring more than 60 mm size comprising catla, Rohu, mrigal, grass carp 2:1:1:1 ratio @ 3500 Nos per ha. Members of this group were explained well about fish species composition and suitable recommended ratio of fish seed along with grass carp stocking an important species acting as pond cleaner feeding voraciously on aquatic grass, weeds and algae.

Members of four groups of beneficiaries have already been engaged in fish culture activities using traditional method. They were not aware about the proper scientific ratio of fish species for stocking. They did not have idea about pond preparation, eradication of predatory and miscellaneous fish. They were feeding the fish with feed containing low level protein. Many farmers didn't have ideas about natural food of fish. Earlier they were providing fish with rice flake crunch (Pauva kani) and Maida kusaki which content very low level protein. During the project most of the farmers were trained and made them well aware about pond water maturing and fertilization in order to produce natural food of fish called phytoplankton and zooplankton. Moreover they were trained well about balanced diet of fish for proper growth and ingredients of fish feed.

The farmers were trained well about standard method of fish feeding, recommended dose of feeding rate, feed check tray, biomass estimation etc. Farmers were provided with fish feed and feed supplements such as minerals mixture, probiotics, vitamins and fish growth promoters as per scientific recommendation. Water quality plays a vital role in fish production. So initially all farmers were explained thoroughly regarding physico-chemical parameters of water. In addition they were trained well about measures to be taken during sudden change in physico-chemical parameters such as depletion in dissolved oxygen, change in pH etc. They were provided with dissolved oxygen enhancer tablets which could be used during depletion of oxygen level in water.

During the project period and till now also all the ponds have been visited frequently by KVK scientist. In emergency scientist of KVK reached to ponds to rectify the technical problems emerged.

Most of the groups have harvested fish partially from their ponds. Encouraging results were observed in Sadlav, Aat and Sultanpur village ponds in partial harvesting of

fish. The group of Sadlav village harvested about 9800 kg fish and earned about rupees 10 lakhs from 6 ha water spread area in partial harvesting of fish, where as in Aat and Sultanpur about 1500 kg and 455kg fish have been harvested respectively. Remaining fish stock of Sadlav and other villages have to be harvested after winter. As per the biomass estimation still about 2 ton fish stock is available in Sadlav village pond. Very appreciable results are observed in Sadlav . Pathari, Ancheli, Sultanpur and Aat villag ponds. Moreover separate one rearing and grow out ponds have been constructed by removing undulating land, leveling bottom and constructing earthen embankment in village pond of Sadlav. As a result more production can be accessed by rearing fingerling to yearling. Dr. S. Ayyapan, Hon'ble Director General (ICAR) and Dr. Meenakumari, DDG (Fisheries) had visited Sadlav village pond and observed fish culture activities being carried out by KVK in June 2013.

Horizontal spread of technology

At present Inland aquaculture activities are being carried out through KVK in six villages. It has encouraged and built up the confidence among farmers of surrounding more than 30 villages and about 40 ponds are actively engaged in fish farming.

Conclusion

This project not only created awareness of fish culture in village ponds of selected villages but also encouraged and built up the confidence among the surrounding more than 30 villages and as a result about 40 ponds now are actively engaged in fish farming. As per estimated available biomass, there will be 25 to 32% increase in fish production in Pathari, Sadlav and Ancheli village ponds. Farmers have adopted Grass carp cultivation technology along with IMC in village ponds and it increased by 200%. SHG group of women are working well in many villages. Women SHG group of Sultanpur village has harvested about 455 kg fish from 0.75 ha pond and about 1200 kg more fish stock has to be harvested. Moreover the IFT Inland Aquaculture in village pond helped to reduce salinity in the area, facilitate supplementary irrigation and improve ground water level by storing runoff water in the area.

Enquires for fish cultivation in village ponds increased by 400% as a horizontal spread of Inland aquaculture activities. The ponds and beneficiaries of the project are located at different places and direction of Navsari District, but now they are remain in contact with

each other and transferring their ideas of fish culture and getting solution by their own due to common platform provided by KVK. This is one of the major achievements of the project.



On campus Training



Off campus training



Mahila Shibir on integrated fish farming



Farmer scientist interaction



New technology demonstration of “Bag Feeding” in village pond:





Use of boat in village pond for fish feeding



Field visits





Exposure visit at CIFA Bhubaneshwar, CIFRI Kolkatta and Pantnagar





Planning commission member and District Collector visit at Pathari



Hon. agriculture minister's visit at Pathari & interaction with farmers



Dr. S. Ayyapan, Hon'ble Director General (ICAR) and Dr. A. R. Pathak, Hon'ble vice chancellor, NAU visit to village pond at Sadlav



Fish harvesting





Impact of Successful demonstration –Inland Aquaculture

Before KVK intervention	After KVK intervention
1. Very old non used ponds in about 4.3 ha. area.	1. The old non used ponds have been renovated and converted into 3 nursery, 3 rearing and 3 grow out ponds under holistic development RKVY project.
2. Few ponds were used for fish farming by old traditional way of stocking and feeding.	2. Fish farmers of Samarpan group have been given 50000 fish fry of Catla, Rohu, Mrigal for seed rearing and 3500 fingerlings and 8850 yearling for fish farming demonstration. Moreover 8000 fresh water prawns have been given for polyculture fish farming demonstration.
3. About 3.2 ton fish production.	3. About 8.2 ton production
4. Income 3.0 lakh	4. Income about 10.10 lakh from fish and seed production.
5. Net profit: 1.08 lakh	5. Net profit: 7.80 lakh. About 236% increase in production and 622% increase in profit due to renovation and active involvement of farmers in multi fisheries such as seed rearing and fish farming activities through scientific way.

Successful demonstration of fish farming in the village of Navsari District under RKVY project

Before KVK intervention	After KVK intervention
1. Very few village tanks of the Navsari District were used were used for fish farming.	1. Total 158 fish farmers of 6 villages covering about 41 ha area of 13 village tanks

	were benefited.
2. Average yield 800 kg ha from village tanks.	2. Average yield of about 1200 kg/ha from village tanks.
3. Fish farming with traditional way without maintaining proper fish stocking ration and density.	3. Adopted scientific method of fish farming and followed scientific recommended fish stocking ratio 3:3:3:1 catla, Rohu, Mrigal, Grass carp.
4. Non adoption of grass carp. Firm belief of stocking huge number of only catla	4. Adopted grass carp fish stocking for maintaining water quality in village tanks. About 200% increase in adoption of grass carp culture in village tanks.
5. Use of tradition fish feed such as paua kani and rice bran only	5. Farmers have adopted the feed of more than 20% protein using locally available ingredients.
6. Farmers were not aware about Water quality management and natural fish food development by triggering nature productivity in ponds through maturing and fertilization.	6. Adopted pond maturing and water fertilization for primary production subsequently natural food for fish. Thus increase in 50% productivity and 42% in profit.

E. CROP DIVERSIFICATION THROUGH SHORT DURATION HIGH VALUE SWEET CORN CULTIVATION

Back ground information

Vansda and Chikhali taluka is tribal dominated and located about 60 km away from Krishi Vigyan Kendra, NAU, Navsari. Total geographical area of this taluka is 59972 ha. Out of which net cultivated area is about 30710 ha. and irrigated area is 6721 ha. which is mostly irrigated by tube wells. The major crops of the villages are transplanted paddy, *tur*, drill paddy and sorghum in *Kharif* while black gram and some vegetables in rabi season.

Intervention

In the year 2010, KVK, Navsari has adopted 8 villages of Vansda taluka. In first year, all subject matter specialist of KVK conducted PRA in this village and found the technological adoption gap in agricultural crop is wide and identified thrust area.

Considering the situation, KVK scientists interacted with farmers and suggested to replace some low remunerative field crops with high value vegetable crops. Interested farmers were invited to KVK and scientist gave detail information regarding scientific cultivation of field

crops and motivated to grow vegetables. The interested farmers were also visited NAU campus farm for motivation.

Among trained farmers, few of them demanded for low water consuming, short duration and fodder supplement crop for their animal.

Technology

KVK scientist had selected few interested young farmers from 14 villages of Vansda and Chikhli taluka and conducted training programme on scientific cultivation of sweet corn for crop diversification at village level. The interested farmers came forward and motivated for cultivation of new crop. KVK scientist gave 6 on campus training to 569 farmers. They visited 38 diagnostic and demonstration plot visit and gave guidance to 699 farmers. Krishi Vigyan Kendra, Navsari had also organized a shibir on Awareness Programme on sweet corn farming, which was attended by 389 farmers. KVK had given demonstration on sweet corn to 500 farmers of Vansda and Chikhali Taluka of Navsari districts. For diverting them from low value crops toward short duration high valued (income) crop, KVK supplied all the input required for cultivation of sweet corn and detail technical guidance to all farmers.

KVK, Navsari has bridged a gap between farmers and market traders by signing MoU with highly reputed Saraf food Ltd. Vadodra industries. Usually said, that because of un assured marketing of farm produce, farmers do not get satisfied with economic returns. In this direction, KVK Navsari has put its first step. With the help of Rashtriya Krishi Vikash Yojna, total Rs.27.00 lakhs of fund was allotted to KVK, Navsari for the betterment of tribal farmers by cultivating new crop in the area of South Gujarat. KVK, Navsari convinced the farmers to cultivate sweet corn which is short period crop with high demand in urban areas. For this KVK, Navsari has formed farmers committee from each village and identified committee leaders to sign the MOU for contract farming with Saraf Food Pvt. Ltd. Vadodra (2012-13). For implementation of this project, 500 farmers are selected and given good quality seed and other necessary technical guidance as well as critical inputs during 2012-13 and covered 250 acre. Many farmers did their best efforts to produce good quality sweet corn as per the terms and conditions of Saraf Food Pvt. Ltd. industries and got good income. In the MOU, major weight age was put on quality of the final product. According to terms in MOU, the weight of each sweet corn cob should be minimum 250gms and should have proper moisture content and if these standards are maintained farmers will be paid 6 Rs. per kg of sweet corn. However, with the help of this MOU, it became possible to divert farmers

to cultivate new crops to satisfy the demand of global market and got good return. In terms of economical benefits, many farmer get net income of Rs. 35,000 per acre or more. Total production of sweet corn cob and fodder yields were 1500 and 1200 tones and total revenue generated from this crop 102.00 lakhs. Which is generally more as compared to other cultivated crops during *rabi* season. Farmers also produced sufficient quantity of fodder to supply the demand of animal. After harvesting the sweet corn, crop residue was used as fodder to feed milch animals and fulfilled the need of green fodder which is pretty difficult to get in the summer. This also has added economical benefits for the farmers. Therefore, farmer realized about the importance and scientific cultivation practices of short duration high value sweet corn crop.

Overall outcome of this MOU was excellent and farmers have shown their interest to sign other MOU in future for new crop with the help of KVK, Navsari. In this way KVK, Navsari has established good rapport in tribal area.

Horizontal spread of technology: Presently, total 475 farmers are self motivated and started to cultivate sweet corn in 237 acer area during *Rabi* season. Farmers are more interested to cultivate sweet corn because it gives more income and fodder within short time, than traditionally grown crop.

Conclusion

The sweet corn cultivation is highly profitable in tribal dominated area of the Navsari district. This crop is also advisable to the farmers who have animals. At the end we can suggest this crop in the region to increase the income of the tribal farmers.

ACTIVITIES ON SUGAR -75 (SWEET CORN)



Kretts distribution



Transportation of sweet-corn



Khedut shibir programme on sweet corn



Field day on sweet corn



Sweet-corn cultivation in tribal area in the year 2010-2015

- 49 per cent of the tribal population is exists in Navsari district
- Two tahasil are dominated in Navsari district with highest number of tribal population
- Farmers of that area usually growing low value crop like gram, tur, paddy and urd etc
- After Kharif season they face lot of problem in irrigating the crop
- 90 days short duration crop/ high value crop because of scarcity of water

Four year activity of sweet corn

Table: 1 Different types of extension activities and beneficiaries of sweet corn during four year

Year	Area (ha)	Benef' s	No.of trainin g	Benefitte d	Scientis t visit to farmers field	No. of farmer s present	No.of Awarene ss camp	Farmers present	MOU
2010-2011	49.2	126	3	326	23	621	1	300	VADILAL
2011-2012	73.4	367	8	570	24	410	2	480	VADILAL

2012-2013	32.4	160	4	168	5	204	1	340	SHARAF
2013-2014	14.4	72	3	90	3	60	-	-	VADILAL
2014-2015	25.0	245	4	340	14	98	3	324	VADILAL
TOTAL	194.4	970	22	1494	69	1393	7	1444	

Total Revenue Generated From 5 Years

Table 2: Total revenue generated of sweet corn during four year

Year	Corn production (Kg)	Income (laks)	Fodder production	Income generated in fodder	Total revenue generated (laks)
2010-11	497412	29.84	393600	7.48	37.32
2011-12	740606	44.43	587200	5.54	23.62
2012-13	352000	21.12	262400	4.99	26.11
2013-14	172800	11.23	129600	2.46	13.69
2014-15	259375	16.86	238625	4.42	21.28
Total	2022193	123.48	1611425	24.89	122.02

- Krishi Vigyan Kendra made MoU with Vadilal and Sharaf foods for assured market for the sweet corn growers
- 76 per cent of the farmers adopted sweet corn cultivation in tribal area
- Due to high income farmers shown interested in cultivating this crop
- KVK is doing efforts to make more MoU with other industries for the benefit of the farmers
- Total Revenue Generated Rupees 122.02 Lakh

F. Strengthening Livelihood among Livestock Owners

Objectives:

1. On campus and off campus training and demonstration for scientific calf rearing

2. Demonstration and training to prevent embryonic mortality during pregnancy and neonatal calf morbidity and mortality during early age
3. Educating livestock owners regarding benefits about proper vaccination schedule and its monitoring in adopted villages
4. Impact analysis comparing adoption rate between technologically supported and unsupported villages.

Table1: Different extension activities conducted in live stock activity

Sr. No	Type of Training	No. of training	Beneficiary		Total
			Male	Female	
1.	on campus	4	91	79	170
2.	off campus	35	550	835	1385
3.	Pasupalan shibir	2	57	62	119
4.	FLD training	4	32	53	85
	TOTAL	45	730	1029	1759

Table 2: Animals registered in the project:-

Sr. No.	Village	PHASE-1 (2010-11)		PHASE-2 (2011-12)		TOTAL	
		Cow	Buffalo	Cow	Buffalo	Cow	Buffalo
1	Limzar	45	-	15	3	60	3
2	Kavdej	52	-	43	8	95	8
3	Kalthan	49	23	2	2	51	25
4	Pathari	44	-	68	-	112	-
5	Vandarvela	15	27	-	-	15	27
6	Karakhat	-	-	3	64	3	64
7	Mahuvas	-	-	53	14	53	14
8	Panar	-	-	31	7	31	7
9	Nani karod	-	-	28	16	28	16
	Total	205	50	243	114	448	164

IMPACT:

Effect on milk yield and fat percent

The animals registered under the project in first phase (2010-11) and completed lactation are analyzed and observed the following results.

Table 3: Effect on milk production (cow)

Std. lactation Yield (lit.)	Before		After		Change	
	No. of animal	Percent	No. of animal	Percent	No. of animal	Percent
<2000	53	33	18	11.25	-35	-21.75
2000-3000	102	63.75	101	63.13	-1	-0.62
3000-4000	5	3.13	36	22.05	+31	+18.92
>4000	-	-	5	3.12	+5	+3.12
Total Animal	160	100.00	160	100.00		

Majority of the livestock owners rearing crossbred cows. Before, the registration of animals produce less milk and the reason behind this was poor nutrition and lack of scientific management. Before implementation of the project, 33% of the animals have produced less than 2000 lit. milk and majority (63.75 per cent) have produced between the ranges of 2000-3000 lit. in 10 month of lactation period. After the proper feeding and scientific management through the project the low producing animals decreased up to 22 per cent and high producing (>3000 lit.) animals were found increased to the tune of 25 per cent.

Table4: Overall change in milk production (Cow)

Sr. no	Trait	Before		After		Change
		Mean	SE	Mean	SE	
1	Std. lactation yield (Lit.)	2158.83 (160)	38.93	2707.81 (160)	44.65	+548.98
2	Fat %	3.76 (160)	0.034	4.72 (160)	0.037	+0.96

Average milk production is increased by 549 lit per animal during the reporting period of 10 months lactation in cows of five villages i.e. 1.83 lit milk is increased per animal per day.

Table 5: Effect on milk production (buffalo)

Std. lactation Yield (lit.)	Before		After		Change	
	No. of animal	Percent	No. of animal	Percent	No. of animal	Percent
<2000	19	48.71	10	25.64	- 10	-23.07
2000-3000	20	51.29	24	61.53	+4	+10.24
>3000	-	-	5	12.82	+5	+12.82
Total Animal	39	100.00	39	100.00		

From the results it can be concluded that after implementing the project low producer buffalo (2000 lit.) were reduced to 26 per cent and high producer buffaloes are (>2000 lit.) increased up to 74 per cent.

Table 6: Overall change in milk production (Buffalo):

Sr. no	Trait	Before		After		Change
		Mean	SE	Mean	SE	
1	Std. lactation yield (Lit.)	1895.61 (39)	69.43	2388.53 (39)	79.30	+492.92
2	Fat %	6.34 (39)	0.09	7.60 (39)	0.11	+1.26

From the results, it can be seen that an average milk production is increased by 493 lit per animal during the reporting period of 10 months lactation in buffaloes of two villages i.e. 1.64 lit milk is increased per animal per day.

Table 7: Effect on fat percent (Cow)

Fat %	Before		After		Change	
	No. of animal	Percent	No. of animal	Percent	No. of animal	Percent
<3	5	3.13	-	-	-5	-3.13
3-4	138	86.25	2	1.25	-136	-85
4-5	15	9.38	142	88.75	+127	+79.37
>5	2	1.25	16	10	+14	+8.75
Total Animal	160	100.00	160	100.00		

Before implementation of project majority i.e. 86 per cent cows were in the range of 3-4 per cent fat while after proper feeding and scientific management it was found that 89 per cent cows have produced fat in the range of 4-5 per cent. Results shows average 1 per cent increased in milk fat.

Table 8 : Effect on fat per cent (Buffalo)

Fat %	Before		After		Change	
	No. of animal	Percent	No. of animal	Percent	No. of animal	Percent
<5	1	2.56	1	2.56	0	0
5-7	38	97.43	5	12.82	-33	-84.61
>7	-	-	33	84.61	+33	+84.61
Total Animal	39	100.00	39	100.00		

Similarly, 97 per cent buffalo were in the range of 5-7 per cent fat while after proper feeding and scientific management it was found that 84 per cent buffaloes have produced fat above 7 per cent fat in milk.

Table 9 : Results of other parameters:

No.	Trait	Before	After
1	Birth Wt.	Low	Good
2	Calf growth	Poor	Good
3	Calf mortality	16 %	11 %
4	Expulsion of Placenta	More than 8 hours	Become normal within 4 Hours
5	Post partum heat	Delayed	Majority within 3 month
6	Inter calving period	> 16 month	14-15 month
7	Health of dams	Poor	Improved

Under the project of scientific management of calf rearing 9 villages are adopted and 616 pregnant animals are registered. The animals selected under this project are producing 2 to 3 lit more milk than earlier. Approximately 1-1.5 % fat also increased in most of the cases. Earlier gap between two calves i.e. calving interval and dry period were very wide but after the implementation of this project most of the animal came in to heat at 1-1.5 month after calving and most of them are pregnant today. Born calves are also having good health.

Scheme: Rastriya Krishi Vikas Yojna(Promoting scientific management of pregnant dams and calves for strengthening livelihood among live stock owners)

Beneficiary: Induben Ravishankarbhai

Patel, Address: At post- Kalthan, Taluka-Jalalpore, Dist : Navsari,
Contact Number: 02637- 229222

Induben Patel, she engaged in animal husbandry since child hood her father maintains a livestock in the village. Presently she have four buffalos and two cows. Earlier she was doing animal husbandry in customary way so she was not getting good earnings and the purpose of animal keeping was just to fulfill the family needs. She came to know the benefit of rearing of milk animals and the role of those live stock in increasing the nutritional status as well as income of the family. Recently, she is in contact with Krishi Vigyan Kendra, Navsari and her own buffalo was registered in the KVK for proper maintenance as it was 7 months pregnant



Many livestock owners of this village were also benefitted under this scheme. In this project, beneficiary received valuable guidance of Dr. M. A. Kataria and time to time our animal checkup was also carried out by him. We learnt the management of animals like grooming, colostrums feeding to new born calf and steaming up technique in pregnant animals. We were also given first aid kit, mineral mixture, liquid calcium, anthelmintic tablets etc. All these things have improved the health of animals and animal mortality rate is also decreased. Before registered in this project, buffalo was giving 7 liters of milk and fat per cent was 6-7 but after registration in this project and due to the guidance and inputs provided by scientists presently buffalo gives 10- 11 liters of milk and fat per cent is increased up to 8-9. “The credit of this success goes to Krishi Vigyan Kendra, Navsari, and its staff and for this I am very much thankful to them”. She said.



Net Earnings: Rs. 35000/-



Animal Health Camp



Calf Rally



Diagnostic Visit



Literature Publication



Film Show



On Campus Training



OFF Campus Training



Technology Demonstration



Input Kit Distribution

G. Nutrition security through kitchen garden

➤ Trainings (on /off campus)

Sr No.	Year	Title of training	No. of courses	General		SC/ST		Grand total		
				M	F	M	F	M	F	T
1	2011-12	Kitchen garden	2	0	0	31	17	31	17	48
2	2012-13	Kitchen garden	2	0	0	0	60	0	60	60
3	2013-14	Kitchen garden	3	2	91	25	0	27	91	118
4	2014-15	Kitchen garden	1	0	45	0	0	0	45	45
5	2015-16	Kitchen garden	5	0	39	27	121	27	160	187
6	2016-17	Kitchen garden	6	230	196	0	0	230	196	426
7	2017-18	Kitchen garden	8	351	205	35	1	386	206	592
8	2018-19	Kitchen garden	9	681	164	14	13	695	177	872
	Total		36	1264	740	132	212	1396	952	2348



On campus Training



Off campus Training

**Photograph of Kitachgarden
Year 2011 - 12**



Year 2012 - 13



Year 2013 - 14



Year 2014 - 15



Year - 2015 - 16



Year - 2016 - 17



G. FORMATION OF NAVSARI ORGANIC FARMER CO-OPERATIVE SOCIETY (NOFCO)

Krishi Vigyan Kendra, Navsari organized Sajiv kheti Seminar on **28-07-2017** collaborated with Jilla Panchayat Navsari. About 119 farmers from organic group of Navsari district were participated in this farmer seminar. Dignitaries present in the function was Shri, Tushar Sumera, DDO, Navsari, Hon'ble Vice Chancellor, Dr. C. J. Dangaria, NAU, Navsari, Shri Jayantibhai Patel, chairman of NOFCO and Dr. C. K. Timbadia, Senior scientist and head, KVK, Navsari. In this seminar discussion about the formation of Farmer's produce organization and their benefit. NOFCO was proposed by DDO, Navsari. An exhibition was also arranged on Panchgavya preparation, organic products produce by farmers etc. At present more than 1000 farmers are active members of this association. This group of farmers were get to gather either on KVK campus and or farmers field to find out the problems and solution of the problems.



FORMATION OF ORGANIC FARMER CO-OPERATIVE SOCIETY (NOFCO)

32. Details of programmes implemented with convergence

S. No.	Name of the programme	Name of organization / Department	Implementing from the year	Amount realized (Rs. lakh)	No. villages and farmers benefited
1	Balanced fertilizer in crop production	Fertilizer Association of India	2012-13	0.50	18/200
2	Processing and Preparation of Value Added product	National Council Rural Institute (NCRI), Hyderabad	2013-14	0.20	8/80
3	Cancer Awareness programme	Manav Kalyankari Trust, Navsari	2014-15	0.50	26/407
4	International Women's Day	Late, Diwaliben Ukabhai Patel Sarvajanic Trust, Bardoli	2015-16	6.00	62/5000
5	Training on Petroleum Energy conservation	Petroleum Conservation Research Association,	2015-16	0.20	18/84
6	Cancer Awareness programme	Manav Kalyankari Trust, Navsari	2015-16	5.25	25/414
7	Pri -rabi Sammelan	Krushi Car Private Limited, Ahmedabad	2016-17	1.50	14/900
8	Seminar on Plant protection in organic farming	National Council Rural Institute (NCRI), Hyderabad	2016-17	0.50	12/78
9	Cancer Awareness programme	Manav Kalyankari Trust, Navsari	2016-17	4.50	28/417
10	Organic farming workshop	Manav Kalyankari Trust, Navsari	2017-18	0.40	18/110
11	Soil Health Day Celebration	KRIBHCO, Surat	2017-18	0.30	17/75
12	Cancer Awareness programme	Manav Kalyankari Trust, Navsari	2017-18	4.00	23/545
13	Cancer Awareness programme	Manav Kalyankari Trust, Navsari	2018-19	5.00	20/500
14	Organic farming certification procedure programme	Shri Mathurbhai Savani and GOPCA, Gandhinagar	2018-19	0.50	32/200
15	Preparation of organic manure from waste (Flowers and Pujapaof Lord Shree Ganesh festival celebration)	Rotary club of Navsari, Vijalpor Nagrapalika, Navsari Nagrapalika	2018-19	0.50	27/125

33. Details of externally funded projects if any

S. No.	Name of the funding agency	Title of project	Implementing from the year	Funds received so far (Rs. lakh)
1	State Govt. RKVY	Popularizing newly released high yielding paddy variety	2012-13	49.65
2	State Govt. RKVY	Large scale management of fruit fly in fruit and vegetable crops	2012-13	12.00
3	State Govt. RKVY	Popularizing high yielding turmeric variety	2012-13	17.00
4	State Govt. RKVY	Crop diversification through high value sweet corn crop in tribal area	2012-13	29.80
5	State Govt. RKVY	Project on “ improve the socio economic status of chiku farmers	2012-13	26.15
6	Tribal Sub Plan, Vansda, Navsari	Khet ojar	2012-13	18.00
7	Tribal Sub Plan, Vansda, Navsari	Sweet corn cultivation	2012-13	5.00
8	Tribal Sub Plan, Vansda, Navsari	Sweet corn cultivation	2013-14	3.65
9	Tribal Sub Plan, Vansda, Navsari	Sweet corn cultivation	2014-15	5.00
10	Tribal Sub Plan, Vansda, Navsari	Apple ber ni kheti	2014-15	2.81
11	Tribal Sub Plan, Vansda, Navsari	Black jamun kalam	2014-15	3.34
12	Tribal Sub Plan, Vansda, Navsari	Tadbhuch ni kheti	2014-15	2.52
13	Watershed management	Gujarat Water shade Development Project, Gandhinagar	2014-15	5.00
14	Tribal Sub Plan, Vansda, Navsari	Okra cultivation project	2015-16	4.75
15	Tribal Sub Plan, Vansda, Navsari	1 kg Guava cultivation	2015-16	3.22
16	Tribal Sub Plan, Vansda, Navsari	Apple ber ni kheti	2015-16	4.08
17	Tribal Sub Plan, Vansda, Navsari	Black jamun kalam	2015-16	1.78
18	Tribal Sub Plan, Vansda, Navsari	Sweet corn cultivation	2015-16	6.55
19	Tribal Sub Plan, Vansda, Navsari	Khet ojar	2015-16	5.64

34. Brief account of visibility of KVK in the district / operational area

A. Agriculture Live demo plots cum exhibition of advanced technology

(Technology week)

Project Partner- NAU, ICAR, NABARD, NHM, State Agri. Dept., ATMA etc.

Year	Programmes	No. of Participants
2012-13	Technical Session- 12 (6 Day) Exhibition (No. of Stalls)- 6	534
2013-14	Technical Session- 10 (5 Day) Exhibition (No. of Stalls)- 7	612
2014-15	Technical Session- 12 (6 Days) Exhibition (No. of Stalls)- 7	536
2015-16	Technical Session- 10 (5 Days) Exhibition (No. of Stalls)- 10	489
2016-17	Technical Session- 12 (6 Days) Exhibition (No. of Stalls)- 10	571
2017-18	Technical Session- 12(6 Days) Exhibition (No. of Stalls)- 10	570
2018-19	Technical Session- 10 (5 Days) Exhibition (No. of Stalls)- 24 Animal Exhibition & Live Demonstrations- 104	1430

B. MoU made marketing linkages and getting suitable price for agriculture products to overcome

No.	MoU	Crop/commodity	Area
1	Navsari Taluka Sangh, Navsari	Paddy, NAUR-1, GNR-3	Seed production for popularize paddy variety in large area
2	Vadilal Industry, Ahmedabad	Sweet corn	For selling sweet corn cob
3	Sharaf Foods, Vadodara		
4	Shree Krishna Infrastructure, Mumbai	Organic produce	Getting better price of organic products and to promote organic farming
5	Global organics, Surat		
6	Gandhi Harit Samiti	Vermicompost	To prepare compost
7	New Holland	Training on Mechanization and Infrastructure development	To increase the area under the farm mechanization

C. Different technologies/recommendation adopted by farmer's result in very good impact on farming community

No.	Technology/Demonstration	% adoption
1	SRI technology of rice	18%
2	Scientific cultivation practices of rice	38%
3	Use of biofertilizers in mango/sapota	34%
4	Inland aquaculture	24%
5	Promotion of organic farming	12%
6	Clean milk production	32%
7	Crop diversification through Sweet corn crop	14%
8	Scientific cultivation practices of pulses	31%

35. Brief account of flagship programmes of KVK which has given it identity at state / national level with its impact on farming community

1. Celebration of International Women's Day during last eight years

Sr no	Date	Place	No of woman Participated
1	9-3-2013	KVK, Navsari	2500
2	7-3-2014	KVK, Navsari	5000
3	24-3-2015	KVK, Navsari	3000
4	18-3-2016	KVK, Navsari	5000
5	18-3-2017	NAU, Navsari	883
6	28-3-2018	KVK, Navsari	900
7	8-3-2019	Sindhai, Vandsa	600

International Women's Day 2012-13

Navsari Agricultural University, Navsari has celebrated International Women's Day (IWD) on March 9, 2013 in the office premises of Krishi Vigyan Kendra at Navsari. The main purpose of this program was to give proper guidance and information for farm women/women in their social, cultural, economic and health empowerment.

The inaugural function of this auspicious programme was graced by the Chief Guest Smt. Leelaben Ankoliya, Chairman, Mahila Ayog, Govt. of Gujarat, Gandhinagar in the solemn presence of Honb'le Vice-Chancellor Dr. A.R. Pathak; Director of Research & Dean P.G. Studies Dr. A.N. Sabalpara; Director of Extension Education Dr.H.J. Derashri; Programme

Coordinator, KVK Dr.C.K. Timbadia, Deans of different faculties, University Officers, of Navsari Agricultural University, Navsari, Representative of New Holland Fiat India, New Delhi and other dignitaries.

Smt. Leelaben Ankoliya, Chief Guest of the function, in her inspiring speech briefed about Mahila Ayog a constitutional body of Government of Gujarat through which the women are being empowered for improvement in health, education, self-employment and given social justice with appropriate rules & legal actions as well as new initiatives of Honb'le Chief Minister of Gujarat Shri Narendra Modi for the upliftment of rural women and children of down trodden communities. A booklet compiled by KVK, Navsari depicting all information of govt. schemes and projects for the benefit of common people has been released on this occasion and distributed to all for more awareness amongst the women and children.

On this occasion Dr.A.R.Pathak, Hon'ble Vice Chancellor, in his presidential speech quoted that the Government of Gujarat is taking keen interest in the primary education and health care of baby girl in particular and baby boy in general and also introduced many initiatives for women welfare including children for the betterment of the society. He said that the SAUs of Gujarat as per Government of Gujarat's directives are giving full exemption of fees for the education of female students admitted in all the courses up to the Ph.D programmes. He gave remarkable speech on girls' education, quoting the example of power of Nari Shakti in puranas and in history.

About 3000 women farmers from around 30 villages participated and benefitted through inspiring and spiritual lectures delivered by Smt. Gayatriben Vyas, Gujarat Vanvasi Kalyan Parishad, Baroda on the importance of *Vyasan mukti* (Addiction exemption), Dr. Kirtithaben Vaid, Professor, B.P. Baria Science College, Navsari, "Lecture on *Stri ane samaj*" (woman and society)' and Dr. Swatiben Naik, Professor, B.P. Baria Science College, Navsari, "Lecture on *Stri-tvani garima* (womanhood dignity)'. The cultural programmes like classical dance, cinematic dance, dramas as well as awareness programme of snakes' show of Forestry College & Wild Life Saving Group also made the event an attractive and enjoyable.

International Women's Day 2013-14

Krishi Vigyan Kendra, Navsari Agricultural University, Navsari has celebrated International Women's Day (*IWD*) on March 7, 2014 at Navsari. The main purpose of this program was to build capacity of women especially farm women their role in social, cultural, health and economic empowerment.

The inaugural function of this auspicious programme was graced by the Chief Guest Shri. Govindbhai Dholakia, Chairman RamKrishna export, Surat. Maheshbhai savani Chairman Savani group in the solemn presence of Dr. A.R. Pathak, Honb'le Vice-Chancellor; Inaugurator of the function Dr. Sandhyaben Bhullar IAS, District collector, Navsari, Dr. A.N. Sabalpara, Director of Research & Dean P.G. Studies; Dr.H.J. Derashri, Director of Extension Education; Mind trainer Dr. Jitendra Adhiya MD, Dr.C.K. Timbadia, Programme Coordinator, KVK; Deans of different faculties, University Officers, of Navsari Agricultural University, Navsari; and other dignitaries.



CELEBRATION OF INTERNATIONAL WOMEN'S DAY 9TH MARCH-2013



CELEBRATION OF INTERNATIONAL WOMEN'S DAY- 7TH MARCH-2014



CELEBRATION OF INTERNATIONAL WOMEN'S DAY- 24TH MARCH- 2015

Dr.Sandhyben Bhullar IAS, District collector, Navsari, inaugurator of the function, in her speech briefed about ‘Power of vote’ and role of women’s in all the sectors including agriculture. On this occasion a booklet compiled by Dr. Jitendra Adhiya Mind trainer was distributed to all for more awareness amongst the women for their mind power and mental health.

On this occasion Dr.A.R.Pathak, Hon’ble Vice Chancellor, in his presidential speech said “Women play a critical role in the agriculture production, because agriculture merely not only involves production of food grains but also production of milk, egg, wool, silk etc, where women play a major role. Hence, women empowerment should not merely be a government agenda it should be in practice”.

KVK has identified 20 women farmers including tribal women farmers in the district who has made remarkable achievement in the field of agriculture by scrutinizing committee. They are expert in ‘Papadi’ making, Value addition of the food products, viz., Nagali biscuits, canned fruits and vegetables, Excellent Kitchen gardener and vegetable vendor etc.They are facilitated during the function. For this we received cash and product support from the big corporate bodies. It is a great congregation that the big corporate bodies and Krishi Vigyan Kendra came in single platform for the benefit of the women farmer by Public Private Participate mode.



INTERNATIONAL WOMEN'S DAY- 18TH OF MARCH 2016



INTERNATIONAL WOMEN'S DAY 18TH MARCH-2017



INTERNATIONAL WOMEN'S DAY 28TH MARCH 2018



INTERNATIONAL WOMEN'S DAY 08TH MARCH 2019

2. Follow up visit of farmer's field with help of Swargaya Dwaliben Ukabhai Patel Trust

- Till now we have made more than 85 field visits in the tribal area. This has benefitted more than 850 tribal farmers
- This vehicle is very much helpful to follow up visit as well as demonstration plot visit in tribal area
- This vehicle available every Monday and Tuesday through out the year since last four year.

Sr. No.	Year	No of Visited Village	No. of Beneficiaries
1	2017-18	33	136
2	2018-19	38	118



Follwup visit of tribal farmers field

3. Use of ICT (Dial out conference) to dissonant the agriculture technology among the farming community.

- With help of reliance foundation, KVK Navsari arranged dial out conference on different aspects / technology of agriculture for the farming community without move/transfer for there work place.
- It also helps to identify/receive the field level problem of farmers. At the time and easy manner.
- KVK, Navsari conducted more than 35 dial out conference

FARMER'S INTERACTION ON DIAL OUT/AUDIO CONFERENCE WITH RELIANCE FOUNDATION					
Sr.no.	Program	Subject	Name of Scientist	Months	Participants
1	Dial out conference	Urea Treatment of paddy straw crop	Dr. Timbadia & Dr. katariya	April 16	53
2	Dial out conference	Seed production of Pigeon Pea	Dr. Timbadia & Dr. Shah	July 16	52
3	Audio Conference	Seed production of Pigeon Pea	Dr. Timbadia & Dr. Shah	July 16	30
4	Audio Conference	Seed production of Pigeon Pea	Dr. Timbadia & Dr. Shah	July 16	24
5	Audio Conference	Seed production of Pigeon Pea	Dr. Timbadia & Dr. Shah	July 16	21
6	Audio Conference	Package of practices in vegetable crop	Dr. Timbadia & Mr. Gurjar	July 16	13
7	Audio Conference	Package of practices in vegetable crop	Dr. Timbadia & Mr. Gurjar	July 16	31
8	Audio Conference	Package of practices in vegetable crop	Dr. Timbadia & Mr. Gurjar	July 16	34
9	Thematic Awareness Programme	Seed production of Pigeon Pea	Dr. Timbadia & Dr. Shah	July 16	38
10	Dial out conference	Awareness on Health	Dr. Timbadia, Ms. Dipalben & Dr. Kannar	Aug 16	36
11	Dial out conference	Paddy farming through Sree method	Dr. Timbadia & Dr. Shah	Aug 16	31
12	Dial out conference	Bio Fertiliser usage & importance	Dr. Timbadia & Mr. Gurjar	Aug 16	70
13	Dial out conference	Scientific fish farming	Dr. Timbadia & Mr.P.P.Patel	Aug 16	51
14	Audio Conference	pest and disease management in paddy	Dr. Timbadia & Dr. Shah	Aug 16	33

15	Audio Conference	pest and disease management in paddy	Dr. Timbadia & Dr. Shah	Aug 16	56
16	Dial out conference	Follow up of paddy farming through SRI method	Dr. Timbadia & Dr. Shah	Sep 16	31
17	Dial out conference	Organic farming	Dr. Timbadia & Dr. Shah	Nov 16	47
18	Dial out conference	Pigeon pea seed production follow up	Dr. Timbadia & Dr. Shah	Nov 16	47
19	Dial out conference	Awareness on breast cancer	Dr. Timbadia & Ms. Dipalben	Jan 17	26
20&21	Dial out conference	Women's Day celebration	Dr. Timbadia & Ms. Dipalben	March 17	102
22	Dial out conference	Organic farming	Dr. Timbadia & Dr. Shah	April 17	40
23	Dial out conference	Crop Management	Dr. Timbadia & Dr. Shah	June 17	42
24	Dial out conference	pest and disease management in paddy	Dr. Timbadia & Dr. Shah	August 17	47
25	Dial out conference	Horticulture Crop	Dr. Timbadia & Mr. Gurjar	Nov 17	45
26	Dial out conference	Kitchen Garden	Dr. Timbadia & Mr. Gurjar	Jan 18	55
27	Dial out conference	Women's Day celebration meeting	Dr. Timbadia & Ms. Dipalben	Feb 18	24
28	Dial out conference	Women's Day celebration	Dr. Timbadia & Ms. Dipalben	March 18	54
29	Dial out conference	Fisheries	Dr. Timbadia & Mr.P.P.Patel	April 18	26
30	Audio Conference	Crop Management and irrigation awareness	Dr. Timbadia	June 18	30
31	Dial out conference	Crop Management in Sugarcane	Dr. Timbadia & Dr. Shah	June 18	40
32	Dial out conference	Horticulture Crop	Dr. Timbadia & Mr. Gurjar	June 18	30
33	Dial out conference	Horticulture Crop	Dr. Timbadia & Mr. Gurjar	July 18	40
34	Dial out conference	Fisheries	Dr. Timbadia & Mr.P.P.Patel	July 18	39
			Total		1338



DIALOUT CONFERENCE WITH FARMERS

5. Organic Farming Promotional Programme

On Campus training on Organic Farming

Sr. No	Year	Title of training	No. of training	SC/ST		Other		Total		Grand Total
				M	F	M	F	M	F	
1	2012-13	On campus training on organic farming	2	50	-	51	6	101	6	107
2	2013-14	On campus training on organic farming	-	-	-	-	-	-	-	-
3	2014-15	On campus training on organic farming	-	-	-	-	-	-	-	-
4	2015-16	On campus training on organic farming	2	10	-	65	-	75	-	75
5	2016-17	On campus training on organic farming	1	-	-	1	24	1	24	25
6	2017-18	On campus training on organic farming	7	236	18	206	15	442	33	475
7	2018-19	On campus training on organic farming	12	117	91	213	35	330	126	456
8	2019-20	On campus training on organic farming	3	48	10	76	51	124	61	185
		Total	27	461	119	612	131	1073	250	1323



On Campus Training

Off Campus training on Organic Farming

Sr. No	Year	Title of training	No. of training	SC/ST		Other		Total		Grand Total
				M	F	M	F	M	F	
1	2012-13	Off campus training on organic farming	5	74	50	95	59	169	109	278
2	2013-14	Off campus training on organic farming	1	-	-	32	11	32	11	43
3	2014-15	Off campus training on organic farming	2	-	-	58	15	58	15	79
4	2016-17	Off campus training on organic farming	1	-	-	21	20	21	20	41
5	2017-18	Off campus training on organic farming	6	117	25	42	45	159	70	229
6	2018-19	Off campus training on organic farming	6	379	277	102	97	481	374	855
7	2019-20	Off campus training on organic farming	6	237	8	120	02	357	10	367
		Total	27	807	360	470	249	1277	609	1892



Off campus training Organic farming

In-service training on organic farming for staff

Sr. No	Year	Title of training	No. of training	SC/ST		Other		Total		Grand Total
				M	F	M	F	M	F	
1	2017-2018	In-service training on organic farming for staff	1	31	5	28	6	59	11	70
2	2018-2019	In-service training on organic farming for staff	1	19	9	-	-	19	9	28
		Total	2	50	14	28	6	78	20	98



Inservice training on organic farming

Organic farming Seminar or Parisavaad

Sr.No	Year	Title of training	No. of training	SC/ST		Other		Total		Grand Total
				M	F	M	F	M	F	
1	2017-2018	Organic farming seminar or Parisavaad	4	252	47	280	89	532	136	668
2	2018-2019	Organic farming seminar or Parisavaad	3	65	-	153	3	218	3	221
3	2019-2020	Organic farming seminar or Parisavaad	4	13	87	212	284	225	371	596
4		Total	11	330	134	645	376	975	510	1485



Seminar on Organic farming

Organic farming Exposure visit

Sr. No	Year	Title of training	No. of training	SC/ST		Other		Total		Grand Total
				M	F	M	F	M	F	
1	2019-2020	Organic farming Exposure visit	9	-	35	139	59	139	94	233
		Total	9	-	35	139	59	139	94	233



Exposure visit



Preparation of Panchgavya at Krishi Vigyan Kendra, Navsari



Demonstration of Vermi compost preparation on farmer's field



Demonstration of NADEP compost preparation on farmer's field and KVK

Table Farmers covers under certified organic farming since three years

Sr. No.	Name of technology	Approximate farmers adopted organic farming (No.)	Approximate farmers adopted organic farming (ha.)	Reasons for formal adoption
1	Organic farming	50	65	Reduce the cost of cultivation and produce good quality produce

36. Brief account of KVK based on evaluation by external agencies including FPOs/ FPCs / farmers clubs organized and facilitated by KVK

----- Nil-----

37. Performance of KVK in respect of special programmes like NICRA, CFLD, Farmers First, ARYA, TSP, JSA, etc

Cluster Front Line Demonstration

Sr. No.	Year	Crop	Area (Ha.)	Demonstrations	Silent Achievements
1	2016-17	Chickpea	22.4	126	Increase in yield by 35% over control plot.
2	2016-17	Green gram	8	42	
3	2016-17	Greengram (Meha)	32	150	
4	2017-18	Pigeon pea	20	163	
5	2017-18	Chickpea	30	160	Increase in yield by 34.40% over control plot
6	2017-18	Green gram	20	100	
7	2017-18	Greengram (Meha)	30	287	

8	2018-19	Pigeon pea	31	163	Increase in yield by 20.78% over control plot
9	2018-19	Chickpea	20	159	
10	2018-19	Green gram	10	88	
11	2018-19	Greengram (Meha)	21	167	

38. Brief account of internal monitoring and review mechanism developed by KVK for its better performance and visibility in farming community

1. Monthly KVK review meeting by DEE
2. Weekly staff meeting for review of work done and future planning by Senior Scientist and Head
3. Quarterly meeting Vice Chancellor for overall progress of KVK
4. Scientific Advisory Committee meeting
5. ZREAC Meeting during *Kharif* and *Rabi* season
6. Every year social science AGRESCO meeting headed by VC, DR and DEE
7. Financial Internal audit at every month and Half Yearly audit by CA

39. Status of web and mobile based agro-advisory services provided by KVK

No. of Farmers registered to KVK- >1.00 lakh farmers

No. of Farmers registered to Mkisan- 2036

Year wise Advisory to Given to Farmers

Activity	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Text SMS	-	-	-	250	362	28	59	55
Vice SMS	-	-	-	-	-	-	-	-

40. List of functional demonstration units at KVK with its capacity and output

S. No.	Name of the functional demo. Unit	Year of establishment	Production capacity / year	Average net profit per year (Rs. lakh)
1	Nursery	2010-11	50000	0.25
2	Micro irrigation	2014-15	3 ha.	--
3	Processing and value addition	--	--	--
4	Protected cultivation	-	-	-
5	IFS model	--	--	--
6	Dairy	--	--	--
7	Poultry	--	--	--
8	Goatary	--	--	--
9	Rain Water Harvesting structure	2011-12	37000 lit.	--
10	Any other	--	--	--

41. Brief account on initiatives of KVK for handling major issues like,

(B) Fall army worm

Identification, Nature & symptoms of damage and management of FAW

Date : 08-10-2018

Farmers attended from: Ravaniya, Anklach & Karjai (Vandsa Taluka)

Total Number of Farmers: 30



Microbial Pesticides : *Beauveria bassiana*

Date: 17/10/2018

Name of the villages: Bedmal and Ankalach

Ta: Vandsa **Dist:** Navsari

Total no.of farmers: 70



Date: 19/10/2018

Name of the villages: Bamanvada and Naranpur

Ta: Chikhali and Khergam Dist: Navsari

Total no.of farmers: 38



Date: 20/10/2018

Name of the villages: Unnai-Charvi and Nanivalzar

Ta: Vandsa Dist: Navsari

Total no.of farmers: 53



Date: 22/10/2018

Name of the villages: Signhdai and Karjai

Ta: Vansda Dist: Navsari

Total no. of farmers: 67



b. Pink bollworm in Cotton - NIL

c. White grub management - NIL

d. Drought / flood mitigation - NIL

e. Any other -NIL

42. Innovative extension approaches / innovative methodologies / innovative technologies developed / continued by KVK during last eight years

1. Gujarat Gaurav din: 2013

Innovations introduced in the programmes: *Farmers displayed their own farming innovations and agriculture technologies in the programme*

Government of Gujarat decided to celebrate 53rd Gujarat foundation day on 1st May 2013 as “Gujarat Gaurav din” at Navsari. On this ‘Bhumi vandana’- A progressive farmers meet and agricultural fair was organized at Navsari Agricultural University, Navsari.

This programme was organized by Krishi Vigyan Kendra, Navsari. Progressive farmers of the Gujarat state participated in the programme. Around 6000 farmers were participated in the agri- innovative mela. They displayed there technologies, innovations and explained themselves to the other farmers. Interactions among the farmers were on through out the day. This idea was given by chief minister when the innovative farmers meet 2011 was organized he suggested disply farmers own findings. Gaurav din function was inaugurated by Hon’ble Naredra Modiji than chief minister of Gujarat state. He appreciated this innovative idea “Giving a single platform for Innovative and interested farmers togetherness”. Best innovation technologies are identified and appreciated by the scrutinize committee and are felicitated during the function. This idea was highly appreciated by the chief minister and he took pioneer step in state level and organized “Vibrant Gujarat” where national level best famers of different staes gathered in one roof.





2. Innovative farmer interaction meets

Innovations introduced: *Interaction of farmer's who has done significant achievement in his field by adopting new technology provided by the university through extension workers*

“Jai jawan, jai kisan” reminds us of the two important entities- soldier and a farmer. Farmers are the back bone of nation. Krishi vigyan Kendra, Navsari Agricultural University, Navsari celebrates Farmers’ Day as well as Paddy seed production on 4th October, 2013 in the premises of Krishi vigyan Kendra, Navsari. “Kisan Divas” is reorganization of farmer’s who has done significant achievement in his field by adopting new technology provided by the university and explained their achievements.

Nearly 300 farmers from different villages attended the event which includes farm women’s also. Dr. A.R Pathak Hon’ble Vice-Chancellor of NAU graced the function. He addressed the congregation regarding techniques of paddy seed production especially the maintenance of pure seed material, time of rouging and selection of land for this purpose are most important.



3. An Awareness Programme on PPV &FRA

Innovations introduced: *For the benefit of the farmer and to reach out maximum number of farmer the entire programme was live telecasted on N7 channel in the district and video conference was arranged in two adopted villages*

Krishi Vigyan Kendra, Navsari Agricultural University, Navsari organized an awareness programme on Protection of Plant Varieties and Farmers' Right Act, on 21st October 2013 in association with PPV & FRA, Ministry of Agriculture, GOI, New Delhi. The inaugural function of this awareness programme was graced by Dr. R.R Hanchinal, Chairman, PPV &FRA, Government of India, New Delhi in the presence of Dr. A.R.Pathak, Hon'ble Vice- Chancellor; Dr. A.N Sabalpara, Directorate of Research & Dean P.G studies; Dr. H.J Derashri, Directorate of Extension Education; Dr. R.C Agrawal, Registrar General, PPV & FRA, New Delhi; Dr. Ravi Prakash, Registrar, PPV & FRA, New Delhi; Dr.C.K.Timbadia, Programme Coordinator and Dr. Minoo Parabia, Advisor, Ayurvedic College, Vagaldhara and other dignitaries.

Chief Guest of the programme Dr.R.R. Hanchinal felicitated the farmers' who has done significant efforts in conservation and development of local varieties. Shri Mangubhai C. Patel has conserved and developed local forest species in his village Ambach and his work has been recognized by the Government of Gujarat and awarded him as 'VAN PANDITH.' And also DD Girnar Doordarshan, Ahmedabad awarded him as "KRSHI SHIROMANI", Shri Kashiram Birari native of Jamlapada has conserved and developed local Turmeric variety, Shri Rajeshbhai Gavith conserved and developed indigenous "mango" variety in Kavdej village and Shri Kishorbhai Babubhai, Padvi farmer from Ankalachh village has conserved native paddy variety "Raj Bangalo". **For the benefit of the farmer and to reach out maximum number of farmer the entire programme was live telecasted on N7 channel in the district.**



4. Celebration of Farm Innovator's Day; 2013-14

Innovations introduced in the programmes: *KVK has implemented different RKVY projects in 25 villages. Among 82 farmers who had performed best in the project within village were selected and recognized. So other farmers got motivated. selected farmers were felicitated during celebration of farm innovators day*

Krishi Vigyan Kendra, Navsari Agricultural University, Navsari organized "Farm innovators day- 2013" on dated 26-12-2013. *The aim of this programme is to identify and encourage the innovative farmers of the district.* Indian Council of Agricultural Research

has declared 23rd December as a “Innovative farmer’s day”. As a result from last two years KVK is celebrating the Innovative farmer’s day.

Inauguration was done by the District Development Officer, Navsari, shri. S.M.Patel. Felt pleased about practice Kitchen garden by the women’s. These kitchen gardens not only provide nutritional availability but also financial security to the farm family.

Dr. C.K Timbadia briefed activity of KVK “Though activity KVK has covered 92 villages in these villages more than 18,000 different agriculture technologies were taken up to reach out the all kinds of farmers. Organizations like ATMA and other line departments identified many innovative farmers of the district; those farmers were also called and felicitated here. Felicitations kit was sponsored by Shri Kanjibhai Patel. Eighty farmers were felicitated giving certificate along with kit, here few successful farmers in different agriculture practice are given. More than forty village farmers were participated and about more than 400 farmers witnessed the function.



5. TOT's through religious organization

In the ancient era, the scientific truth was incorporated with religions and spiritual activities. So, the uneducated people could easily follow the truth. Considering the above fact, KVK had started to train the religious leader regarding new agricultural technologies. So one training pertaining to the new technologies of agricultural was organized for the saints (Swamijis) of Swaminarayan Panth. In all 37 saints participated and they are convinced about

the new technologies of agriculture. This is just beginning of the concept and the impact will be accessed subsequently.



6. Memorandum of Understanding (MoU) with Navsari Taluka Sangh



A MoU is made on June 6, 2012, between the NAU, Navsari and M/s Navsari Taluka Sangh for Certified seed production of new varieties of paddy GNR-2 & 3 in the jurisdiction of KVK Navsari. The MoU expressing the responsibilities of NAU, to provide technical know how for quality seeds of newly released variety of paddy.

7. Celebration of ‘sunhara kal’ programme, navsari



JCB Mumbai sponsored programme ‘Sunhara Kal’ regarding modern machine tools utilization in Agriculture was celebrated at Krishi Vigyan Kendra, Navsari Agricultural University, Navsari. Hon’ble Vice Chancellor, NAU presided over the function. The programme was inaugurated by enlightening the lamp. Dr. C. K. Timbadia, Programme co-

co ordinator, KVK, Navsari welcomed all dignitaries and participants and informed the objective of programme. Hon’able Vice chancellor. Dr. A.R. Pathak, informed the farmers about importance of machine tools in agriculture and emphasized on the use of modern machine tools in order to reduce the labour work in Agriculture. Moreover, he showed two ways, one by reducing crop expenditure and second by increasing crop production using latest technology to earn more profit from Agriculture and improve economic condition. Today, utilization of machine tools become essential due to high scarcity of labours in Agriculture. Niraj Chandani, General Manager, JCB, Mumbai; Rajpal Sisodia, Zonal rural Manager, JCB, Mumbai; and Yogeshbhai Lad, Dealer, Yatrayan Automech, Baroda remained present in the function and guided the farmers that how modern machine could be utilized in agriculture. Dr. Dhaduk, Prinicpal B.M. College, Mongabhai, Mukundbhai, Amrutbhai, Kishorbhai, the leaders of Gadat Co-operative Society and Ashishbhai of Amalsad Co-operative remain present in the function. Through this programme, around 200 farmer participants of Navsari District were guided about the use of modern machine tools and on this occasion, they also visited the exhibition of the hand tools made by ‘Saruchi Yatra Shara’.



8. Sweet corn MoU with Saraf Food ltd, Vadodara

KVK, Navsari has bridged a gap between farmers and market traders by making MoU



Hon. Rajyasabha member Shri Kanjibhai Patel addressing Sweetcorn growers

with highly reputed Saraf Food ltd, Vadodra. KVK, Navsari has formed farmers committee from each selected villages and identified committee leaders to sign the MoU for contract farming. Under implementation of this project, we have distributed inputs like, Sweet corn seeds and bio fertilizer in cluster base to 500 tribal farmers from chikhali and Vansda taluka. Farmers were cultivating traditional crops such as rice, Sorghum, Sugarcane, Mangoes, and Sapota but

with the help of this MOU, it become possible to introduce new crops to get good return. MOU was finalized with the present of Dr. C. K. Timbadia, Programme co-ordinator, KVK, Navsari, Dr. G. R. Patel, Asso. Extension Educationist, NAU, Navsari and Mr. Kanani, Saraf Food ltd, Vadodra with 28 selected farmers from 14 villages. After harvesting the sweet corn crop residue was used as fodder to feed milky animals and fulfilled the need of green fodder. Overall outcome of this MOU was very optimistic and farmers have shown their interest to sign other MOU in future with the help of KVK, Navsari.

9. e-Connectivity at KVK



By using latest information technologies KVK tried to reach to the farmers. KVK has established e-KVK, that enables the farming communities to get regular message regarding different crops, their varieties, climate report, pest and diseases related information. More than 1 lakh voice message had been sent and covered about 1700 farmers of the district.

43. Farm innovations documented by KVK and validated and promoted in the district/state

Off Season Okra Cultivation In Tribal Area

- **After KVK intervention:** Adaption of technology, Off season okra cultivation, Adaptation of INM, Integrated pest management, Use of bio fertilizer
- **Area of adaptive of technology**
One acre area
- **Results to adopt this technology**
- Off season production of okra fruit, He got 2.600 kg yield in 20 guntha (13 ton/ha.), Use yellow sticky trap and reduce pesticide loads, He got more income during off season okra cultivation, Earlier 25 to 30 spray it reduce up to 50 per cent
- **Income from this**
- 43,000 Rs./20 guntha net income (2,15,000 Rs./ha.), He got 20 to 30 Rs./kg market price.
- **Horizontal spread:** 62 farmers are adopted off season cultivation of okra



Introduction of high value Sweet corn

Farmers are diverted to low value crop to high value crop. During the year 2008-09, area under sweet corn cultivation is nil. Now sweet corn has been cultivated in 1220 ha are

Total revenue generated from sweet corn cultivation (Year 2010-11 to 2014-15)

Year	Area (ha)	Beneficiaries	Total corn production (kg)	Revenue generated from corn (Rs. in lakh)	Total fodder production	Revenue generated from fodder (Rs. in lakh)	Total revenue generated (Lakh)	MOU with company	Rate of MOU Rs./Kg
2010-11	49.20	126	497412	29.84	393600	7.48	37.32	Vadilal Industries Ltd. Dharampure, Valsasd	6
2011-12	73.40	367	740606	44.43	587200	10.57	55.00	Vadilal Industries Ltd. Dharampure, Valsasd	6
2012-13	78	460	741000	44.46	639600	11.51	55.97	Saraf food Pvt. Ltd. Vadodara	6
2013-14	114.40	572	1372800	89.23	1029600	19.35	108.58	Vadilal Industries Ltd. Dharampure, Valsasd	6
2014-15	25	245	259375	16.86	238625	4.42	21.28	Vadilal Industries Ltd. Dharampure, Valsasd	6.5
TOTAL	340	1770	3611193	224.82	2888625	53.33	278.15		

Note: Including TSP

Crop diversification : High value apple ber crop

Name of Farmer Jagdishbhai Babubhai Patel
Village Dhanori
Taluka Gandevi
District Navsari, Gujarat
Mobile No 9724864558
Age 48 years
Education 12th pass



Shree Jagdishbhai Patel having 3.5 ha land and doing farming of vegetable, sugarcane, sapota and mango crops since last 25 years. He also adopted crop diversification and planted new crop of apple ber in area of 1.2 ha with spacing of 12X10 ft during the year 2014-15. First of all he prepare pit of 2X2 ft and fill of this pit with help of FYM and well pulverize soil. Scientific cultivation of practices along with drip irrigation to obtain efficient utilize of water and fertilizer and quality produce.

KVK scientists gave technical guidance for better flower setting and reduce the fruit drops as well as increase the size of fruits to get higher yield and quality produce. To increase the quality, scientists suggested the spraying of 500 gm calcium nitrate and 250 gm boron in 200 lit water at a 50% flowering state and then after three spray of novel liquid organic fertilizer of 4 lit. in 200 lit. water at a 15-20 days interval. They also inform about the application of biofertilizers namely aztobactar, PSB and KMB each 50 ml per tree with the irrigation water. Further to control the damage of fruit borer, install the one fruit fly trap per ten tree.

Table-1 Details of apple ber cultivation

Sr.No.	Particular	Detail information	Rs.
1	Apple ber crop area	1.2 ha	
2	Cost of graft	1100X100	110000
3	Land preparation	2X2X2 ft pits at a distance of 12X12 ft	
4	Irrigation management	Drip irrigation	
5	Crop protection expense	Fungicide, insecticide, pheromone trap	20000
6	Fertilizer cost	FYM, Chemical, bio fertilizer	100000
7	Total labour cost	pit, application of fertilizer and other	35000
8	Bamboo support cost	8 ft bamboo stick	70000
9	Transport expense		60000
10	Total expense		395000
11	Apple ber production (kg)	55 kg/tree (55X1100)	60500 kg
12	Rate	19/kg (19X60500)	1149500
13	Total income		1149500
14	Net profit		754500



Low Cost Net House Cultivation

An innovative and low cost net house technology adopted by small and marginal farmers in tribal area of Vansda and Chikhali taluka was documented by the scientists of the KVK, Navsari and disseminated to the farming community through various extension programmes. This low cost net house developed technology are required to be transferred quickly to the farmers to increase the production, productivity and quality of different crops and thus, KVK, Navsari created awareness among the farmer programme and enlist the benefit of it for the small and marginal farmers. As result of the farmer constructed low cost net house. The detail of the same and its impact was presented.

Low Cost Green House Cultivation

PHYSICAL ACHIEVEMENT	ACTUAL OUT COME
LCGH Unit – 100	<p>Interested farmers are selected for the project implementation</p> <p>One of the main purpose of this project to get higher income for the farmers with less investment</p> <p>Training and inputs are given to the farmers for successful implementation of the project</p> <p>In an area of one gunta, farmers can get up to 40,000 rupees by cultivating vegetable seedlings and off season leafy vegetable with better quality through out the year along with water management</p> <p>Majority of the farmers realized increase in yield up to 30 – 35 per cent</p>
Training -17	
Literature published	
Folder- 3 Book let -1	



Hon'ble Director of Research Dr. H. C. Pathak, has visited erection work of LCGH demonstration at Pathri



Farmers had erected LCGH with their own efforts and started to cultivate leafy vegetables and seedlings

Replacement Of Kharif Paddy Through Vegetable Cultivation

In tribal region farmers are growing paddy in low land area. In case of up land area water holding capacity is low and soil pattern is lateritic this yields low production of paddy. KVK intervention replaced the paddy with vegetable crops. Around 2240 farmers adopted this technology.

Small Scale Nursery

Navsari district having a 48% tribal people population and covering the Vansda and Chikhali taluka under the tribal area. The income of tribal people from agriculture was very low because of basic availability of natural resource is very less and poor. Moreover, some the tribal people generated income by adopting small scale nursery to raise seedlings, fruit grafts, flowers and ornamentals plants etc. which helps them for to secure their livelihood. This is also identify, validate and disseminate among the resource poor people for better income. This activity carried out by KVK, Navsari was documented and presented.

PHYSICAL ACHIEVEMENT	ACTUAL OUT COME
No. of units- 19	Navsari district is known as mango orchard of the district; hence grafted mango and sapota are in demand. Therefore here is a huge scope for the production of grafted plants
Beneficiaries- 19	
Training- 15	
	Navsari is surrounded by big cities/ metropolitan cities in which landscape gardening is famous. Therefore here is huge demand of ornamental/ flowering planting material

Availability of true to type vegetable seeds are scanty in this area hence it is an opportunity to grow true to type seeds of vegetable in small scale nursery

In the district 19 farmers implemented small scale nursery in which they are earning annually rupees 60 to 3.00 lakh by cultivating mango grafts, ornamental planting material

Among the 19 nurseries; ten farmers are engaged in vegetable and mango grafts. Five are preparing vegetable, ornamental and floriculture and four are engaged in leafy vegetable and high value crops



Raising of Vegetable Seedlings



Multiplication of mango grafts

44. Awards / recognitions received by KVK / farmers / scientists during last eight years

- Award/ Recognitions received by KVK , Navsari**

Krishi Vigyan Kendra Samman' Runner-up Award	Mahindra Samriddhi India Agri Award 2014.
Zonal Best Krishi Vigyan Kendra, Zone-VI-2015	Indian Council of Agricultural Research, New Delhi- 2015
FGI Awards for excellence- 2015	"Best Innovation work in the field of Agriculture development"-2015
Cashless krishi vigyan kendra award-2016-17	KVK-Navsari

• **Award/Recognitions received by KVK Scientist**

Sr. No.	Name of Scientist received Award	Type of Award / Medal / recognition	Institute/Agency	Year
1	Dr. C. K. Timbadia	Achiever Award	ICAR, New Delhi	2011
2	Dr. C. K. Timbadia	Mahindra Samridhi India Agri Award	New Delhi	2014
3	Dr. C. K. Timbadia	“Patidar Krishi Ratna Award”	Chief Minister of GOG at Bhagvat Vidyapith, Sola- Ahmedabad, Gujarat.	2014
4	Dr. C. K. Timbadia	Best Extension Professional Award	Collector & District Magistrate, Navsari	2014
5	Dr. C. K. Timbadia	Save Birds Award	Hon. MLA, collector, DDO and district president	2015-16
6	Dr. C. K. Timbadia	Best Krishi Vigyan Kendra Awards	ICAR, New Delhi	2015
7	Dr. C. K. Timbadia	FGI Awards For Excellence	Shri Manohar Parikar, Hon’ble Minister of Defence, Govt. of India at Vadodara	2015
8	Dr. C. K. Timbadia	The Best Citizen of India Award	International Publishing House	2016
9	Dr. C. K. Timbadia	KVK Scientist award	Samgra Vikash Welfare Society(SVWS) at IBPGR Lucknow.	2016
10	Dr. C. K. Timbadia	Cashless Award	ICAR, New Delhi	2017
11	Dr. C. K. Timbadia	UTTAM LEKH AWARD	ANand Agricultural University, Anand	2017
12	Dr. C. K. Timbadia	Pride of India	International Publishing House	2018
13	Dr. C. K. Timbadia	Best Extension Scientist Award	Society of Extension Education Gujarat	2019
14	Dr. K. A. Shah	Outstanding Extension Scientists Award in Agricultural Sciences	Pearl –A Foundation for Educational Excellence , Madurai	2016
15	Dr. K. A. Shah	Scientist of the Year Award	National Environmental Science Academy (NESA), New Delhi at Bhopal	2017
16	Dr. K. A. Shah	Young Scientist Award	Society of Tropical	2018

			Agriculture, New Delhi, India.	
17	Dr. Prabhu Nayaka	Best Young Scientist Award in the field of Plant Protection in India	Pearl –A Foundation for Educational Excellence , Madurai	2016
18	Dr. Prabhu Nayaka	Scientist Of The Year	National Environmental Science Academy (NESA), New Delhi at Bhopal	2017
19	Dr.Sumit R.Salunkhe	Best Young Extension Scientist Awards	Society of Extension Education ,Gujarat. At Anand Agricultural University,AAU During National Seminar	2018
20	Dr.Sumit R.Salunkhe	Outstanding scientist awards	Society of Tropical Agriculture, New Delhi. at International Conferences on Agriculture, Horticulture and Plant Science at Shimla	2018
21	Dr.Sumit R.Salunkhe	Young Scientist Awards	Indian society of extension education, New Delhi at ISEE national seminar,Kolkata	2018
22	Mr. Alpeshbhai N Lad	Purnathan of Purna Project	Manav Kalyankari Trust. Navsari	2018
23	Mr. Rashmikanth A Gurjar	Popularizing Kitchen Garden	Manav Kalyankari Trust. Navsari	2018

45. Efforts made by KVK for doubling farmers' income and its impact

Government of India several steps have been taken towards attaining these objectives:

- Provision of quality seeds and nutrients based on soil health of each field
- Investments in warehousing and cold chains to prevent post-harvest crop losses
- Promotion of value addition through food processing
- Strengthening of crop insurance scheme to mitigate risks at affordable cost
- Promotion of ancillary activities like poultry, bee-keeping and fisheries.

Doubling Farmer's Income through Horticulture

Fruit Science

- ▶ Availability of Quality Planting material
- ▶ Development and adoption of high yielding varieties
- ▶ Rich in plant diversity that could be utilized for developing promising cultivars of desirable traits.
- ▶ Introduction of minor and underutilized fruits e.g. Jamun, Ber, Tamarind, Khirni, Custard apple, Jackfruit.
- ▶ Sincere efforts to commercialize some new and unexploited crops for commercial cultivation.
- ▶ Awareness about adoption of HDP, Canopy management, Rejuvenation of old orchard and top working for conversion.
- ▶ Adoption of crop regulation techniques for quality production of fruits.
- ▶ Adoption of site specific nutrient management technology and awareness about soil health.
- ▶ Adoption of water harvesting technique, drip irrigation and fertigation, mulching.
- ▶ Adoption of export potential varieties and implementation of GAP.
- ▶ Utilization of IPDM module in proper way.
- ▶ Utilization of long sea coast and unproductive land can be made productive by selecting proper crop having ability to grow under problematic condition.
- ▶ More emphasize is given on byproduct utilization of fruits and vegetable crops
- ▶ Implementation of fruit crop based cropping systems viz., intercropping, mixed cropping, multistory cropping.
- ▶ Enhancing area under organic farming.

Vegetable Science

- ▶ Adoption of HYV/hybrids and resistant varieties.
- ▶ Enhancing the availability of quality planting material particularly in vegetative propagated vegetable crops through plant tissue culture technique.
- ▶ Adoption of export potential varieties and the varieties highly suitable for processing industry.

- ▶ Introduction of new crops like kale, Brussels sprouts, lettuce etc. and exploiting the potential of under-utilized vegetable crops like Indian gourd, amaranth, basella, chenopodium etc..
- ▶ Adoption of nutraceutically enriched crops/varieties.
- ▶ Adoption of Site Specific Nutrient Management technology.
- ▶ Intensification of cropping system and crop diversification.
- ▶ Introduction of plasticulture interventions like water harvesting, drip irrigation, protected cultivation etc.
- ▶ Mechanization in cultivation practices/technology.
- ▶ Adoption of innovative technologies like vegetable grafting and microgreens cultivation.
- ▶ Organic farming in vegetable crops.
- ▶ Use of renewable resources of energy for operational activities in cultivation.
- ▶ Appropriation of TPS technology to reduce cost of and bulb handling of potato seed.
- ▶ Commercial seed production in vegetable crops.
- ▶ Strategies to adopt minimum support price policy in vegetable crops.
- ▶ Developing market linkage directly from producers to consumers or adopting suitable market linkage system from other countries.
- ▶ Off-season crop production and marketing.
- ▶ Medicinal and Aromatic plants making healthy and wealthy
- ▶ Boosting mushroom production through innovative technologies

Floriculture

Protected Cultivation

- ▶ Focusing on High Quality Flower Production through systematic training of plant structure (pinching, bending, disbudding) and nutrient management especially in crops like Rose, Carnation, Chrysanthemum, Limonium, etc.
- ▶ Increasing flower duration by utilizing photo period breaking in crop like chrysanthemum
- ▶ Targeting peak flower market specially in festivals and marriage season by employing crop specific practices like pinching pruning, using PGRs etc in different flower crop.
- ▶ Utilizing of INM and IPM modules for different flower crops. Utilizing leaf tissue analysis for nutrient management.
- ▶ Harvesting water from the greenhouse top. Reducing water use with proper mulching.

- ▶ Utilizing vertical space or planting in double planes.
- ▶ Systematic harvesting (proper time & method) and post-harvest management (soring, grading and packing) of flowers at field level. Storing of flower during glut.
- ▶ Crop diversification with new crops like orchids, anthurium and potted ornamentals. Targeting high production in less time.

Post Harvest Technology

- ▶ Development of location specific post-harvest technology package and practices comprising of optimum harvesting stage to tertiary level of processing.
- ▶ Identifying tools, equipment and machineries for automation at each level of operation viz. handling, packaging, transportation and storage.
- ▶ Development of technology for on farm pre-cooling, grading and packaging techniques and cottage level processing and value additions protocols and machines.
- ▶ Mechanization of processes for Indian traditional and ethnic food products.
- ▶ Development of economically viable pre-cooling, ripening and on farm cold storage system that will helps farmers to preserve the produce at the production site itself till he fetch a good market values.
- ▶ Development of complete cold chain with protocols including pre-cooler, reefer vans, cold storage for Indian conditions for maintaining optimum quality of perishable produce from farm to fork.
- ▶ Providing health foods in form of functional and nutraceutical foods with maximum nutrient retention and bio-availability of essentials components.
- ▶ Value addition and processing of by-products, agro industrial waste and residues into high value products.
- ▶ Trainings of farmers for doing proper post harvest management, processing and value addition of horticultural crops.
- ▶ Establishment of training centre for post harvest management, processing and value addition of horticultural crops at each Dist on community service basis.
- ▶ Exploration of plant extracts in extension of storage life of fruits and vegetables and developments of processes for preparation of instant and extruded food products.
- ▶ Technologies for preparation of low calories health drinks from fruits and vegetables and health oriented appetizer, nectar, jam, chutney, instant powder etc.
- ▶ Developments of fruit juice based carbonated beverages and osmo-canning technology for suitable fruits and vegetables.

- ▶ Adoption of new emerging post harvest technologies like HWT, irradiation, Extrusion cooking, etc.
 - ▶ Establishment of HACCP protocols for different food commodities under Total Quality Management (TQM).

Road Map to Achieve the Target/Goal

Programme	Approach	Performance measure
Standardization of values addition and post-harvest to improves quality and economic returns	Development of Post-harvest management practices, value addition and processing, by-product development from processing waste, development of functional food from finished and semi-finished products.	Post harvest technologies for improved quality and shelf life of produced and minimization of post harvest losses to Nil and newer value added products of fruits and vegetables
Mechanization post harvest operation	Mechanization post harvest operation	Mechanized method developed for different post harvest processing
Transfer of technologies to end user	Technology dissemination through use of ICT tools and extension approaches	Technologies related to developed process disseminated.

Linkages require to achieve the goal of Doubling the farmer's income

Type of Linkage	Collective activity	Advantages
Direct between farmers and traders	Farmers usually act on a one-to-one basis with traders	Requires high level of trust but such trust like to ensure long-term sustainability
	May work together informally to bulk-up produce to reduce costs and attract larger traders	Formal farmer organizations not usually needed
		Traders may (rarely) provide training in production and handling
Direct between farmers and retailers (including restaurant chains) or their wholesalers	May require formal group structure, particularly when buyer does not want to deal with farmers individually.	Reliable market at agreed price

farmers to exporter	Often involves grouping of farmers. External technical assistance may be required	Potential high returns if quality can be achieved
		Inputs, technical assistance, etc. May be supplied on credit
		Exporter often provides transport and packaging.
Direct between farmers and agro-processors	Farmers groups can bulk-up produce for collection by processor.	May provide secure market at agreed price
	Groups can facilitate supply of inputs and provision of technical assistance.	Offers additional market in addition to fresh market
		Inputs, technical assistance, etc. May be supplied on credit
		Processor often provides transport
		Potential for farmers to sell larger volumes.
Linkages through cooperatives	Farmers may link directly with the cooperative or through groups.	Inputs, technical assistance, etc. May be supplied on credit
		Crop marketing, packaging, grading and storage and, sometimes, processing organized by cooperative
		Potential for farmers to sell larger volumes.

46. Expectations of KVK from ICAR / Host Organization

ICAR

1. Provision for well equipped laboratory facilities for plant tissue analysis and residue monitoring
2. Provision of one staff for smooth operating seed hub project.
3. Provision of separate fund for permanent demonstration unit on KVK farm

47. BROAD BASING OF FRONT LINE EXTENSION (2011-12 to 2018-19)

Sl.	Item	I (2011- 12)	II (2012- 13)	III (2013- 14)	IV (2014- 15)	V (2015- 16)	VI (2016- 17)	VII (2017- 18)	VIII (2018- 19)	Total
1	A.I. cases									
2	Animal health care provided									
3	Poultres introduction									
4	Piggery/ rabbitory introduction									
5	Planting material /seedlings produced and distributed									
	Seeds									
1	Paddy	4470	6451	7465	3745	5175	6340	6015	6695	46356
2	Gram	118						83	24	225
3	Green gram	70	225	75	264	120	153	566	255	1728
4	Pigeon pea					430		1004	1208	2642
5	Others	405	445	91		51	148			1140
6	Planting material /seedlings	70100	43775	48610	76703	229975	35157	10420	3700	518440
7	Fodder and grass introduction, ha	0	0	5.0	5.0	6.5	7.0	6.5	6.0	36.00
8	Trees introduction(no.)									
9	Wasteland development plan prepared									
10	Watershed development									
11	Consultancy on soil analysis and topographic survey									
12	Consultancy on land use planning and cropping pattern									
13	Improved hand tools and implements introduced									
14	Fishery demonstrations	0	41	85.5	19.5	24.33	19.6	27	43.7	
15	Any other (Animal health camp.)									

48. Extension Activities Undertaken (last 8 years) (Numbers)

S. No.	Activity	I (2011-12)	II (2012-13)	III (2013-14)	IV (2014-15)	V (2015-16)	VI (2016-17)	VII (2017-18)	VIII (2018-19)	Total
1.	Field Days	3	16	10	10	12	18	15	12	96
2.	Agril. Exhibition	8	6	12	6	12	8	9	11	72
3.	Farmers' Fairs	0	2	6	3	1	2	5	4	23
4.	Radio Talk	3	2	1	4	4	6	1	5	26
5.	TV show	4	6	15	12	6	7	7	5	62
6.	Film show	69	77	79	105	89	54	84	13	570
7.	Training materials produced (a) Pamphlets (b) Video-cassette/ CD (c) Slides	4	41	41	28	33	35	24	37	243
8.	Farm Science Club	0	1	0	1	1	3	1	1	8
9.	<i>Mahila Mandals Orga</i>	-	2	18	6	-	-	15	26	67
10.	Extension Training meetings									0
	i.KisanGhoshi	3	10	4	6	6	8	7	2	46
	ii.Farmers Seminar	3	2	2	3	11	5	8	2	36
	iii.Lectures delivered as resource persons	17	29	51	103	45	64	55	73	437
	iv.Newspaper coverage	38	49	48	44	33	58	83	61	414
	v.Popular articles	64	54	19	70	36	17	11	9	280
	vi.Advisory Services	1362	5018	8983	7335	6523	3586	5541	3528	41876
	vii.Scientific visit to farmers field	117	55	36	93	52	88	65	68	574
	viii.Farmers visit to KVK	838	269	427	459	409	407	101	169	3079
	ix.Diagnostic visits	129	5	16	46	192	23	31	12	454
	x.Exposure visits	31	6	9	7	23	15	13	14	118
	xi.Animal Health Camp	1	10	1	2	0	0	1	0	15
	xii.Soil test campaigns	2344	2385	2300	1545	1953	1611	328	494	12960
	xiii.Self Help Group Conveners meetings	3	2	4	2	2	4	3	7	27
	xiv.Celebration of important days (specify)	2	9	5	5	4	7	8	15	55
	xv.Farmers'- Scientists' Interaction	3	-	1	1	-	3	7	1	16
	xvi.Technology week	1	1	1	1	-	1	1	1	7
	Others, if any									

49. Publications made during the QRT period:

Type of Publication	Title and publishers/Journal/Magazine		
Research article :			
2011-12	1	Impact of climate change on food security	International J. of Agri.Entomology & Biotech: June-2011, Vol:4, P:125-127
	2	(i) Effect of bio-processing on antioxidant activity of wheat & pearl millet (ii) Hypoglycemic & Hypolepidemic potential of herbal mix	Paper presented in International Conference of Life science 10-13/11/2011
	3	Experiences gained by the safed musli growers about its cultivation	NASC, New Delhi “International Conference on Innovative approaches for Agricultural knowledge management”- Global Extension Date : 9-12/11/11
	4	Telephone : A Source of agro-technology information	
	5	Enhancing farmer's income through value added products : A KVK intervention	Paper Presented in 6 th National conference on KVK-2011 Date : 3-5/12/11 Place : Jabalpur
2012-13	1	Irrigation scheduling in semi rabi pigeon pea (<i>Cajanus cajan L.</i>) Millspa UGH)	Bioinfolet, Vol:9 No:4 (2012)
	2	Impact of group co-hesiveness on professionalism management of co-operative sections	Advance Research J. of Social science 3(3) : 213 (2012)
	3	Empowerment of rural women through self help group	Agricultural update,7 (324) : 342
	4	Role of micronutrient in fruit crops	Abstract Symposium Tropical & sub tropical fruit
	5	Wadi Yojna	
	6	A review on women reducing drudgery through empowerment in agriculture in the Dangs of Gujarat	Paper presented in Natonal level seminar on “Value added science awareness to strengthen women's role in climate resilient agriculture and sustainable development, dt. 4/1/2013
	7	Consequence of time of sowing on growth and yield of Okra cv. OH-152	Advance reaserch J. of crop improvement,3(1): 32-34
2013-14	1	Introduction of sweetcorn cv. sugar-75 through frontline demonstration in tribal area of navsari District in Gujarat	Journal of Krishi Viyan 2(1):84&85
2014-15	1	FLD impact analysis on scientific cultivation of chilly	<i>Society of Extension Education</i> , 22: 68-70.
	2	Introduction of sweet corn cv. sugar-75 through frontline demonstration in tribal area of Navsari district in Gujarat.	<i>Journal of Krishi Vigyan</i> 2 (1): 84-85.
	3	Results of frontline demonstration of rice in Navsari district of Gujarat.	<i>Agriculture update</i> 9 (2): 229-231.
	4	Yield and impact analysis of training and FLDs regarding scientific cultivation of brinjal.	<i>Agriculture update</i> 9 (3): 288-291.

	5	Growth, Yield attributes and yield of summer blackgram (<i>Vigna mungo</i> L.) as influenced by FYM, phosphorus and sulphur.	<i>The Ecoscan</i> , special issue, (6): 429-433.
	6	Interaction effect of time of sowing and planting geometry on growth and yield attributes of okra under south Gujarat condition.	<i>Trends in biosciences</i> (2014). 7(24):4300-4303.
2015-16	1	Impact of frontline demonstration of SRI technology of paddy cultivation in Navsari district of Gujarat” .	Agriculture Update. Volume 10, Issue 1, February-2015.
	2	Knowledge level of sapota growers about scientific package of practice.	<i>Agriculture Update</i> . Volume 10, Issue 1, Feb.
	3	Effect of integrated nutrient management on yield of sapota.	<i>The Asian Journal of Horticulture</i> . Volume 10, Issue 1, June.
	4	Cost-effective-dietary backyard kitchen gardening: A success story”	Rashtriya Krishi (Hind Agricultural Research and Training Institute)Volume 10, Issue 1, June-2015
	5	FLD on INM: A tool to optimize nutrient use and improvement of brinjal yield”.	Agriculture Update. Volume 10, Issue 3, August.
2016-17	1	Knowledge levels and adoption pattern of rice production technology among the navsari district farmers	Agricultural Update (2016):11(3):242-246
	2	Combining ability studies in Rice (<i>Oryza sativa</i> L.) for yield and its component characters	Green farming (2016):7(4):779-782
	3	Impact of Front Line Demonstration on feeding of Low cost high protein rich food (Poshak Aahar) to Malnourished rural tribal children	Gujarat J. Ext. Edu. (2016):27(1):79-81
	4	Impact of training on knowledge level of participants regarding value addition in Papaya	Gujarat J. Ext. Edu. (2016):27(2):126-129
	5	Stability and GxE interaction on yield and its components of Rice	Bioinfolet (2016):13(1B): 197-202
2017-18	1	A profile analysis of animal husbandry enterprise holders of farmer’s interest groups of Navsari district	Gujarat journal of extension education, Dec-17, Vol. 28, Issue-1, PP: 85-89
	2	Impact of training on adoption of fruits and vegetables preservation technology by tribal women	Gujarat journal of extension education, Dec-17, Vol.28, Issue-1, PP: 46-49
	3	Impact of training on knowledge of tribal farm women regarding health and nutrition of mother and child	Gujarat journal of extension education, Dec-17, Vol.28, Issue-2, PP: 261-264
	4	Association between personal profile and extent of adoption regarding paddy production technology	Gujarat journal of extension education, Dec-17, Vol. 28, Issue-2, PP: 321-330
	5	Adoption of improved brinjal production technology followed by brinjal grower.	Gujarat journal of extension education, Dec-17, Vol. 28, Issue-2, PP: 244-245
	6	A study on personal profile & use of internet facility by the post graduate	Trends in bio sciences, Dec-17, Vol. 11, Issue-2, PP: 427-428

		student of NAU, Gujarat State.	
	7	Attitude of farmers towards farming as an occupation	International Journal of pure applied Bioscience 5(5) : 833-837 (2017) ISSN : 2320-7051
	8	Information seeking behavior about animal husbandary enterprises holder of farmers' interest groups	International Journal of current microbiology and applied sciences. ISSN : 2319-7706, Vol:6, No:7, (2017), PP: 2460-2465
	9	Constraints perceived by vegetable growers for the use of farm mechanization	Current Agriculture Research Journal, ISSN : 2347-4688, Vol: 5, No.,(2), PP: 227-231
2018-19	1	Knowledge of Brinjal growers (<i>Solanum Melongea</i> L.) Production Technologies in Tapi District of Gujarat State	international journal of tropical agriculture
	2	Effect Of FLD On Fish Culturist In Navsari District	Guj. J. Ext. Edu. Special Issue on National Seminar
	3	Effects of phosphorus and potassium on yield attributes and yield of summer sweetcorn under south Gujarat	international journal of tropical agriculture
	4	Adoption of Fruits & Vegetable Presentation Technology by tribal farm women of Tapi District	Guj. J. Ext. Edu. Special Issue on National Seminar
Technical Bulletin :	1.	Monthly Progress Reports	
	2.	Quarterly Progress Reports	
	3.	ZREAC Reports	
	4.	AGRESCO Reports	
	5.	Tecnology week report	
	6.	SAC meeting report	
	7.	Annual Action plan report	
	8.	Annual Progress report	
Popular article :			
2011-12	1	Rashtriya parisandhama kheduto ne kaik navu karvani rah chindhi	Divya Bhaskar 4 th April 2011
	2	Swasthaya vardhak soybean no aharma upyog karo	Champion agro world, April-2011
	3	Meetha panima matsya palanno safal prayog	Divya Bhaskar 25 th April 2011
	4	Rashtriya krishi vikash yojana – Ek aneri sidhhi (Meetha panima matsya palan- Ek safal varta)	Gujaratmitra Krishi.Col. Dt.2/5/11
	5	Dudhala pashono ahhar, tema bypass tatvonu mahtva	Krishi Go vidya May-11
	6	Mashroom : kheti no ek purak vyavasay	Gujaratmitra Krishi.Col. Dt.9/5/11
	7	mashroom ni kheti dwara ochhee mehnate vadhu avak	Divya Bhaskar 9 th May 2011
	8	Kheduto ne karaj mukta karvano prayas	Divya Bhaskar 16 th May 2011
	9	Dudhala pashono ahhar, tema bypass tatvonu mahtva	Kisan sandesh 6-6-11
	10	Beej mavjat dwara beej janya rogo nu niytran	Divya Bhaskar 20 th June 2011

	11	Technology transfer nu Kendra KVK	Divya Bhaskar 27 th June 2011
	12	Nasari jillanu Krushi Vigyan Kendra : Karypadhdhatee ane seedheeo	Gujaratmitra Krishi.Col. Dt.27/6/11
	13	Contract farming	Gujaratmitra Krishi.Col. Dt.4/7/11
	14	Navo swa rojgar alaseeyani kheti	Divya Bhaskar 11 th July 2011
	15	Chomasani rutuma pashupalan ni tandurasti jalvava matena suchano	Gujaratmitra Krishi.Col. Dt.18/7/11
	16	Masroom nu aahar ma mulya	Gujarat Mitra 08/08/11
	17	Samgra saurastra no vagado gheri letu gajariyu ghas kfymi tras rup	Avadh times 07/08/11
	18	Mulya vardhan thi chinta mukta banse kishano	Aegro sandesh 15/08/11
	19	Pak mate jamin ane pani ni chakasni nu mahatva	Divya Bhaskar 22/08/11
	20	jamin chakasni nu mahatva	Gujarat Mitra 22/8/11
	21	Chomasa ma pasu mavajat	Krushi vigyan Aug-2011
	22	Gramya mahilao mate navo svarojgar alasiya ni kheti	Krishi Go vidya sep-2011
	23	Gramya mahilao mate navo svarojgar alasiya ni kheti	Champion agro world sep-2011
	24	Vanspati parichay : Methi	Champion agro world sep-2011
	25	Gramya mahilao mate navi svarojgari Alsiya ni kheti	Kheti ni vat sep-2011
	26	liti kotan vishe janava jevu	Gujarat Mitra 12/09/2011
	27	Mitha pani ma matsyapalan yhi kishano kamase. gramya smrudha banase	Aegro sandesh 18/07/11
	28	Kapani pachhi nu Jatan upjavse vadhu mulya	Aegro sandesh 25/07/2011
	29	Kontrakt farming thi khedutm ne fayado j faydo	Aegro sandesh 29/8/2011
	30	Jantunashko na avaseso ni aad asar	Divya Bhaskar 26/09/2011
	31	Sinchai na pani no jaruriyat karata vadhu upayog thi veran bani jati kheti ni jamin	Gujarat Mitra 26/09/2011
	32	Svasthya ni drastic ae gunkari methi vishe jano	Krishi Go vidya octo-2011
	33	Khetpedaso ma jantunasko na avaseso ni hajari thi kheduto ne nuksan	Divya Bhaskar 10/10/2011
	34	Jalstrot ni jalvani	Gujarat Mitra 17/10/2011
	35	Khedut banya krushi vaiganik ane ejaner	Aegro sandesh
	36	Gujarat na kheduto dvara navintam sodh (bhag 1)	Gujarat Mitra 7/10/2011
	37	Gujarat na kheduto dvara navintam sodh	Gujarat Mitra

		(bhag-2)	14/11/11
	38	Gujarat na khrduto dvara navintam sodh(bhag-3)	Gujarat Mitra 21/11/11
	39	Biti ringan kheduto mate aashirvad rupe	Divya Bhaskar 28/11/2011
	40	Gramin Mahilao mate kitchen garden	Krishi Go Vidhya, Dec-11
	41	Krishi no itihash	Gram swaraj-10/12/11
	42	Gujaratna kheduto dvara navintam shodh	Gujaratmitra-5/12/11
	43	Gujaratna kheduto dvara navintam shodh	Gujaratmitra-12/12/11
	44	Navsari Krushi university ayojit Adbhoot innovative farmer's meet	Divya bhaskar 23/12/11
	45	Oister-Mushroom ni kheti	Kisan Sandesh-26/12/11, Varsh : 13, Vol:32, Page No:4
	46	Oister-Mushroom ni kheti	Champion Agro world 2012, Jan- 12
	47	Meetha panima matsyapalan	Swadesh swapna 10/1/12
	48	Apnu Gujarat-Green Gujarat	Gujaratmitra-23/1/12
	49	Gujaratna kheduto dvara navintam shodh	Gujaratmitra-23/1/12
	50	Gujaratna kheduto dvara navintam shodh	Gujaratmitra-13/2/12
	51	Gujaratna kheduto dvara navintam shodh	Krishimitra Pag.8 27/2/12
	52	Krishi no itihash	Avadh times
	53	Kudarati rite motapo dur karvana saral upayo	Krishi go vidhya 6/3/12
	54	Gujaratna kheduto dvara navintam shodh	Krishimitra Pag.8 5/3/12
	55	Gujaratna kheduto dvara navintam shodh	Krishimitra Pag.8 16/3/12
	56	Kitchen garden	Divya bhaskar 26/3/12
2012-13	1	Gujaratna kheduto dvara navintam sodho.	Gujaratmitra Krishi.Col. Dt.9/4/12
	2	Vadalo 60% keru safu kari nakhasu.	Divya Bhakar 24 th April 2012
	3	Gujaratna kheduto dvara navintam sodho.	Gujaratmitra Krishi.Col. Dt.14/5/12
	4	Off sensonma shakabhaji ni kheti	Kisan Sandesh 14-5-12
	5	Aadhunek piyat paththti	Swadesh swapna 29-5-12
	6	“Cage fish farming”	Gujaratmitra,Krishi. Col. Dt.11/6/12
	7	Papaya ni kheti dvara Tunkagalama vadhu nafu melvo.	Kisan Sandesh, 18-6-12
	8	Gandhi memorial project antgat nasari panthakma krishi zadapi vikasna magre.	Gujaratmitra Krishi.Col. Dt.9/7/12
	9	Nitar vyvshtha dvara jamin sudharana	Divya Bhaskar 16 th July 2012
	10	Jamin ane panima prutthakan karavo. (khetima vadhu aavak melavo)	Gujaratmitra, Krishi. Col. Dt.16/7/12
	11	Varsad khenchhta vaikalpik pakni bhalman	Divya Bhaskar 23 th July 2012
	12	Nitar vyvshtha dvara jamin sudharana	Gujaratmitra, Krishi. Col.

			Dt.23/7/12
	13	Jalshotrat ni jalvani	Jaljivan June-July'12
	14	Chomasama pashuaoni sarsanbhal	Sahkar, Aug-12
	15	Kheduto mate praranrup kutch ni anokhi kheti dhyey sathe mahenatthi ranma pan ful khele.	Gujaratmitra Krishi.Col. Dt.6/8/12
	16	Krishi vigyan Kendra : dhothe daykani siddhne pravutrio.	Gujaratmitra Krishi. Col. Dt.13/8/12
	17	Krishi vigyan Kendra khate mushroom khetina anubhav	Gujaratmitra, Krishi. Col. Dt.20/8/12
	18	divelani kheti thaki pan sari aavak melvi shakay.	Divya Bhaskar Dt.20-8-12
	19	Kheduto mate praranrup kutch ni anokhi kheti dhyey sathe mahenatthi ranma pan ful khele.	Kisan Sandesh Dt.20-8-12
	20	Bhugbhar jalni kharasha payanvan samsya.	Divya Bhaskar Dt.10-9-12
	21	Chomashani seasonma pashuni yogay mavjat kari vadhu nafo melvo.	Godarshan guide Dt.5-9-12
	22	Panini gunvata ane jatan	Divya Bhaskar Dt.1-10-12
	23	Rojedan aaharma shakbhajinu mahtav	Kisan Sandesh Dt.15-10-12
	24	Pamaroza (roisa dhas) tatha lemon dhasni kheti	Swadesh swapna 16-10-12
	25	Gajarni kheti	Swadesh swapna 16-10-12
	26	Gajarni kheti paddhti	Kisan Sandesh Dt.1-11-12
	27	Rojedan aaharma shakbhajinu mahtav	Krishi Vigyan Dt.5-11-12
	28	Rojeda aaharma shakabhaji nu mahtav	Champion Agro world 5-11-12
	29	Gajar ni Vaigyanik kheti paddhti	Champion Agro world 5-11-12
	30	khedut mate pranrnarup kutchni anokhi kheti	Krishi govidhya Dt.5-11-12
	31	Shakabhji pakoma utpadan vadharva mateni tips	Krishi vigyan Dt.5-11-12
	32	Matsaypalan ma khatarna upyogno sidho sanbandh	Swadesh swapna 6-11-12
	33	prutthakanne aadhare khatarno santulet upyog	Divya Bhaskar Dt.19-11-12
	34	khedut mate pranrnarup kutchni anokhi kheti dhyey sathe mahenatthi ranma pan ful khele.	Jal Jivan Oct._Nov.-12
	35	Tunkagala ma vadhu aavak aapti sweetcorn	Divya Bhaskar Dt.19-11-12
	36	Jamin ane pani nu prutthakan karavvu sha mate jaruri che ?	Kisan Sandesh Dt.26/11/12
	37	Jamin ane pani nu prutthakan karavvu sha mate jaruri che ?	Krishi Vigyan Nov.-12
	38	Palanhar krushk samajne koti koti vandan Krishi Vigyan Kendra,navsarini year 2011-12 ne siddhne – pravutrio	Divya Bhaskar Dt.23-12-12

	39	Ranana amrut tarbuch thi vadhu aavak	Divya Bhaskar Dt.24-12-12
	40	Unalu magfalini vainanik kheti	Gujarat Mitra Dt.31/12/12
	41	Lohi ne suddh banavatu falavar khedutne pan faydakarak	Divya Bhaskar Dt.31-12-12
	42	Kobij ma thodi savchetine sari aavak melvo.	Divya Bhaskar Dt.31-12-12
	43	Pashu ma rashikaran nu mahatva	Krishi Vigyan Dec-12
	44	Unalu magfalini vainanik kheti	Champion agro world Jan.-13
	45	Krishi tantriki nu vistaran	Swadesh swapna Jan.-13
	46	Unalu kathol pag dwara vadhu aavak	Divya Bhaskar Dt.28-01-13
	47	Unalu magfalinu bamanu uttpadan melvo.	Divya Bhaskar Dt.04-02-13
	48	Unalu magfalinu bamanu uttpadan melvo.	Krishi Vigyan Jan.-13
	49	Unalu magfalinu bamnu uatapadan melavo	Divya Bhaskar Dt.4-02-13
	50	Unalu magfalini vaigyanik kheti	Kisan Sandesh Dt.11/02/13
	51	unalu kathol pakoni kheti paddhti	Kisan Sandesh Dt.18/02/13
	52	Rojeda aaharma shakabhaji nu mahtav	Krishi govidhya Mar- 13
	53	khiru:navjat pada/vacharda mate aeka amulya kudartibhet	Krishi govidhya Mar- 13
	54	krushino etihash : vishvma vaigyanik kheti vikash	Swadesh Swpna Mar-13
2013-14	1	Sweetcornni kheti thi aathik vikas taraf	Swadesh swapna 2/4/13
	2	Unalani rutuma pashuo mate Panini agattya	Khetini vat April' 13
	3	Vansadana kheduto tunkaganama uttpadan aapti sweetcornni kheti taraf valya.	Agro Sandesh April' 13
	4	Dangerni NAUR-1 jat thi posansham uttpadanma safalta	Agro Sandesh April' 13
	5	Chomasani rutuma pashuoni tandurrsti	Champion Agro world June- 2013
	6	Krishi tantriki nu vistaran	Swadesh swapna
	7	Swasthy vadhak soyabean	Krishi Vigyan June' 13
	8	Tuvarni vaignik khethina mudrao	Krishi Jivan July' 13
	9	Bio fertilizer dwara chikunu 25% uttpadan vadhyu.	Divya Bhaskar 30 September,13
	10	Safal bagayat khetini tarkib	Kisan Swadesh October' 13
	11	Gunomo bhandar-shakbhji	Kisan Swadesh October' 13

	12	Pragtisil khetine panthe	Champion Agro world November-2013
	13	Tamam Krishi par nibharar tyarr khedutone avaganan aadttatjanak	Divya Bhaskar 11 November,13
	14	Aapnu swasthy ane anaemia	Krishi Vigyan 30 November,2013
	15	Deshni 58% thi vadhare vasti sidhi khet par aadharit che.	Aavdh times 26 November,2013
	16	Kheti ane khedutnu mahtav	Kisan Sandesh
	17	Jamin ane paninu prutthakanne karavvu shha mate jaruri che	Krishi Vigyan November.2013
	18	Gajarni vaignik khethi padhdhti	Champion Agro world November-2013
	19	Rojenda aaharma shakbhajinu mahtav	Champion Agro world November-2013
	20	Pashupalanma padi/ vachhradina uchhernu mahtav	Kheti ni vat June-2013
	21	Kerina pakne 50% nukshanni bhiti	Divya Bhaskar 22 January,14
	22	Kitchen garden aetle gharni shobha shathe taja shakbhaji	Divya Bhaskar 17 February,14
	23	Kitchen garden aetle gharni shobha shathe taja shakbhaji	Sahkar 3 March,14
	24	Unalanu magfalini vaignik kheti	Swadesh swapna 25 February,14
	25	Shisuno Shreshtha aahar matanu dudha	Krishi Vigyan March-2014
	26	Vermicompost khatar banavva mate shed ane bad kevi rite taiyar karsho.	Divya Bhaskar 25 march,14
2014-15	1	krushi xere aagavu pradan karnari mahilaonu vishesh sanman	Divya Bhasakar 7/4/14
	2	krushi xere vesesha fala thaki mahila khedutone vishesh nondha levai che.	Divya Bhasakar 21/4/14
	3	Mahila krushakni mahenat beeja kheduto mate pan praranadayak	Divya Bhasakar 28/4/14
	4	Marchima aadhunik kheti paththi thi saru valtar	Divya Bhasakar 5/5/14
	5	Choli pak pachhi uttpadan chomasu dangarma vadhu	Champion agro world May-14
	6	matsaypalanma khatar upyogno sidho sanbanth	Swadesh swapna May-14
	7	Shixat khedut dwara bhidani safla kheti	Samana May-14
	8	rojida aaharma antioxidant tatvinu mahtav	Swadesh swapna May-14
	9	Sendiray khethithi haldarnu gunvatta sabhar uttpadan	Samana May-14
	10	Tajyono sathe rakhi haldarma aavak melvo	Divya Bhasakar 26/5/14
	11	kheti ane khedutnu mahtav	Sahkar 29/5/14
	12	Falpakoma dhanesht vavetar paththi ae aavnar samapanne jaruriyat	Kisan Sandesh 2/6/14
	13	Choli pak pachhi chomashu dangarma	Champion agro world

		vadhu uttpadan	June-14
	14	rojida aaharma antioxidant tatvinu mahtav	Kisan Sandesh 9/6/14
	15	Prati hekatare 200 tan seradi pahavato khedut	Divya Bhasakar 23/6/14
	16	Kitechenn gardenni safalvarta	Ek prayas 25.6.14
	17	ghar aangane sakabhajee (Kitchen garden)	Kisan Sandesh 23/6/14
	18	Aantarrastriya kautubik krushi varshni ujvani	Samana 27/6/14
	19	khedutone jarur pramane talim aapatu KVK	Samana 27/6/14
	20	Uttam kheduto dwara shradina mahauttam kheti	Swadesh swapna 27/6/14
	21	aatni mahilae matasaypalan thaki award melvyo	Divya Bhaskar 30/6/14
	22	Vadhu uttpadan aapati dangarni shree paththti	Kisan Sandesh 3/7/14
	23	Kathol pakonu uttpadan vadharavana chaveerup mudo	Kisan Sandesh 3/7/14
	24	sherdini uttam sadlavno khedut kheti karato	Swadesh swapna 1/7/14
	25	Aadad vaignik kheti padhdhti	Kisan Sandesh 7/7/14
	26	Falpakoma dhanist vavetar paththti (high density) ae avanar samayni jarureyat	Champion agro world July-14
	27	Kathol pakonu uttpadan vadharavana chaveerup mudo	Champion agro world July-14
	28	Adad ni vaegnanek khete padhatee	chempiyan agrowarld July- 14
	29	Sweet corn ni khete the aadivasi khedutona jivan ma mithas	Saamna 14/07/2014
	30	Sweet corn ni khete the aadivasi khedutona jivan ma mithas	Atal savera 14/07/2014
	31	Sweet corn ni khete the aadivasi khedutona jivan ma mithas	Divya Bhaskar 14/07/2014
	32	Aadhunik Piyat padhatee	Svadesh swapna 08/07/2014
	33	Khete a bharat deshni aarthek pragatee nu mahatvanu paribal che	Atal savera 21/07/2014
	34	Aadivashi kheduto have rokadiya pako taraf vadya	Atal savera 25/07/2014
	35	Nidarshan ni haldarnu uttpadan 43 taka vadhu	Divya Bhaskar 28/07/2014
	36	Gramin mahilao ane poshtik aahar	Krishi vigyan 04/08/2014
	37	Aadivasi khedutne haldare karavi kamani	Divya Bhaskar 04/08/2014
	38	Shiyalama piyat vagar guvarni khetene anokho prayog	Divya Bhaskar 04/08/2014
	39	Vadhu Utpadan aapte dangarni "shree" padhate	chempiyan agrowarld Aug - 2014

	40	Ghar aangane shaakbhaji	Krishi Vikas Gaatha 01/08/2014
	41	Shaakbhaji paakoma bija utpadan dvaara vadhu aavak	Krishi Vikas Gaatha 01/08/2014
	42	Fal ane Shaakbhaji paakoma vividh trep (pinjar) dvara mota paaye jivat niyantran	Divya Bhasker 11/08/2014
	43	Raasayanik khaatarna kaaryakxam upyogma jaevik khaatarno faalo	Kishan Sandesh 18/08/2014
	44	Mashaala ane Tejaanano ghargathhu ausadhiya upyog	Aek prayas Aug - 2014
	45	Be vinghaama 25000 na mag paakya	Divya Bhasker 25/08/2014
	46	Mashaala ane Tejaanano ghargathhu ausadhiya upyog	Krishi Vigyan Aug - 2014
	47	Krishi tajagnoni salah vade suran ni khetee ma dodhi aavak medavta khedut	Divya Bhasker 15/09/2014
	48	Aadivashi khedut dvaara chanaa ni safal kheti	Saamna 23/09/2014
	49	Vadhu utpadan ane aavak melavta mahila khedut	Saamna 30/09/2014
	50	Taametani kheti ma rs. 2.92 laakhni aavak melvi	Saamna 30/09/2014
	51	Haldarni navi jaatni safal kheti	Saamna 30/09/2014
	52	8 vingha ma sherdi nu 282 tan utpadan melavu	Saamna 30/09/2014
	53	Taameta thake 1.5 vingha ma j 3 laakh kamaya	Divya Bhaskar 29/09/2014
	54	Farmfera dot com atle Shaakbhaji dot com	Divya Bhaskar 13/09/2014
	55	Rojinda aaharma anti oxidant nu mahatva	Krishi Vigyan 11/11/2014
	56	Daadamni Vaigyanik kheti	Krishi Jivan November - 2014
	57	Sherdi – Uttam kheti karto uttam khedut	Aek Prayas November - 2014
	58	Maatra paanch gunthama paapdi thake 35000 ni chokhee aavak	Divya Bhaskar 22/12/2014
	59	Kaantasvelna khedutni ringan ane gilodani safal khete	Agro Sandesh 29/12/14
	60	Aabama dhanist vavetar paththiti	Ek prayas Dec-14
	61	Dangarni shree paththiti khedutone nyal kaya	Divya Bhaskar 5/1/15
	62	Papayama mulayvadhan	Ek prayas 22/1/15
	63	rojida aaharma antioxidant tatvinu mahtav	Ek prayas 22/1/15
	64	ghar aangane sakabhajee (Kitchen garden)	Krushi jagran Dec-14
	65	Suryaprakash dvara malta vitamin-d ne agayata	Krishi Vigyan Jan-15
	66	rojida aaharma antioxidant tatvinu	Jal Jivan

		mahtav	Oct-Nov-14
	67	Unalu magfalima piyat vyavshthpan	Jal Jivan Jan-15
	68	Suryaprakash dwara malta vitamin-d ne agayata	Ek prayas Feb-15
	69	Tapak sechai vade apple borni 4 lakhne aavak	Divya Bhaskar 16/2/15
	70	Kichen gardenma vividha sakabhjino pak lai sakay	Samana 9/3/15
	71	Sweetcornne sugar-75 jatane safal kheti	Samana 9/3/15
	72	Unalu magafalima piyat vyavshthpan	Jal Jivan 5/3/15
	73	Papayama mulayvadhan	Krishi Vigyan March-15
	74	Kheti ane khedutnu mahtav	Ek prayas Feb-15
2015-16	1	Kitchen Garden ek sarv anubhav	Ek Prayas April - 2015
	2	Kitchen Garden thaki swachh swsth shakbhaji melvo	Divya Bhasker – 09-04-2015
	3	Kitchen Garden ek Sarv anubhav	Jal Jivan April - 2015
	4	Lal chokhani vighama 26000 ni aavak	Divya Bhasker 18-05-2015
	5	Dangar ni GNR -4 jat ni kheti no safal prayog	Samna, May - 2015
	6	Matra 10 guntha ma 1700 kg Ringan melvta khedut Gamanbhai Patel	Divya Bhasker 1-06-2015
	7	Margdarshan thaki 5 kg ni machhali taiyar kari	Divya Bhasker 8-6-2015
	8	Aankh ni jalvni mate vitamin-A ni agatyata	Ek Prayas June -2015
	9	Aankh ni jalvni mate vitamin-A ni agatyata	Jal Jivan April-May -2015
	10	Masala ane tejanao ghargatthu Aushadhiy Upyog	Ek Prayas May -2015
	11	Alasi	Krishi Vigyan June -2015
	12	Kheti ma mishra ane Aantarpak paddhati ane tena fayada	Krishi Jivan June -2015
	13	Yogik shaktio krushima upyog etle swasthya yogik krushi	Samna, 29-06-2015
	14	Yogik shaktio krushima upyog etle swasthya yogik krushi	Divya Bhaskar 29-06-2015
	15	2 Vinghama onion ni kheti kari 63000 ni chokhi avak melvati aaj ni mahila	Divya Bhaskar 19-08-2015
	16	Sukshm piyat padhhati aaj ni jaruriyat	Krishi Jivan June-July -2015
	17	Bhoogarbh jal sanchay ane teno kheti ma karyaksham upyog	Jal Jivan June-July -2015
	18	Kheti ma mishra ane aantarpak padhhati thi ane tena fayad	Krishi Jagran- August -2015
	19	Nindaman : Kheti ma chhupo dushman	Krushi Jagran June-August-2015
	20	Aankh ni jalvni mate vitamin-A ni agatyata	Krishi Vigyan, Saptmber-2015

	21	Krushhi pako m rasayanik davaone aapo samajne tandurast rakhava kheduto jagrut	Swadesh Swapna 15-12-2015
	22	Krushhi Scientist e karyu vatana ma samrudhhi vavetar	Kruhi Prabhat 07-02-2015
	23	Aadhunik piyat padhhati	Swadesh Swapna 12-1-2016
	24	Chana ni Safal kheti utpadan ane Avak ma vadharo	Navsari Times, January-2016
	25	Abramana mahila khedut Kantaben mahila khedut ne navo rah chindhe chhe.	Navsari Times, 1/2/2016
	26	Unalu magni vaighnanik kheti	Krishi vigyan, January-2016
	27	Kachchha no prena pravas dhyey sathe mahenatthi ranma khile ful	Krishi prabhat, February-2016
	28	Varmicomost	Krishi Vigyan, February-2016
	29	Meha jatna mag ni kheti dwara sari avak melvi	Navsari times, 3/4/2016
	30	RKVY yojana antargat chikuni safalvarta	Dr. C. K. Timbadia, Swades swana, 12/4/2016
	31	Vishva ruthvi dinni sachi ujaani karva kheduto ne aadhunik khetima jaminni janvani mate jamin ane aninu ruthkaran karvu jaruri chhe.	Divyabhaskar, 22/4/2016
	32	SUCCESS STORY – PADDY, SRI (C. K. ATEL)	Krishi jagran, Aril-2016
	33	Mother's day	Divybhaskar, 8/5/2016
	34	Soldara ma Asmitabene madhuchher pravrutti thi temani jindagi madhmadhati thai.	Navsari times, 30/5/2016
	35	Adhunik iyat adhdhati	Swadesh swana,31/5/2016
	36	Krushhi no etahas : Vishva ma vaighnanik kheti vikas	Swades swapna, May-2016
	37	Safalvarta : Paddy, SRI (C. K. Patel)	Ek prayas, July-2016)
2016-17	1	Meha jatna magni kheti dwara sari aavik melvi	Navsari Times
	2	RKVY yojana aantgat chikuni safalvatra	Swadesh Swapan
	3	Vishav pruthavi dinni sachi ujavani karava khedutoe aadhunik khetima jaminni jalvani mate jamin ane paninu pruththkaran karavvu jaruri che,	Divya Bhaskar
	4	Sucess story Paddy SRI (C.K.Patel)	Krishi Jagran
	5	Bharatni khetima mahilaoni bhumika	Krishigovidhya
	6	Krushhi Vigyan Kendra Navsarina samparkma avya baad vadhu utpadan ane aavak medvel khedutni safalgatha	Navsari Times
	7	Krushino itihaas: Vishwma vaighnanik khetino vikas	Swadesh Swapan
	8	Mother's day	Divya Bhaskar
	9	Soldharana asmitaben madh uchar pravutithi temani jindgi madhmadhthi thai	Navsari Times

	10	Aadhunek piyat paththti	Swadesh Swapan
	11	Swa- Sahay juth dhwara mahilaonu sashaktikaran	Krishigovidhya
	12	KVK, Navsarina safal khedutni safalya gatha : Ochha pani ane kharche vadhu utpadan aapati dangarni SRI padhhati	Ek Prayas
	13	Balposhan ni jaruriyat	Krishigovidhya
	14	Daxian gujaratna anek kheduto aaduni kheti taraf valya.	Divya Bhaskar
2017-18	1	Parval Nu Postik Ane Aovasodhiy Mulya	Krushu Go Vidhya May -2017
	2	Tapak Piayt Padhhati Na Faydao	Krushu Jivan May -2017
	3	Parval Ni Vegyanik kheti Apnavo	Krushu Go Vidhya June -2017
	4	Shaikshanik Hab Eru Char Rasta Vistar	Divya Bhaskar June- 2017
	5	Aadhunik Piyat Padhhati	Swadesh swapna 20-06-17
	6	Aadhunik Piyat Padhhati	Swadesh swapna 01-08-17
	7	Kishan Din Vishesh	Divya Bhaskar 23-12-17
	8	Rigan,Tameti Ane Marchina Rogo Ane tenu Niyantran	Krushu Jivan 16-01-2017
2018-19	1	Pila pancharangiya rog same pratikarkta dharvati mag ni aasasapd navi jat-Gujarat Mag-6	Krishi Karma
	2	RKVY yojana antagrat chiku ni safal varta	Swadesh swapan
	3	Manushy aahar ma machhli nu mahtav	Krishi Govidha
	4	Dhanorima jaivik khatar dwara tamatani nafakarak kheti	Sandesh
	5	Aadhunik kheti khaetre mahilaoni pragati	Divya Bhaskar
	6	Mari-masala vividh banavato	
	7	Fal ane sakabhajinu aaharma ma	Varishtham
	8	Parval ni vaiganik kheti	Krishi Jivan
Electronic Media (CD) :			
2011-12	1	Innovative Farmer's Meet	4
2012-13	1	International Women's Day	2
2013-14	1	International Women's Day-2014	2
	2	Gujarat Gaurav Divas	1
	3	Effect of climate change on agriculture feed back from scientists and farmer's	2
2014-15	1	International Women's Day-2015	3
2015-16		-	
2016-17		-	
2017-18	1	Sankalp se Sidhdhi	4

	2	Breast Cancer Awareness programme	2
	3	Mahila Kisan Diwas	1
2018-19	1	Farmer's Meet	4
	2	Breast Cancer Awareness programme	1
	3	Kisan Diwas	2
	4	ASCI Training	2
	5	Pre rabi sammelan & IWD-2019	2
Extension Literature:			
Leaflets/folders	2011-12		
	1	Success story booklet	28/6/11
	2	Anaj sangrah	Nov-11
	3	Oister Mashroom kheti	Dec -11
	2012-13 & 2013-14		
	1	Uradni Vaigyanik Kheti	2012-13
	2	Jaivik Khatarna Mahatva	2012-13
	3	Dangarni Aadhunik Kheti Padhati	2012-13
	4	Dangarni SRI Padhati	2012-13
	5	Unadu Magfalini Vaigyanik Kheti	2012-13
	6	Mangi Vaigyanik Kheti Padhati	2012-13
	7	Jamin Ane Pani Pruthkarannu Mahatva	2012-13
	8	Unadu Kathal Pakonu Mahatva nae kheti padhati	2012-13
	9	Tuver ni Vaigyanik Kheti padhati	2012-13
	10	Divelani Vaigyanik Kheti padhati	2012-13
	11	Nagali ni Vaigyanik Kheti padhati	2012-13
	12	Varmi compost ane Varmi wash	2012-13
	13	Kelni Kheti Padhati	2012-13
	14	Haldarni Vaigyanik Kheti padhati	2012-13
	15	Suranni Vaigyanik Kheti padhati	2012-13
	16	Bhindani Vaigyanik Kheti padhati	2012-13
	17	Ringanni Vaigyanik Kheti padhati	2012-13
	18	Tadbhuchni Vaigyanik Kheti padhati	2012-13
	19	Aambani Kheti Padhati	2012-13
	20	Chikuni Kheti Padhati	2012-13
	21	Gaun Bagayati Pakonu Mahatva	2012-13
	22	Kitchen Garden	2012-13
	23	Varsad Aadharit Bagayati Pakoni Kheti	2012-13
	24	Sheradini Vaigyanik Kheti padhati	2012-13
	25	Sankalit Matsay palan vyavsay	2012-13
	26	Matsay palan ma aaharnu mahatva	2012-13
	27	Garn Talavma Matsya Uchher	2012-13
	28	Tunka Galama Vadhu Labh aapto	2012-13

		Zinga palan Vyavsay	
	29	Aneamia ane mahila nu swasthya	2012-13
	30	Ochha kharche ucha kaksano paushtik aahar	2012-13
	31	Sagarbha stree mate poshak aahar	2012-13
	32	Shakbhaji khayano ane tandurast raho.	2012-13
	33	vividh prakarna athanani banavat	2012-13
	34	Nagali khayano ane nirogi raho	2012-13
	35	Kerini vividh banavato	2012-13
	36	Tamatani vividh banavato	2012-13
	37	Vividh prakarni chatanini nanavat.	2012-13
	38	Aavno sajo-karama ane upayo	2012-13
	39	Bhesoma prajanan samasya ane upayo	2012-13
	40	Ghascharama pashan mulyama vadharo kararami padhatio	2012-13
	41	Pashuma lilachani zari asar ane tena upayo.	2012-13
2014-15	1	Sankalit nidan niyantran	
	2	Manushaya Aharma machhalinu mahatva	
	3	Krishi Vigyan Kendra	
	4	Sankalit Matsyapalan	
	5	Suran ni vaigyanik kheti	
	6	Meetha panina zinga(Scampi)Ucher	
2015-16		-	
2016-17	1	Dangarni Vaigynik kheti padhdhti	
	2	Magni Vaigynik kheti padhdhti	
	3	Adadni Vaigynik kheti	
	4	Ambama Dhanisht vavetar padhdhti	
	5	Ambani kheti	
	6	Krishi Vigyan Kendra	
	7	Ghar angane shakabhaji (Kitchen Garden)	
	8	Terrace garden/Balkani garden	
	9	Sweetcornni Vaigynik kheti padhdhti	
	10	Ek rokdiyo pak : Bhidani kheti	
	11	Chanani Vaigynik kheti	
	12	Shiyalu kathol pakoni Vaigynik kheti	
	13	Rigan,Tameti ane marchana rogo anr tenu niyantran	
	14	Daxian gujaratma mukhya chomasu pakoma sanklet rog niyantranma mahatvana mudra	
	15	Santulit pashuaahar	
	16	Baremash lila dhascharanu aayojan	
	17	Dudhla pashuoma vyavshathpan	
	18	Sumishit pashudan	
	19	Gabhan pashuma aahan ane prajnan vyavstha	
	20	Dudhla pashuoma bypass tatvoni	

		jaruriyat	
	21	Pashuom mate agyatnu dhatak-swach pani	
	22	Pashuo mateni mineralni agtyata	
	23	Amlani banavato	
	24	Khathypadthma thati belse	
	25	Libuma mulvardhan	
	26	Marimasalani banavat	
	27	Nagali khao ane nirogi raho	
	28	Soyabenni vividh vanagio	
	29	Sharir mate mulyavardhak soyabean	
2017-18	1	Parval Nu Postik Ane Aovasodhiy Mulya	
	2	Tapak Piyat Padhhati Na Faydao	
	3	Parval Ni Vegyanik kheti Apnavo	
	4	Shaikshanik Hab Eru Char Rasta Vistar	
	5	Aadhunik Piyat Padhhati	
	6	Aadhunik Piyat Padhhati	
	7	Kishan Din Vishesh	
	8	Rigan, Tameti Ane Marchina Rogo Ane tenu Nyantran	
Books		Vaigyanik Pashupaalan	Jully-11
		Bharatnu Pashudhan	Jully-11
		Manav Santulit Poshan Aahaar	Aug-11
		Innovative Farmers meet-2011	Nov-11
		2012-13 & 2013-14	
		Sarkarshrini khedutlakshi sahay yojna	
		Shakabhji pakoni kheti	
		Gram talav ma matshay palan	
		Swasthay ane poshak aahar	
2017-18		Sajiv kheti	
2018-19		Gaam thalavoma matsyapalan vyavastha	
		Organic Farming	
Reports published in ICAR Reporters:			
Impact Studies			
Others, if any			



Folder 2015-16



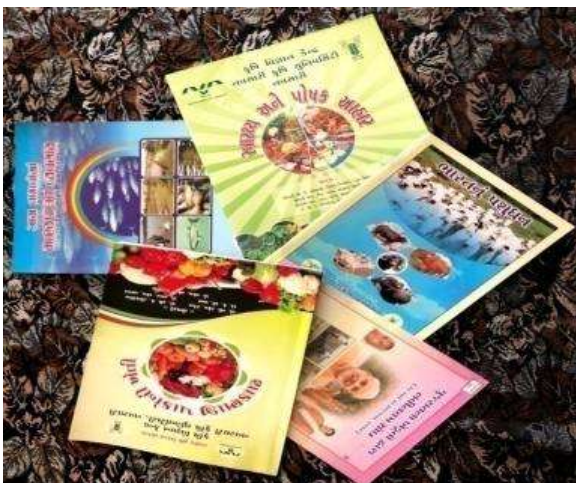
Folder 2016-17



Folder 2016-17



Folder 2017-18



Book published



Book published

50. Constraints faced in implementing KVK activities and your suggestions to overcome them.

- One regular staff is required to run the seed hub project successfully.

51. Any other information not covered above

Frontier home science technologies for knowledge and economic empowerment for rural development

KVK, Navsari had different activities to empower the women by gave capacity building programme since 8 years for betterment of farming community. Moreover, among the so many activities some the case studies are present here under.

1. TRIBALS' RAGI BOOSTS LIVELIHOOD

Name of Farmer women	Asmitaben Ashokbhai Patel
Village	Soldhara
Taluka	Chikhli
District	Navsari, Gujarat
Mobile No	8140686838
Age	38 years
Education	B. A.



- Before contact with KVK :
 - Ragi commonly used only for *Rotla* preparation in Tribal area.
 - Unaware about nutritional value and value addition of Ragi.
 - Small scale farming was only source of income.
- After KVK intervention (Technology and Marketing) :
 - Aware about importance and benefit of Ragi in our diet.
 - Being a rich source of calcium, Ragi helps people of different age groups for bone formation and its strength.
 - Technology adoption of Ragi's value added products such as Biscuits, Papad, Papadi, etc.
 - Benefited by market linkage provided through KVK.
- Effects of KVK intervention:
 - Fresh and hygienic Ragi products available at low cost.
 - Adulterant free product.
 - Providing earning skill development of other tribal farm women through guidance.
 - Other products like Amala candy, Chiku chips, Pickles, Squash, etc were prepared.
 - Improved socio-economic status.
 - Honeybee productions along with eco tourism at village level improved her social status.

- Integration of fish farming along with chicks and ducks inspires rural youth for livelihood earning opportunity.
 - Multi disciplinary and extra ordinary activities.
 - More than 3000 people visit her farm on annual basis.
- Income generated:
Rs. 40000/ month



2. ENTREPRENEURSHIP DEVELOPMENT THROUGH VALUE ADDITION IN ROSE : GULKAND

Name of Farmer women	Shamshadbanu Zakirhussain Mulla
Village	Khergam
Taluka	Navsari
District	Navsari, Gujarat
Mobile No	9924897365
Age	40 years



Education

9 Pass

- Before contact with KVK :
 - Selling Roses at lower costs nearest market.
 - Unaware about value addition in Rose.
 - Technological lacuna for Gulkand production.
 - No sustainable income source.
- After KVK intervention (Technology and Marketing) :
 - Technology adoption to use fresh and organically produced rose for Gulkand production and packaging.
 - Started to use their own agricultural waste and cattle manure to cultivate organic Rose.
 - Application of home made Panchgavya to prevent pest and diseases.
 - Provided market platform through various programmes.
- Effects of KVK intervention:
 - Fresh and hygienic Rose cultivation
 - Adulterant free product.
 - Entrepreneurial skill of Gulkand also leads her towards other products of rose such as Rose water, Rose syrup, Face pack, Dry rose petals, etc.
 - This activities improved socio-economic status.
 - Instead of living on meager income produced by selling just Roses, she earns handsomely from value added products.
- Income generated:
Rs. 1.25 lakh/ six month





Preparation and marketing of Gulakand

3 . MICRO ENTERPRISE PROMOTION- JAI AMBE SHG, NAVSARI

Name of self help Group	Jai Ambe KVK SHG
Village	Pathari
Taluka	Gandevi
District	Navsari, Gujarat
Group Leader	Sakuntalaben Bhagubhai Patel
Mobile No	8758662829
Age	52 years
Education	10 th pass



- Before contact with KVK :
 - Unaware of different types of homemade masala
 - Lack of Knowledge about how to prepare Masala/receipies
 - There was no income for the group
- After KVK intervention :
 - Adoption of technology by using fresh and hygienic spices and condiments in a proper quantity to prepare masalas
 - Started using their own agricultural produce as raw material
 - Learnt to prepare different recipes of masala
 - Live their life with a sense of self worth, respect and dignity
- Effects of KVK intervention:
 - Fresh and hygienic masalas.
 - Adulterant free spices of better qualities.
 - Improved knowledge about preparation of different types of masalas viz., *tea masala, garam masala, pav-bhaji masala, chhole masala, sambhar masala, fruit masala, pulav masala, chat masala, etc.*
 - Save the money, time and improved the health of family member.
 - Rural farm women are inspired for masala making training.
 - Upliftment of financial status of the group.
 - Positive effect on social status.

- Income generated:
Rs. 25000/ month



Preparation and marketing of Masala

4 . CREATIVITY LIGHTS THE LIFE

Name of Farmer women	Alpanaben Maheshbhai Patel
Village	Vasan
Taluka	Gandevi
District	Navsari, Gujarat
Mobile No	9408188115
Age	47 years
Education	Post Graduate



Before contact with KVK:

- Simple 'Diyas' (a traditional earthen lamp) were used for selling.

- No idea about decorated '*Diyas*'.
- ❖ After KVK intervention :
 - Got opportunity to visit at Surat through KVK, Navsari in Agricultura Exhibition and visited one stall of decorated '*Diyas*'.
 - Got the idea about creativity in '*Diyas*' from there.
- ❖ Effects of KVK intervention:
 - Creativity in simple raw '*Diyas*'.
 - Increased knowledge about different colorful '*Diyas*'.
 - Supplement the household income.
 - Income generation to SHG women.
 - Attractive packing increase selling price.
 - Foreign countries (China) dumped their products in India which destroyed our market; these types of activities enhance Indian market.
- ❖ Income generated :
 - Rs. 30,000 /month





Preparation of decorative Diya and its marketing

5. RAKHI- A SYMBOL OF LOVE

Name of Farmer women	MadhuribenAshwinbhai Patel
Village	Vasan
Taluka	Gandevi
District	Navsari, Gujarat
Mobile No	9737970717
Age	44 years
Education	10 th Pass (S. S. C.)



❖ Before contact with KVK :

- She was just an ordinary housewife and farm woman.
- Eager to establish small scale business.
- Lack of knowledge had impended her success.

❖ After KVK intervention :

- Provide information about preparation of 'Rakhi' from raw material.
- Development of significant challenge for starting a 'Rakhi' business.

❖ Effects of KVK intervention:

- Enhance creativity in 'Rakhi'.
- Improve knowledge about preparation of various types of 'Rakhi' from raw material.
- Supplement the household income.
- Follow-demand driven product.
- Overall benefits to farmers; socio-economic benefit to the rural/farming community.

❖ Income generated :

- Rs. 20,000 / months



52 Final Considered Views: In your perceived opinion, Please enlist five points in order of merit that your KVK could have performed far better if

- i) KVK Navsari identified that two to three group leader (male/female) from more than 125 villages and mobilize the farmers through the group leaders and continuously technical guidance and capacity build up of the leaders will be carried out on regular basis.
- ii) Use of ICT and audio- video conference to disseminate the technologies among the farming community through the Reliance foundation
- iii) KVK Navsari has not only conducted ASCI skilled training programmes on shrimp farming as formal way but provided technical supports to farmers to start their own shrimp farming entrepreneurship and now shrimp farmers have harvested crops successfully.
- iv) KVK, Navsari made maximum convergence with line department /NGOs/ cooperative societies/other societies/public sectors/private sectors for the upliftment of farming community.

- v) KVK, Navsari made MoU for the large scale adoption of Paddy variety GNR-2/NAUR-1 in farming community and made easily available certified seed to farmers by MoU of producing seeds with Navsari Taluka Kharid Vechan Sangh, Navsari
- vi) KVK Navsari focused and gave more important to resource utilization through technical backstopping for employment generation and nutritional security i.e Fish farming activities in village tanks, khet talavadi, kharland water harvesting ponds, courtyard tanks, stone quarry along with kitchen gardening and live stock integrations.

Annexure I

STATUS OF RESEARCH – EXTENSION LINKAGES AT THE DISTRICT LEVEL

i. What kind of mechanism exists for local coordination of the front line extension demonstration between the KVKs and the State Govt.

S.No.	Name of organization	Area of collaboration/ interaction
1.	Dept. of Agriculture	Participation * <i>Khedut Shibir/Krishi Mela</i> * <i>Trainings</i> * Soil Health Card * Extension Activities
2.	Dept. of Horticulture	Participation * Khedut Shibir * trainings * Extension Activities, NHB & NHM
3	Dept. of Animal husbandry	* Khedut Shibir * trainings * Extension Activities * Animal health check up camp
4	Govt. of Gujarat	Collaboration – <i>Krishi Mahotsav</i> , ATMA Convergence
5	Dept. of forestry	Participation * trainings * Extension Activities
6	NAU, Navsari	For Technical products, technical guidance and supports.
7	RSETI, Navsari	Organizing Self Employment Training for Farm women & organic farming programmes
8	DIC, Navsari	For Agro-based industries trainings and finance to the needy clientele.
9	Kamdhenu University-Gandhinagar	Training Programme and Extension Activities
10	ATMA-Navsari (State level)	* <i>Khedut Shibir/Krishi Mela</i> * Extension Activities * Training

ii. What is the frequency of Scientific Advisory Committee Meeting for KVK during last 8 years?

Scientific Advisory Committee Meeting for KVK has been conducted once per year since 2011 to 2019, except twice in year 2013-14.

iii. No. of monthly workshops organized

Total 18 no. of Workshop organized during 2011-12 to 2018-19.

iv. **Frequency and no. of staff participated in seminars at Zonal, State and National level.**

- **Zonal level workshop/seminar attended : 12**
- **National level workshop/seminar : 17**
- **State level workshop/seminar : 23**
- **Whether the local NGO's are involved in KVKs programmes- Yes**

v. **Whether the FPOs/FPCs are promoted (Specify Names with members and activities) and become visible in their activities**

Nil

vi. **Whether the local Mahila Mandal or Farm Science Clubs are promoted and become visible in their activities -**

The Self Help Groups are formed and promoted by periodically meetings, need-based training programmes; vocational training, Mahila shibirs etc. and they have turn into visible in their activities like preparation of masala, preparation of decorative Kodiya, flower wash, Making rakhi preparation of decorative items from coconut coir, preparation of raxine bag etc. Smt. Alpnaben Patel, women of Vasan village of Navsari block is preparing decorative Kodiya, flower wash, Making rakhi and marketed their product in local bazar.

vii. **A brief about the extent of contribution of the officials of various line departments and joint programmes undertaken.**

ATMA- Trainings and Demonstrations, FFS, Soil Testing, DAESI, Study tours
MANAGE- ACABC

NDDDB- Ration Balancing Programme

State Agri. Department- Training, Soil testing, Guest lectures

Dept. of Animal Husbandry

NHM- Plant Health Clinic, Skirting bag

ATMA Navsari- Interstate Training

Dept. of Horticulture, HP- Training to extension personnel

viii. **No. of monthly workshops of state agril. department attended / participated.**

- 12

Annexure II

Impact of KVK in Terms of Agricultural and Animal Productivity, Socio-economic Conditions and Employment Generation during the QRT period in the Adopted villages

S. No.	Item	Unit	Prior to KVK	Post KVK activities
1.	Change in cropping intensity	(%)	113%	129%
2.	Change in productivity of 1. Rice 2. Sugarcane 3. Gram 4. Pigeon pea 5. Okra 6. Mango 7. Sapota	(Qtl/ha)	28 65.6 12.4 6.3 74 83.27 101.1	34.5 70.57 14.8 7.2 89 94.23 127.8
3.	Use of HYV (high-yielding varieties) 1 Rice- GNR-3 2 Sugarcane-CO-5071 3 Pigeon pea-Vaishali 4 Gram- GG-3 5 Green gram - Meha	(%)	08 00 00 08 14	38 14 27 32 66
4.	Use of fertilizers (NPK) (nutrient) 1. Rice 2. Sugarcane 3. Gram 4. Pigeon pea 5. Mango (per tree) 6. Sapota (per tree)	(kg/ha)	120:60:60 300:200:200 30:50:00 30:60:10 1.0:0.5:0.5 1.25:0.7:0.7	100:30:00 250:125:125 20:40:00 25:50:00 0.75:0.16:0.16 1.0:0.5:0.5
5.	Use of FYM and other biofertilizers	(kg/ha)	FYM- 4000 to 5000 Biofertilizers- Nil	FYM- 8000 to 12000 Biofertilizers- 04 Ltr./ha
6.	Tractor/machinery	(No)	11	33
7.	Change in economic indicators (in adopted villages) (a) Net return/ha/yr (by crop/enterprise 1. Rice 2. Sugarcane 3. Gram 4. Pigeon pea 5. Okra 6. Mango 7. Sapota	(No) Rs.	68695 294690 46740 46895 93359 104280 185500	84695 344850 58740 58959 131228 138250 241000

Annexure III

KRISHI VIGYAN KENDRA, NAVSARI AGRICULTURAL UNIVERSITY, NAVSARI, GUJARAT

BRIEF ABOUT KVK, NAVSARI

AWARDS RECEIVED



Mahindra Samridhi India Agri Award-2014: “*Krishi Vigyan Kendra Samman-2014*” runnerup award by Mahindra and Mahindra partnership with Zee news. In the presence of Hon’ble Minister of State for Agril.& food processing. Govt. of India.



BEST KVK- 2015 (ZONE-VI): Indian Council Of Agriculture Research (ICAR, New Delhi) has conferred “Best Krishi Vigyan Kendra Awards (National/Zonal)” Prestigious award handed over by Shri. Purshootam Rupala, Hon’ble Agriculture minister of state Govt. of India.



FGI Award for Excellence-2015: Federation of Gujarat Industries, Vododara has conferred a certificate of Merit in the area of “Best Innovation work in the field of agriculture development” to KVK, NAU, Navsari during FGI Awards Excellence-2015. Handed over by Manohar Parrikar, Hon’ble Minister of Defense Govt. of India.



Cash less award : KVK, Navsari got cashless award from ICAR



APPRECIATION

(1) Dr. Rita R.Patel honored by JCI, Navsari

JCI Navsari honored Dr. Rita R. Patel with certificate for her outstanding contributions, performance and efforts for the cause of Agricultural development in the Navsari district.



PEARL foundation for higher educational excellence, Madurai, Tamil Nadu

Dr. Prabhu Nayaka, Scientist (Plant Protection) conferred "Best young scientist in agricultural plant protection in India" On 10.12.2016



PEARL foundation for higher educational excellence, Madurai, Tamil Nadu

Dr. K.A.Shah, Scientist (Agronomy) conferred “*Outstanding best agricultural extension worker in India*” On 10.12.2016



Smagra Vikas Welfare Society, NBRI, Lucknow

Dr.C.K.Timbadia, Programme Coordinator, conferred “*KVK Scientist Award*” On 14-15th Jan-2017.

Signature of Head of the KVK