#### ICAR-ATARI, Pune DETAILS OF ANNUAL PROGRESS REPORT OF KVKs DURING 2022 (January 2022 to December 2022)

#### 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	Office	FAX	kvkvalsad@gmail.com	www.kvkvalsad.org
Ta. Kaparada Di. Valsad Via. Vapi				
Gujarat Pin. 396 191				

#### 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	<ol> <li>(1) 079 2754 5044</li> <li>(2) 079 2754 1148</li> </ol>	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			
Dr. R.F.Thakor	Office	Mobile	Email	
		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, 2022)

					If Permanen indicate	t, Please		If Temporary, pl. indicate the
Sl. No.	Sanctioned post	Name of the incumbent	Mobile No.	Discipline	Basic Pay	Current Basic	Date of joining	consolidated amount paid (Rs./month)
1.	Senior Scientist and Head	Dr. R.F.Thakor	9427129451	Ext. Edu.	144200	211800	19/05/01	
2.	Subject Matter Specialist	Sh. K.A.Patel	9426889148	Pl. Prot.	78800	126600	28/02/94	
3.	Subject Matter Specialist	Sh. A.R.Patel	9428381449	Ext . Edu.	78800	126600	23/01/96	
4.	Subject Matter Specialist	Sh. L.T.Kapur	8980619497	Soil Science	78800	96900	16/12/06	
5.	Subject Matter Specialist	Sh. M.M.Gajjar	9909761181	Agronomy	67700	74000	17/09/13	
6.	Subject Matter Specialist			Horti.				
7.	Subject Matter Specialist	Smt. P.R.Ahir	9429450875	Home Sci.	56100	77700	01/05/01	
8.	Programme Assistant	Sh. B.M.Patel	9427141759	Ani .Sci.	56100	75400	02/12/02	
9.	Computer Programmer	Sh. P.J.Joshi	9426816616	Agri. Engg.	56100	77700	23/12/02	
10.	Farm Manager	Sh. P.R.Patel	9687636758	Farm manager	56100	73200	01/05/01	
11.	Assistant	Sh. C.D.Patel	9727928272	Accountant	35400	46200	27/09/13	
12.	Stenographer	Sh.V.B.Patel	9429118438	Stenographer	35400	52000	01/11/99	
13.	Driver 1	Sh. R.D.Rohit	9726925033	Driver	29200	38100	16/06/08	
14.	Driver 2	Sh. H.G.Valand	7990870661	Driver	29200	35900	01/08/09	
15.	Supporting staff 1	Sh. A.R.Patel	9537558272	Attendant	21700	34000	01/11/99	
16.	Supporting staff 2			Farm Attendant				

# 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.	Name of building	Source of	Stage						
No.		Funding	Complete			Incomplete	Incomplete		
			Completion	Plinth area	Expenditure (Rs.)	Starting year	Plinth area	Status of	
			Year	( <b>Sq.m</b> )			( <b>Sq.m</b> )	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	ICAR,	2006	100 Sq.mt	204312				
	Dairy Demo. Unit	TSP ,Valsad							
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	1199 hrs.	Working condition.
Tractor Trolley	2019	1,50,000		Working condition.
Jeep (Bolero)	2010	477058	274254	Need to replace
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.
LCD	2007	75,400	Working condition.
Lap Top -2	2007 & 2012	51,750	Not working. Needs replacement/ Later inWorking 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. -

#### Proceedings of the 31stScientific Advisory Committee meeting of Krishi Vigyan Kendra, Ambheti-Valsad- Gujarat

The 31<sup>st</sup> Scientific Advisory Committee meeting of Krishi Vigyan Kendra, Ambheti-Valsad- Gujarat was held on 19<sup>th</sup> February, 2022 at 11.00 AM at Krishi Vigyan Kendra, Ambheti. The list of the members who attended the meeting is attached herewith separately.

Dr. Rajendra Khimani, vice chancellor, 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 15/10/2020 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,2021 to Dec,2021 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. Activity photographs should be with the geo tag.
- 2. Demonstrations and training in horticulture should be conducted with the help of Regional research station, NAU, Paria.
- 3. Research paper on NICRA impact study should be prepared.
- 4. Research paper on Climatic advisory should be prepared.
- 5. Search for the option of C 71 variety of sweetpotato and conduct FLD on it.
- 6. Mention the numbers of trees in Shatabdi van and gap filling should be carried out as per situation.
- 7. For the FLD on bypass fat, should select pre delivery cows and post delivery cows.
- 8. Research paper on impact of Diesel engine training should be prepared.
- 9. Seed production of paddy seed should be increase and planning to be reach to more number of farmers.

#### Item No. 3 Presentation of the action plan

Following suggestions were given by the members.

- 1. Production of indianbean seed should be carried out by farmers for the FLD
- 2. Should cultivate the crops which reduce the soil erosion in slopy areas
- 3. Copper sulphate should be recommend instead of Copper oxichloride to cure the dieback disease in Mango and should prepare drainage in orchard
- 4. Should help to contact the honeybee producer with Dept. horticulture
- 5. Demonstration of biofortified variety GR15 of paddy should be conduct at KVK farm
- 6. Intercultivation should be recommend in mango orchard
- 7. Study should be conducted on nano urea
- 8. KVK should contact the microbiology department, GV, Sadara and collect the culture for fodder
- 9. KVK should develop the technology for binding dry fodder bunches
- 10. Deworming should be involve in OFT of calf starter and make effort to reduce calf mortality
- 11. KVK should help in activities of department of animal husbandry
- 12. KVK should collect the seed of traditional varieties and make demo plot at farm.
- 13. KVK should produce BD500 and use at KVK farm

#### Item No.4 From the chair

- 1. At least one research paper should be prepared by each SMSs
- 2. Each expert should coordinate with at least one NGO for activities
- 3. All three KVKs collectively publish the special issues of research papers
- 4. KVK should coordinate with the department of home science, GVP, to arrange training program on child nutrition
- 5. KVK should arrange the short term paid refresher course for the pesticide dealer.
- 6. KVK should coordinate with the course coordinator of B Voc., GVP

Dr. R.A.Khimani 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 31st SAC Meeting of KVK- Dist.-Valsad

Sr. No.	Name of Member	Designation
1	DrRajendraKhimani	VC, G.V. Ahmedabad- Chairman
2	Dr. Nikhilbhai Bhatt	Registrar, G.V. Ahmedabad
3	Dr. S.J.Patil	DEE, NAU, Navsari

4	Dr. N.B.Patel	Asso. Res.Sci. Livestok Res. Station NAU, Navsari
5	Dr. L.K Arvadiya	Asso. Res.Sci. Agronomy NAU, Navsari
6	Dr. A.N.Vahira	Asst. Director (Horti.) Valsad
7	Dr.Rekhan Patel	Deputy Director (AH), Valsad
8	Shri. K.M.Korat	Asst. Director (Agril.) Valsad
9	Shri Ankur D Prajapati	Deputy project director, ATMA, Valsad
10	Dr. A. N. Thakare	Manager, Vasudhara Dairy, Alipore
11	Shri. Veljibhai M Patel	Farmers Representative (Prog. farmer)
12	Shri Babubhai G. Patel	Farmers Rep. (Entrepreneur farmer)
13	Mrs. Anilaben.A.Patel	Farm women Rep. (President, SHG)
14	Mrs.Punamben Y Patel	Farm women Rep.(Entre. farm women)
15	Shri Ramesh S. Bhoya	J.N.Trust, Kaparada
16	Shri Mohanbhai	Representative, Gramshilpi, GVP
17	Shri Pradipbhai Sonar	Coordinator, Gram Seva Kendra- Ambheti
18	Dr. R.F.Thakor	Member Secretary

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

# **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.

Sr. No.	Crops	Area (ha.)	<b>Production</b> (tones.)	Productivity (Kgs / ha.)
1	Major Field crops			
	Paddy Kharif	70950	275505	3883
	Paddy summer	867	4092	4720
	Total Paddy	71817	279597	3893
	Ragi (Finger millet)	1725	1168	677
	Vari	200	130	650
	Pigeon Pea	6935	6588	950
	Urid	5530	3024	547
	Mung	87	44	500
	Gram	3053	2435	798
	Other pulses - kharif	1317	790	600
	Other pulses -rabi	5206	3401	653
	Total other pulses	6523	4191	642
	Groundnut	58	46	800
	Niger	2250	1575	700
	Sugarcane	5896	426969	72417
2	Major Fruit crops			
	Mango	26.250	157.50	6000
	Chiku	3.345	32.513	9720
	Banana	0.770	43.274	56200
	Рарауа	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	

# 2.4. Area, Production and Productivity of major crops cultivated in the area of jurisdiction of KVK (2022)

Source: District agriculture department.

#### **2.5. Weather data (2022)**

Month	Normal	Normal	Temperat	ure C	Relative H	umidity (%)
	Rainfall (mm)	Rainy	Maximum	Minimum	Maximum	Minimum
		days				
January			30.5	11.5	100	37.5
February			33.1	11.4	100	28.3
March			37.5	17.0	96.1	18.6
April			39.0	19.9	99.7	25.5
May			37.2	25.1	97.2	43.8
June	252.5	14	34.9	25.3	99.0	57.9
July	2019.0	26	29.6	24.8	100	86.0
August	485.0	22	30.8	24.7	100	79.5
September	452.5	11	31.3	24.1	100	78.7
October	105.0	6	34.3	21.1	100	53.9
November			34.9	14.1	100	31.2
December			34.0	14.3	100	34.3
Total	3314.0	79		-	-	

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

Category	Population (no.)	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 :District Panchayat,Valsad

# 2.7 Details of Operational area / Villages

Name of Taluka	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
*	Kakadkopar, Ambajungle,			ICM ,INM, IPM, IWM
	Narvad, Valveri, Ghotan, Chavshala,		Non availability of improved seeds.	Feed & fodder mgt.
	ArnaiAmbheti, ,Amdha,	Vegetables, Micro irrigation	Shortage of labour. Heavy infestation of weeds.	Integrated livestock mgt.
	Khutali,Sukhala, Dixal, Varoli,	& Dairy.	Water scarcity. Poor milk production	
	Dhodhdkuva, Kaparada, Ozar, Panas,			
	Ozarada , Niloshi, Ozarada,			
	Motapondha			
Dharampur	Sadadvera, Nanivahiyal, Samarsingi,	Paddy, Mango, Pulses,	Low productivity in all crops. Non availability of	ICM ,INM, IPM, IWM
	Panva, Hanmatmal, Mamabhacha,	Cashewnut Vegetables &	improved seeds. Heavy infestation of weeds.	Feed & fodder mgt.
		Dairy .	Water scarcityPoor milk production	Integrated livestock mgt.
Pardi-Vapi	Asma, Chival, Ambach, Pati,	Paddy ,Sugarcane, Pulses,	Low productivity in all crops. Non availability of	ICM ,INM, IPM, IWM
_	Samarpada, Kherlav, Lakhmapore,	Vegetables, Mango & Dairy.	improved seeds Heavy infestation of weeds. Poor	Feed & fodder mgt.
	Nevri, Panchlai		milk production	Integrated livestock mgt.
Umargam	Saronda, BorigamMaroli	Paddy ,Mango, Sugarcane&	Low productivity in all cropsShortage of labour.	ICM ,INM, IPM, IWM
-	-	Vegetable.	Water scarcity, Soil salinity.	
Valsad	Ozar, Juzva, Ronvel, Chinchai	Paddy , Mango, Sugarcane,	Low productivity in all crops. Heavy infestation of	ICM ,INM, IPM, IWM Feed
		Pulses & Vegetable.	weeds. Shortage of labour.Soil salinity, Poor milk	& fodder mgt.
			production	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 ICM, IWM, INM, IPM	
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		Num	ber of Farmers
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
10	09	150	120	110.25 ha	132.76 ha.	1165	922

Training				Extension Programmes					
		3				4			
Number o	Number of Courses         No. of Participants				Name of activities	Number	r of activities	No. of	participants
Clientele	Targets	Achievement	Targets	Achievement		Target	Achievement	Target	Achievement
Farmers	80	86	2075	2437	Field day	08	04	480	237
Rural youth	03	05	75	216	Kisangosthi	06	18	300	345
Extension Functionaries	07	06	175	229	Exhibition /Mela	01	01	1000	271
Farmers (Sponsored)	08	10	255	548	Farmers Seminar	05	13	600	1685
ASCI	01	00	20	00	Group meetings	30	39	300	375
Total	99	107	2600	3430	Lectures in Other programme	25	25	2500	2312

	Seed Production	(Qt.)	Planting material (Nos.)			
Target	TargetAchievementDistributed to no. of		Target	Achievement	Distributed to no. of	
		farmers			farmers	
Paddy – 60.00	35.0qt.	205	Sugarcane - 700.00 qt.	10950 kg	12	
Pigeonpea-1.00	00	00	Veg. seedlings – 1,10,000 nos	124739 no.	179	
			Fodder Toussecks - 50,000 nos.	5300 nos.	05	

Livestock, poultry strai	ns and fingerlings (No.)	Bio-products (Kg)		
Target	Achievement	Target	Achievement	
		Fruitfly trap (Mango) - 1000 no	1181no.	
		Vermicompost -20000kg	41155 kg.	

				Vermiculture- 100 kg	134.50 kg
--	--	--	--	----------------------	-----------

# 3.1. B. Operational areas details during 2022

S.No.	Major crops &	Prioritized problems in these	Extent of area (Ha /	Names of Cluster Villages identified for	Proposed Intervention
	enterprises being	crops/ enterprise	No.) affected by the	intervention	(OFT, FLD, Training,
	practiced in cluster		problem in the district		extension activity
	villages				etc.)*
1	Paddy	Non availability of improved		Amdha, Dhodhadkuva, Pati ,Panchalai,	FLD, OFT, Training
		seeds.		Asma, Pindval	
		Infestation of stem borer &			
		cutworm			
2	Gram	Non availability of improved		Pati,	FLD, Training
		seeds.		Dhodhadkuva,PanchalaiSadadveraKhuntli,	
		Heavy infestation of weeds		Amdha	
3	Pigeon pea	Non availability of improved		Sadadvera ,Khuntli, Amdha,	FLD, OFT, Training
		seeds.			
		Heavy infestation of weeds			
4	Mango	Heavy infestation of fruit fly		Ambach, Kherlav, lakhmapore	FLD, Training
5	Sugarcane	Non availability of improved		Kharedi, Motivahiyal	FLD, Training
		seeds.			
		Shortage of labour			
6	Livestock production	Low milk yield		Sukhala, Khuntli, Amdha ,Chival, Panas,	FLD,OFT, Training,
		Mastitis disease		Pati	
		Shortage of green fodder			
7	Finger millet	Non availability of improved		Kolvera, Niloshi, Rajpuri, SArvartati	FLD, OFT, Training
		seeds. INM			
8	Brinjal, Chilli,	Non availability of improved		Varoli, Kaparada, Ozarada	FLD, OFT, Training
	Cucurbits	seeds.			
		Heavy infestation pest & diseases			

#### 3.2. Technology Assessment (Kharif 2022, Rabi 2021-22, Summer 2022)

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

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Varietal Evaluation	01		02							03
Integrated Nutrient Management	03									03
Integrated Pest Management					01	01				02
TOTAL	04		02		01	01				08

#### A2. Abstract on the number of technologies assessed in respect of livestock enterprises

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
Nutrition Management	01		-	-	-	01
TOTAL	01	-		-	-	01

#### B. Achievements on technologies Assessed

#### **B.1.** Technologies Assessed under various Crops

Ss. no	Thematic areas	Сгор	Name of the technology assessed	No. of trials	No. of farmer	Area in ha
1	Varietal Evaluation	Paddy	Assessment of paddy variety for Kharif cultivation	10	10	3.00
2		Green gram	Assessment of Green gram variety for summer cultivation	10	10	3.00
3		Blackgram	Assessment of black gram variety for summer cultivation	10	10	3.00
4	Integrated Nutrient Management	Paddy	Assessment of Nanourea on yield of Kharif paddy	20	20	4.00
5		Paddy	Assessment of Silicon application in Kharif paddy	20	20	4.00
6		Paddy	Assessment of efficiency Nauroji LBF and AAU developed Liquid manure in Kharif Paddy	20	20	4.00
7	Integrated Pest Management	Brinjal	Assessment of diff. pesticides for mgt. of red mite in Brinjal	10	10	3.00
8		Mango	Assessment of biopesticides for management of mango hopper in Organic system	10	10	3.00
	Total			110	110	27.00

#### B.2. Technologies assessed under Livestock and other enterprises

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Nutrition Management	01	Assessment of Cost effective feed for crossbred calf	10	10
	Total		10	10

B.3 Technologies assessed under other enterprises – Nil B 4.Technologies assessed under Women empowerment assessment- Nil

C1.Results of Technologies Assessed

**Results of On Farm Trial – 01** 

Technology Assessment - Assessment of paddy variety for Kharif cultivation .

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of	Technology assessed	Parameters of assessed		Data on the parameter		Results of assessed	Feedback from the farmer
1	2	2	4	trials		-		т	т	0	10
1 Paddy	2 Rainfed	3 Low yield of Kharif Paddy	4 Assessment of paddy variety for Kharif cultivation.	5 10	<b>6</b> T <sub>1</sub> -Use of Hybrid variety (US-312) with local practices T <sub>2</sub> - Use of GAR- 13 Variety with improved practices T <sub>3</sub> - Use of GRH-2 Variety with	<ol> <li>Productive tillers/hill</li> <li>Days of 50% flowering</li> <li>Grain Yield (kg/ha)</li> </ol>		T <sub>2</sub> 9.20 88.90 3978	T <sub>3</sub> 10.5           91.70           4517	<b>9</b> The results of the trial indicated that Hybrid variety of paddy GRH-2 earned the maximum net returns (Rs 43520/- yielding 4517 kg/ha with B:C ratio 2.08 ) as compare to T <sub>1</sub> (Rs 34624/- yielding 4168	<b>10</b> Paddy variety GAR-13 with potash culture reduces fertilizer cost, mature early (7-10 days than check) ,lodging resistant with good cooking quality and GRH-2 earned the maximum yield.
					improved practices	4. B:C ratio	1.82	1.99	2.08	kg/ha with B:C ratio 1.82).	

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 <sub>1</sub> -Use of Hybrid variety (US-312) with local practices	Private company	Grain Yield– 4168	kg/ha	34624	1.82
T <sub>2</sub> - Use of GAR-13 Variety with improved practices	NAU, Navsari	Grain Yield – 3978	kg/ha	36493	1.99

Т	C <sub>3</sub> -Use of GRH-2 Variety with improved 1	praction	ces NAU,	Navsari	Grain	Yield– 45	17	1	kg/ha	43	3520	2	.08
. I	Details of On Farm Trial for assessment –							1				I	
	Title of Technology Assessed	:	Assessment	of paddy varie	ty for Kharif	cultivation	n .						
	Problem Definition	:	Low yield of H	Low yield of Kharif paddy									
	Details of technologies selected for assessment	:	<b>T2</b> - Use of G	of Hybrid variety (US-312) with local practices of GAR-13 Variety with improved practices of GRH-2 Variety with improved practices									
	Source of technology	:	NAU, Navsari										
	Production system	:	Rain fed cerea	ed cereal based system ( paddy-pulse cropping system)									
	Thematic area	:	Varietal evolu	tion									
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
			Τ 1	9.63	92	4168	5002	64495	12504	42375	76999	34624	1.82
			<b>T</b> 2	9.20	88.90	3978	4813	61495	12033	37035	73528	36493	1.99
			Т з	10.5	91.70	4517	5556	69955	13890	40325	83845	43520	2.08
	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	Paddy variety cooking quali					st, mature ea	ırly (7-10 d	ays than check) .	lodging res	istant with	good
	Final recommendation for micro level situation	:	-										
)	Constraints identified and feedback for research	:	•	<ul> <li>Availability of seed</li> <li>Continuous heavy rain and dry spell effect the crop</li> </ul>									
	Process of farmers participation and their reaction	:	evaluation of t	rmers were involved and actively participated at every level i.e. PRA and Group discussion ,planning, execution, monitoring, aluation of the trial. Farmers evaluated that paddy variety US-312, GAR-13 and GRH-2 less problem of pest and disease, bold size, od cooking quality and more yield.									

#### **Results of On Farm Trial – 02**

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	T 1	T 2	<b>T</b> <sub>3</sub>	9	10		
Green gram	Irrigated	Low yield of Summer Green gram.	Assessment of Green gram variety for Summer cultivation	10	T <sub>1</sub> -Use of local variety with local practices T <sub>2</sub> - Use of GAM-5 Variety with improved practices T <sub>3</sub> - Use of GM-7 Variety with improved practices	<ol> <li>Plant height at harvest</li> <li>No of branches per plant</li> <li>Number of pod s per plant</li> <li>Grain yield (q/ha)</li> <li>B:C ratio</li> </ol>	<ul> <li>49.8</li> <li>3.3</li> <li>34.2</li> <li>6.15</li> <li>2.14</li> </ul>	<ul><li>57.3</li><li>3.7</li><li>38.8</li><li>7.94</li><li>2.48</li></ul>	<ul><li>59.7</li><li>4.1</li><li>46.1</li><li>8.47</li><li>2.65</li></ul>	The results of the trial indicated that improved variety of Green gram GM-7 earned the maximum net returns (Rs 31620/- yielding 8.47 q/ha with B:C ratio 2.65 ) as compare to $T_1$ (Rs 19620/- yielding 6.15q/ha with B:C ratio 2.14).	Green gram variety GM-7 has resistant to YMV and more number of pod with good cooking quality and earned the maximum yield.		

Technology Assessment - Assessment of Green gram variety for Summer cultivation

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 $_1$ - Use of local variety with local practices	Local	Grain Yield– 6.15	q/ha	19620	2.14
T <sub>2</sub> - Use of GAM-5 Variety with improved practices	AAU, Anand	Grain Yield –7.94	q/ha	28440	2.48
T <sub>3</sub> - Use of GM-7 Variety with improved practices	NAU, Navsari	Grain Yield– 8.47	q/ha	31620	2.65

#### C2. Details of On Farm Trial for assessment -

L	Title of Technology Assessed	:	Assessment of	ssment of Green gram variety for Summer cultivation.										
)	Problem Definition	:	Low yield of Sun	nmer Green gram										
3	Details of technologies selected for assessment	:	T2 - Use of GA	e of local variety with local practices e of GAM-5 Variety with improved practices e of GM-7 Variety with improved practices										
4	Source of technology	:		anand and NAU, Navsari.										
5	Production system	:	Rain fed cereal	ed cereal based system ( paddy-pulse cropping system)										
6	Thematic area	:	Varietal evoluti	on										
7	Performance of the Technology with	:				ſ		1						
	performance indicators		Treatment	Plant height at harvest(cm)	No. of branches	No.of pods/palnt	Grain Yield (q/ha)	Expenditure (Rs/ha)	Gross Income (Rs/ha)	Net Profit (Rs/ha	B:C Ratio			
			T 1	49.8	3.3	34.2	6.15	17280	36900	19620	2.14			
			<b>T</b> 2	57.3	3.7	38.8	7.94	19200	47640	28440	2.48			
			Т з	59.7	4.1	46.1	8.47	19200	50820	31620	2.65			
8	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	Green gram v maximum yield	variety GM-7 has 1 d.	resistant to Y	MV and more	number of	pod with good of	cooking qual	lity and ear	ned the			
9	Final recommendation for micro level situation	:	-											
10	Constraints identified and feedback for research	:	·	Availability of seed Peacock our national bird damaged crop at early stage.										
11	Process of farmers participation and their reaction	:	evaluation of th	armers were involved and actively participated at every level i.e. PRA and Group discussion ,planning, execution, monitoring, aluation of the trial. Farmers evaluated that green gram variety Local, GAM-5 and GM-7.GAM-5 and GM-7 variety resistant to MV, less problem of pest and disease, bold size, good cooking quality and more yield.										

#### **Results of On Farm Trial – 03**

Technology Assessment - Assessment of Black gram variety for Summer cultivation

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology assessed	Parameters of assessed		Data on the parameter				Feedback from the farmer
1	2	3	4	5	6	7	T 1	T 2	<b>T</b> <sub>3</sub>	9	10	
Black gram	Irrigated	Low yield of Summer Black gram.	Assessment of Black gram variety for Summer cultivation	10	T <sub>1</sub> -Use of local variety with local practices T <sub>2</sub> - Use of G.U1 Variety with improved practices T <sub>3</sub> - Use of G.U3 Variety with improved practices	<ol> <li>Plant height</li> <li>No of branches per plant</li> <li>Number of pod per plant</li> <li>Grain yield (q/ha)</li> <li>B:C ratio</li> </ol>	50.5 3.4 20 5.31 1.94	59.4 3.6 26.9 6.05 1.99	62.2 3.9 35.6 7.43 2.44	The results of the trial indicated that improved variety of Black gram GU-3 earned the maximum net returns (Rs 28495/- yielding 7.43 q/ha with B:C ratio 2.44 ) as compare to T <sub>1</sub> (Rs 16735/- yielding 5.31 q/ha with B:C ratio 1.94).	Black gram variety GU- 3 has resistant to YMV, bold size and more number of pod with good cooking quality and earned the maximum yield.	

#### 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 $_1$ - Use of local variety with local practices	Local	Grain Yield– 5.31	q/ha	16735	1.94
T <sub>2</sub> - Use of G.U1 Variety with improved practices	NAU, Navsari	Grain Yield – 6.05	q/ha	19525	1.99
T <sub>3</sub> - Use of G.U3 Variety with improved practices	NAU, Navsari	Grain Yield– 7.43	q/ha	28495	2.44

#### C2. Details of On Farm Trial for assessment -

1	Title of Technology Assessed	:	Assessment of B	lack gram variety for	Summer cultiva	tion.						
2	Problem Definition	:	Low yield of Sumr	ner Black gram								
3	Details of technologies selected for assessment	:	T2 - Use of G.U	variety with local pra 1 Variety with impr -3 Variety with impro	oved practices							
4	Source of technology	:	NAU, Navsari.		1							
5	Production system	:	Rain fed cereal b	based system ( padd	y-pulse croppi	ng system)						
6	Thematic area	:	Varietal evolution	n								
7	Performance of the Technology with performance indicators	:	Treatment	Plant height at harvest(cm)	No. of branches	No.of pods/palnt	Grain Yield (q/ha)	Expenditure (Rs/ha)	Gross Income (Rs/ha)	Net Profit (Rs/ha	B:C Ratio	
			Τ 1	50.5	3.4	20	5.31	17780	34515	16735	1.94	
			T 2	59.4	3.6	26.9	6.05	19800	39325	19525	1.99	
			T 3	62.2	3.9	35.6	7.43	19800	48295	28495	2.44	
8	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	•	Black gram vario maximum yield.	ety GU-3 has resista	nt to YMV, bo	ld size and more	number of p	ood with good cook	ing quality an	nd earned the	e	
9	Final recommendation for micro level situation	:	-									
10	Constraints identified and feedback for research	:	•	Availability of seed Peacock our national bird damaged crop at early stage								
11	Process of farmers participation and their reaction	:	evaluation of the	rmers were involved and actively participated at every level i.e. PRA and Group discussion ,planning, execution, monitoring, aluation of the trial. Farmers evaluated that Black gram variety Local, GU-1 and GU-3.GU-1 have less problem of YMV and GU-3 riety resistant to YMV, less problem of pest and disease, bold size, good cooking quality and more yield.								

# Results of On Farm Trial – 4

A. Technology Assessment - Assessment of efficiency Nauroji LBF and AAU developed Liquid manure in paddy

Crop/ 1	Farming	Problem	Title of OFT	No.	Technology	Parameters of	Data or	the para	meter		Results of	Feedback from	Any	Justification
enterprise	situation	definition		of trials	assessed	assessed					assessed	the farmer	refinement needed	for refinement
1 2	2	3	4	5	6	7		:	8		9	10	11	12
Paddy	Rainfed	Low yield of kharif paddy	Assessment of efficiency Nauroji LBF and AAU developed Liquid manure in paddy.	20	T1- Farmer practice (177:86:00  kg) NPK/ha) T2- Recommended Dose of Fertiliser (RDF)( 100:30:00 kg) NPK/ha) T3 - RDF + Nauroji LBF i.eAzoto. and PSB @ 1.25 lit/ha as seedling treatment and soil application T4 - RDF + AAU developed Liquid manure @ 500 lit/ha as soil application at 30 & 45 DAP	No. of tillers/hill Grain yield(kg/ha) Straw yield(kg/ha) Gross Income (Rs./ha) Total cost of cultivation (Rs./ha) Net profit (Rs./ha) BCR	<ul><li>3448</li><li>62319</li><li>39370</li></ul>	T <sub>2</sub> 7.8 3552 3943 71821 36835 34986 1.95	<ul><li>3775</li><li>4341</li><li>76633</li><li>37803</li></ul>	38771	T4 increased 28.52 % grain yield and 81.8% net profit compare to farmer practice. with highest BCR (2.08)	<ul> <li>Liquid manure can be prepared at home, helps to be self- dependent</li> <li>Tillering and growth of plant improved Increase in yield</li> </ul>		

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 <sub>1</sub> - Farmer practice (177:86:00 kg NPK/ha)	-	Seed yield- 3079 Straw yield- 3448	kg/ha	22949	1.58
T <sub>2</sub> - Recommended Dose of Fertiliser (RDF) (100:30:00 kg NPK/ha)	NAU, Navsari	Seed yield- 3552 Straw yield-3943	kg/ha	34986	1.95
T <sub>3</sub> – RDF + Nauroji LBF i.eAzoto. and PSB @ 1.25 lit/ha as seedling treatment and soil application	NAU, Navsari	Seed yield- 3775 Straw yield- 4341	kg/ha	38830	2.03
$T_4$ - RDF + AAU developed Liquid manure @ 500 lit/ha as soil application at 30 & 45 DAP	AAU, Anand	Seed yield-3957 Straw yield- 4630	kg/ha	41714	2.08

C2. Details of On Farm Trial for assessment -

1	Title of Technology Assessed	:	Assessment of	efficiency N	Nauroji LBF a	and AAU de	eveloped Liqu	uid manure in p	oaddy.						
2	Problem Definition	:	Low yield of kl	narif paddy											
3	Details of technologies	:	T <sub>1</sub> - Farmer pra	ctice (177:8	36:00 kg NPK	/ha)									
	selected for assessment		T <sub>2</sub> - Recommen	ded Dose o	f Fertiliser (R	DF) (100:3	0:00 kg NPK	/ha)							
							-		t and soil applic	ation					
			$T_4 - RDF + AA$	5				e							
4	Source of technology	:	NAU, Navsari	ari and AAU, Anand											
5	Production system	:	Rainfed cereal	d cereal based system ( Cereal-pulse-Cereal)											
6	Thematic area	:	Nutrient Manag	trient Management											
6 7	Performance of the Technology with performance indicators	:	Treatments	No. of Tillers/hill	Grain yield (kg/ha)	Straw yield (kg/ha)	Gross Income (Rs./ha)	Cost of cultivation (Rs./ha)	Net Return (Rs./ha)	Increase in net profit (%)	Increase in seed yield (%)	BCR			
			T <sub>1</sub>	7.5	3079	3448	62319	39370	22949	0	0	1.58			
			<b>T</b> 2	7.8	3552	3943	71821	36835	34986	52.5	15.36	1.95			
			T <sub>3</sub>	8.0	3775	4341	76633	37803	38830	69.2	22.60	2.03			
			-5	0.0	3113										

8	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	<ul> <li>- Liquid manure can be prepared at home, helps to be self-dependent</li> <li>- Tillering and growth of plant improved</li> <li>- Increase in yield</li> </ul>
9	Final recommendation for micro level situation	:	An application of AAU developed Liquid manure @ 500 lit/ha as soil application at 30 & 45 DAP in khariff paddy reduced the cost of cultivation and improve yield and net profit.
10	Constraints identified and feedback for research	:	-
11	Process of farmers participation and their reaction	:	KVK scientist selects a village and farmers who cultivate paddy crop. 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 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, and evaluation of the trial. PRA and Group Discussion.

#### Results of On Farm Trial - 05

#### A. Technology Assessment - Assessment of application of IFFCO nano urea in Kharif paddy

Crop/	Farming	Problem	Title of OFT	No. of	Technology Assessed	Parameters of	Data on the	Results of assessment	Feedback from the
enterprise	situation	definition		trials		assessment	parameter		farmer
l	2	3	4	5	6	7	8	9	10
Paddy	Rainfed	Low yield of kharif paddy	Assessment of application of IFFCO nano urea in Kharif paddy	20	T <sub>1</sub> -Farmer practice (No use of nano urea) (177:86:00 kg NPK/ha) T <sub>2</sub> -Recommended Dose of Fertiliser( 100:30:00 kg NPK/ha) T <sub>3</sub> - 00:30:00 + spraying of IFFCOnano urea @ 4ml /lit at active tillering or 20-25 Days after Transplanting) and 2nd spray at 45 to 50 DAT or before flowering in the crop.	<ol> <li>Productive tillers/hill</li> <li>Grain yield (kg/ha)</li> <li>Straw yield (kg/ha)</li> <li>Productive tillers/hill</li> <li>Grain yield (kg/ha)</li> <li>Straw yield (kg/ha)</li> <li>Productive tillers/hill</li> <li>Grain yield (kg/ha)</li> <li>Straw yield (kg/ha)</li> <li>Straw yield (kg/ha)</li> </ol>	7.3 3065 3494 9.4 3542 3932 9.7 3830 4405	KVK-Valsad conducted on farm testing to assesapplication of IFFCO nano urea in Kharif paddy. The result of trials revealed that foliar application of nano urea gave higher yield compare to farmer practice. B:C ratio also found higher( 2.22 - T <sub>3</sub> ) as compare to local check (1.58 - T <sub>1</sub> ).	<ul> <li>Reduce the cost of fertiliser</li> <li>Improve growth and development of crop</li> <li>It increases yield</li> </ul>

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha,	Net Return (Profit)	BC Ratio
		(kg/ha)	t/ha, lit/animal,)	in Rs. / unit	
11	12	13	14	15	16
T1 - Farmer's practices (177:86:00 kg NPK/ha)	-	Grain Yield– 3085 Straw Yield - 3494	Kg/ha	22783	1.58
T <sub>2</sub> -Recommended Dose of Fertiliser( 100:30:00 kg NPK/ha)	N.A.U., Navsari	Grain Yield– 3542 Straw Yield – 3932	Kg/ha	35534	1.98
$T_3$ - 00:30:00 + spraying of IFFCOnano urea @ 4ml /lit at active tillering or 20-25 Days after Transplanting) and 2nd spray at 45 to 50 DAT or before flowering in the crop.	N.A.U., Navsari	Grain Yield– 3830 Straw Yield - 4405	Kg/ha	42769	2.22

#### C2. Details of On Farm Trial for assessment -

1	Title of Technology Assessed	:	Assessmen	nt of applicati	ion of IFFCC	) nano urea in	Kharif paddy							
2	Problem Definition	:	Low yield	of kharif pad	ldy									
3	Details of technologies selected for assessment	•	T <sub>2</sub> -Recor T <sub>3</sub> - 00:30:	nmended Do	se of Fertilis g of IFFCOr	er(100:30:00	5:00 kg NPK/ha) kg NPK/ha) ml /lit at active t		25 Days after T	'ransplanting) ar	nd 2nd spray at	45 to 50 DAT		
4	Source of technology	:	IFFCO an											
5	Production system	:	Rain fed c	ed cereal based system (paddy based cropping system)										
6	Thematic area	:	Integrated	Nutrient mar	nagement									
7	Performance of the Technology with performance indicators	:	Treatme nts	No. of Tillers/hill	Seed yield (kg/ha)	Straw yield (kg/ha)	Gross Income (Rs./ha)	Cost of cultivation (Rs./ha)	Net Return(Rs./h a)	Increase in net profit(%)	Increase in seed yield (%)	BCR		
			T <sub>1</sub>	7.3	3065	3494	62158	39375	22783	0	0	1.58		
			T <sub>2</sub>	9.4	3542	3932	71619	36085	35534	56.0	15.56	1.98		
			T3	9.7	3830	4405	77749	34980	42769	87.7	24.96	2.22		
8	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:		he cost of fert growth and d es yield		of crop								
9	Final recommendation for micro level situation	:	Need to be	e continue on	next year									
10	Constraints identified and feedback for research	:	- Lack of	fawareness										
11	Process of farmers participation and their reaction	:	was collec their activ finalized. were prov	K scientist selects a village and farmers who cultivate paddy crop. Information pertaining to cultivation of paddy followed by farmers collected. The problems faced by them was also discussed and prioritized by them. Then problem-causes analysis also has done with r active participation. Treatments were thoroughly discussed with them and lastly according to their suggestions treatments were lized. From among these farmers twenty farmers were selected for testing the technology on their farm. The technological backstopping e provided by the KVK scientist as a facilitator as when required by the farmers. Farmers were involved and actively participated at ry level i.e. planning, execution, monitoring, evaluation of the trial. PRA and Group Discussion.										

#### **Results of On Farm Trial - 06**

#### A. Technology Assessment - Assessment of application of silicon in Kharif paddy

Crop/	Farming	Problem	Title of OFT	No. of	Technology	Parameters of assessment	Data on the	Results of assessment	Feedback from the
enterprise	situation	definition		trials	Assessed		parameter		farmer
1	2	3	4	5	6	7	8	9	10
Paddy	Rainfed	Low yield of kharif paddy	Assessment of application of silicon in Kharif paddy	20	T <sub>1</sub> -Farmer practice (177:86:00 kg NPK/ha) T <sub>2</sub> - Recommended Dose of Fertiliser( 100:30:00 kg NPK/ha)	<ol> <li>Productive tillers/hill</li> <li>Grain yield (kg/ha)</li> <li>Straw yield (kg/ha)</li> <li>Productive tillers/hill</li> <li>Grain yield (kg/ha)</li> <li>Straw yield (kg/ha)</li> </ol>	7.4 3077 3508 9.3 3410 3785	KVK-Valsad conducted on farm testing to assess silicon on yield of kharif paddy. The result of trials revealed that Spraying of 1.5 % potassium silicate at 20-25 Days DAT and at 45 to 50 DAT gave higher yield compare to farmer practice. B:C ratio also found higher (2.00 - T <sub>3</sub> ) as	<ul> <li>It improves stress capacity of plant</li> <li>Silicon increases yield</li> </ul>
					T <sub>3</sub> - RDF + Spraying of 1.5 % potassium silicate at 20-25 Days DAT and at 45 to 50 DAT	<ol> <li>Productive tillers/hill</li> <li>Grain yield (kg/ha)</li> <li>Straw yield (kg/ha)</li> </ol>	9.3 3595 4131	compare to local check (1.58 - T <sub>1</sub> ).	

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 (177:86:00 kg NPK/ha)	Private co.	Grain Yield– 3077 Straw Yield - 3508	Kg/ha	23027	1.58
T <sub>2</sub> -Recommended Dose of Fertiliser( 100:30:00 kg NPK/ha)	N.A.U., Navsari	Grain Yield– 3410 Straw Yield – 3785	Kg/ha	32615	1.90
$T_3$ - RDF + Spraying of 1.5 % potassium silicate at 20-25 Days DAT and at 45 to 50 DAT	N.A.U., Navsari	Grain Yield– 3595 Straw Yield - 4134	Kg/ha	36489	2.00

#### C2. Details of On Farm Trial for assessment -

1	Title of Technology Assessed	:	Assessme	nt of applicat	ion of IFFCO	nano urea in Kh	arif paddy						
2	Problem Definition	:	Low yield	of kharif pac	ldy								
3	Details of technologies selected for assessment	:	T <sub>2</sub> -Recor	nmended Do		NPK/ha) r( 100:30:00 kg l ssium silicate at 2		DAT and at 45 to	o 50 DAT				
4	Source of technology	:	NAU										
5	Production system	:	Rain fed c	ereal based s	system ( padd	y based cropping	g system)						
6	Thematic area	:	Integrated	Nutrient man	nagement								
7	Performance of the Technology with performance indicators	:	Treatmen ts	No. of Tillers/hill	Seed yield (kg/ha)	Straw yield (kg/ha)	Gross Income (Rs./ha)	Cost of cultivation (Rs./ha)	Net Return (Rs./ha)	Increase in net profit(%)	Increase in seed yield (%)	BCR	
			T <sub>1</sub>	7.4	3077	3508	62402	39375	23027	-	-	1.58	
			T <sub>2</sub>	9.3	3410	3785	68950	36335	32615	41.6	10.82	1.90	
			T <sub>3</sub>	9.3	3595	4134	72979	36490	36489	58.5	16.83	2.00	
8	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	-	es stress capa acreases yield	• •								
9	Final recommendation for micro level situation	:	Need to be	e continue on	next year								
10	Constraints identified and feedback for research	:	- Lack of	fawareness									
11	Process of farmers participation and their reaction	:	was collec their activ finalized. were prov	scientist selects a village and farmers who cultivate paddy crop. Information pertaining to cultivation of paddy followed by farmers ollected. The problems faced by them was also discussed and prioritized by them. Then problem-causes analysis also has done with active participation. Treatments were thoroughly discussed with them and lastly according to their suggestions treatments were zed. From among these farmers twenty farmers were selected for testing the technology on their farm. The technological backstopping provided by the KVK scientist as a facilitator as when required by the farmers. Farmers were involved and actively participated at level i.e. planning, execution, monitoring, evaluation of the trial. PRA and Group Discussion.									

#### Results of On Farm Trial - 07

# A. Technology Assessment : Management of Red Mite (Tetranychuscinnabarinus) in Brinjal

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
Brinjal	Irrigated	low yield in brinjal	Management of Red Mite in Brinjal	10	T1 : Farmers practices (No use of acaricide) T2 : Spraying of Spiromesifen 22.29 SC (8.4 ml/ 10 lit. water, 96 g a.i./ha , First spray at fruit setting and second spray at 15 days interval. T3 :Spraying of Propergite57 Ec @ 10 ml/10 lit at the time of infestation and second spray at 15 days interval.	Damage due to infestation of pest (%), Yield	T1 : 15% T2 : 4 % T3 : 9 %	Damage due to infestation of mite reduced from 15 to 4% and yield increased by 16.5% in T2 and 10.87% in T3	- Improved quality of fruit -Increase in market value -Increase in yield		

#### Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return in Rs. / unit	BC Ratio
13	14	15	16	17	18
Technology option 1 : Farmers practices (No use of acaricide)		29340	Kg/ha	136180 Rs/ha	2.97
Technology option 2 :Spraying of Spiromesifen 22.29 SC (8.4 ml/ 10 lit. water, 96 g a.i./ha , First spray at fruit setting and second spray at 15 days interval.	Recommended by NAU, Navsari, 2018	34180	Kg/ha	167430 Rs/ha	3.33
Technology option 2 :Spraying of Propergite57 Ec @ 10 ml/10 lit at the time of infestation and second spray at 15 days interval.	Recommended by NAU, Navsari, 2014	32530	Kg/ha	156860 Rs/ha	3.21

1	Technology Assessed	:	Management of Red mite in bri	injal	-							
2	Problem Definition	:	Low yield in brinjal									
3	Details of technologies selected for assessment	:	T1 : Farmers practices (No use T2 : Spraying of Spiromesifen 2 T3 :Spraying of Propergite57 E	22.29 SC (8.4 n						t 15 days interval.		
4	Source of technology	:	NAU, Navsari, 2018	sari, 2018								
5	Production system	:	Rain fed cereal based system (	cereal based system ( paddy-vegetable system)								
6	Thematic area	:	Integrated Pest Management									
7	Performance of the Technology with performance indicators	:	Technology options	Percentage of damage	Yield (kg/ha)	Increase in Yield (%)	Gross return (Rs./ha)	Cost of cultivation (Rs./ha)	Net profit (Rs./ha)	B:C Ratio		
			T1 : Farmers practices (No use of acaricide)	15	29340	0	205380	69200	136180	2.97		
			T2 : Spraying of Spiromesifen 22.29 SC (8.4 ml/ 10 lit. water)	4	34180	16.50	239260	71830	167430	3.33		
			T3 :Spraying of Propergite57 Ec @ 10 ml/10 lit	9	32530	10.87	227710	70850	156860	3.21		
8	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	Increase yield due to reduction	in damage of m	ite and also	İmproved quali	ty of fruit resultin	ng in good mar	ket value			
9	Final recommendation for micro level situation	:	Spraying of Spiromesifen 22.29 management of Red mite in brit		) lit. water, 9	6 ga.i./ha , Firs	st spray at fruit se	etting and secor	nd spray at 15 d	ays interval for the		
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									

C2. Details of each On Farm Trial for assessment to be furnished in the following format separately as per the following details

# **Results of On Farm Trial -08**

**Technology Assessment** : Assessment of cost effectiveness calf starter feed feeding in crossbred calves.

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	Any refine ment needed	Justification for refine
I I I			_				1		farmer		ment
1	2	3	4	5	6	7	8	9	10	11	12
Calf Starter Feed	Stall feeding	Higher cost of calf rearing	Assessment of cost effectiveness calf starter feed feeding in crossbred calves.	10 cross bred calves	– Milk feed to calf	Reduction in cost of calf rearing	Cost of calf rearing (Rs./calf) T1 :11880 Rs T2 :8910 Rs T3 : 4156 Rs	Reduction in cost of calf rearing in T2 was25% And in T3 was65% as compared to T1.	Availabilit y of feed, acceptabilit y and applicabilit y of technology.		

 $\sim$ 4.1

Technology Assessed	Source of Technology	Cost of calf rearing (Rs./calf)	Unit
13	14	15	16
Technology option 1 :Farmers practices – Milk feed to calf 2 Liters per Day from 1 day to 24 week of calf age		11880	Rs/calf
Technology option 2 :UniReco – Milk feed to calf above 10 % of body weight for 1 day to 12 week of calf age	GAU recommendation	8910	Rs/calf
Technology option 3 : calf starter feed feeding start from second week to 12 week of calf age	Prof. and Head, Dept. of LPM, Vanbandhu College, Navsari, Year : 2012)	4156	Rs/calf

1	Technology Assessed	:	Assessment of cost effectiveness calf start feed	feeding in crossbred calves.							
2	Problem Definition	:	Higher cost of calf Rearing								
3	Details of technologies selected for assessment	:	T1 : Farmers practices – Milk feed to calf 2 L T2 : Uni Reco – Milk feed to calf above 10 % T3 : Calf starter feed feeding start from second	o of body weight for 1 day to 1							
4	Source of technology	:	Prof. and Head, Dept. of LPM, Vanbandhu Col	lege, Navsari, Year : 2012)							
5	Production system	:	Rearing of cross breed calf								
6	Thematic area	:	Management of nutritious food.	nagement of nutritious food.							
7	Performance of the	:									
	Technology with performance indicators		Technology Assessed	Source of Technology	Cost of calf rearing (Rs./calf)	Unit	Reduction in Cost of calf rearing (%)				
			13	14	15	16					
			Technology option 1 : Farmers practices – Milk feed to calf 2 Liters per Day from 1 day to 24 week of calf age		11880	Rs/calf					
			Technology option 2 :- Milk feed to calf above 10 % of body weight for 1 day to 12 week of calf age(Uni Reco)	GAU recommendation	8910	Rs/calf	25%				
			Technology option 3 : calf starter feed feeding start from second week to 12 week of calf age	Prof. and Head, Dept. of LPM, Vanbandhu College, Navsari, Year : 2012)	4156	Rs/calf	65%				
8	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	Availability of feed, acceptability and applicabi	ility of technology.							
9	Final recommendation for micro level situation	:	Nil								
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								

C2. Details of each On Farm Trial for assessment to be furnished in the following format separately as per the following details

#### **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 2022 and recommended for large scale adoption in the district

Sr.	Crop/	Thematic	Technology demonstrated	Details of popularization methods	Horizontal spread of Technology			
No	Enterprise	Area*		suggested to the Extension system.	No. of	No. of	Area	
					villages	farmers	(ha)	
1	Paddy	Varietal Evaluation	HYVs of Paddy, Line sowing,	Demo. of improved variety seeds	20	320	80	
			Seed treatment					
2	Fingermillet	Varietal Evaluation	HYVs of Fingermillet, IPM	Demo. of improved variety seeds	05	50	50	
3	Sugarcane	Varietal Evaluation	HYVs of Sugarcane,	Demo. of improved variety planting	05	25	50	
				material				
4	Brinjal	Varietal Evaluation	HYVs of Brinjal,	Demo. of improved variety seedlings	10	55	15	
5	Sweetpotato	Varietal Evaluation	HYVs of Sweetpotato, turning of	Demo. of improved variety seeds	05	100	40	
			veins					
6	Greengram	Varietal Evaluation	HYVs of Greengram, line sowing	Demo. of improved variety seeds	05	55	20	
7	Green fodder	Varietal Evaluation	HYVs of Perennial grass	Demo. of improved variety planting	08	40	10	
				material				

# B. Details of FLDs implemented during 2022(Kharif 2022, Rabi 2021-22, Summer 2022) (Information is to be furnished in the following three tables for each category i.e. cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.)

Sr.	Сгор	Thematic	Technology Demonstrated	Season and	Area	(ha)	No. of fa	).	Reasons for	
No.		area		year	Proposed	Actual	SC/ST	Others	Total	shortfall
1	Paddy	ICM	HYV,	Kharif	20	20	100		100	
2	Paddy	ICM	HYV scented	Kharif	05	05	25		25	
3	Paddy	ICM	HYV- bio fortified	Kharif	05	05	25		25	
4	Sugarcane	ICM	HYV, LBF	Rabi	01	01	10		10	
5	Finger millet	ICM	HYV, INM, IPM	Kharif	10	30	75		75	
6	Pigeonpea	ICM	HYV, IPM, LBF	Kharif	05	05	50		50	
	Pigeonpea	ICM	HYV,	Kharif	01	1.5	30		30	

7	Bittergourd	ICM	HYV, IPM, LBF	Kharif	2.5	2.5	25	 25	
8	Chickpea	ICM	HYV, IPM, LBF	Rabi	10	10	96	 96	
9	Chilli	ICM	HYV, IPM, LBF	Rabi	01	01	10	 10	
10	Brinjal	INM	Micronutrient	Rabi	3.5	3.5	35	 35	
11	Brinjal	INM	Novel	Rabi	08	08	80	 80	
12	Vein crops	INM	Micronutrient	Rabi	05	06	60	 60	
13	Greengram	ICM	HYV,INM, IPM	Summer	10	10	100	 100	
14	Blackgram	ICM	HYV,INM, IPM	Summer	05	05	50	 50	
15	Drumstick	ICM	HYV	Kharif			65	 65	
16	Paddy	ICM	Depog method of seedling raising	Kharif	04	04	20	 20	
17	Mango	IPM	Fruitfly trap	Summer	15	15	25	25	
18	Mushroom	ICM	Improved variety Seed	Rabi			29	 29	
19	Kitchen garden	ICM	Improved seeds & seedlings	Rabi	0.25	0.26	26	 26	
20	Vermicompost	ICM	Vermi bed& Culture	Rabi			20	 20	
21	Plug Nursery	ICM	Nursery Tray	Rabi			30	 30	
22	Feed supplement		By pass fat				47 animals	 47 animals	

# Details of farming situation

Sr.	Сгор	Season	Farming	Туре		Status of s	oil	Previous	Sowing	Harvest	Seasonal	No of
no.			situation	of soil	Ν	Р	K	crop	date	Date	Rainfall	Rainy days
1	Paddy	Kharif	Rainfed	Medium black	Low	Medium	High	Pulses	June-22	Oct-22	3314	79
2	Paddy	Kharif	Rainfed	Medium black	Low	Medium	High	Pulses	June-22	Oct-22	3314	79
3	Paddy	Kharif	Rainfed	Medium black	Low	Medium	High	Pulses	June-22	Oct-22	3314	79
4	Sugarcane	Rabi	Rainfed	Medium black	Low	Medium	High	Paddy	Nov-21	Oct-22	3314	79
5	Finger millet	Kharif	Rainfed	Hilly, Laterite	Low	Medium	High	Finger millet	June-22	Oct-22	3314	79
6	Pigeonpea	Kharif	Rainfed	Medium black	Low	Medium	High	Paddy	June-22	Oct-22	3314	79
7	Bittergourd	Kharif	Rainfed	Medium black	Low	Medium	High	Paddy	June-22	Oct-22	3314	79
8	Chickpea	Rabi	Rainfed	Medium black	Low	Medium	High	Paddy	Nov-21	March-22		

9	Chilli	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Jan-22	May- 22		
10	Brinjal	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Jan-22	May- 22		
11	Brinjal	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Dec-21	March-22		
12	Vein crops	Rabi	Rainfed	Medium black	Low	Medium	High	Paddy	Jan-22	May- 22		
13	Greengram	Summer	Irrigated	Medium black	Low	Medium	High	Paddy	Feb-22	May- 22		
14	Blackgram	Summer	Irrigated	Medium black	Low	Medium	High	Paddy	Feb-22	May- 22		
15	Drumstick	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	June-22	Oct-22	3314	79
16	Paddy	Kharif	Rainfed	Medium black	Low	Medium	High	Paddy	June-22	Oct-22	3314	79
17	Mango	Summer	Irrigated	Medium black	Low	Medium	High		April-22	June-22		

Technical feedback on the demonstrated technologies.

Sr. No	Feed Back
1	Gram variety GG-6- Early maturity, Bold size, more number of pod per plant
2	Paddy variety Sardar have more tillers, non lodging, Mid late and small seeded
3	GT 105 variety - Early (140-160 Days), Dual purpose, bold size with white colour, good for Dal making, good cooking quality, less problem of
	wilt and sterility mosaic virus.
4	Blackgram variety GU-3 is found resistant to YMV with bold grain size and uniform maturity.
5	Greengram variety GM-6 is found resistant to YMV with bold grain size and uniform maturity.
6	Paddy variety GNR-9 have Deep Red colour, Bio fortified, more tillers, non lodging, Mid late, higher production potential
7	Paddy variety GR-20 have Scented, more tillers, non lodging, Mid late, higher production potential
8	Fingermillet (Guj Nagli-9) variety gives good yield in longer rainy season.
9	Production of sugarcane variety Co-N- 13073 may be reduced in case of late harvesting.
10	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. Red bio fortified variety good for rotla
		making and sented variety for rice making.
2	Greengram	GM-6 variety is found resistant to YMV with bold grain size and uniform maturity. Good yield with attractive shiny
		grain appearance

3	Gram	Gram variety GG-6- early maturity, bold size with good attractive yellow colour, more number of pod per plant, good yield in rainfed condition
4	Pigeon pea	GT 105 variety – Early (140-160 Days), bold size with white colour, good for Dal making, good cooking quality, less problem of wilt and sterility mosaic virus.
5	Blackgram	GU-3 variety is found resistant to YMV with bold grain size and uniform maturity. Good yield with attractive shiny grain appearance
6	Fingermillet	Variety had less incidence of pest- disease compare to local variety.
7	Bittergourd	Management of fruit fly increased the yield. Size, Shape and quality of fruit preferred by local market
8	Sugarcane	Seed rate has been reduced to 50%.

# Extension and Training activities under FLD

Sr. No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1	Field days	04	09/3/22	68	
			19/04/22	61	
			19/07/22	38	
			07/10/22	70	
2	Farmers Training	09	25/01/22	30	
			05/02/22	35	
			08/02/22	27	
			28/05/22	25	
			31/05/22	27	
			03/06/22	26	
			06/06/22	19	
			17/10/22	20	
			27/12/22	62	
3	Media coverage	02			
4	Training for extension functionaries	01	02/09/22	23	

**C. Performance of Frontline demonstrations** 

Frontline demonstrations on oilseed crops-Nil

# Frontline demonstration on pulse crops

Сгор	Thematic Area	Technology demonstrated	Variety	No. of Farme	Area (ha)		Yield	l (q/ha)		% Increase	Eco	nomics of (Rs	demonstra ./ha)	ition	Economics of check (Rs./ha)					
				rs			Demo (		Check	in yield	Gross	Gross	Net	BCR	Gross	Gross	Net	BCR		
						Н	L	Av.			Cost	Return	Return	( <b>R</b> /C)	Cost	Return	Return	( <b>R</b> / <b>C</b> )		
Green gram	ICM	Improved variety + Line sowing + INM + IPM	GM-6	100	10	10.7	8.2	8.84	6.03	46.60	19200	53010	33810	2.76	17280	36174	18894	2.09		
Pigeonpea	ICM	Improved variety + Line sowing + INM + IPM	GT- 105	50	5.0	10.3	7.3	8.40	6.15	36.58	23850	54610	30760	2.29	21100	33814	12714	1.60		
Blackgram	ICM	Improved variety +Seed treatment + Line sowing + IPM	Guj. Udad-3	50	5	8.4	6.2	7.21	5.34	35.01	19800	46878	27078	2.37	17780	34710	16930	1.95		
Chickpea	ICM	Improved variety +Seed treatment + Line sowing + IPM	GJG-6	10	96	14	9.3	11.74	8.59	36.67	21647	61046	39399	2.82	20120	42938	22818	2.13		
Pigeonpea	ICM	Improved variety + Line sowing + INM + IPM	GT- 105	30	1.50	7.45	6.55	7.20	5.85	23.08	22650	46800	24150	2.06	21100	32175	11075	1.53		

#### **FLD on Other crops**

Crop	Thematic	Technology	Variety	No.	Area	Yield (q/ha)			%	Economi	ics of den	nonstratio	on	Economics of check (Rs./ha)					
	Area	demonstrated		of	(ha)					Change	(Rs./ha)								
				Farmers		Demo			Check	in	Gross	Gross	Net	BCR	Gross	Gross	Net	BCR	
						High	High Low Av.			Yield	Cost	Return	Return	( <b>R</b> / <b>C</b> )	Cost	Return	Return	( <b>R</b> / <b>C</b> )	
						<u>B</u>	10.0												
Cereals																			

Paddy	ICM	Improved variety + Seed treatment	Sardar	100	20	46.75	35.50	40.08	31.24	28.29	36835	81923	45088	2.22	39375	63357	23982	1.61
Paddy	ICM	Biofortified varity	GNR-9	25	5	38.40	32.10	34.20	26.10	31.03	36835	110808	73973	3.01	39375	84042	44667	2.13
Paddy	ICM	Sented Variety	GR-20	25	5	38.70	33.60	36.36	31.50	15.42	36835	81437	44602	2.21	39375	69930	30555	1.78
Paddy	ICM	Depog method	Sardar	20	2.0	39.50	34.70	35.86	30.65	26.26	36320	78561	42241	2.16	36320	62342	22992	1.58
Millets																		
Finger millet	ICM	Improved variety, Vermicompost	Guj. Nagli – 9	75	30	10.5	7.9	9.78	8.16	19.85	18525	38120	19595	2.05	17400	32560	15160	1.87
Commercial Crops																		
Sugarcane	ICM	Improved variety LBF	Co-N- 13073	10	1.0	875	850	866	743	16.55	119775	272790	153015	2.28	110650	234045	123395	2.12

Frontline Demonstration on Nutri cereals – Nil

#### FLD on Livestock

Categor	Themati	Name of the	No. of	No.of Units	Ma	Major		Ot	her	Econo	omics of den	nonstration	Economics of check				
у	c area	technology	Farmer	(Animal/	parar	neters	change	para	meter				( <b>Rs.</b> )				
		demonstrated		Poultry/	Demo	Check	in major	Demo	Check	Gross	Gross	Net	BCR	Gross	Gross	Net	BCR
				Birds, etc)			parameter			Cost	Return	Return	( <b>R</b> /C)	Cost	Return	Return	( <b>R</b> /C)
Cattle	Mgt. of	Bypass fat	47	47	Concent	Concent	40.00 %	7.7	5.5	1270	4560	3290	3.59	1200	3300	2100	2.75
	Nutritiou	feeding			rate	rate feed	Milk	lit./day	lit./day								
	s food				feed +												
					Bypass												
					fat												
					feed100												
					g/cow/d												
					ay												

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

FLD on Fisheries –Nil

FLD on Other Enterprises – Mushroom production
Category	Name of the technology demonstrated	No. of Farmer		Maj param		% change in major parameter	Other pa	arameter	Econ	omics of (Rs.) or	demonstr Rs./unit	ation			s of check 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	Pleurotusspp	29	29						2000	10500	8500	4.25		-	-	-

## FLD on Women Empowerment --Nil

FLD on Farm Implements and Machinery -Nil FLD on Other Enterprise: Kitchen Gardening

Category and Crop	Thematic area	Name of the technology	No. of Farme	No. of Units	Yield	(Kg)	% change	Other p	arameters	Econ	omics of d (Rs./		tion	E	conomics (Rs./l		
		demonstrat ed	r		Demons ration	Check	in yield	Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
 Kitchen gardening	Nutritional security	Improved seeds and seedlings of vegetables	26	26	135	95	42.10			650	3600	2950	4.53	490	2400	1910	3.89

## FLD on Demonstration details on crop hybrids

						Yield	l (q/ha)		%	Eco	nomics of (Rs.		tion	Economi	ics of chec	k(Rs./ha)	
Сгор	Technology demonstrated	Hybrid Variety	No. of Farmers	Area (ha)		Demo			Increase in yield	Gross	Gross	Net	BCR	Gross	Gross	Net	BCR
					High	Low	Average	Check	in yield	Cost	Return	Return	(R/C)	Cost	Return	Return	(R/C)
Vegetable crops																	
Bittergourd	Improved variety, IPM	F1 (Akash)	25	2.5	218	200	210.40	175.68	19.76	69675	192516	122841	2.89	67340	156355	89015	2.32
Brinjal	Mix micronuturient	DPR	35	3.5	365	352	358	318	12.76	129692	490460	360768	3.78	125170	434975	309805	3.48
Brinjal	NAUROJI Novel	DPR	80	8.0	375	340	362	315	14.92	126480	497750	371270	3.94	125230	433125	307895	3.46

## **3.4. Training Programmes**

# Farmers' Training including sponsored training programmes (on campus)

	No. of				]	Participants	5			
Thematic area	courses		Others			SC/ST			Grand Tota	l
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Integrated crop management	12	0	0	0	295	156	451	295	156	451
Integrated water management	02	0	0	0	32	18	50	32	18	50
Weed Management	02	0	0	0	28	23	51	28	23	51
Nursery Management	03	0	0	0	48	30	78	48	30	78
Total	19	0	0	0	403	227	630	403	227	630
II Horticulture										
III Soil Health and Fertility Mgt.										
Soil and Water Testing	01	0	0	0	22	08	30	22	08	30
Integrated nutrient management	02	0	0	0	49	22	29	28	01	29
Total	03	0	0	0	71	30	101	71	30	101
IV Livestock Prod. and Management										
Dairy Management	02	0	0	0	18	91	109	18	91	109
Feed & fodder technology	02	0	0	0	04	43	47	04	43	47
Total	04	0	0	0	22	134	156	22	134	156
V Home Science/Women Empowerment										
Household nutritional security	02	0	0	0	12	43	55	12	43	55
Vermi-compost production	01	0	0	0	0	20	20	0	20	20
Mushroom Production	02	0	0	0	26	54	80	26	54	80
Total	05	0	0	0	38	117	155	38	117	155
VI Agril. Engineering										
Care and maintenance of farm machinery and implements	04	0	0	0	79	17	96	79	17	96
Installation and maintenance of micro	04	0	0	0	72	05	77	72	05	77
irrigation systems	ντ		0	U	12	0.5	, ,	12	05	,,
Total	08	0	0	0	151	22	173	151	22	173
VII Plant Protection									1	

Integrated Pest Disease Management	03	0	0	0	66	04	70	66	04	70
Total	03	0	0	0	66	04	70	66	04	70
X Capacity Building and Group Dynamics										
Leadership development	02	0	0	0	98	05	103	98	05	103
Formation and Management of SHGs	04	0	0	0	54	03	57	54	03	57
Total	06	0	0	0	152	08	160	152	08	160
Grand Total	48	0	0	0	903	542	1445	903	542	1445

# Farmers' Training including sponsored training programmes (off campus)

	No. of					Participa	nts			
Thematic area	courses		Others			SC/ST			Grand Total	l
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Integrated crop management	08	0	0	0	165	56	221	165	56	221
Weed Management	02	0	0	0	35	14	49	35	14	49
Integrated water management	01	0	0	0	27	09	36	27	09	36
Total	11	0	0	0	227	79	306	227	79	306
II Horticulture	0	0	0	0	0	0	0	0	0	0
III Soil Health and Fertility Mgt.	0	0	0	0	0	0	0	0	0	0
Soil and Water Testing	03				83	09	92	83	09	92
Integrated nutrient management	03				56	10	66	56	10	66
Total	06	0	0	0	139	19	158	139	19	158
IV Livestock Production and										
Management										
Dairy Management	02	0	0	0	31	18	49	31	18	49
Feed & fodder technology	03	0	0	0	33	19	52	33	19	52
Total	05	0	0	0	64	37	101	64	37	101
V Home Science/Women empowerment										
Household nutritional security	03	0	0	0	01	86	87	01	86	87
Mushroom Production	02	0	0	0	00	56	56	00	56	56
Vermi-compost production	02	0	0	0	00	53	53	00	53	53
Total	07	0	0	0	01	195	196	01	195	196
VI Agril. Engineering										
Installation and maintenance of micro	01	0	0	0	01	17	18	01	17	18

irrigation systems										
Soil & water conservation	01	0	0	0	45	02	47	45	02	47
Farm Machinary and its maintenance	03	0	0	0	52	15	67	52	15	67
Total	05	0	0	0	98	34	132	98	34	132
VII Plant Protection										
Integrated Pest Management	01	0	0	0	34	01	35	34	01	35
Integrated Disease Management	01	0	0	0	16	00	16	16	00	16
Total	02	0	0	0	50	01	51	50	01	51
X Capacity Building and Group Dynamics										
Group Dynamics and farmers organization	02	0	0	0	30	18	48	30	18	48
Total	02	0	0	0	30	18	48	30	18	48
Grand Total	38	0	0	0	609	383	992	609	383	992

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

	No. of					Participa	nts			
Thematic area	courses		Others			SC/ST			Grand Total	l
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Integrated crop management	20	0	0	0	460	212	672	460	212	672
Integrated water management	03	0	0	0	59	27	86	59	27	86
Weed Management	04	0	0	0	63	37	100	63	37	100
Nursery Management	03	0	0	0	48	30	78	48	30	78
Total	30	0	0	0	630	306	936	630	306	936
II Horticulture	0	0	0	0	0	0	0	0	0	0
III Soil Health and Fertility Mgt.										
Soil and Water Testing	04	0	0	0	105	17	122	105	17	122
Integrated nutrient management	05	0	0	0	105	32	137	105	32	137
Total	09	0	0	0	210	49	259	210	49	259
IV Livestock Prod. and Management										
Dairy Management	04	0	0	0	49	109	158	49	109	158
Feed & fodder technology	05	0	0	0	37	62	99	37	62	99

	09	0	0	0	86	171	257	86	171	257
V Home Science										
Household nutritional security	05	0	0	0	13	129	142	13	129	142
Vermi-compost production	03	0	0	0	0	73	73	0	73	73
Mushroom Production	04	0	0	0	26	110	136	26	110	136
Total	12	0	0	0	39	312	351	39	312	351
VI Agril. Engineering										
Care and maintenance of farm machinery and implements	08	0	0	0	131	32	163	131	32	163
Installation and maintenance of micro irrigation systems	04	0	0	0	73	22	95	73	22	95
Soil & water conservation	01	0	0	0	45	02	47	45	02	47
Total	13	0	0	0	249	56	305	249	56	305
VII Plant Protection										
Integrated Pest Disease Management	03	0	0	0	66	04	70	66	04	70
Integrated Pest Management	01	0	0	0	34	01	35	34	01	35
Integrated Disease Management	01	0	0	0	16	00	16	16	00	16
Total	05	0	0	0	116	05	121	116	05	121
X Capacity Building and Group										
Dynamics										
Leadership development	02	0	0	0	98	05	103	98	05	103
Formation and Management of SHGs	04	0	0	0	54	03	57	54	03	57
Group Dynamics and farmers organization	02	0	0	0	30	18	48	30	18	48
Total	08	0	0	0	182	26	208	182	26	208
Grand Total	86	0	0	0	1512	925	2437	1512	925	2437

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

					No.	of Participa	ants			
Area of training	No. of		General			SC/ST			Grand Tot	al
	Courses	Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management	02	0	0	0	05	47	52	05	47	52
Bamboo articles	01	0	0	0	0	29	29	0	29	29
Total	03	0	0	0	05	76	81	05	76	81

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

					No.	of Participa	ants			
Area of training	No. of Courses		General			SC/ST			Grand Tot	al
	Courses	Male	Female	Total	Male	Female	Total	Male	Female	Total
Rural crafts	01	0	0	0	0	30	30	0	30	30
Soft toys making	01	0	0	0	0	29	29	0	29	29
Total	02	0	0	0	0	59	59	0	59	59

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

					No.	of Participa	ants			
Area of training	No. of		General			SC/ST			Grand Tota	al
	Courses	Male	Female	Total	Male	Female	Total	Male	Female	Total
Leather articles	01	0	0	0	0	30	30	0	30	30
Nursery Management	02	0	0	0	05	47	52	05	47	52
Bamboo articles	01	0	0	0	0	29	29	0	29	29
Soft toys making	01	0	0	0	0	29	29	0	29	29
Total	05	0	0	0	05	135	140	05	135	140

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

Area of training	No. of		No. of Participants							
	Courses	General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Certificate course on Pesticides	01	14	04	18	19	03	22	33	07	40
management										
Total	01	14	04	18	19	03	22	33	07	40

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

Area of training	No. of	No. of Participants									
	Courses		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total	
Natural farming	03	0	0	0	73	37	110	73	37	110	
Rat control	01	0	0	0	56	0	56	56	0	56	
IPM in Kharif paddy	01	0	0	0	19	04	23	19	04	23	
Total	05	0	0	0	148	41	189	148	41	189	

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

Area of training	No. of	No. of Participants									
	Courses	General			SC/ST			Grand Total			
		Male	Female	Total	Male	Female	Total	Male	Female	Total	
Certificate course on Pesticides mgt.	01	14	04	18	19	03	22	33	07	40	
Natural farming	03	0	0	0	73	37	110	73	37	110	
Rat control	01	0	0	0	56	0	56	56	0	56	
IPM in Kharif paddy	01	0	0	0	19	04	23	19	04	23	
Total	06	14	04	18	167	44	211	181	48	229	

#### **Sponsored training programmes**

Area of training	No. of	No. of Participants								
	Courses	General			SC/ST			Grand Total		
		Male Female Total		Male	Female	Total	Male	Female	Total	

SPNF	10	00	00	00	129	419	548	129	419	548
Total	10	00	00	00	129	419	548	129	419	548

Details of vocational training programmes carried out by KVKs for rural youth (04 days or more days)

			No. of Participants									
Area of training	No. of Courses		General			SC/ST		Grand Total				
	Courses	Male	Female	Total	Male	Female	Total	Male	Female	Total		
Income generation activities												
Leather articles	01	0	0	0	0	30	30	0	30	30		
Nursery Management	02	0	0	0	05	47	52	05	47	52		
Bamboo articles	01	0	0	0	0	29	29	0	29	29		
Soft toys making	01	0	0	0	0	29	29	0	29	29		
Total	05	0	0	0	05	135	140	05	135	140		

## **3.5. Extension Programmes**

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	ΤΟΤΑΙ
Advisory Services (Other than KMAS)				
Diagnostic visits	02	12	3	15
Field Day	04	237	05	242
Group discussions	18	345	12	357
KisanGhosthi	13	1685	22	1707
Film Show	08	256	4	300
Self -help groups	0	0	0	0
KisanMela	01	271	15	286
Exhibition	01	271	15	286
Scientists' visit to farmers field	39	395	08	403
Plant/animal health camps	01	22	04	26
Farm Science Club	0	0	0	0
Ex-trainees Sammelan	0	0	0	0
Farmers' seminar/workshop	05	1313	08	1321
Method Demonstrations	23	685	12	697
Celebration of important days	08	372	14	386
Special celebration (Poshanabhiyan)	01	115	05	120
Exposure visits	04	179	02	181
Lecture delivers in other programme	25	2312	35	2347
Total	153	8470	164	8634

Particulars	Number
Electronic Media (CD./DVD)	
Extension Literature	05
Newspaper coverage	06
Popular articles	02
Radio Talks	02
TV Talks	01
Animal health camps (Number of animals treated)	01 (14 animals)
Social Media (No. of platforms Used)	04
Others (pl. specify) Newsletter	02
Total	23

S. No.	Activity Type	Mode of implementation (Video conferencing / Audio Conferencing / Facebook Live / YouTube Live/ Zoom/ Google meet/ Webexetc.)	Title of Program	No. of Programmes	No. of Participants/ Views
А	Farmers training				
В	Farmers scientist's interaction				
	programme				
С	Farmers seminars				
D	Expert lectures				
	Total				
Е	Any other (Pl. specify)				
	Grand Total (A+B+C+D+E)				

## 3.7.PRODUCTION OF SEED/PLANTING MATERIAL AND BIO-PRODUCTS

#### Production of seeds by the KVK

Сгор	Name of the crop	Name of the variety	Name of the hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers
Cereals	Paddy	Sardar		3500 kg	140000	205
Pulses						
Others	Sugarcane	Co.N-13073		10950 kg	39676	12
Total				14450 kg	179676	217

## Production of planting materials by the KVKs

Сгор	Name of the crop	Name of the variety	Name of the hybrid	Number	Value (Rs.)	Number of farmers
Vegetable seedlings	Brinjal, Chilli, Tomato		Mukta round Hybrid	124739	150913	179
Fodder crop saplings	Perennial grass	Co-4		5300	5300	05
Total				130039	156213	184

## **Production of Bio-Products**

Bio Products	Name of the bio-product	Quantity Nos./Kg	Value (Rs.)	No. of Farmers
Bio Agents	Fruitfly trap ( Mango)	1181 no.	52700	70
Others	Vermicompost	41155 kg	246930	422
	Vermiculture	134.5 kg	33625	36

## 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. Impact of NICRA Project on farm income and farm productivity of	R.F.Thakor, P.J.Joshi	
	participant farmers		
	2. Perception of farmers towards agromet advisory services	R.F.Thakor, Puja B. Ratiya, Aditi Solanki	
	3. Constrain faced by farmers in adoption of soil testing based	L T kapurR.F.Thakor, P. R. Ahir.	
	fertilizer application		
	4. Modified DapogNursery ; An alternate approach of doubling farmer	L T Kapur ,R.F.Thakor,	
	income of paddy growers of Valsad .		
News letters	Half yearly news letter	R.F.Thakor et.al	02
Technical bulletins			
Popular articles	1. Weed control in Transplanted Paddy	M,M,Gajjar,R.F.Thakor	
	2. Agromet advisory services to mitigate the effect of adverse weather	P.B.Ratiya, Aditi Solanki ,R.F.Thakor	
	condition and enhance farmers income		
Extension literature	1. Training manual for Certficate course on Pesticide mgt.	K.A.Patel&R.F.Thakor	45

## C. Details of Electronic Media Produced-

S. No.	Type of media (CD / VCD / DVD/ Audio-Cassette)	Title of the programme	Number
1	Video clips	KVK at a Glance, Drone technology	02

#### D. Details of Social Media Platforms Created / Used

S. No.	Type of social media platform	Title of social media	Number of Followers/ Subscribers
1	YouTube Channel	KVK Valsad	340
2	Facebook page/ Account	KVK- Ambheti-Valsad	982
3	Mobile Apps		
4	WhatsApp groups	KVK Farmers Groups-06	1125
5	Twitter Account	KVK Valsad	27
6	Website	www.kvkvalsad.org	

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

#### Title :Natural Farming in Mango

Name of farmer	:	ThakorbhaiDevajibhai Patel
Village	:	Tiskari Talat
Block	:	Dharampur
District	:	Valsad
Age	:	65 years
Education	:	Graduation
Mobile number	:	98251 54120

#### **INTRODUCTION**

- He has a mango orchard in 2 ha. of land.
- Maintains a cattle farm with 6 Gir cows.
- Five years of experience of organic farming in mango.
- Recipient of **Best ATMA Farmer award in organic farming.**
- Started natural farming in mango since last three years.

#### TRAINING AND GUIDANCE OF KVK

- He is in contact with KVK Valsad since last 10 years.
- KVK encouraged him to adopt Natural farming.
- He attended trainings andworkshops on organic and natural farming.
- KVK given technical guidance about preparation and application of Jivamrit, Ghanjivamrit and Biopesticides like Neemastra, Brahmastra etc.

## **PRACTICES ADOPTED**

- He practiced all the components of natural farming (In mango orchard)
- Prepared Ghanjivamrit and Jivamrit from Gau mutra (Cow urine)andGobar (Cow dung) of Gir cows



- Applied Jivamrit and Buttermilk as foliar spray at interval of 15-20 days in mango orchard.
- He started application of Jivamrit and Buttermilk as foliar spray from 15 th September every year.
- Applied, Ghanjivamrut @ 10 to 15 kg per Mango tree at the interval of 3 months in Ring method with mulching.
- Use Nimpest, Nimastra, Bhramastra and Dashparni Ark for pest and disease management

#### COMPARISON BETWEEN NATURAL FARMING AND ORGANIC FARMING

Parameters	Organic Farming	Natural Farming
Area (ha.)	2.0	2.0
Total production (qt)	62.5	64.2
Gross income (Rs.)	300000	288900
Cost of cultivation (Rs.)	96000	45000
Net return (Rs.)	204000	243900
BCR	3.13	6.42

#### Benefit and achievements

- Reduction in incidence of pest and diseases.
- Improvement in quality of fruits.
- Increase production.
- Reduction in cost of cultivation.
- Fetch higher market price.
- Doorstep selling of produce.

#### **Impact of the Technology**

- Reduction in dropping of fruits.
- Get higher market price.
- Additional income from selling of Gaumutra, Fresh Gobar and Ghanjivamrit.
- Become Self-sufficient in milk and milk product, rice, cereal and vegetables.
- Sustainable in mango cultivation.



Improved quality of mango fruit



Rearing of Gir cow in farm



Making of Jivamrit and biopesticides



Making of GhanJivamrit

- F. Give details of innovative methodology or innovative technology of Transfer of Technology developed and used during the year-
  - For bittergourd crop farmers use innovative methodology of use of veins cuttings for planting of bittergourd instead of sowing of seeds.
- G. 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	A white thin thread tied in three lines	To protect the newly emerged shoots of seeds sown in the field
	sowing.	around 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

AExisting 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	Khuntli, Kharedi, Amdha, Ozarada	2012
	Mendha, Kakadkopar, Dhodhadkuva,	2015
Dharampur	Sadadvera, Pindval	2015
	Panva, Kilavani, Mamabhacha	2017
Pardi	Asma, Arnala, PatiPanchalai,	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 : 02
- iv. No. of technologies taken to the adopted villages- 15
- v. Name of the technologies found suitable by the farmers of the adopted villages:
  - a) Improved variety of Paddy and Sugarcane crops for cereals.
  - 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 Pulse crops-Indianbean, Greengram, Pigeonpea, Chickpea

- g) Use of Azolla in paddy
- h) Improved variety of Bittergourd for tuber crops
- i) Perennial fodder grass variety
- j) Jivamrut, Gan Jivamrut preparation at farm level.
- vi. Impact (production, income, employment, area/technological-horizontal/vertical): Pl see results item no.12
- 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.

#### 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,greengram,pigeonpea, sugarcane, Indian beanand Trichoderma, LBFand Pseudomonas etc. RAWE Programme		
2	ATMA	Training and lectures of kvk experts in organizing farmersshibir.		
3	Dept. of Agril. Valsad.	Involvement of kvk experts for delivering lectures, farmers seminars and extension functionaries' trainings.		
4	NIPHM	Certificate course for pesticide dealers		
5	Dept. of Animal husbandry, Valsad	Joint organization of pashupalanshibir		
6	Vasudhara dairy	Joint implementation of farmers, farm women & ext. functionaries training.		
7	J. N. Trust, Kaparada	Joint implementation of farmers & ext. functionaries training & seminars.		
8	Dept. Social forestry	Farmers shibir		
9	Zandu farm	Biotech Kishan hub project &Farmers shibir		
10	ICDS	Ext. functionaries training		
11	BAIF	Joint implementation of farmers, farm women training.		
12	JSS	Joint implementation of ext. functionaries training.		
13	Mushroom training centre, Vapi	Joint implementation of mushroom training.		

14	Central Ground water Board, G'nagar	Joint implementation of farmers seminars on water .
15	WALMI, Anand	Farmers training on water conservation
16	Swami Vivekanand Trust, Dharampur	Soil and water samples testing
17	Welspun Foundation, Vapi	FPO and CHC

## 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	No. of programmes	Other remarks
		KVK staff	Organized by KVK	
01	Meetings	5	2	
02	Research projects			
03	Training programmes	18	10	
04	Demonstrations	6		
05	Extension programmes			
	Technology week			
	Exposure visit	6		
	Exhibition	3	1	
	Soil health camps			
	Animal health campaigns			
	Capacity development	2		
06	Video films			
	Extension literature		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 -Nil

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

#### G. Details of linkage with PKVY (ParamparagatKrishiVikasYojana)- Nil

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

#### H. Details of linkage with NFSM-Nil

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

## I. Details of linkage with SMAF (Sub-mission on Agroforestry) - Nil

## 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 Horti. Valsad. Involvement for delivering lectures, farmers seminars	
3	Dept. of Animal husbandry, Valsad	Joint organization farmers shibir
4	ATMA, Valsad	Involvement of kvk experts for delivering lectures in training, FFS, seminars, etc.
5	Dept. Social forestry	Farmers shibir and soil water samples tresting

## 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/	Technical Feedback
	Commodity	

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,GM-6 and GM-7 variety is found resistant to YMV with bold grain size and uniform maturity. Good yield with attractive shiny grain appearance
4	Gram	Gram variety GG-6- early maturity, bold size with good attractive yellow colour, more number of pod per plant, good yield in rainfed condition
5	Pigeon pea	GT 105 variety – Early (140-160 Days), bold size with white colour, good for Dal making, good cooking quality, less problem of wilt and sterility mosaic virus.
6	Sugarcane	Seed rate has been reduced to 50%.

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

- 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
- Indian bean variety with red colour seeds needs to be developed

#### 11. Technology week celebrationduring 2022 - NIL

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	45	62	101630Rs. / ha.	128460Rs. / ha.	
2	HYV s of Paddy	135	70	25860Rs. / ha.	34550Rs. / ha.	
3	HYV s of Fingermillet	80	70	12,800 Rs. / ha.	15,800 Rs. / ha.	
4	HYV s of Brinjal	30	55	84,500Rs. / ha.	124,400 Rs. / ha.	

5	HYV s of Green fodder	40	90	31,400 Rs. / ha.	46,800 Rs. / ha.
6	Fruit fly traps in mango	60	100	1,44,000 Rs. / ha.	99,000 Rs. / ha.
7	Mushroom Production	42	40		11500Rs./farmer

#### B. Cases of large scale adoption

## "Fruit fly trap" - An eco friendly tool to enhance the quality of mango in tribal area of South Gujarat

#### 1. Situation analysis/Problem statement :

Situated in south eastern part of Gujarat, Valsad district, predominantly a tribal district is famous for its quality horticultural produce like mango, sapota and banana. Mango –the king of fruits is leading fruit crop of our country. Gujarat has been known for producing high quality Alphanso and Kesar variety of mango. Particularly, Valsad district of South Gujarat is well known for its world famous variety- Alphanso. Looking to the potentiality of quality mango fruits and vegetables production, Government has declared this region as Agri Export Zone (AEZ). The district has covered 46 % of the total area under mango cultivation i.e. 26250 ha, with total Production of 157500 tones accounting productivity of 6000 kg/ha. The area under mango cultivation shows increasing trends but the productivity remains static. Quality of the mango is another aspect needs to be addressed.

The Valsad district falls under Agro climatic zone I (South Gujarat heavy rainfall zone) of Gujarat which consists of two distinct agro-ecological situations viz; AES I and II. AES-I comprises of Dharampur and Kaprada talukas, while AES-II comprises of Valsad, Pardi, Umargam and Vapi talukas of Valsad district. The soil of the district in general is shallow to medium black with poor fertility status and having low moisture retention capacity. The average annual rainfall of the district ranges between 2000 to 2200 mm, spread over an average of 87 rainy days in a Year. The maximum temperature ranges between  $35^{\circ}$  to  $41^{\circ}$  C during April – May. The lowest temp (8.1° to 8.6° C) observed during Dec-January.

#### 2. Plan, Implement and Support :

It is observed that particularly in tribal area of Valsad district, mango growers are facing acute problem of attack of fruit fly in the ripening stage of mango. The fruitfly is considered as a main pest as it is major constraint in the export and import of mango fruits. There are about 170 species of fruit fly in India. In Gujarat, *Bactrocera* dorsalis. The female adult puncture the fruit fly. In South Gujarat, the Mango is mainly damaged by *Bactroceracorrectus* and *Bactrocera* dorsalis. The female adult puncture the fruit and lay eggs into it and the larva emerging from the eggs cause damage to the fruit, as a result brown rotten patch appears on the fruit surface. Infested fruit finally falls on the ground. The population of fruitfly is found more during April to August. Thus, it does not only reduce the volume of produce but also it deteriorates fruit quality resulting into great economic losses to the mango growers.





Damage caused by fruit fly

Damaged fruit of mango

Many research workers have suggested different control methods such as collection and destruction of flies/damaged fruits, deep ploughing, chemosterilants, irradiation, chemical control, sex pheromones etc. Using chemical for the control of fruit fly creates problem of residual effect of chemicals on fruit. Even exporters/importers not allowed farmers to use such chemical. Hence, sex pheromone is very useful, eco friendly and cheaper tool to control fruit fly in mango orchard.

## Fruit fly (Methyl Euginol) Trap : The Technology

State Agriculture University has developed a low cost and eco-friendly technology of fruit fly trap which is easier and safe way to check the population of fruit fly in mango orchard. The low cost fruit fly traps are developed by the research scientist using sex pheromone i.e. Methyl Euginol. The trap is designed in such a manner that the sex pheromone on the card board piece (plywood block) attracts male fruit fly and Melathion kills them which reduce the fruit fly population of next generation. The recommendation for mango crops is @ 10 traps per ha during fruit development stage.





Fruitfly trap in mango orchard



Collection of male fruit fly in trap

## Advantages of the technology :

- > The cost of a trap is only about Rs. 50. It is a cheaper technology.
- > It reduce the use of pesticides and hence, eco friendly.
- > It reduce the cost of pesticides and also cost of spraying.

- > Trap can be prepared from locally available resources such as plastic bottle and sponge by the farmers.
- > Very easy to handle the trap.
- ➢ It can be used repeatedly.

## • Methodology for technology dissemination/ spread

KVK has initiated the awareness programme through mass demonstration of the technology on farmer's field in adopted villages. Different extension teaching methods such as Field demonstration, Training, Seminar on IPM, Group discussion, Diagnostic service etc. are used to transfer and promote the technology. Kendra has published colourful pamphlet and video describing technology with illustration and provided to farmers. Selected farmers of the adopted villages were also trained during institutional as well as non institutional training and laying down demonstrations on their field through KVK budget and also in collaboration with state dept. of Horticulture, Navsari Agricultural University and other organizations.



Awareness Programmes on Production and supply of fruitfly traps

#### 3. Output:

Year wise supply of Fruit fly (Methyl Euginol) Traps in Mango by KVK :

Year	No. of traps	Area (ha)	No. of farmers	Amount (Rs.)
2018	1515	152	86	57850/-
2019	734	73	42	27460/-
2020	682	68	36	25460/-
2021	699	70	30	27220/-
2022	1206	120	62	53950/-

#### **Result of demonstration (Average) :**

Result	Fruitfly Damage (%)	Yield (Kg/ha)	Increase in yield (%)	Gross Income (Rs/ha)	Cost (Rs/ha)	Net Return (Rs/ha)	B:C Ratio
Demonstration	11	10120		202400	53130	149270	3.81
Local Check	32	7950	27.30	159000	59225	99795	2.68

The tribal mango growers were not aware of fruit fly pest, its nature of damage and its management. They were applying pesticides which are costly and not eco-friendly. Spray of pesticides on the big canopy of mango tree is very drudgeries task. Even use of the foot spray pump does not work efficiently to reach the height of old tree. There was high consumption of pesticides which increase the cost of cultivation. In spite of all this efforts, farmers could not get satisfactory control over the fruit fly. Higher dose of pesticides cause residual effect on mango fruits. Thus majority of the tribal mango growers do nothing to solve the problem resulting in to poor production in terms of both quantity and quality.

It is estimated that fruit fly in this area causes about 30 to 35 % loss in mango. The mass adoption of fruit fly trap technology results in good control over the fruit fly. This technology saves the loss caused due to falling of premature fruits, leads to increase about 20-25% marketable yield and thereby increase in net income. It also ensures quality production of fruits without any residual effect.

By adopting this technology, farmers need not to spray whole orchard for the control of fruit fly. It reduces cost of pesticides application to the tune of about Rs. 5500 /- per ha.

Earlier, sponge containing Methyl Euginol and dichlorvos was used in plastic bottle as a device of fruitfly trap. But, the sponge need to be recharged at 12 to 15 days interval to maintain its efficacy. So, it was not properly implemented by the farmers. Latter on plywood block is used instead of sponge which needs not to recharge throughout season and it gave good result. Some farmer's use only plywood block hanged on trunk with nail on mango tree without trap box and it also fulfill the purpose.

#### 4. **Outcome** :

Because of mass demonstration and trainings, farmers could realize the importance of cheaper, low cost, eco friendly technology and adopted it. Owing to the growing demand of fruit fly traps by the mango growers, pesticides dealers have started selling of the same and thus it is now became easily available in the local market (on the doorstep of the farmers).

Looking success of the technology in the field condition state department has allocated special scheme for the popularization of this technology through KVK in the district. NAU has also supply about 8000 such traps for wider adoption amongst the tribal mango growers of the district. In order to fulfill the increasing demand of farmers, KVK has started the production of fruit fly traps and supplying to the mango growers at reasonable rate.

#### 5. Impact :

Fruitfly trap is an important technology in the recent trend of organic farming. Looking to the benefits of this easy, eco friendly and cheaper technology, many farmers of Valsad district have adopted this technology. The survey conducted by the Kendra shows that about 32 % farmers of the selected villages of the district have fully adopted this technology in their orchards. It is also estimated that about 12 % of the total area in the district under mango cultivation has been brought under this technology. The technology is easy to use, low cost, hence having great potential to popularize in mango growing areas of Gujarat as well as other states to make "Fruitfly free zone".

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

- High yielding varieties were promoted in Paddy Sardar, GNR-9, GR-20 Green gram- GAM 5, GM-6, GM-7 Black gram GU-3 Chickpea- GG-6, Pigeon pea- GT-105, Finger millet- Guj. Nagli-9, Indian bean Guj. Val-2, Green fodder Co4, Sweetpotato C-71, Drumstick PKM-1
- > Women entrepreneur development : Mushroom, Vegetable nursery
- Nutritional Security Kitchen garden (Gangama circle)
- Production and Supply of technological inputs- Paddy (35 qt HYVs variety produced and supplied to205 farmers), Sugarcane 109.5qt HYVs variety produced and supplied to 12 farmers), Vegetable seedlings (124739 HYVs variety produced and supplied to 179 farmers)
- More than 1250 farmers have adopted HYVs of perennial fodder variety CO-4.
- ▶ Bio agent production Fruit fly traps (About 118 ha. Mango crop area covered.)
- Soil Testing Campaign. (More than 3275 farmers were covered for soil test and provided soil health cards.)
- Adoption of bio pesticides like Neem oil, Pseudomonas, Beuvaria, Pheromone traps, fruit fly traps, etc.
- > Promoting organic farming- More than 422 farmers were promoted for use of vermicompost.

#### 14. Kisan Mobile Advisory Services

Month	No. of SMS sent	No. of farmers to which SMS was sent	No. of feedback / query on SMS sent
May 2022	02	32895	00
July 2022	02	32931	00

		Type of Messages						
Name of KVK	Message Type	Crop	Livestock	Weather	Marketin g	Awarenes s	Other enterprise	Total
	Text only			02		02		04
Valsad	Voice only							
	Voice & Text both							
	Total Messages			02		02		04
	Total farmers Benefitted			32931		32895		65826

## **15. PERFORMANCE OF INFRASTRUCTURE IN KVK**

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

S1.	Demo Unit	Year of	Area	1				Amount (Rs.)		
No.		establishment	(ha)	Variety	Produce	Qty.	Cost of inputs	Gross income		
1	Vermi compost	2003-04	0.1	Eudriluseugeniae	Vermicompost	41.155 ton	34,000	246930	Farm use&422 farmers	
2		2003-04	0.1	Eudriluseugeniae	Vermiculturw	134.5 kg		33625		
	Dairy	2003-04	0.2	H.F.	Milk	4402 lit	356000	167276		
	Dairy	2003-04	0.2	H.F.	FYM	40 tone		30000		
	Dairy	2003-04	0.5	Co4	Green fodder	5300 no.	2500	5300	05farmers	
	Veg. Nursery	2002-03	0.2	Hy seedling of Brinjal, Chilli, Tomato	Seedling	124739	55750	150913	179 farmers	
	Mango germplasm demo	2006-07	0.25	Keshar, Alphanso, Amrapali,						
	Bio Agents	2009-10			ME trap	1181 no.	19000	52700	70	

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

Nama	Name Date of		Area	Details of production			Amount (Rs.)		
of the crop	sowing		Type of Produce	Qty.	Cost of inputs	Gross income	Remarks		
Cereals									
Paddy	30/11/2021	10/05/2022	1.25	Sardar	Seed production	3500 kg	100850	140000	
Spices & Plantation c	rops			·		•			
Fruits									
Mango	1999	-	3.0	Kesar, Alphanso	Commercial	125 kg	22000	2500	
Others (specify)				·					
Sugarcane	18/12/2020	20/10/2022		Co.N13073	Seed production	109.5 qt	15000	39676	
Sugarcane	20/10/2020			Co.N 13073	Commercial	505.0 qt	45000	166650	

Fodder	24/11/2020	Multicut	0.20	Co4	Seed production	5300	2500	5300	
						tussecks			
Eucalyptus	2015		0.25	JK-413	Commercial		standing	standing	
Casurina	2016		1.250	Clonal CPM- C-5	Commercial		450000	1310000	
Casurina	2021		3.00	Clonal CPM- C-5	Commercial		standing	standing	

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

S1.			Amour	ut (Rs.)	
No.	Name of the Product	Qty	Cost of inputs	Gross income	Remarks
1	Fruitfly trap ( Mango)	1181 no.	19000	52700	70farmers

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

Sl. No	Name of the animal / bird /	Details of production		Amou	nt (Rs.)	Remarks	
INO	aquatics	Breed	Type of Produce	Qty.	Cost of inputs	Gross income	Kennarks
1	Cow	H.F.cross (06)	Milk	4402 litres	356000	167276	
			FYM	40 tones		30000	Vermin compost
			Sale of animals (Cow)	00		00	

## E. Utilization of hostel facilities- Nil Due to Covid-19

### F. Database management

S. No	Database target	Database created

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

H. Performance of Nutritional Garden at KVK farm

# If Nutritional Garden developed at KVK farm/Village Level? Yes/No If yes,

#### Nutritional Garden developed at KVK farm

Area under nutritional garden (ha)	Component of Nutritional Garden	No. of species / plants in nutritional garden	No. of farmers visited
800 sq.ft	Vegetable crops	Brinjal, Chilli, Tomato, Okra, Fennugreek, Spinach, coriander, cowpea, clusterbean, carrot, radish, bottlegourd, onion, palak, garlicetc,	252
	Fruit crops	Рарауа	
	Others if any	Mint, basil, turmeric	

#### Nutritional Garden developed at Village Level (Area under nutritional garden)

No. of Villages covered	Component of Nutritional Garden	No. of species / plants in nutritional garden	No. of farmers covered
05	Vegetable crops	Brinjal and Chilli seedlings	26

## H. Details of Skill Development Trainings organized - Nil

#### **16. FINANCIAL PERFORMANCE**

#### A. Details of KVK Bank accounts

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

# B. Utilization of KVK funds during the year 2022-23 (Rs. in lakh)(Till Dec, 2022)

S.	Particulars	Sanctioned	Released	Expenditure
No.				-
A. Rec	urring Contingencies			
1	Pay & Allowances	234.00	198.16	198.00
2	Traveling allowances	0.56		0.73
3	Contingencies		•	·
Α	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	3.50	7.12	2.74
В	POL, repair of vehicles, tractor and equipments			
С	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	5.00		1.15
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)			0.32
Ε	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in		
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)			0.54
G	Training of extension functionaries	-		0
Н	Maintenance of buildings			0.11
Ι	Establishment of Soil, Plant & Water Testing Laboratory			0
J	Library			0
TOTA	L (A)	243.06	205.28	206.32
B. Non	-Recurring Contingencies			
1	Works			
2	Equipments including SWTL & Furniture			
3	Vehicle (Four wheeler/Two wheeler, please specify)			
4	Library (Purchase of assets like books & journals)			
TOTA	L (B)			
C. REV	/OLVING FUND			
GRAN	D TOTAL (A+B+C)	243.06	205.28	206.32

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

Year	Opening balance as on 1 <sup>st</sup> April	Income during the year	Expenditure during the year	Net balance in hand as on 1 <sup>st</sup> April of each year
April 2020 to March 2021	9797131	1812959	1233826	10376264
April 2021 to March 2022	10376264	1704515	284815	11795965
April 2022 to Dec 2022	11795965	1502442	2215651	11082756

# 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
P.R.Ahir	ProAsstt.	Enterpreunerial Development in agri. For sustainable growth and self reliance	College of Agril. Gwalior	24/2/22 to 16/03/22
L. T. kapur	SMS	Webinar on Promotion of natural farming under Azadi ka Amrit Mahotsav	National Center for Organic farming, Ghaziyabad	26-05-22
B.M.Patel	Pro. Asstt.	SPNF	ATMA & Dept. of co-op., BarumalDharampur	16-06-22
K.A.Patel	SMS	Workshop on DFI	ATARI, PUNE	24&25-05-22
K.A.Patel, A R.Patel, L. T. kapur, B.M.Patel ,M MGajjar, P J joshi, P. R.Patel	SMS	Workshop on capacity building on New emerging tech. for technical staff of KVKs.	DEE, NAU, navsari	15&16-09-22
L. T. kapur	SMS	Natural farming, Organic farming and Chemical farming in Indian agriculture- Present scenario and a way Forward	Rajmata Sidhiya College of Agril, Ujjain	17to19/10/2022
P.R.Ahir	ProAsstt.	Advances in processing technologies for Super food in new horizon of income generation.	CIAE, Bhopal	16 to 25/11/22
R. F. Thakor	Chief Sci. and Head	National workshop on natural farming	RVSKVV, Gwalior	03-12-22
B.M.Patel	Pro. Asstt.	Training on natural farming	Natural farming training Institute, Kurukshetra	08 to 09-12-22

## 18 . Details of progress in Doubling Farmers Income (DFI) villages adopted by KVKs- Nil

Name of the village	Total No. of	Key interventions implemented	No. of farmers covered in	Change in income (	Rs/family) (Average)
	families surveyed		each intervention	Before After	

## 19. Details of activities planned under NARI /PKVY / TSP / KKA, etc.

S. No.	Name of the programme	No. of villages adopted	Key activities performed	No. of activities carried out	No. of families covered
1	NARI Project	05	Training	10	300
2		01	NARI compain	1	115
3		03	Method demonstration	4	104
4		02	Exposure visit	1	20
5		01	Farmer Shibir	1	47
6		05	Group meeting	5	75

## 20. Details of Progress of ARYA Project- Nil

#### 21. Details of SAP

S. No.	Types of major Activity conducted- SwachhtaPakhwada, Cleaning, Awareness Workshop, Miccobial based Agricultural Waste Management by Vermicomposting etc.	No. ofProgrammes conducted	No. of Participants
1	Sawachhata Pledge- PM- Natural farming National Conclave	2	621
2	Office cleaning	3	14
3	Collection and Utilization of organic wastes .	1	14
4	Vermicompost technology demonstrations for conversion of waste to wealth	2	32
5	Celebration of Special Day- KisanDiwas	1	41
6	Collection and Utilization of organic wastes .	1	05
7	Awareness on waste management	3	29
8	Water harvesting	5	8
9	Creating awareness on treatment & safe disposal of bio-degradable farm waste .Recycling of farm waste and Jivamrut Preparation	11	145
10	Swachhatawereness at Local places		25

Sr. No	Name of KVK	Date	Activity	No of VIPs	No of Farmers	Others	Total
1	VALSAD	31-5-22	PM Kisan	0	216	0	216
		17-10-22	PM Kisan	0	405	0	405
		23-12-22	Kisan Divas	0	41	0	41

## 22. Books published 2022-23

Title of the Book	Authors	ISBN No (Optional) / Pages No	Description/review of the book (one paragraph/sentence)
21 Inspiring Stories of Women Enterpreneurers	R F Thakor, K A Patel, P R Ahir		

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

## POSHAN MAAH CELEBRATION

Sr. no	Name of Event	No. of Event	Participants
1	National Compain on Poshan Abhiyan	01	115
2	Tree plantation (150 Drumstick plants)	01	47
3	Trainings	05	130
4	Anganwadi visit	02	04

## **APR SUMMARY**

# 1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	86	1512	925	2437
Rural youths	5	76	140	216
Extension functionaries	6	181	48	229
Sponsored Training	10	129	419	548
Vocational Training	0	0	0	0
Total	107	1898	1532	3430

## 2. Frontline demonstrations

Enterprise	No. ofFarmers	Area(ha)	Units/Animals
Oilseeds			
Pulses	300	24.5	300 units
Cereals	245	64.0	245 units
Vegetables	150	15.0	150 units
Other crops (sugarcane)	10	1.00	10 units
Mango (Fruitfly Trap)	15	15.00	15 units
Feed supplement	47		47animals
Total	767	119.50	767 units
Other enterprises			
Mushroom	29		29 units
Kitchen gardening	26	0.26	26 units
Vermicompost	60		60units
Plug Nursery	30		30 units
Total	135	0.26	135 units
Grand Total	902	119.76	902 units

## 3. Technology Assessment

Category	No. of Technology	No. of Trials	No. of Farmers
	Assessed & Refined		
Technology Assessed			
Crops	08	110	110
Livestock	01	10	10
Total	09	120	120
Technology Refined			
Crops			
Livestock			
Various enterprises			
Total			
Grand Total	09	120	120

### 4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	153	8634
Other extension activities	09	23
Total	162	8657

## 5. Mobile Advisory Services- Nil

## 6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	144.5	179676
Planting material (No.)	124739	150913
Bio-Products (kg)vermicompost& vermiculture	41289.5	298555
Bio Agents - Fruitfly trap (Mango) no.	1181	52700

## 7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	No of villages	Value Rs.
Soil - 6416	6402	95	417260

Water - 96	96	65	4850
Plant -61	68	27	00
Total - 6573	6566	187	422110

## 8. HRD and Publications

Sr. No.	Category	Number
1	Workshops	
2	Conferences	
3	Meetings	07
4	Trainings for KVK officials	
5	Visits of KVK officials	04
б	Book published	01
7	Training Manual	01
8	Book chapters	01
9	Research papers	04
10	Lead papers	-
11	Seminar papers	-
12	Extension folder	03
13	Proceedings	-
14	Award & recognition	02
15	On going research projects	01