GUJARAT VIDYAPITH

KRISHI VIGYAN KENDRA

AMBHETI-VALSAD

GUJARAT

Annual Progress Report

January to December-2019

SUBMITTED TO

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

NEW DELHI – 110 012

INDEX

ANNUAL PROGRESS REPORT

(1st January to 31st December 2019)

1. GENERAL INFORMATION ABOUT THE KVK

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

Address with PIN code	Telephone		E mail	Website & No. of visitors (hits)
Krishi Vigyan Kendra, **AMBHETI** Ta. Kaparada Di. Valsad Via. Vapi **Gujarat Pin. 396 191**	Office (1) 02633 260055	FAX 02633 260055	**kvkvalsad@gmail.com**	www.kvkvalsad.org 3418

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

Address	Telephone		E mail	Website address
	Office	**FAX**		
Gujarat Vidyapith Ashram road AHMEDABAD Pin. 380 014	(1) 079 2754 5044 (2) 079 2754 1148	079 2754 25 47	registrar @ gujaratvidyapith.org	www.gujaratvidyapith.org

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

Name	Telephone / Contact		
	Office	**Mobile**	**Email**
Dr. R.F.Thakor	02633 260055	**94271 29451**	**rthakor1965@yahoo.co.in**

1.4. Year of sanction : Sanction letter F. No. 5 (108) / 90 - KVK 28th March 1991

Year of Establishment : 21th Sept. 1992

1.5. Staff Position (as on 31st December, 2019)

				If Permanent, Please indicate			If Temporary, pl. indicate the consolidated amount paid (Rs./month)
Sl. No.	**Sanctioned post**	**Name of the incumbent**	**Discipline**	**Current Pay Band**	**Current Grade Pay**	**Date of joining**	
1.	Senior Scientist and Head	Dr. R.F.Thakor	Ext . Edu.	37400-67000	10000	19/05/01	
2.	Subject Matter Specialist	Sh. K.A.Patel	Pl. Prot.	15600-39100	7600	28/02/94	
3.	Subject Matter Specialist	Sh. A.R.Patel	Ext . Edu.	15600-39100	7600	23/01/96	
4.	Subject Matter Specialist	Sh. L.T.Kapur	Soil Science	15600-39100	7600	16/12/06	
5.	Subject Matter Specialist	Sh. M.M.Gajjar	Agronomy	15600-39100	6600	17/09/13	
6.	Subject Matter Specialist	--	Horti.	--		--	
7.	Subject Matter Specialist	Smt. P.R.Ahir	Home Sci.	9300-34800	5400	01/05/01	
8.	Programme Assistant	Sh. B.M.Patel	Ani .Sci.	9300-34800	5400	02/12/02	
9.	Computer Programmer	Sh. P.J.Joshi	Agri. Engg.	9300-34800	4600	23/12/02	
10.	Farm Manager	Sh. P.R.Patel	Farm manager	9300-34800	5400	01/05/01	
11.	Acc./Superintendent	Sh. C.D.Patel	O.S	9300-34800	4200	27/09/13	
12.	Stenographer	Sh.V.B.Patel	Accountant	5200-20200	2800	01/11/99	
13.	Driver 1	Sh. R.D.Rohit	Driver	5200-20200	2800	16/06/08	
14.	Driver 2	Sh. H.G.Valand	Driver	5200-20200	2400	01/08/09	
15.	Supporting staff 1	Sh. A.R.Patel	Attendant	5200-20200	1900	01/11/99	
16.	Supporting staff 2	--	Farm Attendant	5200-20200	--	--	

1.6. Total land with KVK (in ha) : 20 ha

S. No.	Item	Area (ha)
1	Under Buildings	2.0 ha.
2.	Under Demonstration Units	1.0 ha
3.	Under Crops	8.0 ha
4.	Horticulture	6.0 ha
5.	Pond	--
6.	Others if any	3.0 ha.

1.7. Infrastructural Development:

A) Buildings

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.	Administrative Building	ICAR /GVP	1998	720 Sq.mt	2874422	--	--	--
2.	Farmers Hostel	ICAR		138 Sq.mt		--	--	--
3.	Staff Quarter	ICAR	1999	154 Sq.mt	1585055	--	--	--
4.	Demonstration Units -- Dairy Demo. Unit	ICAR , TSP ,Valsad	2006	100 Sq.mt	204312	--	--	--
5	Fencing	--		--		--	--	--
6	Bore well	ICAR	2012	300 ft	497095	--	--	--
7	Threshing floor	ICAR	2006	100 Sq.mt	123818	--	--	--
8	Farm godown	ICAR	2010	100 Sq.mt	373168	--	--	--
9	Implement shed	ICAR	2011	140 Sq.mt	300000	--	--	--
10	Soil-water testing lab.	ICAR	2007	--	612387	--	--	--
11	Plant Health Clinic	ICAR	2012	--	999953	--	--	--

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Tractor	2019	6,50,000	215 hrs.	Working condition.
Tractor Trolley	2019	1,50,000	--	Working condition.
Jeep (Bolero)	2010	477058	239824	Working condition.
Power tiller	2010	1,55,500	--	Working condition.
Motor Cycle	2011	49995	22655	Working condition.

C) Equipments& AV aids

Name of the equipment / Implements	Year of purchase	Cost (Rs.)	Present status
Computer -2	2007 & 2010	1,02,270 +50,000	Working condition.
L C D	2007	75,400	Working condition.
Lap Top -2	2007 & 2012	51,750	Working condition.
P A S system	2009	28057	Working condition.
Handicam	2009	12990	Working condition.
Generator set	2009	37972	Working condition.
LED –Sony TV	2015	52000	Working condition.

1.8. Details SAC meeting conducted in the year. – Date-08-08-2019

Proceedings of the 29th Scientific Advisory Committee meeting of Krishi Vigyan Kendra, Ambheti-Valsad- Gujarat

The 29th Scientific Advisory Committee meeting of Krishi Vigyan Kendra, Ambheti - Valsad- Gujarat was held on 8th August, 2019 at 11.00 AM at Krishi Vigyan Kendra, Ambheti. The list of the members who attended the meeting is attached herewith separately.

Dr. Bharatbhai Joshi, the Registrar, Gujarat Vidyapith welcomed the members of the committee. Agenda wise items were than taken for discussion.

Item No. 1 Approval of the minutes of the previous SAC meeting

The minutes of the previous SAC meeting held on 27/02/18 was circulated earlier to all the members. As no comments received from any of the members, the minutes was approved unanimously.

Item No. 2 Review of the progress report

Action taken report based on the suggestions given by the members of previous meeting was presented before the house. The report on various activities carried out by the Kendra during the period Jan, 2018 to Dec, 2018 was presented by Dr R. F. Thakor, Sr. Scientist and Head as well as the SMSs of the Kendra. During the discussion some of the members suggested following …

1. To check the irrigated area under different sources in the district.
2. In Dairy unit only Samtol Pashu Dan should use instead of cotton seed cake.
3. In OFT on Pigeonpea spray of urea should be planned at flowering stage.
4. In OFT on Paddy,potash culture effect on quality of grain should analyse.
5. District soil status should compare with soil analysis data of KVK.

6. Training data should include in Ag. Engg, presentation.
7. Result of OFT on By Pass Fat should include in presentation.
8. Success stories of all activities of KVK should be prepared.

Item No. 3 Presentation of the action plan

Following suggestions were given by the members.

1. Horti. Training organized with help of expert from Paria.
2. Trainings for horticulture should include in action plan.
3. The CMT activity should organise in coordination with Vasudhara Dairy.
4. Intensive efforts should make to reduce cost in dairy unit and KVK farm.
5. Demonstration on cropping pattern should organize.
6. All technologies of KVK should demonstrate in 1 or 2 villages.
7. Increase number of trainings in action plan.
8. New varieties if available,should include in demonstrations.

Item No . 4 From the chair

1. Field Photographs should exhibit with GPS data .
2. Only other agencies sponsored training should include in reporting .
3. Other agencies important training programme messages also send to farmers.
4. Scientific presentation norm should follow in ppt.
5. Sarth Gujarati Dictionary should use for gujarati language correction

Dr. Bharatbhai Joshi addressed the house and appraised the members about approaches adopted by the Gujarat Vidyapith KVKs to reach the unreached people in remote villages of tribal area.

The meeting was ended with the thanks to the chair.

List of the Members who attended the 29th SAC Meeting of KVK- Dist.-Valsad

Sr. No.	Name of Member	Designation
1	Dr .Bharatbhai Joshi	Registrar, G.V. Ahmedabad- Chairman
2	Dr. Rajendra Khimani	Hon. Director, Extension, G.V. Ahmedabad
3	Dr. D.K. Sharma	Representative of DEE, NAU, Navsari
4	Dr. L.K.Aravadia	Asso. Res.Sci. NAU, Navsari
5	Dr. N.B.Patel	Res.Sci. Livestok Res. Station NAU, Navsari
6	Shri K.M Korat	Asst. Director (Agril.) Valsad
7	Shri Ankur Prajapati	DPD, ATMA, Valsad
8	Dr. A. N. Thakare	Manager, Vasudhara Dairy, Alipore
9	Dr.H.G.Patel	Veterinary Officer, Dharampur
10	Shri B.H.Chaudhary	Asst.Engg. Damanganga Irri.Projct, Pardi
11	Shri N.V.Patel	Tech.Asst. Damanganga Irri.Projct, Pardi
12	Shri Ramesh S. Bhoya	J.N.Trust, Kaparada
13	Dr. Jayatibhai Patel	G.S.K. Ambheti
14	Shri Pradipbhai Sonar	G.S.K. Ambheti
15	Shri Nileshbhai K Patel	Farmers Representative (Prog. farmer)
16	Mrs. Ramilaben.M.Patel	Farm women Rep. (President, SHG)
17	Mrs.Pushpaben Patel	Farm women Rep.(Entre. farm women)
18	Shri Mohanbhai	Representative, Gramshilpi, GVP
19	Dr. R.F.Thakor	Member Secretary

Beside this, All SMS and technical personnel of KVK attended the meeting.

2. DETAILS OF DISTRICT

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

Sr. No.	Farming systems / enterprises
1	Agriculture farming systems
2	Agri - Horti farming systems
3	Agri – Horti -Dairy farming systems
4	Agri - Silviculture farming systems

2.2 Description of Agro-Climatic zone and major agro ecological situations (based on the soil and topography)

a) **Soil type**

Sr. No.	Agro-Climatic zone	Characteristics
1	South Gujarat Heavy Rainfall Zone -I	Annual Average rainfall 2000-2200 mm
		Black to medium black soil.
		Sticky and Heavy soil.
		Stip slopes cause heavy runoff of rain water resulting into soil erosion.

b) Topography

Sr. No.	Agro-ecological situation	Characteristics
1	Agro-ecological situation – I & II	- Costal belt - Western part
		- Medium black to black soil
		- Hilly ,Shallow ,Undulating land – Eastern part

2.3 Soil types

Sr. No.	Soil type	Characteristics	Area in ha.
1	Shallow soil	- Poor fertility & water holding capacity.	--
2	Medium black to black soil	- Sticky and Heavy in nature.	--
3	Hilly ,Shallow ,Undulating land	- Non fertile and mostly non agril land	--
			2,94,412 ha.

2.4 Area , Production and Productivity of major crops cultivated in the district (2017-18)

Sr. No.	Crops	Area (,000 ha.)	Production (,000 tones.)	Productivity (Kgs / ha.)
1	**Food grains**			
	Paddy (irrigated)	21.184	69.9072	3300
	Paddy (Unirrigated)	51.572	133.055	2580
	Total Paddy	**72.756**	**202.962**	**2789**
	Ragi (Finger millet)	4.304	4.304	1000
	Jowar	0.059	0.068	1156
	Pigeon Pea	7.800	5.300	687
	Urid	6.400	4.100	641
	Mung	0.400	0.213	532
	Val	2.808	2.017	718
	Gram	2.000	1.960	978
	Groundnut	0.300	0.114	375
	Niger	3.588	1.5966	440
	Sugarcane	7.280	540.72	74275
	Total Field crops	**108.054**	**228.49**	
2	**Fruit crops**			
	Mango	26.250	157.50	6000
	Chiku	3.345	32.513	9720
	Banana	0.770	43.274	56200
	Papaya	0.145	6.254	43130
	Cashewnut	5.590	18.11	3240
	Coconut	2.930	29.30	10000
	Total	**39030**	**286.94**	
3	**Vegetables**			
	Brinjal	1.625	26.00	16000
	Okra	1.620	16.20	10000
	Tomato	1.405	29.50	21000
	Cucurbits	2.831	62.28	22000
	Chilly	0.1	1.14	11400
	Total	**7.575**	**135.12**	

Source: District agriculture department.

2.5. Weather data (2019-20)

Month	Rainfall (mm)	Rainy days	Temperature C		Relative Humidity (%)	
			Maximum	Minimum	Maximum	Minimum
January	0	0	31.68	9.35	72.7	33.73
February	0	0	32.27	12.71	84.61	45.95
March	0	0	35.94	15.13	67.32	38.96
April	0	0	36.07	19.76	70.48	46.87
May	0	0	36.03	25.21	76.07	55.25
June	409	4	34.13	26.38	81.04	70.79
July	1320	23	29.5	22.73	95.71	88.37
August	1292	22	30.12	24.22	91.13	82.61
September	802	21	29.71	22.72	94.47	80.91
October	148	9	32.96	18.35	85.69	57.49
November	0	0	34.84	11.91	75.67	33.17
December	0	0	31.28	9.15	70.7	32.74
TOTAL	**3971**	**79**				

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

Category	Population	Production	Productivity
Cattle	247601	69.93	--
Crossbred	38869	26.31	6.137
Indigenous	208732	43.62	1.884
Buffalo	96487	35.45	3.014
Sheep	3433	--	--
Goats	105094	--	--
Poultry	773599	--	--

Source : CDAP-Valsad

2.7 Details of Operational area / Villages

Sr. No.	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Area
1	Kaparada	Kakadkopar, Narvad, Arnai, Amdha, Khutali, Dhodhadkuva, Ozar, Panas, Ozarada ,Karjun, Kolvera	Paddy , Fingermillet, Pulses, Mango, Cashew nut Vegetables , Micro irrigation & Dairy.	Low productivity in all crops. Non availability of improved seeds. Shortage of labour. Heavy infestation of weeds. Water scarcity Poor milk production	ICM ,INM, IPM, IWM Feed & fodder mgt. Integrated livestock mgt.
2	Dharampur	Sadadvera, Nani vahiyal, Samarsingi, Khoba, Panva, Hanmatmal, Rajpuri Jungle	Paddy , Fingermillet, Mango, Pulses, Cashewnut Vegetables & Dairy .	Low productivity in all crops. Non availability of improved seeds. Heavy infestation of weeds. Water scarcity Poor milk production	ICM ,INM, IPM, IWM Feed & fodder mgt. Integrated livestock mgt.
3	Pardi	Asma, Ambach, Pati, Kherlav, Lakhmapore,	Paddy , Sugarcane, Pulses, Vegetables ,	Low productivity in all crops. Non availability of improved seeds.	ICM ,INM, IPM, IWM Feed & fodder mgt.

		Nevri, Panchlai	Mango & Dairy.	Shortage of labour. Heavy infestation of weeds. Poor milk production	Integrated livestock mgt.
4	Umargam	Saronda, Borigam Maroli	Paddy ,Mango, Sugarcane & Vegetable.	Low productivity in all crops. Non availability of improved seeds. Shortage of labour. Water scarcity Soil salinity	ICM ,INM, IPM, IWM
5	Valsad	Ozar, Juzva, Ronvel	Paddy ,Mango, Sugarcane, Pulses & Vegetable.	Low productivity in all crops. Non availability of improved seeds. Heavy infestation of weeds. Shortage of labour. Soil salinity, Poor milk production	ICM ,INM, IPM, IWM Feed & fodder mgt. Integrated livestock mgt.

2.8 Priority thrust areas

Crop/Enterprise	**Thrust area**
Paddy	Varietal evaluation ,ICM, IWM, INM, IPM
Fingermillet	Varietal evaluation ,ICM, IWM, INM, IPM
Sweetpotato	Varietal evaluation ,ICM, IWM, INM, IPM
Greengram, Chickpea, Indianbean, Pigeonpea	Varietal evaluation ,ICM, IWM, INM, IPM
Cucurbits	Varietal evaluation, Integrated Pest & Disease Management, INM.
Sugarcane	Varietal evaluation ,ICM, IWM, INM, IPM
Brinjal, Chilli	Varietal evaluation ,ICM, IWM, INM, IPM
Fodder crops	Varietal evaluation
Livestock	Feed & fodder mgt., Integrated livestock mgt.
Income generation	Vocational training

3. TECHNICAL ACHIEVEMENTS

3.1. A. Details of target and achievements of mandatory activities

OFT				FLD			
1				2			
Number of OFTs		Number of Farmers		Number of FLDs		Number of Farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
07	08	75	117	105 ha	135.5	500	810

Training					Extension Programmes				
3					4				
Number of Courses			No. of Participants		Name of activities	Number of activities		No. of participants	
Clientele	Targets	Achievement	Targets	Achievement		Target	Achievement	Target	Achievement
Farmers	49	67	1265	2104	Field day	07	09	700	786
Rural youth	02	06	40	178	Kisan mela	01	01	1015	680
Extension Functionaries	04	07	100	169	Kisan gosthi	06	27	510	692
Farmers (Sponsored)	05	07	150	379	Exhibition	02	04	2514	1497
ASCI	02	02	40	40	Farmers Seminar	05	15	610	1538

Seed Production (Qt.)			Planting material (Nos.)		
Target	Achievement	Distributed to no. of farmers	Target	Achievement	Distributed to no. of farmers
Paddy – 100.00	82.72	617	Sugarcane - 70.00 qt.	110qt.	11
Pigeonpea-1.00	0.30	15	Veg. seedlings – 1,70,000 nos	66550 no.	175
			Fodder Toussecks - 50,000 nos.	40000 nos.	326
			Sweetpotato - 65000 cuttings	60000 nos.	10

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
Target	Achievement	Target	Achievement
--	--	Fruitfly trap (Mango) - 1000 no	734 no.
		Vermicompost - 20000 kg	15000 kg.

3.1. B. Operational areas details during 2019

S.No.	Major crops & enterprises being practiced in cluster villages	Prioritized problems in these crops/ enterprise	Extent of area (Ha/No.) affected by the problem in the district	Names of Cluster Villages identified for intervention	Intervention (OFT, FLD, Training, extension activity etc.)*
1	**Agronomy**				
	Pigeon pea	Low productivity in all crops. Non availability of improved seeds. Shortage of labour. Heavy infestation of weeds	--	Arnala, Pati,Dhodhadkuva, Sadadvera ,Asma, Khuntli,Panas,Amdha	FLD, OFT, Training
	Paddy	Low productivity Non availability of improved seeds. Shortage of labour. Infestation of stem borer	--	Kakadkopar, Ozar, Amdha, Panas, Dhodhadkuva, Pati , Asma Sadadvera	FLD, OFT, Training
	Chickpea, Greengram, Indianbean	Low productivity Non availability of improved seeds. Shortage of labour. Heavy infestation of weeds	--	Arnala, Pati,Dhodhadkuva, Sadadvera Khuntli,Panas,Amdha	FLD, Training
	Fingermillet	Low productivity Non availability of improved seeds.	--	Mendha,Panva,Samarsingi	FLD,Training
	Sugarcane	Low productivity Non availability of improved seeds. Shortage of labour	--	Kakadkuva, Bhensdhara, Motivahiyal	FLD,Training
2	**Horticulture**				
	Mango	Low productivity Heavy infestation of fruitfly	--	Ambach,Kherlav,Dumlav,Lakhmapore	FLD, ,Training
	Bittergourd, Sweetpotato	Low productivity High cost of Hybrid seeds Shortage of labour.		Gorakhada, Rajpuri jungle,	FLD, ,Training
3	**LPM**				
	Livestock production	Low milk yield Mustitis disease Shortage of fodder	--	Ambach, Sukhala, Khuntli, Amdha , Panas, Chival, Dhodhadkuva	FLD,OFT,Training,

3.2. Technology Assessment and Refinement

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

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Plantation crops	Tuber Crops	TOTAL
Varietal Evaluation			01						01
Integrated Nutrient Management	02		01						03
Integrated Pest Management					01				01
Integrated Disease Management	01								01
Integrated Crop Management	01								01
TOTAL	**04**		**02**		**01**				**07**

A.2. Abstract on the number of technologies to be assessed in respect of livestock / enterprises :

Thematic areas	Cattle	Poultry	Sheep	Goat	Piggery	Vermi culture	Fisheries	TOTAL
Nutrition Management	01	--	-	-	-	-	-	01
TOTAL	**01**	**-**	**-**	**-**	**--**	**-**	**-**	**01**

B. Technologies Assessed under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of farmer	Area in ha
Integrated Nutrient Management	Paddy	Assessment of Nutrient mgt. in transplanted paddy	10	10	1.50
	Pigeon pea	Assessment of Nutrient mgt. in Pigeon pea	05	05	1.50
	Fingermillet	Assessment of zinc application in Fingermillet crop	20	20	4.00
Varietal Evaluation	Pigeon pea	Assessment of Pigeon pea variety for Kharif cultivation	10	10	1.50
Integrated Pest Management	Brinjal	Assessment of diff. pesticides for mgt. of red mite in Brinjal	10	10	1.50
Integrated Crop Management	Paddy	Assessment of method of raising of paddy seedlings	32	32	1.50
Integrated Disease Management	Paddy	Assessment of fungicide for mgt. of grain discolouration in paddy	10	10	3.00
Total			**97**	**97**	**16.00**

B.1. Technologies assessed under Livestock and other enterprises.

Thematic areas	Name of the livestock	Name of the technology assessed	No. of trials	No. of farmers
Nutrition Management	Cattle	Assessment of effect of bypass fat feeding on milk production in crossbred cow	20	20 animals
Total			**20**	**20 animals**

C1. Results of Technologies Assessed

Results of On Farm Trial - 01

A. Technology Assessment - Assessment of Nutrient management in transplanted hybrid paddy.

Crop/ enterprise	Farming situation	**Problem definition**	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Paddy	Rainfed	Low yield of kharif hybrid paddy	Assessment of Nutrient mgt. in transplanted hybrid paddy.	10	T1 - Farmer's practices (100-30-40 NPK kg/ha) T2 - NAU Rec. 100-30-00 NPK kg/ha T_3 - 100-30-00 NPK kg/ha + 2.5 li potash culture/ha.	1. Productive tillers/hill 2. Days of 50 % flowering 3. Grain yield (kg/ha) 4. Straw yield (kg/ha) 1. Productive tillers/hill 2. Days of 50 % flowering 3. Grain yield (kg/ha) 4. Straw yield (kg/ha) 1. Productive tillers/hill 2. Days of 50 % flowering 3. Grain yield (kg/ha) 4. Straw yield (kg/ha)	8.59 92 3415 3630 9.46 81.50 3510 3908 9.9 80.70 3847 4599	KVK-Valsad conducted on farm testing to assess the nutrient management in Paddy (Hybrid) crop. The result of trials revealed that application of 100-30-00 NPK kg/ha with 2.5 li potash culture/ha gave 3847 kg/ha yield as compare to 3415 kg/ha of local check. B:C ratio also found higher(2.06 - **T** $_3$) as compare to local check (1.63 - **T** $_1$).	- Good germination - More tillering - Less problem of pest and disease - Mid late (100-110 days) - 7 - 10 days early than check variety. - Lodging resistant - Good cooking quality - Continuous rain effect the crop

Technology Assessed	Source of Technology	Production (kg/ha)	Please give the unit (kg/ha, t/ha, lit/animal,)	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14	15	16
T1 - Farmer's practices (100-30-40 NPK kg/ha)	Private co.	Grain Yield– 3415 Straw Yield - 3630	Kg/ha	23270	1.63
T2 - NAU Rec. 100-30-00 NPK kg/ha	N.A.U., Navsari	Grain Yield– 3510 Straw Yield - 3908	Kg/ha	29532	1.90
T_3 - 100-30-00 NPK kg/ha + 2.5 li potash culture/ha.	N.A.U., Navsari	Grain Yield– 3847 Straw Yield - 4599	Kg/ha	35557	2.06

C2. Details of On Farm Trial for assessment –

1	Title of Technology Assessed	:	Assessment of Nutrient management in transplanted hybrid paddy.
2	Problem Definition	:	Low yield of kharif hybrid paddy
3	Details of technologies selected for assessment	:	T1 - Farmer's practices (100-30-40 NPK kg/ha) T2 – NAU Rec. 100-30-00 NPK kg/ha T3 - 100-30-00 NPK kg/ha + 2.5 li potash culture/ha.
4	Source of technology	:	NAU, Navsari.
5	Production system	:	Rain fed cereal based system (paddy based cropping system)
6	Thematic area	:	Varietal evolution
7	Performance of the Technology with performance indicators	:	

Treatment	Productive tillers/hill	Days of 50% flowering	Grain Yield (kg/ha)	Straw Yield (kg/ha)	Income Grain (Rs./ha)	Income Straw (Rs./ha)	Expenditure (Rs/ha)	Gross Income (Rs/ha)	Net Profit (Rs/ha)	B:C Ratio
T_1 - Farmer's practices (100-30-30 NPK kg/ha)	8.59	92	3415	3630	51225	9075	37030	60300	23270	1.63
T_2 - NAU Rec. 100-30-00 NPK kg/ha	9.46	81.50	3510	3908	52650	9770	32888	62420	29532	1.90
T_3 - 100-30-00 NPK kg/ha + 2.5 li potash culture/ha.	9.9	80.70	3847	4599	57697	11497	33638	69195	35557	2.06

8	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	Cost of fertilizer reduced and Yield and quality of hybrid Paddy crop was increased by using potash culture results increase in B:C ratio.
9	Final recommendation for micro level situation	:	Farmer of Valsad district advise to grow paddy crop use the mid late(100-110 days) hybrid variety GNRH-1 released by N.A.U., Navsari for Kharif Rainfed condition with potash culture instead of potash fertilizer.
10	Constraints identified and feedback for research	:	- Availability of potash culture - Lack of awareness
11	Process of farmers participation and their reaction	:	Farmers were involved and actively participated at every level i.e. Group discussion, planning, execution, monitoring, evaluation of the trial. Farmers evaluated that paddy variety GNRH – 1 with potash culture reduces fertilizer cost, mature early (7-10 days than check) ,lodging resistant with good cooking quality and more yield.

Results of On Farm Trial –02

Technology Assessment - Assessment of Nutrient management in Pigeon pea.

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology assessed	Parameters of assessed	Data on the parameter	Results of assessed	Feedback from the farmer
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Pigeonpea	Rainfed	Low yield of Kharif Pigeon pea.	Assessment of Nutrient management in Pigeon pea.	05	T_1 - Farmer practices (No use of " S") T_2 - Recommendation **(**25-50-20 NPS kg/ha**)** T_3 - 25-50-20 NPS kg/ha + one spray of 2 % urea at pod filling stage	1. Plant height at harvest (cm.) 2. Days of 50 % flowering 3. Grain yield (q/ha) 4. B:C ratio. 1. Plant height at harvest (cm.) 2. Days of 50 % flowering 3. Grain yield (q/ha) 4. B:C ratio. 1. Plant height at harvest (cm.) 2. Days of 50 % flowering 3. Grain yield (q/ha) 4. B:C ratio.	115.4 116.8 6.25 1.62 194 123.6 8.14 1.90 198 125.8 8.6 2.01	KVK Valsad assess nutrient management in pigeon pea with Farmer practices (T1- No use of " S") and T3- (25-50-20 NPS kg/ha + one spray of 2 % urea at pod filling stage). The result shown that the T3- gave 8.6 q/ha yield with B : C ratio of 2.01 as compare to local check(6.25 q/ha) with B : C ratio of 1.62	- Good germination - Less mortality in heavy rain - More branches - More no. of pods per plant - Less problem of pest and disease - Good cooking quality - Continuous heavy rain from month of July to October effect the crop.

Cont…

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha,)	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14	15	16
T_1 - Farmer practices (No use of " S")	-	Grain Yield– 6.25	q/ha	13195	1.62
T_2 - Recommendation **(**25-50-20 NPS kg/ha**)**	NAU, Navsari	Grain Yield – 8.14	q/ha	21251	1.90
T_3 - 25-50-20 NPS kg/ha + one spray of 2 % urea at pod filling stage		Grain Yield – 8.6	q/ha	23746	2.01

C2. Details of On Farm Trial for assessment –

1	Title of Technology Assessed	**:**	Assessment of Nutrient management in Pigeon pea.
2	Problem Definition	**:**	Low yield of Kharif Pigeon pea.
3	Details of technologies selected for assessment	**:**	T_1 - Farmer practices (No use of " S") T_2 - Recommendation **(**25-50-20 NPS kg/ha**)** T_3 - 25-50-20 NPS kg/ha + one spray of 2 % urea at pod filling stage
4	Source of technology	**:**	NAU, Navsari.
5	Production system	**:**	Rain fed cereal based system
6	Thematic area	**:**	Integrated Nutrient management
7	Performance of the Technology with performance indicators	**:**	

Treatment	Plant height at harvest (cm)	Days of 50 % flowering	Grain Yield (q/ha)	Expenditure (Rs/ha)	Gross Income (Rs/ha)	Net Profit (Rs/ha)	B:C Ratio
T_1 - Farmer practices (No use of " S")	115.4	116.8	6.25	21180	34375	13195	1.62
T_2 - Recommendation (25-50-20 NPS kg/ha)	194	123.6	8.14	23519	44770	21251	1.90
T_3 - 25-50-20 NPS kg/ha + one spray of 2 % urea at pod filling stage	198	125.8	8.6	23554	47300	23746	2.01

8	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	- Increase in yield due to Good germination, less mortality, More branches, Bold size, less problem of pest and disease and one spray of 2% urea at pod filling stage .
9	Final recommendation for micro level situation	:	Farmer of Valsad district advise to grow Pigeonpea use Mid late, white colored bold seeded and high yielding improved variety BDN-711 with 20 kg/ha sulphur + one spray of 2 % urea at pod filling stage for more yield in rain fed Kharif cultivation
10	Constraints identified and feedback for research	:	- Availability of seed - Peacock our national bird damaged crop at early stage - Continuous heavy rain from month of July to October effect the crop
11	Process of farmers participation and their reaction	:	Farmers were involved and actively participated at every level i.e. PRA and Group discussion ,planning, execution, monitoring, evaluation of the trial. Farmers evaluated that Pigeon pea use Mid late, white colored bold seeded and high yielding improved variety BDN-711 with 20 kg/ha sulphur + one spray of 2 % urea at pod filling stage for more yield in rain fed Kharif cultivation.

Results of On Farm Trial – 03

A. Technology Assessment- Assessment of zinc application in fingermillet crop

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology assessed	Parameters of assessed	Data on the parameter			Results of assessed	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8			9	10	11	12
Fingermillet	Rainfed	Low yield of fingermillet crop	Assessment of zinc application in fingermillet crop	20	T_1- Farmer Practice (46 kg N per ha+ No application of Micronutrient) T_2 : RDF 40:20:00 kg NPK per ha. + 25 kg $ZnSO_4$ as Basal dose T_3 : RDF + Seed treatment with ZnO_2 @ 10ml/kg seed + Seedling treatment @ 0.5 % $ZnSO_4$	Yield(kg/ha) Gross Income (Rs./ha) Total cost of cultivation (Rs./ha) Net profit (Rs./ha) BCR	T_1 881 30430 17480 12950 1.74	T_2 1069 36070 20470 15600 1.76	T_3 1087 36610 20720 15890 1.77	T_3 increased 23.38% grain yield and 22.7% net profit compare to farmer practice. with highest BCR (1.77)	--	--	--

Contd..

Technology Assessed	Source of Technology	Production	Please give the unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
T_1- Farmer Practice (46 kg N per ha+ No application of Micronutrient)	--	881.0	kg/ha	12950.0	1.74
T_2 : RDF 40:20:00 kg NPK per ha. + 25 kg $ZnSO_4$ as Basal dose	N.A.U., Navsari	1069.0	kg/ha	15600.0	1.76
T_3 : RDF + Seed treatment with ZnO_2 @ 10ml/kg seed + Seedling treatment @ 0.5 % $ZnSO_4$	N.A.U., Navsari	1087.0	kg/ha	15890.0	1.77

C2. Details of On Farm Trial for assessment –

<table>
<tr><td>1</td><td>Title</td><td>:</td><td>Assessment of zinc application in fingermillet crop</td></tr>
<tr><td>2</td><td>Problem diagnose/defined</td><td>:</td><td>Low yield of fingermillet crop</td></tr>
<tr><td>3</td><td>Details of technologies selected for assessment</td><td>:</td><td>T_1 : Farmer Practice (46 kg N per ha+ No application of Micronutrient)
T_2 : RDF 40:20:00 kg NPK per ha. + 25 kg $ZnSO_4$ as Basal dose
T_3 : RDF + Seed treatment with ZnO_2 @ 10ml/kg seed + Seedling treatment @ 0.5 % $ZnSO_4$</td></tr>
<tr><td>4</td><td>Source of technology</td><td>:</td><td>NAU, Navsari / Progressive farmer</td></tr>
<tr><td>5</td><td>Production system</td><td></td><td>Rainfed cereal based system (Cereal-pulse-Cereal)</td></tr>
<tr><td>6</td><td>Thematic area</td><td>:</td><td>Nutrient Management</td></tr>
<tr><td>7</td><td>Performance of the Technology with performance indicators</td><td>:</td><td>
<table>
<tr><th>Treatment</th><th>Grain yield (kg/ha)</th><th>Straw yield (kg/ha)</th><th>Gross Income (Rs./ha)</th><th>Total cost of Cultivation (Rs./ha)</th><th>Net profit (Rs./ha)</th><th>Increase in net profit (%)</th><th>Increase in grain yield (%)</th><th>BCR</th></tr>
<tr><td>T_1</td><td>881.00</td><td>969.10</td><td>30430.0</td><td>17480.0</td><td>12950.0</td><td>-</td><td>-</td><td>1.74</td></tr>
<tr><td>T_2</td><td>1069.00</td><td>1175.90</td><td>36070.0</td><td>20470.0</td><td>15600.0</td><td>20.46</td><td>21.34</td><td>1.76</td></tr>
<tr><td>T_3</td><td>1087.00</td><td>1195.70</td><td>36610.0</td><td>20720.0</td><td>15890.0</td><td>22.70</td><td>23.38</td><td>1.77</td></tr>
</table>
</td></tr>
<tr><td>8</td><td>Final recommendation for micro level situation</td><td>:</td><td>Need to continue for next year</td></tr>
<tr><td>9</td><td>Constraints identified and feedback for research</td><td>:</td><td>Trial is going on</td></tr>
<tr><td>10</td><td>Process of farmers participation and their reaction</td><td>:</td><td>KVK scientist select a village and farmers who cultivate fingermillet crop. Information pertaining to cultivation of fingermillet followed by farmers was collected. The problems faced by them was also discussed and prioritized by them. Then problem-causes analysis also has done with their active participation. Treatments were thoroughly discussed with them and lastly according to their suggestions treatments were finalized. From among these farmers twenty farmers were selected for testing the technology on their farm. The technological backstopping were provided by the KVK scientist as a facilitator as when required by the farmers. Farmers were involved and actively participated at every level i.e. planning, execution, monitoring, evaluation of the trial. PRA and Group Discussion.</td></tr>
</table>

Results of On Farm Trial – 04

Technology Assessment - Assessment of Pigeon pea variety for Kharif cultivation .

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology assessed	Parameters of assessed	Data on the parameter	Results of assessed	Feedback from the farmer
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Pigeonpea	Rainfed	Low yield of Kharif Pigeon pea.	Assessment of Pigeon pea variety for Kharif cultivation.	10	T_1 - Use of local variety with local practices	1. Plant height at harvest (cm.) 2. Days of 50 % flowering 3. Grain yield (q/ha) 4. B:C ratio.	121.7 97.8 6.13 1.59	The results of the trial indicated that improved variety of pigeon pea BDN-711 earned the maximum net returns (Rs 22673/- yielding 8.36 q/ha with B:C ratio 1.97) as compare to T1 (Rs 12535/- yielding 6.13 q/ha with B:C ratio 1.59).	- Good germination - Bold seeded - More branches - More no. of pods per plant - Less problem of pest and disease - Mid late variety - Good cooking quality - Tolerant to wilt and sterility mosaic disease - Continuous heavy rain from month of July to October effect the crop.
					T_2 - Recommendation (Use of GNP-2 Variety with improved practices)	1. Plant height at harvest (cm.) 2. Days of 50 % flowering 3. Grain yield (q/ha) 4. B:C ratio.	179.9 122.4 7.89 1.86		
					T_3 - Use of BDN - 711 Variety with improved practices	1. Plant height at harvest (cm.) 2. Days of 50 % flowering 3. Grain yield (q/ha) 4. B:C ratio.	194.2 122.2 8.36 1.97		

Cont…

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha,)	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14	15	16
T_1 - Farmers Practices (Use of local variety with local practices)	-	Grain Yield– 6.13	q/ha	12535	1.59
T_2 - Recommendation (Use of GNP-2 Variety with improved practices)	NAU, Navsari	Grain Yield – 7.89	q/ha	20088	1.86
T_3 - Use of BDN - 711 Variety with improved practices	ARS, Badnapur, MH.	Grain Yield– 8.36	q/ha	22673	1.97

C2. Details of On Farm Trial for assessment –

1	Title of Technology Assessed	:	Assessment of Pigeon pea variety for Kharif cultivation .
2	Problem Definition	:	Low yield of Kharif Pigeon pea.
3	Details of technologies selected for assessment	:	T_1 - Farmers Practices (Use of local variety with local practices) T_2 - Recommendation (Use of GNP-2 Variety with improved practices) T_3 - Use of BDN - 711 Variety with improved practices
4	Source of technology	:	NAU, Navsari.
5	Production system	:	Rain fed cereal based system (paddy-pulse cropping system)
6	Thematic area	:	Varietal evolution
7	Performance of the Technology with performance indicators	:	

Treatment	Plant height at harvest (cm)	Days of 50 % flowering	Grain Yield (q/ha)	Expenditure (Rs/ha)	Gross Income (Rs/ha)	Net Profit (Rs/ha)	B:C Ratio
T_1 - Use of local variety with local practices	121.7	97.8	6.13	21180	33715	12535	1.59
T_2 - Use of GNP-2 Var. with improved practices	179.9	122.4	7.89	23307	43395	20088	1.86
T_3 - Use of BDN - 711 Variety with improved practices	194.2	122.2	8.36	23307	45980	22673	1.97

8	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	- Increase in yield due to Good germination, More branches, Bold size, Tolerant to wilt and sterility mosaic disease, less problem of pest .
9	Final recommendation for micro level situation	:	Farmer of Valsad district advise to grow Pigeon pea use Mid late, white colored bold seeded and high yielding variety GNP – 2 and BDN -711 released for rainfed Kharif cultivation
10	Constraints identified and feedback for research	:	- Availability of seed - Peacock our national bird damaged crop at early stage - Continuous heavy rain from month of July to October effect the crop
11	Process of farmers participation and their reaction	:	Farmers were involved and actively participated at every level i.e. PRA and Group discussion ,planning, execution, monitoring, evaluation of the trial. Farmers evaluated that Pigeon pea variety GNP - 2 and BDN-711 have good germination, very less problem of pest and disease, Mid late maturity, white colour, bold size, good cooking quality and more yield.

Results of On Farm Trials-05

A. Technology Assessment- Assessment of method of raising of paddy seedlings

Crop/ enterprise	**Farming situation**	**Problem definition**	**Title of OFT**	**No. of trials**	**Technology assessed**	**Parameters of assessed**	**Data on the parameter**		**Results of assessed**	**Feedback from the farmer**	Any refinement needed	Justification for refinement
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**		**9**	**10**	11	12
Paddy	Rainfed	Poor growth seedlings and deterioration in soil health by rabbing practice.	Assessment of method of raising of paddy seedlings	32	T1- Farmers Practice (flat bed seedling nursery with rabbing practice) T2– Dapog method	Yield(kg/ha) Cost of nursery(Rs./ha) Total cost of cultivation(Rs./ha) Net profit (Rs./ha) BCR	T1 3128 8690 34328 20348 1.59	T2 3240 7694 32932 23897 1.73	Dapog method gave 3.58 % seed yield and 17.44 % net profit than traditional flat bed system without deterioration in soil fertility and environment	- Seedlings produced with Dapog are much healthier, though number of seedlings per hill reduced the cost. - Paddy plot with rabbing practice shown lodging in heavy rain.	--	--

Technology Assessed	**Source of Technology**	**Production**	**Unit (kg/ha, t/ha, lit/animal,)**	**Net Return (Profit) in Rs. / ha**	**BC Ratio**
13	14	15	16	17	18
T_1– Farmer practice - Flat bed with Rabbing.	--	3128	kg/ha	20348	1.59
T_2 – Dapog method	N.A.U., Navsari	3240	kg/ha	23897	1.73

C2. Details of On Farm Trial for assessment –

<table>
<tr><td>1</td><td>Title</td><td>:</td><td>Assessment of method of raising of paddy seedlings</td></tr>
<tr><td>2</td><td>Problem diagnose/defined</td><td>:</td><td>Poor growth seedlings and deterioration in soil health by rabbing practice.</td></tr>
<tr><td>3</td><td>Details of technologies selected for assessment</td><td>:</td><td>T₁ : Farmers practice (flat bed seedling nursery with rabbing practice)
T2 : Dapog seedling nursery method (SAU recommendation)</td></tr>
<tr><td>4</td><td>Source of technology</td><td>:</td><td>NAU, Navsari / Progressive farmer</td></tr>
<tr><td>5</td><td>Production system</td><td></td><td>Rainfed cereal based system (paddy-pulse-Paddy)</td></tr>
<tr><td>6</td><td>Thematic area</td><td>:</td><td>Integrated Crop Management</td></tr>
<tr><td>7</td><td>Performance of the Technology with performance indicators</td><td>:</td><td>
<table>
<tr><th>Treatment</th><th>Seed yield (kg/ha)</th><th>Straw yield (kg/ha)</th><th>Gross Income (Rs./ha)</th><th>Total cost of Cultivation (Rs./ha)</th><th>Net profit (Rs./ha)</th><th>Increase in net profit (%)</th><th>BCR</th></tr>
<tr><td>T_1</td><td>3128</td><td>4848</td><td>54677</td><td>34328</td><td>20348</td><td rowspan="2">17.44</td><td>1.59</td></tr>
<tr><td>T_2</td><td>3240</td><td>5144</td><td>56829</td><td>32932</td><td>23897</td><td>1.73</td></tr>
</table>
</td></tr>
<tr><td>8</td><td>Final recommendation for micro level situation</td><td>:</td><td>Paddy growers can raise seedlings with Dapog method are much healthier than seedlings raised with flat bed rabbing practice so in transplanting number of seedlings per hill reduced the cost of cultivation and increase yield.</td></tr>
<tr><td>9</td><td>Constraints identified and feedback for research</td><td>:</td><td>• Seedlings produced with Dapog are much healthier, though number of seedlings per hill reduced the cost.
• Paddy plot with rabbing practice shown lodging in heavy rain
• Birds and Rat damage in bed</td></tr>
<tr><td>10</td><td>Process of farmers participation and their reaction</td><td>:</td><td>Rabbing practice with flat bed nursery is common traditional method to raise paddy seedling. KVK scientist select a village and farmers who practiced rabbing to raise paddy seedlings. Information pertaining to cultivation of paddy followed by farmers was collected. The problems faced by them was also discussed and prioritized by them. Then problem-causes analysis also has done with their active participation. Treatments were thoroughly discussed with them and lastly according to their suggestions treatments were finalized. From among these farmers five farmers were selected for testing the technology on their farm. The technological backstopping were provided by the KVK scientist as a facilitator as when required by the farmers. Farmers were involved and actively participated at every level i.e. planning, execution, monitoring, evaluation of the trial. PRA and Group Discussion. Farmers gave feedback that he can raise healthy paddy seedlings with dapog method in small area with little effort. Dapog method is much cheaper in cost than traditional flat bed with rabbing pactice.paddy seedlings raise with Dapog method are much healthier than seedlings raised with flat bed rabbing practice so in transplanting number of seedlings per hill reduced the cost of cultivation and increase yield.</td></tr>
</table>

Results of On Farm Trials-06

A. Technology Assessment- Management of grain discolouration problem in paddy

Crop/ enterprise	Farming situation	Problem definition	**Title of OFT**	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Paddy	Rainfed	low productivity in paddy	Management of grain discolouration problem in paddy	10	T1 : Farmers' practice (No use of fungicide) T2 : Three spray of Propiconazole 25 EC 0.025% (10 ml/ 10 lit. water). First spray at boot leaf stage and second and third spray after 10 days interval. T3 : Three spray of Carbendazim 12 WP + Mancozeb 63 WP (15 gm/ 10 lit. water). First spray at boot leaf stage and second and third spray after 10 days interval.	Damage due to incidence of disease (%)	T1 : 17% T2 : 5% T3 : 9%	Damage due to grain discolouration reduced from 17 to 5% and yield increased by 16.72% in T2 and in T3 from 17 to 9% and yield increased by 10.49%. .	-Improved quality of grain -Increase market value	--	--

Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) Rs. / unit	B:C Ratio
13	14	15	16	17	18
Technology option 1 : Farmers practices (No use of fungicide)	--	3050	Kg/ha	16350 Rs/ha	1.49
Technology option 2 : Three spray of Propiconazole 25 EC 0.025% (10 ml/ 10 lit. water). First spray at boot leaf stage and second and third spray after 10 days interval.	Main Rice Research Station, ,NAU, Navsari, Year : 2016	3560	Kg/ha	26380 Rs/ha	1.74
Technology option 3 : Three spray of Carbendazim 12 WP + Mancozeb 63 WP (15 gm/ 10 lit. water). First spray at boot leaf stage and second and third spray after 10 days interval.	NARP, NAU, Navsari, Year : 2010	3370	Kg/ha	23480 Rs/ha	1.67

C2. Details of each On Farm Trial for assessment

1	Title of Technology Assessed	**:**	**Management of grain discolouration problem in paddy**
2	Problem Definition	**:**	Low productivity in paddy
3	Details of technologies selected for assessment	**:**	**T1** : Farmers practices (No use of fungicide) **T2** : Three spray of Propiconazole 25 EC 0.025% (10 ml/ 10 lit. water). First spray at boot leaf stage and second and third spray after 10 days interval **T3** : Three spray of Carbendazim 12 WP + Mancozeb 63 WP (15 gm/ 10 lit. water). First spray at boot leaf stage and second and third spray after 10 days interval.
4	Source of technology	**:**	**T2 :** Main Rice Research Station, NAU, Navsari, Year : 2016 **T3 :** NARP, NAU, Navsari, Year : 2010
5	Production system	**:**	Rain fed cereal based system (paddy-vegetable system)
6	Thematic area	**:**	Integrated Disease Management

7	Performance of the Technology with performance indicators	:	Result showed that the technology of Three spray of Propiconazole 25 EC 0.025% (10 ml/ 10 lit. water). First spray at boot leaf stage and second and third spray after 10 days interval reduced the percentage of damage due to grain discolouration reduced from 17 to 5% and increased yield by 16.72%.
8	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	Improved quality of grain resulting in increase in market value
9	Final recommendation for micro level situation	:	After completion of third year
10	Constraints identified and feedback for research	:	Nil
11	Process of farmers participation and their reaction	:	Farmers were involved and actively participated at every level i.e. planning, execution, monitoring, evaluation of the trial. PRA and Group Discussion

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

S. No.	Crop/ enterprise	Prioritized problem	Title of OFT	Technology options	Source of Technology	Name of critical input	Qty per trial	Cost per trial	No. of trials	Total cost for the OFT(Rs.)	Parameters to be studied	Team members
1	Paddy	Low productivity in paddy	Assessment of fungicide for mgt.of grain discolouration in paddy	**T1** : Farmers practices (No use of fungicide)	--	Fungicide (Propiconazole 25 EC) Carbendazim 12 WP + Mancozeb 63 WP	250 ml 250 gm	400 Rs 250 Rs	10	6500 Rs	Incidence of disease , Yield (q/ha), B:C ratio	03
				T2 :Three spray of Propiconazole 25 EC 0.025 % (10 ml/ 10 lit. water). First spray at boot leaf stage and second and third spray after 10 days interval	Main Rice Research Station, ,NAU, Navsari, Year : 2016							
				T3 : Three spray of Carbendazim 12 WP + Mancozeb 63 WP (15 gm /10 lit. water). 1st spray at boot leaf stage and 2nd and 3rd spray after 10 days interval.	NARP, NAU, Navsari, Year : 2010							

Results Technologies assessed under Livestock and other enterprises.

Title of OFT : Assessment of effect of bypass fat feeding on milk production in crossbred cow.

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
By pass fat feed	by pass fat feeding	Low milk production	Assessment of effect of bypass fat feeding on milk production in crossbred cow.	20	T1 : Farmers practices - Concentrate feed (1.5 kg/cow/day for maintenance + 500 gms for each liter milk production)	Milk production (lit/cow/ day)	5.5 lit/cow/ day	The results indicated that Concentrate feed (1.5 kg/cow/day for maintenance + 500gmsfor each liter milk production) + By pass fat feed 100 gms/cow/day. Milk production 7.7 lit/cow/day with B:C ratio 2.59 as compare to farmer practice	- The By pass fat feed (Godhara Shakti) is easily available at village co operative dairy. The technology is Cost effective, easy availability of feed, acceptability and applicability of technology.	-	-
					T2 : Concentrate feed (1.5 kg/cow/day for maintenance + 500gmsfor each liter milk production) + By pass fat feed 100 gms/cow/day. (Duration - 30 Days)	Milk production (lit/cow /day)	7.7 lit/cow/ day				

Technology Assessed	Source of Technology	Production per unit lit/cow/day	unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
T1 : Farmers practices - Concentrate feed (1.5 kg/cow/day for maintenance + 500 gms for each liter milk production	Prof. and Head, Dept. of LPM, Vanbandhu College, Navsari, Year : 2012)	5.5 lit/cow/day	lit/cow/day	2100	1.75
T2 : Concentrate feed (1.5 kg/cow/day for maintenance + 500gmsfor each liter milk production) + By pass fat feed 100 gms/cow/day. (Duration - 30 Days)		7.7 lit/cow/day		3290	2.59

C2. Details of On Farm Trial for assessment –

<table>
<tr><td>1</td><td>Title</td><td>:</td><td>Assessment of effect of bypass fat feeding on milk production in crossbred cow.</td></tr>
<tr><td>2</td><td>Problem Definition</td><td>:</td><td>Low milk production</td></tr>
<tr><td>3</td><td>Details of technologies selected for assessment</td><td>:</td><td>T₁ : Farmers practices - Concentrate feed (1.5 kg/cow/day for maintenance + 500 gms for each liter milk production)
T2 : Concentrate feed (1.5 kg/cow/day for maintenance + 500gmsfor each liter milk production) + By pass fat feed 100 gms/cow/day.(Duration - 30 Days) (Reco. : Dept. of LPM, Vanbandhu College, Navsari, Year : 2012)</td></tr>
<tr><td>4</td><td>Source of technology</td><td>:</td><td>Prof. and Head, Dept. of LPM, Vanbandhu College, Navsari, Year : 2012)</td></tr>
<tr><td>5</td><td>Production system</td><td></td><td>Milk production</td></tr>
<tr><td>6</td><td>Thematic area</td><td>:</td><td>Nutrition management.</td></tr>
<tr><td>7</td><td>Performance of the Technology with performance indicators</td><td>:</td><td>
<table>
<tr><th>Treatment</th><th>Yield lit/cow/day</th><th>Gross cost (Rs / unit)</th><th>Gross Income (Rs/unit)</th><th>Net Profit (Rs/unit)</th><th>B:C Ratio</th></tr>
<tr><td>T1 - Farmers practices - Concentrate feed (1.5 kg/cow/day for maintenance + 500 gms for each liter milk production)</td><td>5.5</td><td>1200</td><td>3300</td><td>2100</td><td>1.75</td></tr>
<tr><td>T2 - Concentrate feed (1.5 kg/cow/day for maintenance + 500gmsfor each liter milk production) + By pass fat feed 100 gms/cow/day.</td><td>7.7</td><td>1270</td><td>4560</td><td>3290</td><td>2.59</td></tr>
</table>
</td></tr>
<tr><td>8</td><td>Feedback, matrix scoring of various technology parameters done through farmer’s participation / other scoring techniques</td><td></td><td>Availability of feed, acceptability and applicability of technology.</td></tr>
<tr><td>9</td><td>Final recommendation for micro level situation</td><td>:</td><td>Trial is going on for third year</td></tr>
<tr><td>10</td><td>Constraints identified and feedback for research</td><td>:</td><td>Difficult to select group will be in similar physiological condition(age, lactation and lactation day)</td></tr>
<tr><td>11</td><td>Process of farmers participation and their reaction</td><td>:</td><td>Farmers were involved and actively participated at every level i.e. PRA and Group discussion, planning, execution, monitoring, evaluation of the trial. The By pass fat feed (Godhara Shakti) is easily available at village co operative dairy. The technology is Cost effective, easy availability of feed, acceptability and applicability of technology.</td></tr>
</table>

3.3. FRONTLINE DEMONSTRATION

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

List of technologies demonstrated during previous year and popularized during 2018-19 and recommended for large scale adoption in the district

Sr. No	Crop/ Enterprise	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system.	Horizontal spread of Technology		
					No. of villages	No. of farmers	Area (ha)
1	Paddy	Varietal Evaluation	HYVs of Paddy, Line sowing, Seed treatment	Demo. of improved variety seeds	25	420	110
2	Fingermillet	Varietal Evaluation	HYVs of Fingermillet, IPM	Demo. of improved variety seeds	06	100	40
3	Sugarcane	Varietal Evaluation	HYVs of Sugarcane,	Demo. of improved variety planting material	05	28	14
4	Brinjal	Varietal Evaluation	HYVs of Brinjal,	Demo. of improved variety seedlings	18	120	40
5	Sweetpotato	Varietal Evaluation	HYVs of Sweetpotato, turning of veins	Demo. of improved variety seeds	04	35	12
6	Greengram	Varietal Evaluation	HYVs of Greengram, line sowing	Demo. of improved variety seeds	08	125	20
7	Green fodder	Varietal Evaluation	HYVs of Perennial grass	Demo. of improved variety planting material	20	150	15

B. Details of FLDs implemented during 2019

Sr. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall
					Proposed	Actual	SC/ST	Others	Total	
1	Paddy	ICM	HYV, IPM, INM ,line sowing	Kharif	20	25	125	--	125	--
2	Sugarcane	ICM	HYV, LBF	Rabi	01	01	10	--	10	--
3	Finger millet	ICM	HYV,LBF, IPM	Kharif	10	16	75	--	75	--
4	Pigeonpea (NFSM)	ICM	HYV, IPM, LBF	Kharif	20	20	50	--	50	--
5	Bittergourd	ICM	HYV, IPM, LBF	Kharif	2.5	2.5	20	--	20	--

6	Sweetpotato	ICM	HYV, LBF	Kharif	02	01	10	--	10	
7	Chickpea(NFSM)	ICM	HYV, IPM, LBF	Rabi	30	30	75	--	75	--
8	Indianbean	ICM	HYV, IPM, LBF	Rabi	04	7.4	69	--	69	--
9	Chilli	ICM	HYV, IPM, LBF	Rabi	2.5	2.5	12	--	12	
10	Greengram	ICM	HYV,INM, IPM	Summer-18	05	08	40	--	40	--
11	Fodder sorghum	ICM	HYV	Summer	05	19	200	--	200	--
12	Paddy	INM	Green Manuring	Kharif	02	02	20	--	20	--
13	Mushroom	ICM	Improved variety Seed	Rabi	--	--	60	--	60	--
14	Kitchen garden	ICM	Improved variety Seed	Rabi	--	--	25	--	25	--
15	Bucket irrigation	IWM	Drip irrigation	Rabi	1.00	0.95	19	--	19	--

Details of farming situation

Sr. no.	**Crop**	**Season**	**Farming situation**	**Type of soil**	**Status of soil**			**Previous crop**	**Sowing date**	**Harvest Date**	**Seasonal Rainfall**	**No of Rainy days**
					N	**P**	**K**					
1	Paddy	Kharif	Rainfed	Medium black	Low	Medium	High	Pulses	June-19	Oct-19		
2	Sugarcane	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Nov-17	Jan-19		
3	Finger millet	Kharif	Rainfed	Medium black	Low	Medium	High	Pulses	June-19	Oct-19		
4	Pigeonpea	Kharif	Rainfed	Medium black	Low	Medium	High	Pulses	July-19	Dec-19		
5	Bittergourd	Kharif	Irrigated	Hilly, Laterite	Low	Medium	High	Paddy	June-19	Nov.19		
6	Sweetpotato	Kharif	Irrigated	Medium black	Low	Medium	High	Paddy	July-19	Oct-19		
7	Chickpea(NFSM)	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Dec-18	March- 19		
8	Indianbean	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Nov-18	March-19		
9	Chilli	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Nov-2018	Feb to April .19		
10	Greengram	Summer	Irrigated	Medium black	Low	Medium	High	Paddy	Feb-19	May- 19	--	--
11	Fodder Sorghum	Summer	Irrigated	Medium black	Low	Medium	High	Paddy	Jan-19	May-19	--	--
12	Paddy	Kharif	Rainfed	Medium black	Low	Medium	High	Pulses	June-19	Oct-19		

13	Mushroom	Rabi	Irrigated	Medium black	Low	Medium	High		Nov-2019	Jan-2020		
14	Kitchen garden	kharif	Irrigated	Medium black	Low	Medium	High		Nov-201	Feb to April .20		
15	Bucket irrigation	Rabi	Irrigated	Medium black	Low	Medium	High		Nov-2019	Feb to April .20		

Technical feedback on the demonstrated technologies.

Sr. No	Feed Back
1	Fingermillet (Guj Nagli-5) variety gives good yield in longer rainy season .
2	Paddy variety GAR-13 have more tillering, non lodging, Mid late and small seeded
3	BDN - 711 variety - mid late (150-160 Days) , bold size with white colour, good for Dal making, good cooking quality, less problem of wilt and sterility mosaic virus.
4	Uniform maturity, Bold size, Good cooking quality found in GM-6 variety of Greengram .
5	Gram variety GJG-3- Early maturity, Bold size, more number of pod per plant
6	Indianbean variety Guj.Val-2 erect flowering habit , flowering starts from each inter node.
7	Sweetpotato variety C-71 having more tubers per plant resulted in higher yield.
8	Production of sugarcane variety Co-N- 41131 may be reduced in case of late harvesting.
9	Demonstrated variety of bittergourd gave good yield. The variety also fetched good market price. Mosaic disease incidence was found less

Farmers' reactions on specific technologies

Sr. No	Name of Crop/ Commodity	Feed Back
1	Paddy	Mid late variety with small grain size, non lodging, seed rate as well as seedling rate has been reduced to 20-30 %. Grain quality is better for culinary purpose compared to hybrid varieties.
2	Fingermillet	Variety had less incidence of pest- disease compare to local variety.
3	Greengram	GM-6 variety is found resistant to YMV with bold grain size and uniform maturity. Good yield with attractive shiny grain appearance
4	Gram	Gram variety GJG-3- early maturity, bold size with good attractive yellow colour, more number of pod per plant , good yield in rainfed condition
5	Pigeon pea	BDN - 711 variety - mid late (150-160 Days) , bold size with white colour, good for Dal making, good cooking quality, less problem of wilt and sterility mosaic virus.

6	Bittergourd	Management of fruitfly increased the yield. Size, Shape and quality of fruit preferred by local market
7	Indianbean	More number of pods per branch, early pod setting .
8	Sugarcane	Seed rate has been reduced to 50%.
9	Sweetpotato	Good colour and uniform thickness fetches higher market price.
10	Chilli	High yielding variety, Profitable farming due to high market price during season

Extension and Training activities under FLD

Sr. No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1	Field days	09	10-01-19 29-01-19 06-03-19 11-03-19 05-07-19 10-07-19 23-07-19 10-10-19 18-10-19	108 93 62 63 49 51 117 111 120	
2	Farmers Training	08	13-17/02/19 21-24/05/19 24-29/05/19 07-08/06/19 04-05/06/19 22-23/10/19 24-27/10/19 29-30/10/19 16-19/11/19	32 36 36 28 26 35 34 32 31	
3	Media coverage	04	22-02-19 22-07-19 21-10-19 25-11-19		
4	Training for extension functionaries	--	--		

C. Performance of Frontline demonstrations

Frontline demonstrations on oilseed crops-Nil

Frontline demonstration on pulse crops

Crop	Thematic Area	Technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
						Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						H	L	Av.										
Indian bean	ICM	Improved variety +Seed treatment + Line sowing + IPM	Guj. Val-2	69	7.4	11.96	8.39	10.82	8.08	33.91	17547	54100	36553	3.08	15300	40400	25100	2.64
Green gram	ICM	Improved variety + Line sowing + INM + IPM	GM-6	40	08	10.7	6.8	8.66	6.10	41.96	18800	51950	33130	2.76	16280	36615	20335	2.25

FLD on Other crops

Crop	Thematic Area	Name of the technology	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Change in Yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
						Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						High	Low	Av.										
Cereals																		
Paddy	ICM	Improved variety + Seed treatment + INM + IPM	GAR-13	125	25	46.75	29.40	36.21	28.65	26.38	31788	63144	31356	1.99	34030	49512	15482	1.45
Finger millet	ICM	Improved variety, Biopesticides	Guj. Nagli - 5	75	16	11.30	9.15	10.26	8.85	15.93	18720	34780	16060	1.85	17480	30550	13070	1.74

		LBF																
Vegetables																		
Sweetpotato	ICM	Improved variety	C-71	10	1.0	135.0	112.0	122.0	105.0	16.19	53253	146400	93147	2.74	46458	115500	69042	2.49
Commercial Crops																		
Sugarcane	ICM	Improved variety, LBF	Co-N-04131	10	1.0	86.0	77.5	83.7	76.0	10.13	113900	234360	120460	2.06	106181	212800	106619	2.00
Fodder Sorghum	ICM	Improved seeds	SSG	200	19.0	480	425	523	381	37.27	36300	115060	78760	3.16	33500	83600	50100	2.49

FLD on Livestock –Nil

FLD on Fisheries –Nil

FLD on Other Enterprises – Mushroom production

Category	**Name of the technology demonstrated**	**No. of Farmer**	**No.of units**	**Major parameters**		**% change in major parameter**	**Other parameter**		**Economics of demonstration (Rs.) or Rs./unit**				**Economics of check (Rs.) or Rs./unit**			
				Demo	**Check**		**Demo**	**Check**	**Gross Cost**	**Gross Return**	**Net Return**	**BCR (R/C)**	**Gross Cost**	**Gross Return**	**Net Return**	**BCR (R/C)**
Oyster Mushroom	Pleurotus spp	60	60	--	--	--	--	--	1800	10500	8700	5.83	--	-	-	-

FLD on Women Empowerment –Nil

FLD on Farm Implements and Machinery

Name of the implement	Crop	Technology demonstrated	No. of Farmer	Area (ha)	Major parameters	Field observation (output/man hour)		% change in major parameter	Labour reduction (man days)				Cost reduction (Rs./ha or Rs./Unit etc.)			
						Demo	Check		Land preparation	Sowing	Threshing	Total	Land preparation	Labour	Threshing Labour	Total
Paddy Thresher	Paddy	Use of paddy thresher	53	57	Labour Saving	--	--	--	--	--	15 man days/ha	15 man days/ha	--		3000 Rs/ha	3000 Rs/ha
Bucket irrigation	Brinjal	Low cost MIS (bucket Irrigation)	19	0.95	Water saving	2370 cu m/ha	4925 cu m/ha	48 % less water required								

FLD on Other Enterprise: Kitchen Gardening –Nil

FLD on Demonstration details on crop hybrids

Crop	Technology demonstrated	Hybrid Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check(Rs./ha)			
					Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
					High	Low	Average										
Vegetable crop																	
Bittergourd	Improved variety, IPM, LBF	F1 (Akash)	20	2.5	220	202	210.1	177.5	18.36	68700	197400	128700	2.87	63200	164000	100800	2.59
Chilli	Improved variety	Hybride. (Eagle)	12	2.5	115	95	101.5	87.33	16.22	56455	203000	146545	3.58	55082	174667	119458	3.16

D. Performance of Cluster Frontline Demonstrations (CFLD)

CFLD on Oilseed crops – Nil

CFLD on Pulse crops

Crop	Thematic Area	Technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
						Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						High	Low	Av.										
Pigeonpea (NFSM)	ICM	Improved variety + Line sowing + INM + IPM	BDN - 711	50	20	11.52	6.96	8.29	6.11	35.68	23310	45595	22285	1.96	21180	33605	12425	1.59
Chickpea (NFSM)	ICM	Improved variety +Seed treatment + Line sowing + IPM	GJG-3	75	30	13.8	9.3	11.68	8.71	34.09	21647	60722	39075	2.81	20120	43573	23453	2.17

3.4. Training Programmes

Farmers' Training including sponsored training programmes (on campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Integrated water management	3	0	0	0	57	56	113	57	56	113
Weed Management	2	0	0	0	27	41	68	27	41	68
Nursery Management	2	0	0	0	55	43	98	55	43	98
Integrated crop management	7	0	0	0	263	66	329	263	66	329
Total	**14**	**0**	**0**	**0**	**402**	**206**	**608**	**402**	**206**	**608**
II Horticulture	0	0	0	0	0	0	0	0	0	0
III Soil Health and Fertility Mgt.										
Integrated nutrient management	1	0	0	0	26	14	40	26	14	40
Total	**01**	0	0	0	**26**	**14**	**40**	**26**	**14**	**40**
IV Livestock Prod. and Management										
Dairy Management	3	0	0	0	29	78	107	29	78	107
Feed & fodder technology	3	0	0	0	25	79	104	25	79	104
Total	**06**	0	0	0	**54**	**157**	**211**	**54**	**157**	**211**
V Home Science/Women Empowerment										
Nursery Management	1	0	0	0	0	25	25	0	25	25
Vermi-compost production	1	0	0	0	1	16	17	1	16	17
Processing and value addition	2	0	0	0	2	39	41	2	39	41
Total	**04**	0	0	0	**03**	**80**	**83**	**03**	**80**	**83**
VI Agril. Engineering										
Care and maintenance of farm machinery and implements	1	0	0	0	36	4	40	36	4	40
Installation and maintenance of micro irrigation systems	2	0	0	0	31	2	33	31	2	33
Total	**03**	0	0	0	**67**	**06**	**73**	**67**	**06**	**73**
VII Plant Protection										
Integrated Disease Management	1	0	0	0	20	0	20	20	0	20

Integrated Pest Management	1	0	0	0	41	18	59	41	18	59
Total	**02**	0	0	0	**61**	**18**	**79**	**61**	**18**	**79**
X Capacity Building and Group Dynamics										
Formation and Management of SHGs	2	0	0	0	63	0	63	63	0	63
Leadership development	1	0	0	0	23	0	23	23	0	23
Group Dynamics and farmers organization	1	0	0	0	21	0	21	21	0	21
	04	0	0	0	**107**	**0**	**107**	**107**	**0**	**107**
Grand Total	**34**	0	0	0	**720**	**481**	**1201**	**720**	**481**	**1201**

Farmers' Training including sponsored training programmes (off campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	2	0	0	0	34	38	72	34	38	72
Integrated water management	3	0	0	0	43	35	78	43	35	78
Integrated crop management	7	0	0	0	148	50	198	148	50	198
Total	**12**	0	0	0	**225**	**123**	**348**	**225**	**123**	**348**
II Horticulture										
III Soil Health and Fertility Mgt.										
Integrated nutrient management	3	0	0	0	52	30	82	52	30	82
Soil and Water Testing	3	0	0	0	72	32	104	72	32	104
Total	**06**	0	0	0	**124**	**62**	**186**	**124**	**62**	**186**
IV Livestock Production and Management										
Dairy Management	1	0	0	0	22	7	29	22	7	29
Total	**01**	0	0	0	**22**	**7**	**29**	**22**	**7**	**29**
V Home Science/Women empowerment										
Household Nutritional security	2	0	0	0	1	42	43	1	42	43
Total	**02**	0	0	0	**01**	**42**	**43**	**01**	**42**	**43**
VI Agril. Engineering										
Installation and maintenance of micro irrigation systems	2	0	0	0	51	7	58	51	7	58

Soil & water conservation	1	0	0	0	20	13	33	20	13	33
Farm Machinary and its maintenance	1	0	0	0	25	8	33	25	8	33
Total	**04**	0	0	0	**96**	**28**	**124**	**96**	**28**	**124**
VII Plant Protection										
Integrated Pest Management	3	0	0	0	61	7	68	61	7	68
Integrated Disease Management	2	0	0	0	32	0	32	32	0	32
Total	**05**	0	0	0	**93**	**7**	**100**	**93**	**7**	**100**
X Capacity Building and Group Dynamics										
Formation and Management of SHGs	2	0	0	0	36	5	41	36	5	41
Group Dynamics and farmers organization	1	0	0	0	19	13	32	19	13	32
Total	**03**	0	0	0	**55**	**18**	**73**	**55**	**18**	**73**
Grand Total	**33**	0	0	0	**616**	**287**	**903**	**616**	**287**	**903**

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

Thematic area	**No. of courses**	**Participants**								
		Others			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
I Crop Production										
Integrated water management	06	0	0	0	100	91	191	100	91	191
Weed Management	4	0	0	0	61	79	140	61	79	140
Nursery Management	2	0	0	0	55	43	98	55	43	98
Integrated crop management	14	0	0	0	411	116	527	411	116	527
Total	**26**	**0**	**0**	**0**	**627**	**329**	**956**	**627**	**329**	**956**
II Horticulture	0	0	0	0	0	0	0	0	0	0
III Soil Health and Fertility Mgt.										
Integrated nutrient management	4	0	0	0	78	44	122	78	44	122
Soil and Water Testing	3	0	0	0	72	32	104	72	32	104
Total	**07**	0	0	0	**150**	**76**	**226**	**150**	**76**	**226**
IV Livestock Prod. and Management										
Dairy Management	3	0	0	0	51	85	136	51	85	136

Feed & fodder technology	3	0	0	0	25	79	104	25	79	104
Total	**07**	0	0	0	**76**	**164**	**240**	**76**	**164**	**240**
V Home Science										
Nursery Management	1	0	0	0	0	25	25	0	25	25
Vermi-compost production	1	0	0	0	1	16	17	1	16	17
Processing and value addition	2	0	0	0	2	39	41	2	39	41
Household Nutritional security	2	0	0	0	1	42	43	1	42	43
Total	**06**	0	0	0	**04**	**122**	**126**	**04**	**122**	**126**
VI Agril. Engineering										
Care and maintenance of farm machinery and implements	1	0	0	0	36	04	40	36	04	40
Installation and maintenance of micro irrigation systems	4	0	0	0	82	09	91	82	09	91
Soil & water conservation	1	0	0	0	20	13	33	20	13	33
Farm Machinary and its maintenance	1	0	0	0	25	08	33	25	08	33
Total	**07**	0	0	0	**163**	**34**	**197**	**163**	**34**	**197**
VII Plant Protection										
Integrated Disease Management	03	0	0	0	52	0	52	52	0	52
Integrated Pest Management	04	0	0	0	102	25	127	102	25	127
Total	**07**	0	0	0	**154**	**25**	**179**	**154**	**25**	**179**
X Capacity Building and Group Dynamics										
Formation and Management of SHGs	04	0	0	0	99	05	104	99	05	104
Leadership development	01	0	0	0	23	0	23	23	0	23
Group Dynamics and farmers organization	02	0	0	0	40	13	53	40	13	53
Total	**07**	0	0	0	**162**	**18**	**180**	**162**	**18**	**180**
Grand Total	**67**	0	0	0	**1336**	**768**	**2104**	**1336**	**768**	**2104**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Organic Growers	01	--	--	--	20	00	20	20	00	20
Dairy Entrepreneur	01	--	--	--	19	01	20	19	01	20
Mushroom production	05	--	--	--	94	54	148	94	54	148
Diesel Engine Repairing	01	--	--	--	30	--	30	30	--	30
Total	**08**	--	--	--	**163**	**55**	**218**	**163**	**55**	**218**

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

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Organic Growers	01	--	--	--	20	00	20	20	00	20
Dairy Entrepreneur	01	--	--	--	19	01	20	19	01	20
Mushroom production	05	--	--	--	94	54	148	94	54	148
Diesel Engine Repairing	01	--	--	--	30	--	30	30	--	30
Total	**08**	--	--	--	**163**	**55**	**218**	**163**	**55**	**218**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Formation and Mgt. of SHGs	01				28	12	40	28	12	40
Micro Irrigation/irrigation	01				18	00	18	18	00	18
Total	**02**				**46**	**12**	**58**	**46**	**12**	**58**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Increasing production and productivity of crops	01	--	--	--	24	05	29	24	05	29
Integrated Pest Management	01	--	--	--	16	04	20	16	04	20
Group Dynamics and farmers organization	01	--	--	--	25	00	25	25	00	25
Installation and maintenance of micro irrigation systems	02	--	--	--	31	06	37	31	06	37
Total	**05**	--	--	--	**96**	**15**	**111**	**96**	**15**	**111**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Formation and Mgt. of SHGs	01	--	--	--	28	12	40	28	12	40
Micro Irrigation/irrigation	01	--	--	--	18	00	18	18	00	18
Increasing production and productivity of crops	01	--	--	--	24	05	29	24	05	29
Integrated Pest Management	01	--	--	--	16	04	20	16	04	20
Group Dynamics and farmers organization	01	--	--	--	25	00	25	25	00	25
Micro irrigation systems	02	--	--	--	31	06	37	31	06	37
Total	**07**	--	--	--	**142**	**27**	**169**	**142**	**27**	**169**

Sponsored training programmes

Area of Training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Increasing production and productivity of crops	01	--	--	--	49	07	56	49	07	56
Soil health and fertility management										
Integrated nutrient management	01	--	--	--	21	30	51	21	30	51
Livestock and fisheries										
Livestock production and management	01	--	--	--	11	31	42	11	31	42
Plant Protection										
Integrated Pest Management	01				03	46	49	03	46	49
Integrated Disease management	01	--	--	--	07	53	60	07	53	60
Total	**02**	--	--	--	**10**	**99**	**109**	**10**	**99**	**109**
Agricultural Extension										
Formation & Management of SHGs	01	--	--	--	55	05	60	55	05	60
Leadership development	01				00	61	61	00	61	61
Total	**02**	--	--	--	**55**	**66**	**121**	**55**	**66**	**121**
GRAND TOTAL	**07**	--	--	--	**146**	**233**	**379**	**146**	**233**	**379**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Income generation activities										
Mushroom production	05	--	--	--	94	54	148	94	54	148
Diesel Engine Repairing	01	--	--	--	30	--	30	30	--	30
Total	**06**	--	--	--	**124**	**54**	**178**	**124**	**54**	**178**

Details of trainings organized under ASCI

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Organic grower	01	--	--	--	20	00	20	20	00	20
Dairy Enterpreneurer	01	--	--	--	19	01	20	19	01	20
Total	**02**	--	--	--	**39**	**01**	**40**	**39**	**01**	**40**

3.5. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Diagnostic visits	02	22	02	24
Field Day	09	774	12	786
Kisan Ghosthi	27	684	08	692
Farmers Seminar	15	1513	25	1538
Film Show	08	158	0	158
Kisan Mela	01	670	10	680
Exhibition	04	1489	08	1497
Farmers visit to kvk	1494	1494	20	1514
Scientists' visit to farmers field	42	296	05	301
Advisory Services	568	756	04	760
Method Demonstrations	08	242	00	242
Celebration of important days	05	369	04	376
Celebration of Special days(constitution)	02	122	02	124
Pre Rabi sammelan	01	226	04	230
Exposure visits	09	209	05	214
Soil Health campain	01	124	02	126
Lecture delivered in other programmes	18	3667	16	3683
Total	**2214**	**12815**	**127**	**12945**

Details of other extension programmes

Particulars	Number
Extension Literature	07
News paper coverage	15
Popular articles	01
Radio Talks	05
TV Talks	04
Animal health camps (Number of animals treated)	04 (456) animals

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

Production of seeds by the KVK

Crop	Name of the crop	Name of the variety	Name of the hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers
Cereals	Paddy	GAR-13	--	82.72	248160	617
Pulses	Pigeonpea	Vaishali	--	0.30	2400	15
Others	Sugarcane	Co.N-04131	--	110.00	36960	11
Total				**193.02**	**287520**	**643**

Production of planting materials by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Number	Value (Rs.)	Number of farmers
Vegetable seedlings	Brinjal, Tomato, Chilli	--	Mukta round NS-501 Eagle	25000 5000 35000	15000 500 52500	115 20 40
	Drumstick	PKM-1	--	1550	21700	150
Tuber	Sweet potato	C-71	--	60000 cuttings	30000	10
Fodder crop saplings	Perennial grass	Co-4	--	40000 (tousseks)	30000	326
Total				**166550**	**149700**	**661**

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity Nos./Kg	Value (Rs.)	No. of Farmers
Bio Agents	Fruitfly trap (Mango)	734	29360	42
Others	Vermicompost	15000 kg.	60000	225

Production of livestock materials: nil

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

A. KVK News Letter - Date of start :January – 2012 Number of copies to be published : 400

B. Literature developed/published

Item	Title	Authors name	Number
Research papers	1. Pregmatic Perspective of Agri. Development programme in present scenario.	R.F.Thakor & B.M.Mehta	01
News letters	Half yearly news letter	R.F.Thakor et.al	02
Technical bulletins	--	--	--
Popular articles	1. Scientific cultivation of Chickpea	M.M.Gajjar &, R.F.Thakor	--
Extension literature	1. IPM in Paddy	M.M.Gajjar & K.A.Patel	1000
	2. Drip Irrigation	P.J.Joshi ,& K.A.Patel	1000
	3. Fruitfly Trap	K.A.Patel , R.F.Thakor	1000

C. Details of Electronic Media Produced- Nil

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

D. Success Stories / Case studies, if any (two or three pages write-up on each case with suitable action photographs.

Success story for individual farmer: Pulses/oilseeds 2019
Name of KVK : Valsad
Title of intervention : Chickpea (GJG-3) – A crop fetching high income to tribal farmers.
Crop and Variety: Chickpea Var. GJG – 3.
Name of farmer & Address: Jivalbhai Gangabhai Jadav
At.- Sadadvera, Ta.- Kaprada, Di.- Valsad.

Details of technology demonstrated: - Improved variety GJG - 3 @ 70 kg/ha. + Seed treatment (Thiram @ 2.0-3.0 gm + Rhizobium spp. and PSB cultures each 20ml/kg seed + Line sowing (R X P) 25-30 X 10-15 cm.

Institutional Involvement : Jivalbhai and other farmers of Sadadvera village participated in off campus training organized by kvk on demo plots in which they discussed about poor production of gram due to higher mortality in field, wilting , etc. It was also felt that they were growing gram just to utilized land . Analyzing the situation based on farmers problems the scientist of kvk decided to lay down demonstration of Gram with newly recommended variety GJG-3 with improved technologies like seed treatment with fungicide and LBF (Seed treatment according to formula *i.e.* FIR.), optimum seed rate, Line sowing and IPM. Jivalbhai preparing land immediately after harvest of paddy by opening a small furrow and place the seed at 10 cm depth to maximize the conserved moisture. Seed treatment with Rhizobium and PSB culture @ 10 ml/ kg seed with line sowing of 30-45 cm spacing to maintain plant population. One irrigation was given at branching stage. The demonstrations were laid down covering 50 farmers of village under NFSM-pulse. Jivalbhai Patel was one of them. He act as facilitator farmers for the village.

Success Point: The Demonstrated gram variety GJG -3 with improved production technology gave 1230 kg per ha yield with net return of 42313 Rs. per ha (50 Rs./kg) against 860 kg per ha yield with net return of 22880 Rs. per ha of local cultivar. The yield increase up to 43.02 % over check. The demonstrated gram variety with improved package of practices created very good impression among the farmers of Valsad district. Majority of farmer‘s viewed that area under rabi gram will increase provided seed availability of preferred variety.

Particulars	Demonstration	Potential yield of variety/technology	District average	State average
Yield (q/ha)	12.30	15-17	8.87	8.86

Performance of technology vis-à-vis Local check (Increase in productivity and returns)

Practice used	Yield (q/ha)	Gross cost (Rs/ha)	Gross income (Rs/ha)	Net income (Rs/ha)	B:C ratio
Farmer practices	8.60	20120	43000	22880	2.14
Demonstration	12.30	21647	63960	42313	2.95
% Increase	43.02	7.59	48.74	84.93	37.85

Farmer Feedback:

- Low mortality
- More branches (20-23) than check variety
- Less pest and disease (3-5 Pod / Plant damaged due to Pod borer)
- more number of pod per plant (79 - 82 pod per plant)

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

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

Sr.No.	Crop/Enterprise	ITK Practiced	Purpose of ITK
1	All crops grown by seed sowing.	A white thin thread tied in three lines around the field.	-To protect the newly emerged shoots of seeds sown in the field from damage of the Peacock (birds). As they eats the shoots and tender leaves of plants.

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

A. Practicing Farmers

a. Participatory Rural Appraisal
b. Farmer group discussions
c. Diagnostic services
d. Existing cropping system

B. Rural Youth

a Participatory Rural Appraisal
b. Farmer group discussions

C. In-service personnel

a Existing cropping system

b. Feed back from state departments as well as NGOs

5.2. Indicate the methodology for identifying OFTs/FLDs

For OFT:

i) PRA
ii) Problem identified from Matrix
iii) Field level observations
iv) Farmer group discussions

For FLD:

i) New variety/technology
ii) Poor yield at farmers level
iii) Existing cropping system

5.3. Field activities

Name of villages identified/adopted with block name (from which year) -

Block	Village	Year
Kaparada	Khuntali, Kharedi, Amdha, Ozarada	2012
	Mendha, Kakadkopar, Dhodhadkuva,	2015
Dharampur	Sadadvera , Pindval	2015
	Panva, Kilavani, Mamabhacha	2017
Pardi	Asma, Arnala, Pati Panchalai,	2014
	Lakhmapor, Chival, Samarpada	2015
Valsad	Ozar	2015
Umargam	Borigam ,Saronda	2015

ii. No. of farm families selected per village : 25

iii. No. of survey/PRA conducted : 05

iv. No. of technologies taken to the adopted villages- 08

v. Name of the technologies found suitable by the farmers of the adopted villages:

a) Use of azolla in paddy

b) Vermi compost preparation at farm level

C) Use of methyl eugenol trap in Mango

d) Use of plastic tray for vegetable seedling raising

e) Mushroom production

f) Improved variety of Indianbean

g) Perennial fodder grass variety

vi. Impact (production, income, employment, area/technological– horizontal/vertical): Pl see results item no.13

vii. Constraints if any in the continued application of these improved technologies :

a) Non availability of spawn of mushroom
b) Unavailability of seeds of improved variety.
c) High cost of inputs i.e. chemical of trap, plastic tray etc.

5.4 . No. and Name of villages adopted for Doubling Farmers Income. Indicate whether benchmark survey of the villages are done or not.

Sr.No	Name of villages adopted for Doubling Farmers Income	whether benchmark survey of the villages are done or not.
1	Lakhmapore	Yes
2	Pati	Yes

6. LINKAGES

A. Functional linkage with different organizations

Sr. No.	Name of organization	Nature of linkage
1	Navsari. Agril. Uni. Navsari	Provides expertise for latest technology and supply of improved seeds of paddy, sugarcane, indian bean, sweetpotato. and Trichoderma, LBFs
2	ATMA	Training and organizing farmers shibir.
3	Dept. of Agril. Valsad.	Involvement of kvk experts for delivering lectures, farmers seminars and extension functionaries' trainings.
4	Dept. of Horticulture, Valsad	Involvement for exposure visit at excellence centre.
5	Dept. of Animal husbandry, Valsad	Joint organization of cattle treatment camp & Pashupalan shibir
6	Vasudhara dairy	Joint implementation of farmers, farm women & ext. functionaries training.
7	J. N. Trust, Kaparada	Joint implementation of farmers trainings & seminars.
8	Jain Irrigation Co , Dharampur	Soil and water sample analysis.
9	Mushroom training centre, Vapi	Joint implementation of mushroom training.

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

C. Details of linkage with ATMA- a) Is ATMA implemented in your district -- Yes

Coordination activities between KVK and ATMA

S. No.	Programme	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks
01	Meetings	4	4	
02	Research projects	0	0	
03	Training programmes	14	7	
04	Demonstrations	0	7	
05	Extension programmes			
	Technology week	0	0	
	Exposure visit	3	0	
	Exhibition	2	2	

	Soil health camps	0	1	
	Animal health campaigns	0	1	
	Capacity development	0	2	
	Agri-preneurs development	0	0	
06	Video films	0	0	
	Extension literature	0	2	

D. Give details of programmes implemented under National Horticultural Mission -Nil

E. Nature of linkage with National Fisheries Development Board – Nil

F. Details of linkage with RKVY

Details of trainings organized in linkage with RKVY under ASCI

Area of training	Fund allocated Rs.	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
Organic grower	165200	01	--	--	--	20	00	20	20	00	20
Dairy Enterpreneurer	189600	01	--	--	--	19	01	20	19	01	20
Total	**354800**	**02**	--	--	--	**39**	**01**	**40**	**39**	**01**	**40**

7. Convergence with other agencies and departments :

Sr. No.	Name of agencies and departments	Nature of convergence
1	Dept. of Agril. Valsad.	Involvement for delivering lectures, farmers seminars and extension functionaries trainings.
2	Dept. of Horticulture, Valsad	Involvement for lectures delivering in farmers sammelan.
3	Dept. of Animal husbandry, Valsad	Joint organization cattle treatment camp & farmers shibir
4	ATMA, Valsad	Involvement of kvk experts for delivering lectures in training, FFS, seminars, etc.

8. Innovator Farmer's Meet –Nil

9. Farmers Field School (FFS) –Nil

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

Sr. No	Name of Crop/ Commodity	Technical Feedback
1	Paddy	Mid late variety with small grain size, non lodging, seed rate as well as seedling rate has been reduced to 20-30 %. Grain quality is better for culinary purpose compared to hybrid varieties.
2	Fingermillet	Variety had less incidence of pest- disease compare to local variety.
3	Greengram	GAM-5 variety is found resistant to YMV with bold grain size and uniform maturity. Good yield with attractive shiny grain appearance
4	Gram	Gram variety GJG-3- early maturity, bold size with good attractive yellow colour, more number of pod per plant , good yield in rainfed condition
5	Pigeon pea	BDN - 711 variety - mid late (150-160 Days) , bold size with white colour, good for Dal making, good cooking quality, less problem of wilt and sterility mosaic virus.
6	Bittergourd	Management of fruitfly increased the yield.
7	Indianbean	More number of pods per branch, early pod setting .
8	Sugarcane	Seed rate has been reduced to 50%.
9	Sweetpotato	Good colour and uniform thickness fetches higher market price.

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

- Indianbean variety with red colour seeds needs to be developed
- Pigeonpea variety which mature early on conserve moisture needed for sloppy muram type soil.
- Early to midlate lodging resistant variety for paddy and finger millet should developed for heavy rainfall area of south gujarat

11. Technology Week celebration during 2019 - No

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

13. IMPACT

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

Sr . No.	Name of specific technology/skill transferred	No . of participants	% Adoption	Change in income (Rs.)	
				Before training Rs / unit	After training Rs / unit
1	HYV s of Sugarcane	55	70	112,000 Rs. / ha.	135,000 Rs. / ha.
2	HYV s of Paddy	70	85	21,000 Rs. / ha.	23,500 Rs. / ha.
3	HYV s of Fingermillet	50	75	18,500 Rs. / ha.	21,500 Rs. / ha.
4	HYV s of Brinjal	40	65	80,500 Rs. / ha.	110,000 Rs. / ha.
5	HYV s of Green fodder	60	100	36,500 Rs. / ha.	45,500 Rs. / ha.
6	Q lure traps IPM in Vegetable crops (cucurbits)	60	85	35,000 Rs. / ha.	52,000 Rs. / ha.
7	Mushroom Production	109	42.2	--	15000 Rs./farmer

C. Cases of large scale adoption-

Title - Impact of sweet potato technologies on livelihood of tribal farmers

Situation analysis :

Sweet potato (Ipomoea batata) ranked seventh most important food crop of the world after wheat, rice, maize, potato, barely and cassava. Globally it is cultivated in 117 countries in an area of 8.62 million ha producing 105.19 million tons with a yield of 122 qt /ha (FAO, 2016). In India, it is cultivated in almost all the states. The area under sweet potato cultivation in India is 0.13 million ha with a production of 1.47 million tonnes with average productivity 113 qt /ha (FAO, 2016). Orissa is the largest producer of sweet potato in india.

Sweet potato is grown in sub tropical and tropical climatic region. Sweet potato can be grown with limited land, labor, and capital. It considered a “poor farmer’s crop. It plays significant role in food and nutritional security of tribal farmers as *Sweet potatoes* are an excellent source of vitamin A 283 % (in the form of beta-carotene). In fact, no other food on the planet contains more vitamin A than sweet potato. They are also a very good source of vitamin C 35.3 mg, Magnesium 48.6 mg, Calcium 68.4 mg, pantothenic acid 1.6 mg and vitamin B6 10%. Additionally, they are a good source of niacin 2.7 mg, Potassium 855 mg, Phosphorus 97 mg, *dietary* fiber 5.9 grams with zero cholesterol.

In Gujarat the status of sweet potato is miserable and it is grown on about 1500 ha area with productivity of 15 tonnes. In Valsad district it is grown in about 300 ha. in upland hilly laterite soil areas by small and marginal tribal farmers. Most of them are cultivating local varieties. In order to identify constraints encountered by sweetpotato growers of this area, benchmark survey was carried out by the scientists of KVK.

Problem statement:

Problems addressed by tribal farmers in sweet potato cultivation.

- ❖ Use of traditional variety
- ❖ Use locally available poor quality planting material
- ❖ Poor agronomic practices
- ❖ Traditional practices
- ❖ Non availability of HYVs of sweetpotato
- ❖ Unavailability of good quality planting material
- ❖ Rainfed farming
- ❖ No knowledge about improved variety were considered as the main hurdles for low productivity of sweet potato.

Plan, Implement and Support:

The main problem address by farmers was cultivation of traditional variety with local practices. To eliminate this problem an attempt has been made to introduce and popularize HYVs of sweetpotato variety with scientific cultivation technologies developed by Navsari Agricultural University. Under AICRP on tuber crops under multi location trial a demonstration was laid down at kvk instructional farm. Different three varieties of sweet potato were grown and tested at kvk in the year 2014-15. The variety C-71 was performed better in this location.

Testing of Sweetpotato varieties at kvk

Seed multiplication at KVK : KVK - Valsad initiated the programme of multiplication of Planting material of high yielding varieties of Sweetpotato variety C-71 since 2014-15 on instructional farm with a view to introduce HYVs by supplying quality Planting material to the farmers on regular basis and thereby increase the area and productivity of Sweetpotato.

Seed multiplication at KVK

Supply of Planting material to farmers

❖ **TOT Approaches**

- Training programmes on production technologies of HYVs of Sweetpotato were organized.
- Front Line Demonstrations of HYVs of Sweetpotato are also conducted on farmer's field to show them the production potentialities.
- Field days and farmers days were organized on demo plots on farmer's field. This has created awareness amongst tribal farmers about use of HYVs of Sweetpotato.

Field Day on Farmer field

Harvesting of sweetpotato

Output :

Results of trials Front Line Demonstration of improved variety C-71 were conducted by KVK in Kaparada block of Valsad district.

Year	Season	No. of demo	Area ha.	No. of cuttings supplied	No. of villages covered	Yield		Increase in Yield (%)	No of other farmers adopted	Other villages covered by seed replacement
						Demo	L.C			
2014-15	Kharif	08	1.00	60000	02	148.6	125.8	18.12	12	03
2015-16	Kharif	22	2.20	132000	03	144.3	118.5	21.77	16	04
2016-17	Kharif	28	1.40	84000	03	152.2	124.3	22.44	28	06
2017-18	Kharif	20	1.00	60000	02	154.2	128.2	20.28	84	10
2018-19	Kharif	17	1.00	60000	02	146.07	120.1	21.62	111	18
Total		**95**	**6.60**	**396000**	**12**	**149.07**	**123.4**	**20.85**	**251**	**18**

Outcome :

- The C-71 variety of sweet potato gave 20.85 per cent higher tuber yield over local variety.
- Farmers preferred C-71 variety due to its red colour, Bunch type bearing habits and uniform size tuber.
- It also fetched about 20 percent higher price in the market.
- Due to broader leaves suppress weed infestation by early covering of soil with veins.
- Due to fast growing habit and broader leaves It produce more fodder for animals.
- Due to shining color and good quality improved variety C-71 fetches market price Rs.15 per Kg compared to local variety which sold @ Rs.12 per Kg.

Impact :

After successful demonstrations, about 251 farmers from about 18 villages adopted the technology. Now a days most of the farmers are multiplying planting materials of this variety and distributed it to other farmers of surrounding villages also.

Diffusion of variety on other farmers field

Thus , adoption of improved technologies of sweet potato has improved the livelihood of small and marginal resource poor tribal farmers of the district.

14. Kisan Mobile Advisory Services

Month	No. of SMS	No. of farmers to which SMS was sent	No. of feedback / query on SMS sent
January	02	14866	--
July	02	29616	--
November	02	30510	--

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	Total
Valsad	Text only	02	02	--	--	02	--	06
	Total Messages		--	--	--		--	
	Total farmers Benefitted	29616	14866	--	--	30510	--	74992

15. PERFORMANCE OF INFRASTRUCTURE IN KVK

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

Sl. No.	Demo Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	
1	Vermicompost	2003-04	0.1	Eudrilus eugeniae	Vermicompost	15 ton	22,000	60,000	Farm use & sale to farmers
2	Dairy	2003-04	0.2	H.F.	Milk	7050lit	509579	342000	
3	Dairy	2003-04	0.2	H.F.	FYM	20 tone	--	16,000	
4	Dairy	2003-04	0.5	Co.-4	Green fodder	50 ton	25,000	50000	For Dairy unit
5	Veg. Nursery	2002-03	0.2	Hy seedling of Brinjal, Chilli, Tomato	Seedling	65000 no.	38000	75000	
6	Mango germplasm demo	2006-07	0.25	Keshar, Alphanso, Amrapali, Rajapuri,	--	--	--	--	
7	Bio Agents	2009-10	--	--	ME trap	734 no.	24500	29360	

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

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Cereals									
Paddy	30/11/2019	10/05/2019	2.5	GAR-13	Seed production	8272 kg	98000	248160	
Pulses									
Pigeon pea	30/06/2019	22/12/2018	0.1	Vaishali	Seed production	30 kg	1,800	2400	
Spices & Plantation crops									
Fruits									
Mango	1999	-	3.0	Kesar,Alphanso	Commercial	3000 kg	40,000	75,000	
Others (specify)									
Sugarcane	18/12/2018	20/10/2019	0.5	Co.N. 41131 Co.N.-13073	Seed production	110 qt	25,000	36960	Damage by Pigs
Sugarcane	20/10/2018	--	1.5	Co.N.- 41131	Commercial	90 tone	1,12,500	2,70,000	
Fodder	24/11/19	Multicut	0.10	Co.-4	Seed production	40,000 tussecks	10,000	30,000	
Eucalyptus	2015	--	2	JK-413	Commercial	--	1,35,000	Crop is standing	
Casurina	2014	--	1	Clonal	Commercial	--	65,000	--	
Sweetpotato	Feb-2018	July 1st week	0.1	C-71	Seed production	60000 cutting	10000	30000	

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

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1	Fruitfly trap (Mango)	734 no.	24500	29360	42 farmers

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

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1	Cow	H.F.cross (06)	Milk	7050 litres	509579	342000	
			FYM	20 tones	--	16000	
			Sale of animals (Cow)	02	--	48000	

E. Utilization of hostel facilities- Accommodation available (No. of beds) : 25 Beds

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
April 2019	00	00	Election
May 2019	184	501	--
June 2019	388	961	--
July 2019	36	96	--
August 2019	40	160	--
September 2019	49	146	--
October 2019	44	67	--
November 2019	356	600	--
December 2019	89	89	--

F. Database management -Nil

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

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

16. FINANCIAL PERFORMANCE

A. Details of KVK Bank accounts

Bank account	Name of the bank	Location	Branch code	Account Name	Account Number	MICR Number	IFSC Number
With Host Institute	State Bank of India,	Ahmedabad	2628	Gujarat Vidyapith	10295506650	380002006	SBIN0002628
With KVK	State Bank of India, Dena bank	Dehgam Motapondha	07811 ---	Gujarat Vidyapith Krishi Vigyan Kendra,Ambhti	35719395798 089810003112	396002026 396018505	SBIN0007811 BKDN0240898

B. Utilization of KVK funds during the year 2018-19 (Rs. in lakh)

S.No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	**Pay & Allowances**	146.00	146.00	143.21
2	**Traveling allowances**	0.80	0.80	0.78
3	**Contingencies**			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	6.00	6.00	5.96
B	POL, repair of vehicles, tractor and equipments			
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	10.51	10.51	9.95
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)			
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			
F	On farm testing			
G	Training of extension functionaries			
H	Maintenance of buildings			
I	Establishment of Soil, Plant & Water Testing Laboratory			
J	Library			
	TOTAL (A)	163.31	163.31	159.90
B. Non-Recurring Contingencies				
1	**Works**	11.00	11.00	0
2	**Equipments including SWTL & Furniture**	0	0	0
3	**Vehicle** (Tractor)	8.00	8.00	7.28
4	**Library** (Purchase of assets like books & journals)	0	0	0
TOTAL (B)		19.00	19.00	7.28
C. REVOLVING FUND		--	--	--
GRAND TOTAL (A+B+C)		182.31	182.31	167.18

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

Year	Opening balance	Income during the year	Expenditure during the year	Net balance as on 31st March
April 2017 to March 2018	81,02,582	22,17,311	16,25,314	86,99,572
April 2018 to March 2019	86,99,572	20,98,996	15,02,101	92,96,467
April 2019 to March 2020	92,96,467	19,65,956	14,65,292	97,97,131

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

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
Sh.M M Gajjar	SMS	Bi monthly training	DEE, Navsari	03/01/19
Sh.K. A Patel	SMS	Workshop for annual Action Plan	DEE, Navsari	01-02/03/19
Dr.R F Thakor	Sr Sci. & Head	National seminar on Role of NGO in Agril Deve.	NAU, Navsari	08-09/06/2019
Sh.M M Gajjar	SMS	Bi monthly training	DEE, Navsari	22/08/2019
Dr.R F Thakor, K. A Patel , A R patel, L. T. kapur, B.M.Patel	Sr Sci. & Head SMS	Regional Workshop on Application of GIS for Agriculture	GVP, Ahmedabad	03-04/12/2019
Sh.M M Gajjar	SMS	Training for Trainers of ASCI	ASCI & KVK- Jalna-1	05-07/12/19
Sh. P,J. Joshi	Pro. Asstt.	Training for Trainers of ASCI	ASCI & KVK- Jalna-1	05-07/12/19
Dr.R F Thakor	Sr Sci. & Head	QRT review workshop	AAU, Anand	27-29/11/2019
Dr. R F Thakor	Sr Sci. & Head	NICRA annual workshop	KVK-Ahmadnagar	02-03/01/2020
Sh. A.R. Patel, Sh.M M Gajjar & Smt. P.R.Ahir	SMS	Interface on Technology Transfer	DEE, Navsari	24/12/19
Smt.P.B. Ratiya	SMS	Training On GKMS	Gwalior	18-20/12/19
Smt.P.B. Ratiya	SMS	Training On DAMU	NAU, Navsari	18-24/10/19
Miss Aditi Solanki	Agromet. observer	Training On DAMU	NAU,Navsari	18-24/10/19

18. List the other collaborative research/ extension projects and also write brief key achievements of the projects.

- **Pro SOIL -- Nil**
- **NARI (Please indicate the name of one adopted village and give the activities carried over on nutri sensitive agriculture)**

Sr. No	Name of Village	Name of Activity	No. of Activity	Date	No of Participants
1	Aranala	Trainings on Nutritional awareness garden	01	30/07/19	16
2		Demonstration on drumstick	16	July-2019	16
3	Asma	Awareness meet	01	09/12/19	15
4		Training on Kitchen Garden	01	23/12/19	25

- **VATICA --**
- **Seed Hub – nil**
- **Others (if any) --**

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

APR SUMMARY

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	67	1336	768	2104
Rural youths	06	124	54	178
Extension functionaries	07	142	27	169
Sponsored Training	07	146	279	379
Vocational (Skill) Training	02	39	01	40
Total	**89**	**1787**	**1129**	**2870**

2. Frontline demonstrations

Enterprise	No. of Farmers	Area(ha)	Units/Animals
Oilseeds	--	--	--
Pulses	229	65.50	--
Cereals	200	43.00	--
Vegetables	40	5.00	--
Other crops (sugarcane,)	20	1.00	--
green fodder	200	19.00	
Total	**689**	**133.50**	--
Other enterprises (Green manuring Mushroom Kitchen gardening Drumstick	20 60 25 16	2.00 -- -- --	units
Total	121	2.00	--
Grand Total	**810**	**135.5**	

3. Technology Assessment

Category	No. of Tech. Assessed	No. of Trials	No. of Farmers
Technology Assessed			
Crops	07	97	97
Livestock	01	20	20
Total	**08**	**117**	**117**

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	152	10883
Other extension activities	02	2062
Total	**154**	**12945**

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	Total
Valsad	Text only	02	02	--	--	02	--	06
	Total Messages		--	--	--		--	
	Total farmers Benefitted	29616	14866	--	--	30510	--	74992

6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	193.02 qt	287520
Planting material (No.)	166550 nos.	149700
Fruitfly trap	734 nos.	29360
Vermicompost	15000 kg.	60000

7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil - 795	792	57150
Water - 239	239	14430
Plant - 00	--	--
Total - 1034	**1031**	**71580**

8. HRD and Publications

Sr. No.	Category	Number
1	Workshops	02
2	Conferences	01
3	Meetings	10
4	Trainings for KVK officials	04
5	Visits of KVK officials	12
6	Book published	02
7	Training Manual	--
8	Book chapters	--
9	Research papers	01
10	Lead papers	--
11	Seminar papers	01
12	Extension folder	04
13	Proceedings	--
14	Award & recognition	--
15	On going research projects	--