

GUJARAT VIDYAPITH

KRISHI VIGYAN KENDRA

AMBHETI-VALSAD

GUJARAT



Annual Progress Report

April 2014-March,2015

SUBMITTED

TO

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

NEW DELHI – 110 012

INDEX

1 GENERAL INFORMATION ABOUT THE KVK

1.1 Name and address of the KVK :

Address	Telephone		E .mail
	Office	Fax	
Krishi Vigyan Kendra, **AMBHETI** Ta. Kaparada Di. Valsad Via. Vapi Gujarat Pin. 396 191	(1) 02633 260055	02633 260055	kvkvalsad@gmail.com

1.2 Name of the Host Institution :

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

1.3 Name of the Programme Coordinator:

Name	Telephone / Contact		
	Residence	Mobile	E .mail
Dr. R.F.Thakor		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 March -2015)

Sr. No	Sanction post	Name of the incumbent	Designation	Discipline	Pay scale (Rs.)	Present basic (Rs.)	Date of joining	Permanent Temporary	Category
1	Programme Coordinator	Dr. R.F.Thakor	Programme Coordinator	Ext . Edu.	37400-67000	53640	19/05/01	Permanent	Other
2	SMS	Sh. K.A.Patel	SMS	Pl. Prot.	15600-39100	30620	28/02/94	Permanent	Other
3	SMS	Sh. A.R.Patel	SMS	Ext . Edu.	15600-39100	30620	23/01/96	Permanent	Other
4	SMS	Sh. L. T. Kapur	SMS	Soil Science	15600-39100	22130	16/12/06	Permanent	SC
5	SMS	Sh. M.M.Gajjar	SMS	Agronomy	15600-39100	16230	17/09/13	Permanent	Other
6	SMS	Dr. B B Patel	SMS	Horti.	15600-39100	15600	20/05/14	Permanent	Other
7	Programme Assistant	Smt. P.R.Ahir	Programme Assistant	Home Sci.	9300-34800	17840	01/05/01	Permanent	OBC
8	Programme Assistant	Sh. B.M.Patel	Programme Assistant	Ani .Sci.	9300-34800	16650	02/12/02	Permanent	Other
9	Programme Assistant	Sh. P.J.Joshi	Programme Assistant	Agri. Engg.	9300-34800	17710	23/12/02	Permanent	Other
10	Farm manager	Sh. P.R.Patel	Farm manager	Farm manager	9300-34800	17120	01/05/01	Permanent	OBC
11	Office Super.	Sh.C.D.Patel	O.S	O.S	9300-34800	9710	27/09/13	Permanent	Other
12	Jr. steno cum Accountant	Sh. V.B.Patel	Jr. steno cum Acc.	Accountant	5200-20200	12420	01/11/99	Permanent	ST
13	Driver	Sh. R. D.Rohit	Driver	Driver	5200-20200	8130	16/06/08	Permanent	SC
14	Driver	Sh. H.G.Valand	Driver	Driver	5200-20200	7830	01/08/09	Permanent	OBC
15	Supporting Staff	Sh. A.R. Patel	Peon	Office attendant	5200-20200	8030	01/11/99	Permanent	ST
16	Supporting Staff	Sh. B.M. Patel	Farm attendent	Farm attendant	5200-20200	5410	01/04/13	Permanent	OBC

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

Sr . No.	Item	Area (Ha.)
1	Under building	2.0 ha.
2	Under demonstration unit	1.0 ha
3	Under crops	8.0 ha
4	Orchard /Agro forestry	6.0 ha
5	Others (Grass land)	3.0 ha.

1. 7 Infrastructural Development

(A) Buildings

Sr. No	Name of building	Number	Plinth area (Sq.mt.)	Source of Funding	Status of construction
1	Administrative Building	01	720 Sq.mt	ICAR /GVP	Completed
2	Farmers Hostel	01	138 Sq.mt	ICAR	Completed
3	Staff Quarter	06	154 Sq.mt	ICAR	Completed
4	Demonstration Units -- Dairy Demo. Unit	01	100 Sq.mt	ICAR , TSP ,Valsad	Completed
5	Fencing	01	--	--	--
6	Bore well	01	300 ft	ICAR	Completed
7	Threshing floor	01	100 Sq.mt	ICAR	Completed
8	Farm godown	01	100 Sq.mt	ICAR	Completed
9	Implement shed	01	140 Sq.mt	ICAR	Completed
10	Soil-water testing lab.	01	--	ICAR	Completed
11	Plant Health Clinic	01	--	ICAR	Completed

(B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Tractor	1993	1,94,850	Approx. 47,000 hrs.	Replacement requires.
Tractor Trolley	1995	61,500	-	Working condition.
Jeep (Bolero)	2009	6,00,000	118986	Working condition.
Power tiller	2009	1,25,000	--	Working condition.
Motor Bike	2010	50,000	2938	Working condition.
Power sprayer	2010	19000		Working condition
Rotavator	2010	57750		Working condition

C) Equipments and A.V. aids

Name of the Equipment	Year of purchase	Cost (Rs.)	Present status
Television	1995	10660	Working condition.
P A S system	1997	10230	Working condition.
Xerox machine	2004	65,810	Working condition.
D V D	2006	4400	Working condition.
Computer -2	2007 & 2010	1,02,270 +50,000	Working condition.
L C D	2007	75,400	Working condition.
Camera -2	1997 & 2007	2675 + 15250	Working condition.
Lap Top -2	2007 & 2012	51,750	Working condition.
Dot metric printer	2007	11,500	Working condition.
P A S system	2009	28057	Working condition.
Handicam	2009	12990	Working condition.
Generator set	2009	37972	Working condition.

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

Sl. No.	Date	Name and Designation of Participants	Salient Recommendations	Action taken
1	20-01-15	1. Dr Rajendra Khimani Registrar, Gujarat Vidyapith, Ahmedabad 2. Dr M.S.Meena Zonal Project Director, Jodhpur 3. Dr N.I. Shah Asso. Res. Sci. NAU, Paria 4. Dr. J.P.Makati Asst. Res. Sci. NAU. 5. Shri C.C.Garasia Dist. Agril.. Officer, Valsad 6. Shri U.M.Chauhan Horticulture Officer, Kaparada 7. Shri Kaushal B. Nayak ATMA.,Tech. Officer, Valsad 8. Dr. Harish G.Patel Rep., Deputy Director (A.H.) 9. Dr. Harshil R. Thakor Veterinary Officer, Umargam 10. Mrs.Hemangini Barot NABARD , Valsad 11. Shri Nileshbhai.K.Patel Farmers Representative 12. Shri Devubhai R. Jadav Farmers Representative 13. Shri Hasmukh N. desai Farmers Representative 14. Mrs. Ramilaben.M.Patel Farm women Representative 15. Mrs. Kusumben.M.Patel	1. Number of activities should mention in action taken report . 2. Research paper on Soil samples tested by KVK should be published. 3. Tissue culture plants of pointed gourd should procure from AAU. 4. Two years aged Soft wood grafts of mango should prepared and sell. 5. Local varieties of Paddy should procure from CEE and tested. 6. HYVs of local varieties of Pigeon pea should identify and demonstrate. 7. HYVs of Turmeric should purchase from farmers demonstrated plots for FLD. 8. Display board on FLD plot kept permanently. 9. A soft copy of Newsletter also sent to ZPD and DDG . 10. Information in English language also provided in Website. 11. Website visitors include in progress report. 12. Film on HIRWAY programme show to farmers. 13. OFT on Vermi compost should discussed with experts of GVP. 14. A copy of project proposal (RKVY) should sent to ZPD unit. 15. Training programme for control of Mango hopper must be organized . 16. Information regarding KCC number should mention in Newsletter. 17. SHGs and farmers groups should link with NABARD. 18. State departments officials should invite in farmers programmes for providing information of government schemes to farmers. 19. All SMSs should emphasize on publication of research paper and popular articles. 20. Organic farmining on kvk farm should plan.	Action on recommendations will be taken in coming year.

		Farm women Representative 16. Mrs.Pushpaben Patel Farm women Representative 17. Dr. R.F.Thakor Member Secretary, P C, KVK, Valsad	21. Gaushala at kvk should expand and two GIR cows should be purchased.	

B) Proceedings of the 25th Scientific Advisory Committee meeting of Krishi Vigyan Kendra, Ambheti-Valsad- Gujarat

The 25th Scientific Advisory Committee meeting of Krishi Vigyan Kendra, Ambheti-Valsad- Gujarat was held on 20th Jan.2015 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, the Registrar, Gujarat Vidyapith welcomed the members of the committee. Agenda wise items were than taken for discussion.

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

The minutes of the previous SAC meeting held on 19/12/13 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

The report on various activities carried out by the Kendra during last year was presented by Dr R. F. Thakor, Programme Coordinator as well as the SMSs of the kendra .

During the discussion some of the members suggested following …

1. Number of activities should mention in action taken report .
2. Research paper on Soil samples tested by KVK should be published.
3. Tissue culture plants of pointed gourd should procure from AAU.
4. Two years aged Soft wood grafts of mango should prepared and sell.
5. Local varieties of Paddy should procure from CEE and tested.
6. HYVs of local varieties of Pigeon pea should identify and demonstrate.
7. HYVs of Turmeric should purchase from farmers demonstrated plots for FLD.
8. Display board on FLD plot kept permanently.
9. A soft copy of Newsletter also sent to ZPD and DDG .
10. Information in English language also provided in Website.
11. Website visitors include in progress report.
12. Film on HIRWAY programme show to farmers.

13. OFT on Vermicompost should discussed with experts of GVP.
14. A copy of project proposal (RKVY) should sent to ZPD unit.
15. Training programme for control of Mango hopper must be organized .
16. Information regarding KCC number should mention in Newsletter.

Item No. 3 Presentation of the action plan

1.SHGs and farmers groups should link with NABARD.

2.State departments officials should invite in farmers programmes for providing information of government schemes to farmers.

Item No . 4 Item from the chair

1. All SMSs should emphasize on publication of research paper and popular articles.
2. Organic farmining on kvk farm should plan.
3. Gaushala at kvk should expand and two GIR cows should be purchased.

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.

2. DETAILS OF DISTRICT (2014-15)

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

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

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

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.

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

2.3 Soil types

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

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

Sr. No.	Crops	Area (,000 ha.)	Production (,000 tones.)	Productivity (Kgs / ha.)
1	**Food grains**			
	Paddy (irrigated)	19.786	65.293	3300
	Paddy (Unirrigated)	51.572	133.055	2580
	Total Paddy	**71.358**	**198.328**	**2750**
	Ragi (Finger millet)	5.331	4.264	800
	Jowar	0.708	0.722	1020
	Pigeon Pea	7.555	5.364	710
	Urid	5.749	3.737	650
	Mung	47	0.035	740
	Val	7.767	6.524	840
	Gram	1.777	1.422	800
	Groundnut	0.283	0.427	1510
	Niger	5.763	2.536	440
	Sugarcane	19.781	1285.76	65000
	Total Field crops	**127.121**	**1509.87**	
2	**Fruit crops**			
	Mango	26.250	157.50	6000
	Chiku	3.345	32.513	9720
	Banana	0.770	43.274	56200
	Papaya	0.145	6.254	43130
	Cashewnut	5.590	18.11	3240
	Coconut	2.930	29.30	10000
	Total	**39030**	**286.94**	
3	**Vegetables**			
	Brinjal	1.625	26.00	16000
	Okra	1.620	16.20	10000
	Tomato	1.405	29.50	21000
	Cucurbits	2.831	62.28	22000
	Total	**7.475**	**133.98**	17000
4	**Spices & condiments**			
	Chilli	0.1	1.14	11400

2.5 Weather data

Month	Rainfall (mm)	Rainy days	Temperature C		Relative Humidity (%)	
			Maximum	Minimum	Maximum	Minimum
April	0.25	01	37.59	19.493	93	29.06
May	00	00	37.49	23.803	91.22	34.9
June	182.5	09	35.07	26.62	92.2	51.3
July	571	27	30.80	24.889	99.66	73.48
August	418.75	25	31.03	24.771	100	72.51
September	242.25	18	32.15	23.689	98.64	63.92
October	0	0	35.94	20.774	94.61	39.09
November	0	0	36.21	14.7	91.41	26.21
December	0	0	34.45	11.9	93.2	24.23
January	0	0	35.25	10.9	92.5	18.65
February	0	0	36.5	9.7	96	17.63
March	07	01	38.45	10.7	94	15.25

2.6 Production and Productivity of livestock ,Poultry ,Fisheries etc. in the district 2014-15

Category	Population	Production	Productivity
Cattle	247601	69.93	--
Crossbred	38869	26.31	6.137
Indigenous	208732	43.62	1.884
Buffalo	96487	35.45	3.014
Sheep	3433	--	--
Goats	105094	--	--
Pigs	1825	--	--
Poultry	773599	--	--
Ducks	1262	--	--

Source : CDAP-Valsad

2.7 Details of Operational area / Villages (2014-15)

Sr. No.	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Area
1	Kaparada	Mandva, Ambajangal,Virxet, Vavar, Girnara, Aslona, Kurgam, Khutali, Amdha, Arnai, Vajvad, Motivahiyal ,Sutharpada	Paddy , Fingermillet, Sugarcane, Pulses, Vegetables , Micro irrigation & Dairy.	Low productivity in all crops. Water scarcity Poor milk production	ICM ,ANM, IPM, IWM Feed & fodder mgt. Integrated livestock mgt.
2	Dharampur	Kakadkuva,Nani vahiyal, Tutarkhed.	Paddy , Vegetables & Dairy .	Low prod uctivity in all crops. Poor milk production	ICM ,ANM, IPM, IWM Feed & fodder mgt. Integrated livestock mgt.
3	Pardi	Goima, Tarmalia, Velparva, Khuntej, Asma, Ambach, Amli, Pandor, Rohina	Paddy ,Sugarcane, Pulses, Vegetables , Mango & Dairy.	Low productivity in all crops. Poor milk production	ICM ,ANM, IPM, IWM Feed & fodder mgt. Integrated livestock mgt. .
4	Umargam	Saronda, Aklara, Borigam	Paddy & Vegetable.	Low productivity in all crops.	ICM ,ANM, IPM, IWM

2.8 Priority/thrust areas

Crop/Enterprise	Thrust area
Rice	Varietal evaluation ,ICM, IWM, INM, IPM
Fingermillet	Varietal evaluation ,ICM, IWM, INM, IPM
Sweetpotato	Varietal evaluation ,ICM, IWM, INM, IPM
Greengram	Varietal evaluation ,ICM, IWM, INM, IPM
Cucurbits	Integrated Pest & Disease Management, INM.
Sugarcane	Varietal evaluation ,ICM, IWM, INM, IPM
Brinjal, Chilli, Tomato	Varietal evaluation ,ICM, IWM, INM, IPM
Livestock	Feed & fodder mgt., Integrated livestock mgt.
Income generation	Vocational training

3. TECHNICAL ACHIEVEMENTS

3.A. Details of target and achievements of mandatory activities by KVK during 2014-15

OFT (Technology Assessment and Refinement)				FLD (Oilseeds, Pulses, Cotton, Other Crops/Enterprises)			
1				2			
Number of OFTs		Number of Farmers		Number of FLDs		Number of Farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
09	09	60	60	153.5 ha.	243.1 ha.	987	1780

Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)					Extension Activities				
3					4				
Number of Courses			Number of Participants		Name of activities	Number of activities		Number of participants	
Clientele	Targets	Achievement	Targets	Achievement		Target	Achievement	Target	Achievement
Farmers	124	146	2480	5436	Field day	07	12	490	1227
Rural youth	8	8	160	203	Farmers seminar	07	12	700	1661
Extension Functionaries	7	13	140	479	Sci.-farmers interaction	23	22	460	605
					Farmers visit to kvk	800	1036	1000	1050
					Scientist visit to farmers field	120	151	150	243
					Lecture delivered	12	30	1200	2931

Seed Production (Qt.)		Planting material (Nos.)	
5		6	
Target	**Achievement**	**Target**	**Achievement**
Paddy – 80.0	98.00	Sugarcane - 300.0 qt.	344.5 qt.
		Brinjal - 5,00,000 nos.	580,000 nos.
		Chilli - 100,000 nos.	130,000 nos.
		Tomato - 10,000 nos.	25,000 nos.

3.B. Abstract of interventions undertaken

Sr. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions					
				Title of OFT if any	**Title of FLD if any**	**Title of Training if any**	**Title of training for extension personnel if any**	**Extension activities**	**Supply of seeds, planting materials etc.**
1	Integrated Nutrient management	Paddy Fingermillet Brinjal Pigeonpea Chilli Bottlegourd Bittergourd Sugarcane	Low yield	1.To Assess combined use of azolla and liquid Biofertilisers in paddy 2. To Assess use of liquid biofertiliser enriched vermicompost in Fingermillet 3.To assess the fruit setting in Chilli. 4. Effect of micronutrient in Mango.	Demo. on INM	INM practices	Package of practices for INM	Field day , Seminar, Kisan gosthi Diagnostic visits.	Azolla, LBF & micro nutrients

2	Integrated Pest Management	Paddy Fingermillet Brinjal Pigeonpea Chilli Bottlegourd Bittergourd Sugarcane	Low yield	Assessment of technology for control of Snail in Brinjal	Demo. of IPM techniques	IPM practices	--	Kisan gosthi Diagnostic visits.	IPM kits
3	Integrated Water Management	Paddy Fingermillet Brinjal Pigeonpea Chilli Bottlegourd Bittergourd Sugarcane	Low yield	To assess the planting method in Chilli.	--	IWM practices	Soil & water conservation practices	Field day , Kisan gosthi Diagnostic visits.	Plasic mulching
4	Feed & fodder mgt.	Fodder sorghum	Low yield	--	Demo. of improved Fodder variety	Scientific mgt. of milch animals	--	Seminar, Kisan gosthi Diagnostic visits.	Treated seeds
5	Fertility mgt.	Cow	Low milk Production	Management of Anoestrous	--	--	--	Kisan gosthi Diagnostic visits.	--
6	Nutritional management	Vegetables	Low yield	To assess different models of kitchen gardening	Demo. of improved variety	ICM practices	--	Kisan gosthi Diagnostic visits.	Seeds & seedlings
7	Drudgery reduction	Repair and maintenance of farm machinery	No income	Drudgery reduction in paddy threashing	Demo. of threasher	--	--	Kisan gosthi Diagnostic visits.	--
8	Income generation activities	Tailoring and Stitching	No income	--	--	Vocational training	--	--	--
		Preparation of articles from Okra threads	No income	--	--		--	--	--

3.1 Achievements on technologies assessed and refined

A.1 Abstract on the number of technologies assessed in respect of crops

Thematic areas	Cereals	Oilseed	Pulses	Commercial crops	Vegetables	Fruits	Flower	Plantation crops	Tuber crops	Total
Varietal Evaluation										
Integrated Pest Management					01					01
Integrated nutrient management	02				01	01				04
Integrated Water Management					01					01
Nutritional mnagement					01					01
Farm machineries	01									01
TOTAL	03				04	01				08

A.2. Abstract on the number of technologies refined in respect of crops : Nil

A.3. Abstract on the number of technologies assessed in respect of livestock / enterprises :

Thematic areas	Cattle	Poultry	Sheep	Goat	Piggery	TOTAL
Nutrition Management	01	--	--	--	--	01
TOTAL	01	--	--	--	--	01

A.4. Abstract on the number of technologies refined in respect of livestock / enterprises : NIL

B. Details of each On Farm Trial to be furnished in the following format

ON FARM TESTING (1) : A. Technology Assessment

Sr. No.	Title	:	To Assess combined use of azolla and liquid Biofertilisers in paddy
1	Problem diagnose/defined	:	Costly chemical fertilizer, reduce net profit and declined soil health
2	Details of technologies selected for assessment/refinement	:	T_1 : Farmer practice (No use of Azolla and LBF) T_2 : Recommended Dose of Fertiliser (RDF) (100 : 50 : 00 kg NPK ha^{-1}) T_3 : 50% N + Twice incorporation of azolla @ 0.1 kg m^{-1}(30 & 60 DAP)+ Liquid Biofertilisers (i.e *Azotobactor* & PSB) @ 1.25 lit ha^{-1} (as seedling treatment)
3	Source of technology	:	NAU, Navsari
4	Production system		Rainfed cereal based system (Paddy-pulses system)
5	Thematic area	:	Integrated Nutrient Management
6	Performance of the Technology with performance indicators	:	Results showed that application of 50% N of RDF with Twice incorporation of azolla and Liquid Biofertilisers recorded highest net profit (25, 809Rs./ha) and B:C ratio (2.09), compared to RDF and Farmer practice
7	Final recommendation for micro level situation	:	Need to continue for next year
8	Constraints identified and feedback for research	:	Trial is going on.
9	Process of farmers participation and their reaction	:	Farmers associated with the paddy cultivation were identified. Information pertaining to application of fertilisers in paddy crop 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. The technological backstopping were provided by the KVK scientist as a facilitator as when required by the farmers.

Result of Second Year

Crop/ enterprise	Farming situation	Problem Diagnosed	Title Of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Paddy	Rainfed	Costly chemical fertilizer, reduce net profit and declined soil health	To Assess combined use of azolla and liquid biofertiliser s in paddy	05	Use of cheaper azolla with liquid biofertilisers, reduce cost of fertilisers and increase return	Cost and net profit	Given below	Results showed that application of **50% N** of RDF with Twice incorporation of azolla and Liquid Biofertilisers recorded highest net profit (25,809 Rs./ha) and B:C ratio (2.09), compared to RDF and Farmer practice	Need to continue for next year.

**** No. of farmers***

Technology Assessed / Refined	Production (kg ha^{-1})	Net Return (Profit) in (Rs. ha^{-1})	BC Ratio
11	12	13	14
T_1 : Farmer practice	**3543**	**19899**	**1.76**
T_2 : RDF (100 : 50 : 00 kg NPK ha^{-1})	**4117**	**24920**	**1.87**
T_3 : 50% N + Twice incorporation of azolla @ 0.1 kg m^{-1}(30 & 60 DAP)+ Liquid Biofertilisers (i.e *Azotobactor* & PSB) @ 1.25 lit ha^{-1}	**3805**	**25809**	**2.09**

ON FARM TESTING (2) : A. Technology Assessment

Sr.No.	Title	:	To Assess use of liquid biofertiliser enriched vermicompost in Fingermillet.
1	Problem diagnose/defined	:	Low return from Fingermillet cultivation
2	Details of technologies selected for assessment/refinement	:	**T_1 :** Farmer practice (No Use of fertilizers) **T_2 :** Recommended Dose of Fertiliser (RDF) (8 -10 t ha^{-1}FYM + 40 : 20 : 00 kg NPK ha^{-1}) **T_3 :** 20 : 10 : 00 kg NPK ha^{-1}**+** 1 t ha^{-1} Vermicompost + Liquid Biofertilisers (i.e *Azotobactor* & PSB) @ 1.25 lit ha^{-1} (For enrichment of Vermicompost)
3	Source of technology	:	NAU, Navsari
4	Production system		Rainfed cereal based system
5	Thematic area	:	Integrated Nutrient Management
6	Performance of the Technology with performance indicators	:	Results showed that application of 50% of RDF with Use of LBF enriched vermicompost recorded highest net profit (**16,162**Rs./ha) and B:C ratio (1.90), compared to RDF and Farmer practice
7	Final recommendation for micro level situation	:	Need to continue for next year
8	Constraints identified and feedback for research	:	Trial is going on.
9	Process of farmers participation and their reaction	:	Farmers associated with the Fingermillet cultivation were identified. Information pertaining to Fertiliser management in Fingermillet crop 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 ten 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.

Results of On Farm Trials (First Year)

Crop/ e1nter prise	Farming situation	Problem Diagnosed	Title Of OFT	No. of trials*	Technology Assessed	Parameter s of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Finger millet	Rainfed	Low return from Finger millet cultivation	To Assess use of liquid biofertiliser enriched vermin compost in Fingermillet.	10	Use of LBF enriched vermicompost gave high yield without using large quantity of costly chemical fertilisers and increase net return	Cost and net profit	Given below	Highest yield recorded with **T_2 (**Reco. Dose of Fertiliser), But Highest BCR (1.90)and Net profit (16, 162 Rs./ha) recorded with **T_3**	Need to continue for next year

**** No. of farmers***

Technology Assessed / Refined	Production (kg ha^{-1})	Net Return (Profit) (Rs. ha^{-1})	Reduction in cost (Rs. ha^{-1})	BC Ratio
12	14	15	16	17
T_1 : Farmer practice	1883	13142	0	1.87
T_2 : RDF (8 -10 t ha^{-1}FYM + 40 : 20 : 00 kg NPK ha^{-1})	2289	13609	-37	1.66
T_3 : 50% RDF + 1 t ha^{-1} Vermicompost + Liquid Biofertilisers (i.e *Azotobactor* & PSB) @ 1.25 lit ha^{-1} (For enrichment of Vermicompost)	2273	16162	-19	1.90

ON FARM TESTING (3) : A. Technology Assessment

Sr. No.	Title	:	Effect of micronutrient on fruit setting and yield of Mango.
1	Problem diagnose/defined	:	Low fruit setting & low fruit retention
2	Details of technologies selected for assessment/refinement	:	T_1 : Farmer practices (750:160:750 gm/ tree) + 100kg FYM. T_2 : RDF (650:125:750 NPK gm/ tree + 100kg FYM) + NAA (20ppm) + 2% Urea (SAU Recommandation) T_3 : T_2 + 3 Foliar spray of 0.1% borax+0.2%$ZnSO_4$ (Nov., Dec. and Jan.)
3	Source of technology	:	NAU, Navsari
4	Production system		Mango Orchard
5	Thematic area	:	Integrated Nutrient Management
6	Performance of the Technology with performance indicators	:	Low fruit flower dropping with Good quality of fruit yield was noted with T_3 i.e RDF+NAA (20 ppm)+ 2% Urea + 3 Foliar spray of 0.1% borax+0.2%$ZnSO_4$ (Nov., Dec. and Jan.)
7	Final recommendation for micro level situation	:	Need to continue for next year
8	Constraints identified and feedback for research	:	Trial is going on.
9	Process of farmers participation and their reaction	:	Farmers associated with the Mango cultivation were identified. Information pertaining to Fertiliser management in Mango crop followed by farmers was collected. The problems faced by them was also discussed and prioritized by them. Then problem-causes analysis also has done with their active participation. Treatments were thoroughly discussed with them and lastly according to their suggestions treatments were finalized. From among these farmers five farmers were selected for testing the technology on their farm. The technological backstopping were provided by the KVK scientist as a facilitator as when required by the farmers.

Results of On Farm Trials (First Year)

Crop/ enterprise	Farming situation	Problem Diagnosed	Title Of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Mango	Irrigated	Low fruit setting &low fruit retention	Effect of micronutrient on fruit1111111 1 setting and yield of Mango.	5	Spraying of NAA with Zn and Boron for improve fruit setting and yield	Yield	Given below	Highest yield recorded with T_3 with BCR (3.12) and Net profit (94,430 Rs./ha)	Need to continue for next year

**** No. of farmers***

Technology Assessed / Refined	Production (kg ha^{-1})	Net Return (Profit) in (Rs. ha^{-1})	Increase in Yield (%)	BC Ratio
11	12	13	14	15
T_1: Farmer practices (750:160:750 gm/ tree) + 100kg FYM	5810	75620	0.00	2.86
T_2 : RDF + NAA (20 ppm)+ 2% Urea (Nov. and Dec.) (SAU Recommandation)	6352	84290	9.33	2.97
T_3 : RDF+NAA (20 ppm)+ 2% Urea + 3 Foliar spray of 0.1% borax+0.2%$ZnSO_4$ (Nov., Dec. and Jan.)	6950	94430	19.62	3.12

On Farm Trial (4) Technology Assessment

Sr.No.	**Title**	**:**	To assess the fruit setting in chilli
1	Problem diagnose/defined	**:**	Low yield of Chilly
2	Details of technologies selected for assessment/refinement	**:**	T1: Farmer Practices - Arbitory use of PGR. T2 : Recommended practices- Spray of NAA @ 20 PPM at 50% flowering stage T3: Refinement Practice: i) Spray of NAA @ 20 PPM at 50% flowering stage ii) Two sprays of 0.25% Boron at 50% flowering an interval of 15 days
3	Source of technology	**:**	NAU, Navsari
4	Production system	**:**	Rainfed cereal based system (paddy- Pulses system)
5	Thematic area	**:**	Use of growth regulators for flowering in chilly
6	Performance of the technology with performance indicators	**:**	Last year results showed that T3 i.e. Spray of NAA @ 20 PPM at 50% flowering stage & Two sprays of 0.25% Boron at 50% flowering an interval of 15 days found better results as compared to T2 and T1.
7	Final recommendation for micro level situation	**:**	Second year is Continued
8	Constraints identified and feedback for research	**:**	Trial is ongoing
9	Process of farmers participation and their reaction	**:**	Chilly grown by the farmers on the plain land in the Rabi with supportive irrigation after monsoon. Sometimes farmers faced problems like heavy flower drops and less fruit setting due to seasonal change and improper fertilizer management. So these problems causes analysis also has done with their active participation. Than after treatments were finalized and among these 10 farmers were selected for testing the technology on their farm. For implementation of this trial, KVK scientists were provided knowledge when required by the farmers.

Crops/ enterprise	Farming situation	Problem diagnosed	Title of OFT	No. of trials	Technology assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmers
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Chilly	Rainfed	Low yield of Chilly.	To assess the fruit setting in chilli.	**10**	Spray of NAA @ 20 PPM at 50% flowering stage ii) Two sprays of 0.25% Boron at 50% flowering an interval of 15 days	Increase the fruit setting.	Highest yield, Net profit and BCR were recorded with T3 (i) Spray of NAA @ 20 PPM at 50% flowering stage ii) Two sprays of 0.25% Boron at 50% flowering an interval of 15 days).	Result was concluded that T3 i.e. (i) Spray of NAA @ 20 PPM at 50% flowering stage ii) Two sprays of 0.25% Boron at 50% flowering an interval of 15 days was found maximum Net profit as compared to T1 & T2.	Selected farmers said that T3 was benefited for reduce flower drop and well fruit setting which get maximum profit.

Technology Assessed	Production (kg/ha)	Net Return (Profit) in Rs. /unit	B:C Ratio
11	**12**	**13**	**14**
T1: Farmer Practices – Arbitory use of PGR.	8150	119156	3.72
T2 : Spray of NAA @ 20 PPM at 50% flowering stage	8840	130865	3.85
T3: Assessment Practice: i) Spray of NAA @ 20 PPM at 50% flowering stage ii) Two sprays of 0.25% Boron at 50% flowering an interval of 15 days	9830	147230	3.98

On Farm Trial (5) Technology Assessment

Sr. No.	**Title**	**:**	**To assess the planting method in chilly**
1	Problem diagnose/defined	**:**	Low Yield in chilly due to heavy weed and pest problems
2	Details of technologies selected for assessment/refinement	**:**	T1 - Farmers practice (Ridges & Furrows method) T2 – Planting With drip irrigation T3 - Raised bed with Drip and polythene mulch application (Recommended practices)
3	Source of technology	**:**	NAU, Navsari
4	Production system	**:**	Rainfed cereal based system (paddy- Pulses system)
5	Thematic area	**:**	Planting method
6	Performance of the technology with performance indicators	**:**	Last year results showed that T3 i.e. Raised bed with Drip and polythene mulch application found better growth of plant with low pest attack results as compared to T2 (Planting With drip irrigation) and T1 (Farmers practice (Ridges & Furrows method)).
7	Final recommendation for micro level situation	**:**	Second year is Continued
8	Constraints identified and feedback for research	**:**	Trial is ongoing
9	Process of farmers participation and their reaction	**:**	Farmers associated with the chilly cultivation were indentified in hilly tribal belt. Normally farmers were growing chilly crops in medium heavy black soil on plain land so every irrigation weeds grow very fast and which resulted into insect/ pest attack and damage the crops. These problems faced by them were also discussed and finalized the above treatments according to their suggestions. KVK scientists were selected 10 famers for testing the technology on their farm. The technological knowledge was provided by training programs to selected famers.

Crops/ enterprise	Farming situation	Problem diagnosed	Title of OFT	No. of trials	Technology assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmers
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Chilly	Rainfed	Low Yield in chilly due to heavy weed and pest problems	To assess the planting method in chilly	**10**	T1 - Farmers practice (Ridges & Furrows method) T2 – Planting With drip irrigation. T3 - Raised bed with Drip and polythene mulch application (Recommended practices)	Increase the yield and net profit	Highest yield, Net profit and BCR were recorded with T3 (Raised bed with Drip and polythene mulch application)	From 1st year, result was concluded that T3 i.e. raised bed with drip and polythene mulch was found maximum Net profit as compared to T1 & T2.	Farmers were noted that drip and mulch was found better for control weed population as well as plant growth

Technology Assessed	Production (kg/ha)	Net Return (Profit) in Rs. /ha	B:C Ratio
11	**12**	**13**	**14**
T1 - Farmers practice (Ridges & Furrows method)	8860	129660	3.73
T2 – Planting With drip irrigation	9730	143410	3.80
T3 - Raised bed with Drip and polythene mulch application (Recommended practices)	11350	173335	4.23

On Farm Trial (6) **A.** Technology Assessment

Sr.No.	Title	:	**Assessment of different models of kitchen gardening**
1	Problem diagnose/defined	:	Growing of vegetable around their homestead is the traditional practice followed by the tribal farm women. The very purpose of this practices is to meet the daily requirement of their family. Shortage of land, water and adoption of low yield variety gave them low production .Poor combination of different vegetable crops not fulfill the purpose. Mal nutrition is still a great problem with the tribal people. Hence the different design of kitchen garden which gives good yield from the given place and proper combination of short duration crop with one or two fruit crops are tested on farmers field.
2	Details of technologies selected for assessment/refinement	:	**T_1 :** Farmer practice **T_2 :** Recommended (Kitchen garden model-NAU) **T_3 :** Gangama circle model of kitchen gardening
3	Source of technology	:	Navsari Agril. University/ Malpani trust ,Devas, MP
4	Production system		Rainfed cereal based system (Paddy-vegetable system)
5	Thematic area	:	Nutritional garden
6	Performance of the Technology with performance indicators	:	Results showed that Gangama circle design of nutritional garden produces more no. of vegetables from limited land- water resource ,organically.
7	Final recommendation for micro level situation	:	Need to continue for next year
8	Constraints identified and feedback for research	:	Trial is going on.
9	Process of farmers participation and their reaction	:	Group of rural women associated with the kitchen garden activity were identified. Information pertaining to Gangama circle of nutritional garden. The nutritional deficiency problems faced by them was also discussed and then problem-causes analysis also has done with their active participation. Treatments were thoroughly discussed with them.. The technological backstopping were provided by the KVK scientist as a facilitator as when required by the farmers.

Results of On Farm Trials

Crop/ enter prise	Farming situation	Problem Diagnosed	Title Of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Nutritional garden by gangama circle	Irrigated	-Traditional crop in kitchen garden. -Less no of vegetables. -Nutritional requirements not fulfilled.	**To Assess different models of kitchen gardening**	05	**T_1 :** Farmer practice **T_2 :** Recommended (Kitchen garden model-NAU) **T_3 :** Gangama circle model of kitchen gardening	No of vegetables crops covered Vegetable production	Highest yield recorded with **T_3 :** Gangama circle model of kitchen gardening	Through Gangama circle design of nutritional garden 24 no of different Vegetables were grown during Kharif season ,organically. It fulfills nutritional equirement of a family of five person for certain period.	Trial is going on.

**** No. of farmers***

Technology Assessed	*Production (*kg/unit)*	Net Return (Profit) in Rs. / unit	B : C Ratio
11	**12**	**13**	**14**
T_1 : Farmer practice	180	2650	3.79
T_2 : Recommended (Kitchen garden model-NAU)	245	3750	4.26
T_3 : Gangama circle model of kitchen gardening	321	5145	5.04

Note: one unit is equal to approx. 700 sq.ft. Vegetable selling price : Rs. 20/kg

ON FARM TESTING (7) : A. Technology Assessment

Sr.No.	**Title**	**:**	**Management of Snail in Brinjal.**
1	Problem diagnose/defined	**:**	Low Return from Brinjal Cultivation.
2	Details of technologies selected for assessment/refinement	**:**	1 : Farmers practices (Mechanical /arbitrary use of pesticides) 2 : Application of Metaldehyde (Snailkill pellets) 10 kg/ha (SAU recommendation) 3 : Poison bait of Methomyl (@ 1 kg wheat flor + 500 g Gul + 25 g Methomyl per 0.02 ha) 4 : Fencing with Nylon Net (2 to 3 ft height)
3	Source of technology	**:**	NAU, Navsari/ Progressive farmer
4	Production system		Paddy- Vegetable
5	Thematic area	**:**	Pest Management
6	Performance of the Technology with performance indicators	**:**	Results showed that Fencing with Nylon Net recorded highest yield (33600 kg/ha), B:C ratio (1:3.97), Infestation of snail (6%) .
7	Final recommendation for micro level situation	**:**	Fencing with Nylon Net (2 to 3 ft height) may protect Brinjal crop from snail infestation in southern part of Valsad District
8	Constraints identified and feedback for research	**:**	Sometimes, Snail may enter in the field through the wooden support provided to the fencing
9	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. Farmers evaluated that Fencing with Nylon Net (2 to 3 ft height) technology found more effective than other practices for the management of snail in Brinjal . The Nylon Net is easily available as it is used for capturing fish.

Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Brinjal	Irrigated	Low return from Brinjal cultivation	Management of snail in Brinjal	05	1 : Farmers practices (Mechanical /arbitrary use of pesticides)	Infestation of snail (%) Yield (kg/ha)	24 28000	Results showed that Fencing with Nylon Net recorded highest yield (33600 kg/ha), B:C ratio (1:3.97), Infestation of snail (6%) .	- Protection is better than cure - Fencing with Nylon Net (2 to 3 ft height) may protect Brinjal crop -This practice may also be used for snail management in other field crops.
					2 : Application of Metaldehyde @10 kg/ha(SAU recommendation)	Infestation of snail (%) Yield (kg/ha)	15 32000		
					3 : Poison bait of Methomyl (@ 1 kg wheat flor + 500 g Gul + 25 g methomyl)	Infestation of snail (%) Yield (kg/ha)	17 31200		
					4 : Fencing with Nylon Net (2 to 3 ft height)	Infestation of snail (%) Yield (kg/ha)	06 33600		

Technology Assessed	Production per unit (kg/ha)	Net Return (Profit) in Rs. / ha	BC Ratio
11	12	13	14
T1 : Farmers practices (Mechanical /arbitrary use of pesticides)	28000	126500	3.04
T2 : Application of Metaldehyde @10 kg/ha (SAU recommendation)	32000	148000	3.36
T3 : Poison bait of Methomyl (@ 1 kg wheat flor + 500 g Gul + 25 g Methomyl)	31200	145200	3.45
T4 : Fencing with Nylon Net (2 to 3 ft height)	33600	161050	3.97

3.2 Achievements of Frontline Demonstrations

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

List of technologies demonstrated during previous year and popularized during 2014-15 and recommended for large scale adoption in the district

Sr. No	Crop/ Enterprise	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system.	Horizontal spread of Technology		
					No. of villages	No. of farmers	Area (ha)
1	Paddy	Varietal Evaluation	HYVs of Paddy	Demo. of improved variety seeds	06	180	55
2	Fingermillet	Varietal Evaluation	HYVs of Fingermillet	Demo. of improved variety seeds	08	230	60
3	Sugarcane	Varietal Evaluation	HYVs of Sugarcane	Demo. of improved variety planting material	02	14	12
4	Brinjal	Varietal Evaluation	HYVs of Brinjal	Demo. of improved variety seedlings	08	60	18
5	Bottlegourd	Varietal Evaluation	HYVs of Bottlegourd	Demo. of improved variety seeds	04	22	12
6	Chilli	Varietal Evaluation	HYVs of Chilli	Demo. of improved variety seedlings	03	25	09
7	Green fodder	Varietal Evaluation	HYVs of Perrenial grass	Demo. of improved variety planting material	40	400	09

b. Details of FLDs implemented during 2014-15 (Information cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.)

Sr. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall
					Proposed	Actual	SC/ST	Others	Total	
1	Paddy	Varietal Evaluation	HYVs of Paddy	Kharif	25	27	135	--	135	--
2	Sugarcane	Varietal Evaluation	HYVs of Sugarcane	Rabi	02	02	10	--	10	--
3	Finger millet	Varietal Evaluation	HYVs of Fingermillet	Kharif	25	22	110	--	110	--
4	Brinjal	Varietal Evaluation	HYVs of Brinjal	Kharif	05	05	40	--	40	--
5	Bittergourd	Varietal Evaluation	HYVs of Bittergourd	Kharif	05	05	50	--	50	--
6	Chilly	Varietal Evaluation	HYVs of Chilly	Rabi	05	05	26	--	26	--
7	Bottlegourd	Varietal Evaluation	HYVs of Bottlegourd	Rabi	05	05	50	--	50	--
8	Green Fodder	Varietal Evaluation	HYVs of Fodder Sorghum	Rabi	07	08	150	--	150	--
9	Greengram	Varietal Evaluation	HYVs of Greengram	Summer	05	05	25	--		--
10	Sweetpotato	Varietal Evaluation	HYVs of Sweetpotato	Kharif	01	01	08	--	08	--

Details of farming situation

Crop	Season	Farming situation	Type of soil	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal Rainfall	No of rainy days
				N	P	K					
Paddy	Kharif	Rainfed	Medium black	Low	Medium	High	Pulses	1st fortnight of July	2nd fortnight of October	1520	81
Sugarcane	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Oct - Nov	January	--	--
Finger millet	Kharif	Rainfed	Medium black	Low	Medium	High	Pulses	2nd fortnight of July	2nd fortnight of October	1520	81
Brinjal	Kharif	Irrigated	Medium black	Low	Medium	High	Pulses	2nd fortnight of Sept.	Oct -14 to Jan -15	275	20
Bittergourd	Kharif	Rainfed	Medium black	Low	Medium	High	Paddy	Sept-14	Nov-14 -Feb- 15	--	--
Chilly	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Dec-13	Mar –April - 14	--	--
Bottlegourd	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	0ct-14	Dec-14 -Feb- 15	--	--
Fodder-Sorgum	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Dec-13	Mar –April - 14	--	--
Greengram	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Dec-13	Mar –April - 14	--	--
Sweetpotato	Kharif	Rainfed	Medium black	Low	Medium	High	Paddy	Sept-14	Nov-14 -Feb- 15	--	--

Performance of FLD

Sr. No.	Crop	Technology Demonstrated	Variety	No. of Farmers	Area (ha.)	Demo. Yield qt / ha			Yield of local Check qt / ha	Increase in yield (%)	Data on parameter in relation to technology demonstrated	
						H	L	A			Demo	Local
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Paddy	HYVs of Paddy	GNR-3	135	27	36.25	31.42	33.22	27.36	21.42	650	800
2	Sugarcane	HYVs of Sugarcane	Co-N 07072	10	2	1180	1030	1137	982	15.78	15000	18000
3	Finger millet	HYVs of Finger millet	Guj. Nagli - 5	110	22	17.86	15.42	17.25	14.45	19.38	200	250
4	Brinjal	HYVs of Brinjal	DPR	40	5	247.17	158.03	202.6	172.36	17.54	3000	1500
5	Bittergourd	HYVs of Bittergourd	F1- Kohinoor	50	5	290.11	193.4	241.75	199.45	21.21	8000	9000
6	Chilly	HYVs of Chilly	F1- 4884	26	5	102.5	92.3	96.53	84.57	14.14	10400	8320
7	Bottlegourd	HYVs of Bottlegourd	Varad	50	5	299.97	172.43	236.2	194.21	21.62	3500	3000
8	Green Fodder	HYVs of Fodder Sorghum	MFSH -4	150	8	655.4	368.6	512	417	22.78	2300	2600
9	Greengram	HYVs of Greengram	Meha	25	5	7.2	7.4	6.73	5.58	20.61	2000	1600
10	Sweetpotato	HYVs of Sweetpotato	C - 4	8	1	285.8	211.3	248.6	205.8	20.80	19800	22000

Economic Impact (continuation of previous table)

Crop	Average Cost of cultivation (Rs./ha)		Average Gross Return (Rs./ha)		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)
	Demo.	Local Check	Demo.	Local Check	Demo.	Local Check	
	14	15	16	17	18	19	20
Paddy	26200	23163	39869	32829	13669	9666	1.52
Sugarcane	74118	80104	341100	294600	266982	214496	4.60
Finger millet	12900	12500	43125	36125	30225	23625	3.34
Brinjal	65494	72225	222860	189596	157366	117371	3.40
Bittergourd	72465	69905	290112	239340	217647	169435	4.00
Chilly	47906	48002	193076	169154	145170	121152	4.03
Bottlegourd	60767	67665	188960	155368	128193	87703	3.11
Green Fodder	22829	20372	81920	66720	59091	46348	3.59
Greengram	10010	9786	33652	27940	23642	18154	3.36
Sweetpotato	76570	73205	298320	226435	221750	153230	3.90

Analytical Review of component demonstrations (details of each component for rainfed / irrigated situations to be given separately for each season).

Crop	Season	Component	Farming Situation	Average Yield (qt / ha)		Percentage increase in productivity over local check
				Demo.	Local check	
Paddy	Kharif	Variety	Rainfed	33.22	27.36	21.42
Sugarcane	Rabi	Variety	Irrigated	113.7	98.2	15.78
Finger millet	Kharif	Variety	Rainfed	17.25	14.45	19.38
Brinjal	Kharif	Variety	Rainfed	202.6	172.36	17.54
Bittergourd	Rabi	Variety	Rain fed	241.75	199.45	21.21
Chilly	Rabi	Variety	Irrigated	96.53	84.57	14.14
Bottlegourd	Rabi	Variety	Irrigated	236.2	194.21	21.62
Green Fodder	Rabi	Variety	Irrigated	512	417	22.78
Greengram	Rabi	Variety	Irrigated	6.73	5.58	20.61
Sweetpotato	Rabi	Variety	Irrigated	248.6	205.8	20.80

Technical Feedback on the demonstrated technologies

Sr. No	Feed Back
1	Fingermillet variety found superior in yield compare to local variety.
2	Fingermillet variety gives good response to longer rainy season.
3	Paddy variety GNR-3 gave higher yield.
4	Application of LBF is easy to apply, cheaper and maintain soil health.

Farmers' reactions on specific technologies :

Sr. No	Name of Crop/ Commodity	Feedback
1	Paddy	Seed rate as well as seedling rate has been reduced to 20-30 %.
2	Fingermillet	Variety is pest disease resistant compare to local variety.
3	Brinjal	Fruits of this variety have higher pulp content preferred more by the local people and fetches higher market prices compare to local variety.
4	Chilli	Variety is early mature and pest disease resistant compare to local variety.
5	Bittergourd	Production is higher compared to local variety
6	Bottlegourd	Production is higher compared to local variety
7	Sugarcane	Seed rate has been reduced to 50%.
8	Sweetpotato	Good colour and sweetness fetches higher market price.

Extension and Training activities under FLD

Sr. No.	Activity	No. of Activities organized	Date	No. of participants	Remarks
1	Trainings	18	20-05-14 30/31-05-14 02/03-06-14 04/05-06-14 04/05-06-14 09/10-06-14 06-06-14 07-06-14 14-07-14 15-07-14	41 30 26 26 31 16 36 32 28 34	

			07-08-14 01/02-10-14 20-10-14 17/18-10-14 11/14-11-14 03-12-14 21/22-01-15 18-02-15	22 24 47 28 50 18 53 55	
2	Field day	09	22-05-14 24-05-14 28-05-14 21-08-14 28-08-14 30-08-14 23-09-14 12-03-15 17-03-15	70 55 50 107 115 80 150 125 167	

C. Details of FLD on Enterprises : NIL

3.3 Achievements on Training (Including the sponsored and FLD training programmes) :

A) ON Campus

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Farmers / Farm Women										
I Crop Production	**18**	**--**	**--**	**--**	**444**	**270**	**714**	**444**	**270**	**714**
Weed Management	02	--	--	--	49	07	56	49	07	56
Water management	01	--	--	--	31	--	31	31	--	31
Nursery management	02	--	--	--	46	--	46	46	--	46
Integrated Crop Management	11	--	--	--	294	214	508	294	214	508
Production of organic inputs	02	--	--	--	24	49	73	24	49	73
II Horticulture	**17**	**--**	**--**	**--**	**404**	**197**	**601**	**404**	**197**	**601**
a) Vegetable Crops										
Production of low volume and high value crops	06	--	--	--	131	53	184	131	53	184
Nursery raising	02	--	--	--	59	--	59	59	--	59
Protective cultivation (Green Houses, Shade Net etc.)	01	--	--	--	18	10	28	18	10	28
b) Fruits										
Cultivation of Fruit	04	--	--	--	97	49	146	97	49	146
c) Tuber crops										
Production and mgt. technology	04	--	--	--	99	85	184	99	85	184
III Soil Health and Fertility Management	**10**	**--**	**--**	**--**	**260**	**61**	**321**	**260**	**61**	**321**
Integrated Nutrient Management	06	--	--	--	136	08	144	136	08	144
Production and use of organic inputs	02	--	--	--	51	39	90	51	39	90
Soil and Water Testing	02	--	--	--	73	14	87	73	14	87

IV Livestock Production and Management	**15**	**--**	**--**	**--**	**283**	**770**	**1053**	**283**	**770**	**1053**
Dairy Management	08	--	--	--	168	490	658	168	490	658
Disease Management	02	--	--	--	09	74	83	09	74	83
Feed management	05	--	--	--	106	206	312	106	206	312
V Home Science/Women empowerment	**08**	**--**	**--**	**--**	**02**	**270**	**272**	**02**	**270**	**272**
Nutritional gardening	04	--	--	--	01	149	150	01	149	150
Gender mainstreaming through SHGs	03	--	--	--	--	80	80	--	80	80
Value addition	01	--	--	--	01	41	42	01	41	42
VI Agril. Engineering	**08**	**--**	**--**	**--**	**206**	**108**	**314**	**206**	**108**	**314**
Installation and maintenance of micro irrigation systems	05	--	--	--	131	81	212	131	81	212
Use of Plastics in farming practices	01	--	--	--	24	26	50	24	26	50
Repair and maintenance of farm machinery and implements	02	--	--	--	51	01	52	51	01	52
VII Plant Protection	**08**	**--**	**--**	**--**	**135**	**188**	**323**	**135**	**188**	**323**
Integrated Pest Management	04	--	--	--	69	129	198	69	129	198
Integrated Disease Management	02	--	--	--	28	12	40	28	12	40
Bio-control of pests and diseases	02	--	--	--	38	47	85	38	47	85
X Capacity Building and Group Dynamics	**08**	**--**	**--**	**--**	**118**	**192**	**310**	**118**	**192**	**310**
Leadership development	03	--	--	--	23	105	128	23	105	128
Formation and Management of SHGs	03	--	--	--	63	36	99	63	36	99
Entrepreneurial development of farmers/youths	02	--	--	--	32	51	83	32	51	83
Total	**92**	**--**	**--**	**--**	**1852**	**2056**	**3908**	**1852**	**2056**	**3908**

Rural Youth										
Tailoring and stitching	01	--	--	--	--	20	20	--	20	20
Tractor Driving and maintenance	01	--	--	--	25	--	25	25	--	25
Rural Crafts	01	--	--	--	--	25	25	--	25	25
Diesel Engine Repairing and maintenance	01	--	--	--	22	--	22	22	--	22
Total	**04**	--	--	--	**47**	**45**	**92**	**47**	**45**	**92**
Extension Personnel										
Productivity enhancement in field crops	01	06	--	06	15	--	15	21	--	21
Integrated nutrient management	01	15	02	17	30	--	30	45	02	47
Nutritional gardening	01	--	--	--	--	57	57	--	57	57
Group Dynamics and farmers organization	02	06	--	06	20	14	34	26	14	40
Livestock feed and fodder production	02	--	--	--	63	30	93	63	30	93
Total	**07**	**27**	**02**	**29**	**128**	**101**	**229**	**155**	**103**	**258**
Grand Total	**103**	**27**	**02**	**29**	**2027**	**2202**	**4229**	**2054**	**2204**	**4258**

(B) Off Campus

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Farmers / Farm Women										
I Crop Production	**11**	**--**	**--**	**--**	**239**	**77**	**316**	**239**	**77**	**316**
Weed Management	02	--	--	--	47	06	53	47	06	53
Water management	01	--	--	--	25	07	32	25	07	32
Nursery management	01	--	--	--	22	--	22	22	--	22
Integrated Crop Mgt.	07	--	--	--	145	64	209	145	64	209
II Horticulture	**05**	**--**	**--**	**--**	**143**	**09**	**152**	**143**	**09**	**152**
a) Vegetable Crops										
Production of low volume and high value crops	02	--	--	--	83	--	83	83	--	83
b) Fruits										
Cultivation of Fruit	02	--	--	--	39	--	39	39	--	39
c) Tuber crops										
Production and Management technology	01	--	--	--	21	09	30	21	09	30
III Soil Health and Fertility Management	**09**	**--**	**--**	**--**	**179**	**19**	**198**	**179**	**19**	**198**
Integrated Nutrient Management	04	--	--	--	67	13	80	67	13	80
Production and use of organic inputs	02	--	--	--	49	--	49	49	--	49
Soil and Water Testing	03	--	--	--	63	06	69	63	06	69
IV Livestock Production and Management	**08**	**--**	**--**	**--**	**77**	**167**	**244**	**77**	**167**	**244**
Dairy Management	04	--	--	--	53	73	126	53	73	126
Feed management	04	--	--	--	24	94	118	24	94	118
V Home Science/Women empowerment	**02**	**--**	**--**	**--**	**76**	**34**	**110**	**76**	**34**	**110**
Nutritional gardening	01	--	--	--	76	14	90	76	14	90
Gender mainstreaming through SHGs	01	--	--	--	--	20	20	--	20	20

VI Agril. Engineering	**08**	**--**	**--**	**--**	**165**	**68**	**233**	**165**	**68**	**223**
Installation and maintenance of micro irrigation systems	05	--	--	--	107	58	165	107	58	165
Use of Plastics in farming practices	01	--	--	--	20	04	24	20	04	24
Repair and maintenance of farm machinery and implements	02	--	--	--	38	06	44	38	06	44
VII Plant Protection	**08**	**--**	**--**	**--**	**112**	**65**	**177**	**112**	**65**	**177**
Integrated Pest Management	04	--	--	--	79	10	89	79	10	89
Integrated Disease Management	03	--	--	--	33	30	63	33	30	63
Bio-control of pests and diseases	01	--	--	--	--	25	25	--	25	25
X Capacity Building and Group Dynamics	**03**	**--**	**--**	**--**	**88**	**10**	**98**	**88**	**10**	**98**
Leadership development	01	--	--	--	15	10	25	15	10	25
Formation and Management of SHGs	02	--	--	--	73	--	73	73	--	73
Total	**54**	--	--	--	**1079**	**449**	**1528**	**1079**	**449**	**1528**
Rural Youth										
Rural Crafts	04	--	--	--	--	111	111	--	111	111
Total	**04**	--	--	--	**--**	**111**	**111**	**--**	**111**	**111**
Extension Personnel										
Nutritional gardening	01	08	06	14	10	09	19	18	15	33
Livestock feed and fodder production	02	--	--	--	61	--	61	61	--	61
Management in farm animals	02	--	--	--	30	56	86	30	56	86
Ecofriendly pest management	01	12	09	21	10	10	20	22	19	41
Total	**06**	**20**	**15**	**35**	**111**	**75**	**186**	**131**	**90**	**221**
Grand Total	**64**	**20**	**15**	**35**	**1190**	**635**	**1825**	**1210**	**650**	**1860**

C) Consolidated Table (On + Off campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Farmers / Farm Women										
I Crop Production	**29**	--	--	--	**683**	**347**	**1030**	**683**	**347**	**1030**
Weed Management	04	--	--	--	96	13	109	96	13	109
Water management	02	--	--	--	56	07	63	56	07	63
Nursery management	03	--	--	--	68	--	68	68	--	68
Integrated Crop Management	18	--	--	--	439	278	717	439	278	717
Production of organic inputs	02	--	--	--	24	49	73	24	49	73
II Horticulture	**22**	--	--	--	**547**	**206**	**753**	**547**	**206**	**753**
a) Vegetable Crops										
Production of low volume and high value crops	08	--	--	--	214	53	267	214	53	267
Nursery raising	02	--	--	--	59	--	59	59	--	59
Protective cultivation (Green Houses, Shade Net etc.)	01	--	--	--	18	10	28	18	10	28
b) Fruits										
Cultivation of Fruit	06	--	--	--	136	49	185	136	49	185
c) Tuber crops										
Production and Management technology	05	--	--	--	120	94	214	120	94	214
III Soil Health and Fertility Management	**19**	--	--	--	**439**	**80**	**519**	**439**	**80**	**519**
Integrated Nutrient Management	10	--	--	--	203	21	224	203	21	224
Production and use of organic inputs	04	--	--	--	100	39	139	100	39	139
Soil and Water Testing	05	--	--	--	136	20	156	136	20	156

IV Livestock Production and Management	**23**	--	--	--	**360**	**937**	**1297**	**360**	**937**	**1297**
Dairy Management	12	--	--	--	221	563	784	221	563	784
Disease Management	02	--	--	--	09	74	83	09	74	83
Feed management	09	--	--	--	130	300	430	130	300	430
V Home Science/Women empowerment	**10**	--	--	--	**78**	**304**	**382**	**78**	**304**	**382**
Nutritional gardening	05	--	--	--	77	163	240	77	163	240
Gender mainstreaming through SHGs	04	--	--	--	--	100	100	--	100	100
Value addition	01	--	--	--	01	41	42	01	41	42
VI Agril. Engineering	**16**	--	--	--	**371**	**176**	**547**	**371**	**176**	**547**
Installation and maintenance of micro irrigation systems	10	--	--	--	238	139	377	238	139	377
Use of Plastics in farming practices	02	--	--	--	44	30	74	44	30	74
Repair and maintenance of farm machinery and implements	04	--	--	--	89	07	96	89	07	96
VII Plant Protection	**16**	--	--	--	**247**	**253**	**500**	**247**	**253**	**500**
Integrated Pest Management	08	--	--	--	148	139	287	148	139	287
Integrated Disease Management	05	--	--	--	61	42	103	61	42	103
Bio-control of pests and diseases	03	--	--	--	38	72	110	38	72	110
X Capacity Building and Group Dynamics	**11**	--	--	--	**206**	**202**	**408**	**206**	**202**	**408**
Leadership development	04	--	--	--	38	115	153	38	115	153
Formation and Management of SHGs	05	--	--	--	136	36	172	136	36	172
Entrepreneurial deve. of farmers/youths	02	--	--	--	32	51	83	32	51	83
Total	**146**	--	--	--	**2931**	**2505**	**5436**	**2931**	**2505**	**5436**
Rural Youth										
Tractor Driving and maintenance	01	--	--	--	25	--	25	25	--	25

Diesel Engine Repairing and maintenance	01				22	--	22	22	--	22
Tailoring and stitching	01				--	20	20	--	20	20
Rural Crafts	05	--	--	--	--	136	136	--	136	136
Total	**08**	--	--	--	**47**	**156**	**203**	**47**	**156**	**203**
Extension Personnel										
Productivity enhancement in field crops	01	06	--	06	15	--	15	21	--	21
Integrated nutrient management	01	15	02	17	30	--	30	45	02	47
Nutritional gardening	02	08	06	14	10	66	76	18	72	90
Group Dynamics and farmers organization	02	06	--	06	20	14	34	26	14	40
Ecofriendly pest management	01	12	09	21	10	10	20	22	19	41
Management in farm animals	02	--	--	--	30	56	86	30	56	86
Livestock feed and fodder production	04	--	--	--	124	30	154	124	30	154
Total	**13**	**47**	**17**	**64**	**239**	**176**	**415**	**286**	**193**	**479**
Grand Total	**167**	**47**	**17**	**64**	**3217**	**2837**	**6054**	**3264**	**2854**	**6118**

(D) Vocational training programmes for Rural Youth

Crop / Enterprise	Date	Training title	Identified Thrust Area	Duration (days)	No. of Participants			Self employed after training			Number of persons employed else where
					M	F	T	Type of units	Number of units	Persons employed	
Vocational Training	01/06/14 to 31/08/14	Sewing work	Employment generation through skill oriented vocational trainings	90	--	20	20	--	03	03	01
	22/09/14 to 18/10/14	Tractor Driving and maintenance		30	25	--	25	--	02	--	20
	25/09/14 to 24/11/14	Preparation of articles from Bamboo.		60	--	25	25	--	03	03	01
	06/10/14 to 19/11/14	Preparation of Articles from okra fibre.		45	--	30	30	--	--	--	--
	17/11/14 to 24/11/14	Diesel Engine Repairing & maintenance		08	22	--	22	--	05	--	--
	06/11/14 to 05/12/14	Preparation of Articles from coconut fibre.		30	--	29	29	--	01	03	--
	17/11/14 to 16/12/14	Preparation of pottery items		30	--	25	25	--	04	--	--
	19/02/15 to 23/02/15	Preparation of Articles from okra fibre.		05	--	27	27	--	--	--	--

(E) Sponsored Training Programmes :

Sr. No	Date	Discipline	Thematic area	Duration day	Client PF/RY/EF	No. of course	No.of Participants									Sponsoring agency	Amt of funds received (Rs)
							Others			SC/ST			Grant total				
							M	F	T	M	F	Total	Male	Female	Total		45000
2	26-8-14 to 48-8-13	Horti.	Off-season vegetables	03	PF	1	--	--	--	00	48	48	00	48	48	ATMA Tapi district	

3.4 Extension Activities (including activities of FLD programmes)

Nature of Extension Programme	Purpose/ topic and Date	No. of Programme	No. of Participants (General)			No. of Participants SC/ST			No. of Extension personnel			Grand Total		
			M	F	T	M	F	T	M	F	T	M	F	T
Field Day	Fodder 22/05/14, 17/03/15	02	--	--	--	69	168	237	3	1	4	72	169	241
	Greengram 22/05/14	01	--	--	--	36	19	55	--	--	--	36	19	55
	Chilly 28/05/14	01	--	--	--	42	08	50	--	--	--	42	08	50
	Paddy 28/01/14 10/10/14	02	--	--	--	214	38	252	--	--	--	214	38	252
	Sugarcane 30/08/14	01	--	--	--	77	03	80	--	--	--	77	03	80
	Bittergourd 28/08/14	01	--	--	--	112	03	115	--	--	--	112	03	115
	Fingermillet 23/09/14, 10/11/14	02	--	--	--	166	44	210	2	1	3	168	45	213
	Indian bean	01	--	--	--	37	25	62	--	--	--	37	25	62
	Chickpea 12/3/15	01	--	--	--	46	79	125	--	--	--	46	79	125
		12	**0**	**0**	**0**	**799**	**387**	**1186**	**5**	**2**	**7**	**804**	**389**	**1193**
Kisan Ghosthi	--	22	44	14	58	280	267	547	0	0	0	324	281	605
Exhibition	27-28/02/15 & 01/03/15	1	150	50	200	1050	350	1400	22	10	32	1222	410	1632
Krishi Mela	03-04/02/15	1	218	26	244	1401	780	2181	25	5	30	1644	811	2455

Film Show	--	23	32	20	52	402	257	659	0	0	0	434	277	711
Method Demonstrations	--	9	0	0	0	132	29	161	4	2	6	136	31	167
Farmers Seminar	Synchronization 30/05/14	01	--	--	--	35	35	70				35	35	70
	Tuber crops 25/06/14	01	--	--	--	124	31	155	--	--	--	124	31	155
	Fingermillet 03/09/14	01	--	--	--	115	28	143	--	--	--	115	28	143
	Paddy 25/09/14,30/09/14	02	--	--	--	219	81	300	--	--	--	219	81	300
	LBF 29/09/14	01	--	--	--	170	32	202	02	01	03	173	33	205
	Sustainable farming 08/10/14	01	--	--	--	72	36	108	--	--	--	72	36	108
	Vegetables 24/11/14	01	--	--	--	111	139	250	--	--	--	111	139	250
	Sugarcane 09/12/14	01	10	--	10	73	22	95	--	--	--	83	22	105
	PPV & FRA 10/12/14	01	30	--	30	63	07	70	03	01	04	96	08	104
	Animal nutrition 15/12/14	01	--	--	--	--	136	136	--	--	--	--	136	136
	IPM (Vegetables)	01	--	--	--	81	04	85	--	--	--	81	04	85
		12	**40**	**0**	**40**	**1063**	**551**	**1614**	**5**	**2**	**7**	**1108**	**553**	**1661**
Group field visits/ meetings		44	0	0	0	323	240	563	0	0	0	323	240	563

Lectures delivered as resource persons		30	296	36	332	1202	1364	2566	25	8	33	1523	1408	2931
Newspaper Coverage		14	--	--	--	--	--	--	--	--	--	--	--	--
Radio talks		6	--	--	--	--	--	--	--	--	--	--	--	--
TV Talks		0	--	--	--	--	--	--	--	--	--	--	--	--
Popular articles		8	--	--	--	--	--	--	--	--	--	--	--	--
Extension literature		13	--	--	--	--	--	--	--	--	--	--	--	--
Advisory Services		471	--	--	0	302	169	471	0	0	0	302	169	471
Scientific visit to farmers field		151	--	--	0	154	84	238	5	0	5	159	84	243
Farmers visit to KVK		1036	--	--	0	756	280	1036	10	4	14	766	284	1050
Diagnostic visits		48	--	--	0	461	156	617	8	0	8	469	156	625
Exposure visits		4	0	0	0	57	6	63	0	0	0	57	6	63
Cattle treatment Camp		10	0	0	0	97	230	327	18	0	18	115	230	345
Agri mobile clients		250	45	5	50	165	35	200	0	0	0	210	40	250
Celebration of important days		6	52	18	70	384	202	586	8	4	12	444	224	668
Total		**2171**	**877**	**169**	**1046**	**9028**	**5387**	**14415**	**135**	**37**	**172**	**10040**	**5593**	**15633**

Technology Week Celebration

Period of Technology Week	Types of Activities	No. of Activities	Number of beneficiaries	Related Crop/ livestock / Technolgoy
03/02/15 to 07/02/15	Gosthies	14	579	Paddy, Sugarcane, Vegetables, Vermicompost, Gobargas, Greenfodder, Mulching, Drip irrigation, Biofertilizers etc.
	Lectures organised	14	579	Sugarcane and paddy production technologies. Soil Health management, Fruit & Vegetable cultivation , Dairy animal feed & fodder management, Soil and water conservation.
	Exhibition	0	0	--
	Film show	0	0	--
	Fair	01	2425	Farm Machinary, Biopesticides, Fertilizers company, SHGs prducts, Plantation companies, Pesticides companies ermicompost, Gobargas, Mulching, Drip irrigation, Biofertilizers etc.
	Farm Visit	08	450	Various demo.units.
	Diagnostic Practicals	18	682	Pest-disease problems.
	Distribution of Literature (No.)	25	2055	Technical information on different technology.

Kisan Moblie Advisory

No. of Farmers registered - 5389

Details of SMSs:

Content Category	No. of Messages	No. of Farmers
Crop Production	14	25108
Crop Protection	15	56987
Livestock & Fisheries Advisory	15	39430
Weather Advisory	5	11433
Market Information	4	4670
Events Information	17	19589
Input availability	10	4668
Total	80	161885

INTERVENTIONS ON DROUGHT MITIGATION : Nil

3.5 Production and supply of Technological products

SEED MATERIALS

Major group/class	Crop	Variety	Quantity (qtl.)	Value (Rs.)	Provided to No. of Farmers
CEREALS	Paddy	GAR-13 Jaya	60.00 38.00	150,000.00 95,000.00	303
OILSEEDS	-	-	-	-	-
PULSES	Green gram	Meha	1.00	14,000.00	20
	Pigeonpes	Vaishali	0.50	5,000.00	--
OTHER (Specify)	--	--	--	--	--

SUMMARY

Sl. No.	Major group/class	Quantity (qtl.)	Value (Rs.)	Provided to No. of Farmers
1	CEREALS	98.00	245000.00	303
2	OILSEEDS	-	-	-
3	PULSES	1.50	19,000.00	20
4	VEGETABLES	--	--	--
5	OTHER (Specify)	--	--	--

PLANTING MATERIALS

Major group/class	Crop	Variety	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
FRUIT	-	-	-	-	-
VEGETABLE (Seedlings)	Brinjal	DPR	5,80,000	2,32,000	715
	Tomato	Hybrid	13,0,000	1,30,000	
	Chilli	Hybrid	25,000	25,000	
	Cabbage	Hybrid	15,000	7,500	
	Cauliflower	Hybrid	7,000	3,500	
PLANTATION CROP	Sugarcane	Co.N-7072	344.5 qt.	1,03,365	25
OTHER (Specify)	Fodder tousseks	Co-4	2,41,000 (tousseks)	50,000	1828
	Sweetpotato	CO-3-4	66000 cuttings	18500	08

SUMMARY

Sl. No.	Major group/class	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
1	FRUIT	--	--	--
2	VEGETABLE	7,87,000	3,98,000	715
3	PLANTATION CROP	344.5 (qtl)	1,03,365	25
4	OTHER (Specify)	2,41,000 (tousseks)	50,000	1828
		66000 cuttings	18500	08
	TOTAL	--	**569865**	**2576**

Production of bio- products

Major group/class	Product Name	Species	Quantity		Value (Rs.)	Provided to No. of Farmers
			No	(kg)		
Vermiculture	Earthworms	Udrilus Eugiene	--	154	30800	54
Compost	Vermicompost	--	--	15000	45000	115
Bioagents	Fruitfly trap	Methyle eugenol trap	1973	--	53050	146
Bioagents	Fruitfly trap	Q lure trap	175	--	10525	73

SUMMARY

Sl. No.	Product Name	Species	Quantity		Value (Rs.)	Provided to No. of Farmers
			Nos	(kg)		
1	Earthworms	Udrilus Eugiene	--	154	30800	54
2	Vermicompost	--	--	15000	45000	115
3	Fruitfly trap	Methyle eugenol trap	1973	--	53050	146
4	Fruitfly trap	Q lure trap	175	--	10525	73
	Total		2148	15154	139375	388

Production of live stock

Sl. No.	Type	Breed	Quantity		Value (Rs.)	Provided to No. of Farmers
			Nos	Kgs		
1	Cattle	H F cow	02	-	85000	02

SUMMARY

Sl. No.	Type	Breed	Quantity		Value (Rs.)	Provided to No. of Farmers
			Nos	Kgs		
1	Cattle	H F cow	02	-	85000	02

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

(A) KVK News Letter :

Date of start : 2012-13

Periodicity : Half yearly (Jan-June and July-Dec-2014)

Number of copies distributed : 400

(B) Literature developed / published

Item	Title	Authors name	Number of copies
Research papers	1. Perspective of Frontline Extension Delivery system for Economic Emancipation of Sugacane farming in Tribal area of South eastern Gujarat.	R.F.Thakor ,R.S.Dohare and Rajesh kumar	--
	2. Intercropping Options in Autumn Planted banana.	M.M.Gajjar and R.G. Patil	--
	3. Socio economic Impact of Rural Entrepreneurship training to women SHG.	P.R.Ahir	--
	4. Opinion Regarding Services of Cooperative Societies by Sapota Growers of Navsari district of Gujarat	B.M.Mehta and R.F.Thakor	--
	5. Participatory Extension Approaches for Technology Dissemination and Development.	R.F.Thakor	--

Technical reports	1. Annual Progress Report of KVK	Programme Coordinator	--
	2. Annual Action Plan of KVK	Programme Coordinator	--
	3. Zonal Research Extension and Action Committee (ZREAC) report	Programme Coordinator	--
	4. PPV &,FRA report	Programme Coordinator	--
	5. Technology week celebration report	Programme Coordinator	--
	6 NICRA annual progress report	Programme Coordinator	--
Popular articles	1. Magnetic Treatment of water.	L.T.Kapur; R.F.Thakor, A.R.Patel; M.M.Gajjar	--
	2. Azolla –in Paddy –A success story	L.T.Kapur; M.M.Gajjar; K.A.Patel; A.R.Patel; R.F.Thakor	--
	3. SRI Tecnique of Paddy cultivation	M.M.Gajjar; L.T.Kapur; K.A.Patel; A.R.Patel; R.F.Thakor	--
	4. Application of Liquid Biofertilisers in Rice-OFT trial.	L.T.Kapur and R.F.Thakor	--
	5. Aerial microtube irrigation in mango Nursery	A.R.Patel; P.J.Joshi; L.T.Kapur; R.F.Thakor	--
	6. Gangama Circle	P.R.Ahir	--
Leaflet / folders	1. Krushi Vigyan Kendra- Parichay	- K.A.Patel & A.R.Patel	1000
	2. Bahu Varshayu Ghascharo	- B.M.Patel	3000

	3. Pashune piva mite 24 hours water system	- B.M.Patel	2000
	4. Scientific cultivation of Sugarcane	- S.U.Zala & L.T.Kapur	1000
	5. Vermicompost	- K.A.Patel, S.U.Zala & A.R.Patel	1000
	6. Paryavarniy suraxit Pravahi Jaivik Khataro	- L.T.Kapur & K.A.Patel	500
	7. Brinjal ni adhunik Kheti	- B.B.Patel, K.A.Patel & M.M.Gajjar	1000
	8. Scientific cultivation of Drumstick	. A.R.Patel & K.A.Patel	1000
	9. Scientific cultivation of Banana	- B.B.Patel & K.A.Patel	1000
Book/ Booklet	1. Protection of Plant Varieties and Farmers Right Act-2001	- R.F.Thakor	250
	2. Impact of Technology Demonstrations for Climate Resiliant Agriculture	- R.F.Thakor & others	500
Grand TOTAL	**11**		**12500**

C) Details of Electronic Media Produced : Nil.

3.7 Success stories/Case studies, if any (two or three pages write-up on each case with suitable action photographs)

Vermicompost

Rajesh D patel, 35 years, resident of Dungri village of Valsad block of valsad district is having 2.5 ha. of land in which he used to grow Paddy ,vegetables and orchard etc. Most of land is irrigated. His family members are engaged in farming operations .The productivity of the farm was very low. Once he attended the farmers shibir on Organic farming organized by kvk. After completion of programme , he interact with the SMS of kvk on different issues related to how to improve productivity of his farm. He admit that his soils are poorly fertile and thus applying higher doses of chemical fertilizers .This not only increase the cost of cultivation but also deteriorate the soils. He was in touch with kvk. However situation started changing when he enrolled his name for three days long on campus training programme on vermicompost preparation in 2008-09. After completion of the training programme ,he started small unit of vermicompost preparation on his farm under the guidance of kvk scientists. Initial success of unit inspired him to expand production unit. Today he is having 0.60 ha land under the unit producing 7500 quintals of vermicompost per annum. He is the leading vermicompost producers of the district. He is earning Rs.25,00,000 /year from this business in addition to small part of income come from the different crops. He opined that because of continuous application of vermicompost, productivity of his farm also improved .He become the resource person for the other farmers. The entire produce is being used by farmers of the district to convert inorganic farming to organic one.

Year	Production (Quintals)	Gross income	Gross cost	Net profit per year	Sold to no of farmers	Price Rs/kg
2009-10	1500	3,60,000	2,16,000	1,44,000	58	2.40
2010-11	3000	8,40,000	5,40,000	3,00,000	86	2.80
2011-12	4000	12,00,000	7,20,000	4,80,000	92	3.00
2012-13	6000	19,20,000	11,52,000	7,68,000	109	3.20
2013-14	7500	25,50,000	15,30,000	10,20,000	121	3.40
Total	**22000**	**68,70,000**	**41,58,000**	**27,12,000**	**466**	

He sells vermocompost under the brand name ‘DHARATI AMRUT’ vermicompost. He procured FYM from other milk producers settled in his adjoining villages who are migrated from other parts of the state.As own produce vermicompost he use it in abundent quantity in hi farm for production of Chilli, Mango, Brinjal and in nursery for production of mango grafts and hybrid vegetable seedlings in plastic trays.

As become a successful vermicompost enterpreneurer of the district .He perfom a role guest lecturer in many govt. and non govt. Organised vermicompost production seminars.

Vermicompost production Enterpreteurership

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

3.9 Give details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development : NIL

3.10 Indicate the specific training need analysis tools/methodology followed for

- Identification of courses for farmers/farm women - Group discussion , Participatory Rural Appraisal, Diagnostic services,
- Rural Youth - Participatory Rural Appraisal , Group discussion
- Inservice personnel - Feed back from state departments as well as NGOs

3.11 Field activities

I. No of villages adopted 04

ii. No of farm families selected 00

iii. No. of Survey /PRA conducted 02

3.12. Activities of Soil and Water Testing Laboratory and Plant Health Clinic

A) <u>Soil water testing Laboratoty.</u>

Year of Establishment : 2007

Sr. No.	**Details of Samples**	**Particulars**			
		No. of Samples analyzed	**No. of farmers benefited**	**No. of Villages**	**Amount realized (Rs.)**
1	Soil samples	252	171	169	15120
2	Water samples	246	68	43	12300
	Total	**498**	**239**	**212**	**27420**

B) <u>Plant Health Clinic</u>

Year of Establishment : 2012

Sr. No.	**Details of Samples**	**Particulars**			
		No. of Samples analyzed	**No. of farmers benefited**	**No. of Villages**	**Amount realized**
1	Plant diagnostic samples	102	125	51	--

4.0 IMPACT

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

Sr . No.	Name of specific technology/skill transferred	No . of participants	% Adoption	Change in income (Rs.)	
				Before training Rs / unit	After training Rs / unit
1	HYV s of Sugarcane	55	60	102,000 Rs. / ha.	115,000 Rs. / ha.
2	HYV s of Paddy	80	65	20,000 Rs. / ha.	22,500 Rs. / ha.
3	HYV s of Fingermillet	60	70	16,500 Rs. / ha.	20,500 Rs. / ha.
4	HYV s of Brinjal	55	75	86,500 Rs. / ha.	104,000 Rs. / ha.
5	HYV s of Green fodder	60	80	32,500 Rs. / ha.	41,000 Rs. / ha.
6	Q lure traps IPM in Vegetable crops (cucurbits)	50	72	39,000 Rs. / ha.	56,000 Rs. / ha.
7	Sewing work	30	80	--	3200 Rs. per month

4.2 Cases of large scale adoption

Empowering dairy farmers through green Fodder production round the year

Tribal farmers of hilly areas of valsad district are small and marginal. About 69 per cent agriculture is rainfed. Paddy is an important crop of the district. Unavailability of green fodder round the year is one of the major constraints. Concentrated mixture feed available in the market are costly and hence not affordable by the farmers. Majority of tribal cattle owners fed their cattle with Paddy straw which is low grade roughages. The physique of the cattle are very poor. Inter calving period are also very long i.e. 16-18 months. Average milk production cost is high Thus, the earning from dairy farming is very low. With this background kvk valsad introduced perennial multi cut fodder grass i.e. Co-3 and Co-4 varieties during 2009-10. The salient features of the Co-3 and Co-4 varieties are profuse tilling , non lodging, high crude protein content, broad green leaves, less water requirement, and less content of oxalate. Thus it has higher nutritive value.

KVK, Valsad motivate the farmers to go for multi cut perennial fodder grass during kharif so that it will gave green fodder throughout the year. Kendra made continuous efforts by organizing a series of extension activities includes on and off campus training, Front Line Demonstrations, Field days, Kisan gosthis ,Exposure tour etc .Kendra also supply planting materials of both the varieties free of cost to the participants of the programme.FLD was laying down on 9.68 ha of land covering 58 villages.

year	Area (ha) covered Under demo	No of villages Covered Under demo	Expansion of the area	
			Area (ha) covered with demo	Villages covered with demo
2009-10	0.48	7	0	0
2010-11	1.20	9	2.80	12
2011-12	2.0	11	4.77	16
2012-13	2.60	14	7.76	24
2013-14	3.40	17	10.80	28
Total	9.68	58	26.13	80

As a result of these efforts initially few farmers started growing fodder grass on small piece of land but after realizing the importance the area under the variety increase by two fols in subsequent years following Farmer- lead- farmer approach. Earlier farmers grow fodder on the border of farm, on the bunds of canal, area behind cow shed so cleaning and washing of cow and cow shed waste water and cow urine are efficiently reuse, During last five years kvk from its instructional farm supplied more than one lac s tussles planting materials of both the varieties to the farmers . It is observed that about 1022 farmers of 138 villages of the district occupy an estimated area of 37 ha. under both the varieties in the district. Now they are growing in systematic manner in small plots. Both the varieties gave an average yield of 180 t/ha/year. This alternative has not only reduce the cost of milk production by 8-10 per cent but also increase the milk production from 3.5 lit to 5 lit/day/animal. Feeding cattle

with balanced diet with proper combination of dry and green fodder has good impact on animal physique also which in turn reduced inter calving period from 16 to 18 months to 14-16 months. A small interventions from kvk scientist has created remarkable changes in the field of dairy enterprise.

Taking planting material after tranning

Fodder tussle Planting at farmer field

Co-4 variety plot on farmers field

Field day on Demo plot on Co-3 and Co-4 variety

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

1. Impact of Frontline Extension Delivery System for Sugarcane farming in Tribal Area of South Gujarat.

The study was conducted in Valsad district of Gujarat state to know the relative advantage of two Sugarcane varieties viz. CoN-05071 and CoN-05072 recently released for the region. These two varieties were assessed through frontline demonstrations on 55 farmers field. The weighted average cane yield of CoN-05071 was 108.25 t/ha. which was found to be 32.41 percent higher with Benefit Cost Ratio (BCR) of 1:4.77 as compared to its counterpart local checks cane yield of 81.75 t/ha. with (BCR) of 1:2.61. in variety CoN-5072 the weighted average cane yield was obtained 97.13 t/ha. which was found to be 82.83 percent higher with Benefit Cost Ratio (BCR) of 1:3.79 as compared to its counterpart local checks cane yield of 82.83 t/ha. with (BCR) of 1:2.24. Thus by adoptinghigh yielding varieties (CoN-05071 and CoN-05072) the tribal farmers of Valsad district are deriving benefit of higher production and income from sugarcane cultivation.

5.0 LINKAGES

5.1 Functional linkages with different organization

Sr. No.	Name of organization	Nature of linkage
1	ATMA	Joint implementation of FFS , training and organizing farmers shibir.
2	Dept. of Agril. Valsad.	Involvement of kvk experts for delivering lecture farmers seminars, Agriculture Fair. And Extension Functionaries trainings.
3	Dept. of Horticulture, Valsad	Involvement for lectures delivering in Technology week.
4	Dept. of Animal husbandry, Valsad	Joint implementation of organizing Cattle Treatment Camp & farmers shibir
5	Dept. of Forest, Valsad	Joint implementation of organizing Ext. Functionaries training.
6	Navsari. Agril. Uni. Navsari	Provides expertise for latest technology and supply of improved seeds of Paddy, Sugarcane, Indian bean and Sweet potato.
7	Vasudhara dairy	Joint implementation of Farmers, Farm women & Ext. Functionaries training. .
8	Rural Technology Institute , Pardi	Joint implementation of Vocational trainings.
9	J. N. Trust, Pardi	Joint implementation of farmers trainings & seminars.
10	Jain Irrigation Co , Dharampur	Soil and water sample analysis.
11	Disrtict Industrial Centre,Valsad	Approval of loan case of trainees for bank loan.
12	Jan Shikshan Sansthan Ministry of HRD .	Joint implementation of long term vocational trainings.

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

Sr. No.	Name of agency/ scheme	Details of activity	Date/ Month	No. of Participants	Amt. received (Rs.)
1	ATMA – Tapi	Training (01)	26-08-14 to 28-08-14	48	45000
2	PPV &FRA	Awareness Shibir (01)	10-12-14	100	80,000
	TOTAL				**1,25,000**

5. 3. Details of linkage with ATMA

a) Is ATMA implemented in your district -- Yes

Sr. No.	Programme	Nature of linkage	Remarks
1	On campus training	Technical expertise , method demonstration .	
2	Interface meeting	Technical expertise by KVK staff	
3	Joint visit of ATMA villages	Diagnostic visit on farmers field	
4	Kisan gosthi	Technical lectures by KVK staff	
5	Lecture delivered	Technical expertise by KVK staff	

5.4 Give details of programmes implemented under National Horticultural Mission : NIL

5.5 Nature of linkage with National Fisheries Development Board : NIL

6. PERFORMANCE OF INFRASTRUCTURE IN KVK

6.1 Performance of demonstration units (other than instructional farm)

Sr. No	Demonstration Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Quantity	Cost of Input	Gross Income	
1	Vermi compost	2004-05	0.04	*Eudrilus eugeniae*	Verms compost	154 kgs 15000 kgs	10,000	30800 45000	
2	Perrenial grass	2012-13	0.40	Co - 4	Tousseks	2,41,000 nos	10,000	50,000	
3	Vegetable seedlings	2004	0.40	Brinjal, Tomato, Chilly, Cabbage Cauliflower	Seedlings	7,87,000	65,000	3,98,000	
4	Sugarcane	2012	0.30	Co.N-7072	Planting Material	344.50 qts	45,000	103365	
5	Sweetpotato	2013	0.10	CO-3-4	Cuttings	66000 nos.	2400	18500	

Performance of instructional farm (Crops) including seed production

Name of the crop	Date of Sowing	Date of harvest	Area Ha	Details of production			Amount (Rs)		Remark
				Variety	Type of produce	Quantity	Cost of inputs	Gross Income	
Cereals									
Paddy	Jun-14	Oct-14	2.00	GNR-3, Jaya	Seed	60.0 qtl 38.0 qtl	44,000	2,45,000	
Spices & Plantation crops									
Sugarcane	Nov-Dec -13	Nov-Dec - 14	0.30	CoN-07072	Planting material	344.50 qts	35,000	1,03,365	
Sugarcane	Nov-Dec -13	Nov-Dec - 14	2.00	CO-N-07072 CO-N-05071	Commercial	1550.0	50,000	3,10,000	
Veg. seedlings Brinjal, Chilly Tomato	June to February	July to March	0.40	Brinjal, Tomato Chilly, Cabbage, Cauliflower	Seedlings	7,87,000	65,000	3,98,000	

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

Major group/class	Product Name	Species	Quantity		Value (Rs.)	Provided to No. of Farmers
			No	Kg		
Vermiculture	Earthworms	Udrilus Eugiene	--	154	30800	54
Compost	Vermicompost	--	--	15000	45000	115
Bioagents	Fruitfly trap	Methyle eugenol trap	1973	--	53050	146
Bioagents	Fruitfly trap	Q lure trap	175	--	10525	73

6.4 Performance of instructional farm (livestock and fisheries production)

Performance of Dairy Unit : Dairy Unit started : 01/12/2007

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1	Cow	H F	Cow	02	24,000	85,000	

6.5 Rainwater Harvesting :

Training programmes conducted by using Rainwater Harvesting Demonstration Unit : Nil

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

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
April	--	--	--
May	57	57	--
June	509	509	--
July	254	254	--
August	48	144	--
September	473	531	--
October	312	341	--
November	514	664	--
December	331	412	--
January	33	33	--
February	128	128	--
March	204	204	--

7.0 FINANCIAL PERFORMANCE

7.1 Details of KVK Bank accounts

Bank account	Name of the bank	Location	Account Number
With Host Institute	State Bank of India, Dena bank	Ahmedabad Ahmedabad	10295506650 015110001547
With KVK	Dena bank	Motapondha	089810003112

7.2 Utilization of funds under FLD on Oilseed (Rs. In Lakhs) : Nil

7.3 Utilization of funds under FLD on Pulses (Rs. In Lakhs) : Nil

7.4 Utilization of funds under FLD on Cotton (Rs. In Lakhs) : Nil

7.5 Utilization of KVK funds during the year 2013-14 and 2014-15 (up to March, 2015) (current year and previous year)

Utilization of KVK funds during the year 2013 -14

Sr.No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	**Pay & Allowances**	92.50	92.50	**91.59**
2	**Traveling allowances**	1.00	1.00	0.988
3	**Contingencies**			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	7.20	24.00	6.64
B	POL, repair of vehicles, tractor and equipments			
C	Meals/refreshment for trainees	16.80		14.06
D	Training material			
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			
F	On farm testing			
G	Training of extension functionaries			
H	Maintenance of buildings			
I	Establishment of Soil, Plant & Water Testing Laboratory			
J	Library			
TOTAL (A)		**24.00**	**24.00**	**113.278**
B. Non-Recurring Contingencies				
1				
TOTAL (B)		**0.00**		
C. REVOLVING FUND				
GRAND TOTAL (A+B+C)		**117.50**	**117.50**	**113.278**

Utilization of KVK funds during the year 2014 -15

Sr. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	**Pay & Allowances**	120.00	120.00	114.00
2	**Traveling allowances**	0.50	0.50	1.64
3	**Contingencies**			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	8.50	8.50	6.60
B	POL, repair of vehicles, tractor and equipments			
C	Meals/refreshment for trainees	19.74	19.74	19.32
D	Training material			
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			
F	On farm testing			
G	Training of extension functionaries			
H	Maintenance of buildings			
I	Establishment of Soil, Plant & Water Testing Laboratory			
J	Library			
TOTAL (A)		**148.74**	**148.74**	**141.77**
B. Non-Recurring Contingencies				
1				
A				
2				
TOTAL (B)		**--**	**--**	**--**
C. REVOLVING FUND		**--**	**--**	**--**
GRAND TOTAL (A+B+C)		**148.74**	**148.74**	**141.77**

7. 6 Status of revolving fund (Rs. in lakhs) for the three years

Year	Opening balance as on 1st April	Income during the year	Expenditure during the year	Net balance in hand as on 1st April of each year
April 2011 to March 2012	27,93,672	20,94,747	11,91,708	36,96,711
April 2012 to March 2013	36,96,711	14,76,134	10,33,318	41,39,527
April 2013 to March 2014	41,39,527	29,75,696	11,26,161	59,89,062
April 2014 to March 2015	59,89,062	21,63,812	14,43,029	**67,09,845**

8.0 Please include information which has not been reflected above (write in detail).

8.1 Constraints

(a) Administrative : Nil

(a) Financial

Funds are not allocated under Front line demonstrations in oilseed and pulse crops since last three years.

Funds for the activity such as exposure tour, Farmers Seminar in remote villages.

(c) Technical : Nil

National Initiative On Climate Resilient Agriculture (NICRA)

Institutional arrangement

- Village Climate Risk Management Committee (CRMC) : to take up the overall activities of the project
- 5 sub Committees for managing all activities under CRMC (Animal care, NRM, Custom Hiring, Irrigation, forest, 27 groups of winnowing fan users)
- 402 farmers became a member of the NICRA project (membership collection of Rs. 40602 @101 Rs. Per member)

Custom Hiring Centre

- Custom Hiring centre were constructed by the committee from 100 percent member's contribution.
- Timely showing of paddy which was not possible in past years resulting in to timely harvesting of crops leads to facilitate timely showing of gram.
- Rs. 139006/- received as hiring charges of machinary used by the 164 farmers.
- Fasten the process of paddy cleaning by 27 nos. of winnowing fan (50 % Contribution from 27 group with 285 members)

Livestock Production

- Perennial Grass demonstration, Deworming and FMD vaccination

Inputs :

- Planting material of Perennial Grass, Tablets and vaccination
- About 0.25 ha. area covered under demonstration (67 farmers)
- 350 tablets for Deworming has been distributed
- FMD vaccination has been carried out for 360 animals in the village

Impact :

- Round the year production of green fodder
- The variety Co-1,Co-2,Co-4 demonstrated under NICRA
- Majority farmers has started to plant Perennial grass on boundary. More area came under green fodder, initially farmers were not prepared to allocate their land for fodder
- Income of milk per day is increased 350 lit to 500 lit per day in village dairy
- Deworming leads to improve health, Fertility and production
- Prevents major loss of outbreak of FMD viral Diseases in the village

Community Nursery – Managed by Shivam Group of Women

- Shed net house (200 sq.mtr)
- Seedling sale:137000 nos.
- Rs 39719 earned from vegetable seedling sell by group nursery

Bio gas slurry mgt. with bio mass for vermicompost

Inputs : 50 nos. HDPE vermi bed.

Impact :

- The gobar gas slurry has been mixed with bio mass usefull for vermi composting
- All the gobar gas (50 nos) units are linked with vermi compost preparation unit.
- The compost utilization will reduced the burden of chemical fertilisers
- Input cost of agri. Production has been reduced.
- Additional income genreded by the poor tribal families from these adjoining activities.

Technology Demonstration : Lodging resistant Variety

- The variety MTU-1010 is short duration, dwarf and resistant to lodging
- The harvesting of paddy was started by 2nd fortnight of October
- Demonstrated variety was found affected only 10 – 15 percent
- Withstand moderate wind velocity
- Prevents the losses to grain yield as well as straw which is main source of dry fodder
- Av. production of demo. plots was 4040 kg/ha

Technology Demonstration : Planting Technique in Bottle gourd

- Area Under Demonstration : 1.2 ha
- Nos of Farmers: 6
- Application of Bio fertilizer and Zinc

Intervention :

- Boundary with RCC pole
- plastic rope which is light in weight with good
- streching capacity provide longer life to the structure.
- Seedlings grown in nursery in poly bags transferred
- to the field at appropriate stage gave uniform growth
- and early production(Gap filling)
- INP and IPM

Major Out comes :

- Introduction of plastic rope.
- RCC pole provides extra strength to the bamboo
- structure thus, prevent from crop losses. Maximum
- rate of produce @ Rs. 13 per kg could received due
- to early and quality production
- Gross Return : Rs. 1,51,500/-per ha.

Technology Demonstration : Seedlings grown in nursery

- Poly bags transferred to the field
- Uniform growth
- Gap filling
- Early production
- INM (Liquid biofertiliser)
- Application of Zinc for improvement of soil

Technology Demonstration: Mulching in vegetable with Drip irrigation (Tomato)

- Area Under Demonstration : 0.2 ha
- Nos of Farmers: 2

Intervention :

- Plastic mulching sheet 25 micron
- Crop: Tomato
- Variety : Abhinav

Impact :

- Law infestations of weed
- Reduced evaporation
- Uniform vegetative growth
- Saving in irrigation

Technology Demonstration : Natural Resources Mgt.

Aforastration on Bunding /Trenching

- Plantaion of fruit and forest tress on Bunding /Trenching technology demonstrated
- Boarder plantation was carried ut with Drumstick, Mango, Grasses, Bamboo, Teakwood e
- About 4 ha. area covered under demonstration (87 farmers 25 % contribution)
- Impact :
- Farmers started growing vegetable crops as soon as they get water in the trench.
- The degraded land brought in to cultivation
- Plantation of Mango, Drumstick and cashew nut will be additional Source of income in a year to come.

Technology Demonstration: (Module: Natural Resource Management)

Micro Irrigation for efficient use of irrigation (PPP mode)

- About 24 ha. area covered under demonstration (24 farmers of three villages 25 % contribution)
- Convergence
- 8 % contribution from farmers, 75 % contribution from Gujarat Green revolution company and 17 % contribution from NICRA project.
- Impact :
- It has minimize the loss of water (Evaporation as well as conveyance loss)
- Control of weeds
- More no. of crops be possible from the available water.

Shelter for vegetable and fruits

Crops produce like Bottlegourd -25030 kg , Spongegourd- 4650 kg, Drumstick -750 kg, Cowpea -1600 kg and Bittergourd 2530 kg were collected from member farmers.

Annexures

District Profile - I

Include the details of

1. General Census:

Valsad falls in Agro-climatic zone-I (as per Gujarat agro-climatic zones). It is located at 20°.07’ to 21°.05’North latitude and 72° 43’ to 73° 00’ East longitude at an elevation of 12 metres above mean sea level. It is surrounded by Navsari district of Gujarat in North, Nasik and Thane districts of Maharashtra in East and South, respectively and Arabian sea in the west, whereas, Dangs district of Gujarat is located in North-east direction.

District and Taluka wise location

Sr. No.	Taluka	Latitude	Longitude
1.	**Valsad**	20° 45’ N	73° 00’ E
2.	**Dharampur**	20° 30’ N	73° 15’ E
3.	**Pardi**	20° 30’ N	73° 00’ E
4.	**Kaprada**	20° 30’ N	73° 15’ E
5.	**Umergaon**	20° 15’ N	72° 45’ E
	Valsad district	20° 37' N	72° 55' E

Geographical area (sq. km.) : 2947 sq.km.

(a) No. of blocks/talukas : 05

(b) No. of villages inhabitated : 469

(c) No. of villages electrified : 469

(d) No. of villages connected by all weather roads : 461

(e) No. of villages having supply of potable water : 280

Administrative Structure

Number of village panchayats and cities

Sr.No.	Taluka	Taluka Panchayat	Nagar Palika	No. of panchayat		
				Village Panchayat	Group Panchayat	Self panchayat
1	Valsad	Valsad	Valsad	94	5	89
2	Dharampur	Dharampur	Dharampur Baro	51	15	37
3	Pardi	Pardi	Vapi, Pardi Baro	78	3	73
4	Kaprada	Kaparada	--	70	19	50
5	Umbergaon	Umbergaon	Umbergaon	51	3	48
	Total			**344**	**45**	**297**

Source : District Statistical profile

Demographic profile of Valsad district

Geographical area	2,947 sq.km. (2,94,412 ha.)					
Forest area	87,648 ha. (29.77%)					
Net cultivable land	1,63,430 ha.					
Net irrigated land	35,363 ha. (21.64 %)					
Pasture land	2,461 ha.					
Soil types	Black	Medium Black	Alluvial	Sandy	Saline	Hilly/Laterite
Area (ha.)	20,489	36,148	19,357	2,292	1,10,421	95,590
Agro Ecological situation	II					
Average Rainfall	2,000-2,200 mm					
No. of blocks/talukas	6					
No. of Villages	450					

Population Density	561 person / sq.km				
Total Population	17,03,068	Male Population		Female population	SC/ST
		8,84,064		8,19,004	47.54%
Schedule caste Population	37,304	Male		Female	
		18,628		18,376	
Schedule tribe Population	7,72,405	Male		Female	
		3,86,395		3,86,010	
Literacy rate (%)	80.94	Male	Female	Schedule caste	Schedule tribe
		86.48	74.96	84.70	54.80
Sex Ratio	926 female/1,000 male				
No. of Farmers	95,996	Marginal Farmers (< 1 ha.)		Small Farmers (1-2 ha.)	Big Farmers (> 2 ha)
		53,632		20,274	22,090

Source- C-DAP-Valsad

2. Agricultural and allied census

Number of operational land holders

Sr No.	Taluka	Type of farmer	Number				Area (ha.)			
			SC	ST	Others	Total	SC	ST	Others	Total
1	Valsad	Marginal (< 1 ha.)	931	5351	13220	19502	282	2020	4354	6656
2	Dharampur/ Kaprada	Marginal (< 1 ha.)	50	8068	447	8565	29	4067	201	4297
3	Pardi	Marginal (< 1 ha.)	750	9464	6553	16767	255	4050	2438	6743
4	Umbergaon	Marginal (< 1 ha.)	707	4671	3420	8798	269	2339	1470	4078
Total			2428	27554	23640	53632	835	12476	8463	21774

1	Valsad	Small (1-2 ha.)	138	1598	3522	5258	191	2240	5035	7466
2	Dharampur/ Kaprada	Small (1-2 ha.)	27	6240	284	6551	40	9059	412	9511
3	Pardi	Small (1-2 ha.)	118	2900	2265	5283	165	4065	3316	7546
4	Umbergaon	Small (1-2 ha.)	111	1574	1497	3182	155	2222	2079	4456
Total			394	12312	7568	20274	551	17586	10842	28979
1	Valsad	Big (> 2 ha.)	110	1620	3921	5651	373	6309	14919	21601
2	Dharampur/ Kaprada	Big (> 2 ha.)	20	8357	560	8937	70	35642	2672	38384
3	Pardi	Big (> 2 ha.)	85	1953	2763	4801	350	6687	11408	18445
4	Umbergaon	Big (> 2 ha.)	63	605	2033	2701	271	1876	9365	11512
Total			278	12535	9277	22090	1064	50514	38364	89942
District Total			**3110**	**52401**	**40485**	**95996**	**2450**	**80576**	**57669**	**140695**

Land use pattern

Sr. No.	Name of the taluka	Total reported area (ha.)	Forest (ha.)	Cultivable waste (ha.)	Land put to non-agriciultural use (ha.)	Total cultivable land (ha.)	Pasture Land (ha.)	Current Fallow (ha.)	Net cultivated area (ha.)	Area sown more than once (ha.)
1	**Valsad**	54077	715	2290	5400	45672	681	28	44963	3700
2/3	**Dharampur/ Kaprada**	159629	90858	500	7650	60621	302	313	60006	1448
4	**Pardi**	45008	68	738	4080	40122	576	16	39530	6632
5	**Umbergaon**	35681	4318	1354	1821	28188	902	247	27039	811
	District Total	**294395**	**95959**	**4882**	**18951**	**174603**	**2461**	**604**	**171538**	**12591**

Soil classification

Sr. No.	Taluka	Area (ha.)					
		Black	**Medium Black**	**Alluvial**	**Sandy**	**Saline**	**Hilly/Laterite**
1	**Valsad**	6400	10000	15300	---	100092	--
2	**Dharampur**	6000	20000	2000	1600	---	34459
3	**Pardi**	3250	1757	657	---	9892	--
4	**Kaprada**	2714	1941	1100	657	---	21714
5	**Umbergaon**	2125	2450	300	35	437	39417
	Total	**20489**	**36148**	**19357**	**2292**	**110421**	**95590**

Source wise irrigated area

Sr. No.	Name of the taluka	Net irrigated area (ha.)	Net irrigated area v/s net cultivated area (%)	Source wise irrigated area (ha.)					Area irrigated more than once (ha.)	Net irrigated area (ha.)
				Govt. Canal (ha.)	Private/ Panchayat Canal/Electric motor (ha.)	Pond/ River (ha.)	Well	Other		
1	**Valsad**	19272	45.98	8117	8	1126	8004	2017	0	19272
2	**Dharampur**	2361	4.61	240	0	520	1596	5	0	2361
3	**Kaprada**	2061	3.51	200	0	450	1409	2	0	2061
4	**Pardi**	8090	21.8	2680	0	458	4075	877	0	8090
5	**Umbergaon**	3579	14.05	395	0	534	1991	659	0	3579
	Total	**35363**	**22.02**	**11632**	**8**	**3088**	**17075**	**3560**	**0**	**35363**

Irrigation status in Valsad

Geographically Valsad is situated in South Gujarat region. The geological formation in the district is hard rocks and alluvial formation. The ground water in this area is tapped. Rice and sugarcane covers major irrigated areas in Valsad district through dug wells, dug-cum-bore wells. The alluvial formation has been formed in central and northern parts of the district. The quality of ground water is suitable for irrigation throughout the district except the coastal belt, i.e. Umbergaon and Valsad where it is saline at some places. There are six perennial rivers in the district viz; Auranga, Wanki, Damanganga, Kolak, Tan and man. The district gets heavy rainfall ranging from 1905 to 2858 mm (av 3131 mm). Apart from rainfed areas, the other sources of irrigation are surface and ground water. All the blocks (talukas) in the district have been categorized as “safe”, with exploitation of utilizable ground water being less than 65 per cent. Since the maximum sustainable level of ground water development is 90 per cent, there is much scope foe development. As for the information available, the number of irrigation wells in the district is 4782 with electric motors 5085, oil engines 4262 and submersible pumps 610. Regarding surface water, there are 2 irrigation projects which cover the district under their command areas viz; Damanganga Project (Madhuban dam) 18486 ha. and Ukai- Kakrapar Project 51138 ha.. The talukas covered under these irrigation projects are Valsad, Pardi, Umbergaon and Kaprada. The total potential for irrigation from

surface water by canals, branch canals, distributaries, minors and sub-minors are 1084 Kms. (Damanganga Project) and 2820 Kms (Ukai-Kakrapar Project). The irrigation by surface water in the district is mainly based on 4 canals of Ukai, Kakrapar and Damanganga irrigation projects.

The actual net irrigation area in the district from all sources is 35554 ha. Irrigation type wise : Dug wells (17075 ha.), canals (11632 ha.), Irrigation ponds (3088 ha.), others (3560 ha.) and Tube well/Bore wells (2992 ha.).

3. Agro-climatic zones of Gujarat and Valsad district

Climate, topography, soil characteristics and the cropping pattern are the basic factors determining the delineation of agro-climatic zones. Gujarat as a whole falls in agro-climatic **Zone no. 13 - Gujarat Plains and Hills.** Taking into consideration, the rainfall pattern, topography, soil characteristics, the climate in general and the cropping pattern, eight agro-climatic zones have been identified for Gujarat. The following eight zones have been identified by the ICAR Research review Committee in its report of December, 1979.

Zone-I	**South Gujarat – Heavy Rainfall**
Zone-II	**South Gujarat**
Zone-III	**Middle Gujarat**
Zone-IV	**North Gujarat (Dry Zone)**
Zone-V	**North-West Gujarat (Arid Zone)**
Zone-VI	**North Saurashtra**
Zone VII	**South Saurashtra**
Zone VIII	**The Bhal region**

Valsad district as a whole falls in South Gujarat-heavy rainfall zone-I because of very heavy rainfall region (1800 to 3000 mm) and grows crops like paddy and orchard crops. Part of the heavy rainfall region is hilly in nature and wild tuber crops are the principal crops of this hilly area.

4. Agro-ecological situations

	Situations	
	I	**II**
Physiography	Highly undulating Steep slopes more than 150 m above MSL	Slightly undulating to leveled, 25, 75 and at some places up to 150 m MSL
Soil type	Fine textured shallow to medium depth, slightly acidic	Fine textured, deep alkaline
Rainfall (mm)	High to very high (1750 to 2000 mm)	High to very high (1750 – 2000 and more)
Irrigated/rainfed	Rainfed (90 %)	Partly irrigated (23 %),
Predominant source of irrigation	--	Well (77 %)
Main crops	Paddy hill millets and pulses	Paddy- Pulses-Orchards
Per cent area over to the zone	58	14
Talukas covered	Dharampur, Kaprada	Pardi, Umargam and Valsad

Agro ecologival situation of Valsad district

Valsad district as a whole falls in South Gujarat Heavy Rainfall Zone-I which consists of two distinct agro-ecological situations viz; I and II. AES-I comprises of Dharampur and Kaprada talukas, while AES-II comprises of Valsad, Pardi and Umbergam talukas of Valsad district. Valsad component of South Gujarat Heavy Rainfall Zone-I consists of two situations i.e. Situation I and II. Situation – I consists of Dharampur and Kaprada talukas, whereas situation-II is spread over Valsad, Pardi and Umbergaon talukas. The general features of these agroe-cological situations are as under.

AES-I : Sub-mountain undulating rainfed, medium black to black, hilly laterite soils

This situation comprises of Dharampur and Kaprada talukas (Blocks) of Valsad district. The major part of this AES is of sub mountainous, undulating topography. Geographically, it adjoins with Nasik district of Maharashtra in the East. Soil type varies from medium black to black to hilly / laterite. Total number of villages in this situation are 237 (107 in Dharampur and 130 in Kaprada talukas) comprising an area of 1650 sq. km. out of which 35.21 per cent area is cultivated. More than ninety per cent (94.68 %) forest and more than 51 per cent (51.82

%) fallow land of Valsad district falls in these two talukas of Valsad district. This region is mainly represented by more than 90 per cent tribal land holders who are mainly marginal (< 1 ha. land) and small (1-2 ha. land) farmers.

Considerable area in this AES is rainfed with limited sources of irrigation (well and check dam built on perennial rivers). Average rainfall in this region varies from 3927 to 4008 mm spread over more than three months (June second week October first week). Net irrigated v/s net cultivated area in this AES is 13.21 per cent. Major food crops of this region are Paddy (mostly rainfed) and Ragi (Finger millet). Pulses occupy major area in kharif season. Major oilseed crop of this region is Niger, whereas amongst fruit crops, mango and cashew has a sizeable area. More than 90 per cent cashew area of Valsad district falls in this AES. All the cashew processing industries of Valsad district and Gujarat state fall in this AES. Banana plantations raised from tissue culture plants are coming in a big way in this AES. This area is also famous for important vegetable crops viz; okra, Brinjal and cucurbits. Water melon is grown along river side plots.

More than 40 per cent livestock and 25 per cent poultry population of Valsad district falls in this AES. About 30 per cent milk co-operative societies of Valsad district which are primarily run by women fall in this AES. Local cows and buffaloes are reared as milch animals. Sheep, goats, poultry and pigs are also reared. Percentage of farmers having tractors is lowest in this region, however more than 70 per power tillers of Valsad district are owned by farmers in this AES as most of the farmers of this region are small and marginal who can ill afford to purchase Tractors. This region has a maximum potential of becoming horticultural hub of Gujarat.

AES-II: Central sub-coastal Plain tube well irrigated, medium black to black, saline and alluvial soils

Major blocks (talukas) covered this situation are Valsad and Pardi. The major topography of this AES is plain and soil type varies from medium black to black, whereas remaining part of this AES is coastal which has medium black to saline soils. It shares its borders with Navsari district of Gujarat in the North and Daman in the West and Dadra nagar Haveli in the East. Total number of villages in AES-II is 180 (99 and 81 villages in Valsad and Pardi talukas, respectively) comprising an area of 927 sq. km. out of which 49.02 per cent area is cultivated.

This area has less than 1 per cent area under forest, while fallow land is about 7 per cent, whereas, more than 50 per cent pasture land of Valsad district falls in this AES. Majority of landholders (< 50 per cent) are marginal and farmers, whereas big farmers share in this region is about 22 per cent.

More than 30 per cent area of the district in AES-II is irrigated (well and checkdam). Net irrigated v/.s net cultivated area of AES-II is about 30 per cent This region is connected by good branch canal networks of Kakrapar and Damanganga (Kakrapar in Valsad and Damanganga in Pardi taluka). Total length of main branch canal in this region is 35 km. Check dams are built on Auranga, Wanki, Par and Kolak rivers. Average rainfall in AES-II varies from 2858 to 2957 mm spread over three months (June second fortnight to September second fortnight).

Major food crop of this region is paddy. Farmers having good irrigation facilities grow sugarcane and are part of the buy back arrangement with Valsad sugar factory. Apart from paddy, AES - II region comprising of Valsad and Pardi talukas is known for mango and sapota orchards. More than 60 per cent orchards of both these crops fall in this region. Pardi taluka is known as heart of Alphonso mango, however farmers now prefer kesar variety of mango for their new plantation. Majority of popular mango varieties viz; Alphonso, Kesar, Langra, Vashibadami, Rajapuri, Totapuri, Pairi, etc grow in this region particularly in Pardi taluka of Valsad district. Another very important crop of this region is sapota, though slowly and slowly farmers are reducing their net area due to declining net profit in this crop. During rabi season, farmers grow pulses, rabi jowar. Pigeon pea is mainly grown as semi-rabi grown. Among the new crops introduced in this region are medicinal and aromatics viz; Patchouli, Safed musli, Aloe Vera and Palmarosa. There is a sizeable area of vegetable crops in this region. The main vegetable crops of AES-II are Brinjal, okra, cucurbits, val and chillies. Floriculture is an important profession in AES-II, which is mainly practiced by nursery men. Majority of fruit crops nurseries of Valsad district (> 75 per cent) are located in AES-II.

More than 40 per cent of livestock and more than 50 per cent of poultry population of the district is based in AES-II. About 67 percent of primary milk co-operatives of Valsad district are situated in this region.About 21 per cent area of Valsad district is coastal represented by more than 61 per cent fishermen of Valsad district. The major fishing points/ports are Hingraj, Kosamba, Umarsadi and Kolak.

About 72 per cent tractors of Valsad district are based in AES-II, however, share of power tillers in the district is about 21 per cent. Maximum number of agro-processing industries of Valsad district as well as of South Gujarat is primarily based in AES-II i.e. Valsad and Pardi talukas. This region offers maximum potential of floriculture, medicinal and aromatic plant cultivation. In terms of economic prosperity, AES-II stands first. It has a big network of Gujarat Industrial Development Corporation (GIDC) colonies. Biggest GIDC colony of Gujarat is based at Vapi representing Pardi taluka of AES-II, whereas other GIDC colonies are located at Pardi and Valsad (Gundlav).

5. Major and Micro farming system

Major farming systems based on the analysis made by KVK)

Sr. No.	Farming systems
1	Agri - Horti Farming systems
2	Agri – Silviculture farming systems
3	Agri - forestry farming systems

6. Major production systems

Sr. No.	Major production systems
1	Paddy-pulses / oilseeds-fellow Farming systems
2	Paddy / Fingermillet –fellow
3	Paddy-Sugarcane farming systems
4	Paddy-Vegetable -fellow farming systems
5	Mango / Sapota with intercrop Vegetables
6	Paddy-Banana cultivation.
7	Cashew with intercrop of Paddy / Fingermillet

7. Major agriculture and allied enterprises

Agriculture

Agriculture and its allied activities like Dairy Development, Fisheries, Plantation and Horticulture and Non-farm sectors activities are predominant economic activities prevalent in the district. 52 per cent of the total population is engaged in farming and 48 per cent is engaged in other activities.The major food-crop in the district is paddy. The area under paddy cultivation during 2005-06 was 65376 ha. and total production was 179977 MT with average productivity of 2.94 tonnes per ha. contributing to 6.90 and 9..53 per cent of total area and production of the state, respectively.

The second important crop of the district is sugarcane. With Valsad sugar factory in operation and another co-operative sugar factory coming up in area at Dadra Nagar Haveli, the economic development in the district is also attributed to sugarcane cultivation. During the year 2006-07 sugarcane was cultivated in 19781 ha. and the total production was 1286805 MT.

Due to sharp fall in sugar prices in the past few years, the sugarcane growers in some pockets of the district have chosen to horticulture and Medicinal & Aromatic plants.

Horticulture

Valsad is also known as **Mango capital of Gujarat**, wherein major area under horticultural crops is in mango. Fruits like **Mango**, Sapota, Banana (P & H crops) and vegetables are important crops and have the major share in the district economy. The district which grows mangoes (Alphonso) on large scale (contributing to 23.96 per cent and 19.11 in area and production of the state, respectively) is world famous for some exquisite varieties (Alphonso, Kesar, Rajapuri, Pairi and Vashibadami). The district also grows sapota and coconut on a large scale. The area under horticultural crops during the year 2005-06 was 109344.50 ha.

The agro-climatic conditions prevailing in the district are suitable for cultivation of fruits and vegetables like Mango, Sapota, Banana, Guava, Papaya, Watermelon, Cauliflower, Cabbage, Okra, Carrots etc. Valsad is very important for growing horticultural crops (aggregate of 109344.50 ha yielding a production of 343382.60 MT) where mango alone was grown in 18320 ha. (109250 MT) of land during 2005-06. Valsad produces a variety of vegetables that includes Green Leafy vegetables, tomato, carrot, okra, etc. However, there are no organized sorting, grading, cleaning, packaging facilities to help chanalize their produce to export markets. Besides, condiments and spices like cardamom (300 ha.), chillies (388 ha.), ginger (10 ha.), turmeric (14 ha.), coriander (22 ha.), garlic (17 ha.) and Fenugreek (22 ha.) are also grown in this district. Last but not the least dry fruit like cashew is also grown on a considerable area (212 ha.) in the backward talukas of Kaprada and some parts of Dharampur. Plantations like Rubber (17 ha.) and tea (2 ha.) are also being grown.

Another very important plantation crop being grown in this region is Oil palm covering an area of 4244 ha. yielding 29708 MT. However due to lack of proper oil extraction facilities, farmers have started showing their inclination towards aromatic and medicinal plants.

The forest land covers 95,959 hectares, contributes significantly to the district economy. Mainly the forest produce are teak wood, fire wood, charcoal and timber wood etc. The other minor products are bamboo, grass, mahuva flowers and its seeds, gum and variety of medicinal herbs and plants.

In Valsad district, every year major portions of land is being lost due to soil erosion, Soil erosion, Soil alkalinity, Water logging, deforestation, and desertification and land degradation. The agro-climatic conditions of the district are suitable for many tree crops like Acacia, Teak, Eucalyptus, Khair, Sisso, Gliricidia, Subabul, Tamarind, Neem, Bamboom, Jatropha, Bixa, etc. The district is having 95959 ha. under forest, covering 32.60 per cent of the total geographical area of 294395 ha. Besides, the uncultivable wastelands (4882 ha.), pasture lands (2461 ha.) and other fallows (604 ha.) can also be counted for social forestry which is coming in a big way. Thus the aggregate area available for Forestry and Wasteland Development works out to be 103906.

Area and production of major crops of Valsad district

Sr. No	Name of the crop	Area (ha.)	Production (MT)	Productivity (T/Ha.)
Agricultural Field Crops (Non- Horticultural crops)				
1	Paddy (irrigated)	19.786	65.293	3300
2	Paddy (Unirrigated)	51.572	133.055	2580
	Total Paddy	**71.358**	**198.328**	**2750**
3	Ragi (Finger millet)	5.331	4.264	800
4	Jowar	0.708	0.722	1020
5	Pigeon Pea	7.555	5.364	710
6	Urid	5.749	3.737	650
7	Minor pulses	1.002	0.752	750
8	Mung	47	0.035	740
9	Val	7.767	6.524	840
10	Gram	1.777	1.422	800
11	Groundnut	0.283	0.427	1510
12	Niger	5.763	2.536	440

13	Sugarcane	19.781	1285.76	65000
	Total Field crops	**127.121**	**1509.87**	
Fruit crops/Plantation crops				
14	Mango	26.250	157.50	6000
15	Chiku	3.345	32.513	9720
16	Banana	0.770	43.274	56200
17	Papaya	0.145	6.254	43130
18	Cashewnut	5.590	18.11	3240
19	Coconut	2.930	29.30	10000
	Total	39030	286.94	
Vegetables				
20	Brinjal	1.625	26.00	16000
21	Okra	1.620	16.20	10000
22	Tomato	1.405	29.50	21000
23	Cucurbits	2.831	62.28	22000
	Total	7.475	133.98	17000
Condiments and Spices				
24	Chilli	0.1	1.14	11400
25	Turmeric	95	NA	
26	Tuber crops	35	NA	
27	Coriander	22	22	1.00
28	Other condiments	49	980	20.00
	Total condiments and spices	589	2193	
Floricultural crops				
29	Rose	228	1824	8.00
30	Rajnigandha	50	150	3.00
31	Lilly	105	945	9.00
32	Marigold	46	NA	NA
	Total Flori. crops	429	2919	
Aromatic Plants				
33	Palmarosa	107	2140	20.00

34	Lemon grass	4	120	30.00
35	Citronella	3	75	25.00
35	Patchouli	161	1932	12.00
	Total Aromatics	300	4642	
Medicinal Plants				
36	Safed Musli	84	29.40	0.35
37	Aloe vera	7.5	11	1.47
38	Tulsi	25	375	15.00
	Total Medicinal Plants	116.50	415.40	
	Total Hort. crops	38977.50	344180.40	
	Total Agricultural + Horticultural crops	163469.50	1848227.40	

Animal Husbandry

In Valsad district, the climatic conditions are conducive for dairy activity. As per the latest census total number of cows and buffaloes population of the district was 39206 crossbred cows, 17003 indigeneous cows and 74409 buffaloes. There are 53 Veterinary Centres run by District Panchayat and State Govt. to provide animal services is given below.

Taluka	Total Villages In Taluka	Area in Sq. Km.	Total livestock population	Animal Density/ sq.km.	No. of Vety. Centres	No. of animals/ Vety. Centre	No. of villages/ Vety. Centre	Sq. Km. area covered/ Vety. Centre
Valsad	99	501	**46395**	92.60	7	6627.86	14.14	71.57
Pardi	107	713	**66372**	93.09	5	13274.40	21.40	142.60
Umbergam	81	426	**53664**	125.97	4	13416.00	20.25	106.50
Dharampur	130	937	**89856**	95.90	6	14976.00	21.67	156.17
Kaprada	54	362	**27363**	75.59	5	5472.60	10.80	72.40
Total/Av.	**471**	2939	**283650**	**96.51**	**27**	**10505.56**	**17.44**	**108.85**

Valsad District Co-operative Milk Producers Union Ltd; and Vasudhara dairy have been the main source of development of dairy. An organized dairy in the district was run by Vasudhara dairy which has now been shifted to the adjacent Navsari district (after bifurcation of Valsad into two separate Valsad and Navsari districts). It manages and processes almost 98 per cent of the total milk produced in both the districts. Vasudhara Dairy now has an installed capacity to handle 3 lakhs litres of milk per day as against which it process 2.46 lakh litres of milk per day presently.

Looking to the breed able population, the existing A.I. and Veterinary Aid Service facilities are quite inadequate in Dharampur and Kaprada talukas of the district. New chilling plant is being set up at Motaponda in Kaprada taluka of the district. Good number of Small Road Transport operators will also be benefited once the new milk routes to this chilling plant are established.

Total number of animals of Agricultural importance in Valsad district

Category	**Population**	**Production**	**Productivity**
Cattle	247601	69.93	--
Crossbred	38869	26.31	6.137
Indigenous	208732	43.62	1.884
Buffalo	96487	35.45	3.014
Sheep	3433		
Goats	105094		
Poultry	773599		
Ducks	1262		

Information on Primary Milk Co-operative Societies

Sr. No.	Taluka	No. of Primary Milk Co-operative Societies				
		Tribal Female	**Non-Tribal Female**	**Total Female**	**Mixed**	**Total**
1	Valsad	175	34	209	102	311
2	Dharampur	121	0	121	45	166
3	Pardi	142	0	142	6	148
4	Kaprada	25	0	25	14	39
5	Umbergaon	17	0	17	0	17
	Total	**480**	**34**	**514**	**167**	**681**

Agro-ecosystem Analysis of the focus/target area - II

1. Names of villages, focus area, target area etc.

Krishi Vigyan Kendra is presently working with three blocks namely Kaparada, Dharampur,Umargam and Pardi blocks of the valsad district. Valsad component of South Gujarat Heavy Rainfall Zone-I consists of two situations i.e. Situation I and II. Situation – I consists of Dharampur and Kaprada talukas, whereas situation-II is spread over Valsad, Pardi and Umbergaon talukas.of the two situations , two villages, Varoli and Arnala were selected assuming that both the villages may be the representative villages of different agro ecological situations.

2. Survey methods used

The inventory resource survey was conducted through structured interview schedule as well as using various PRA tools. The datamatic information was also collected from the reports and statistical profile published by the state department.

3. Various techniques used and brief documentation of process involved in applying the techniques used like release transect, resource map, etc.

Following PRA tools were used to elicit information from the villagers on various subject.

- Transect
- Resource map
- Seasonal diagram
- Venn diagram
- matrix ranking
- Crop calendar

Analysis and conclusions

Sr. No.	Name of the Region	AES No.	Name of Agro-ecological situations	Name of representative village		Brief features
				Village	Taluka (Block)	
A	Sub-mountain undulating	I	Sub-mountain undulating rainfed, medium black to black, hilly laterite soils	Khutali Nani vahiyal	Kaprada Dharampur	Tribal area, forest land, medium black to black, hilly laterite soils, rainfed, highest rainfall , well irrigated, Paddy, Cashew, Mango main crops. Socio-economically farmers are poorest.
B	Central sub-coastal Plain	II	Central Sub-coastal Plain, tube well irrigated and limited canal facilities, medium black to black, saline and alluvial soils	Asma Saronda	Pardi Umargam	Tribal and big farmers are in almost equal proportion, highest irrigation, medium rainfall, Paddy, Mango, Sapota, Sugracane and vegetables, highest fishermen, industrialization, urban areas highest in the district. Socio-economically farmers are most affluent

5. List of location specific problems .

Sr. No.	Problems
1	Reduction of under ground water table
2	Inadequate Supply of fertilizers
3	Higher illiteracy rate
4	Marketing of Agri and Horticulture crops
5	Lack of infrastructure for Post harvest Technology
6	Migration to industrial area for job
7	Non availability of quality seeds/planting material
8	No mechanization due to small holdings
9	Undulating land
10	Poor fertility of soil
11	Use of local varieties of crop
12	Indigenous cattle breed
13	Lack of knowledge about sci. crop/livestock management

6 Ranking of the specific problems .

Sr. No.	Problems	Ranking of the problem
1	Reduction of underground water table	I
2	Inadequate Supply of fertilizers	VI
3	Higher illiteracy rate	II
4	Marketing of Agri and Horticulture crops	V
5	Lack of infrastructure for Post harvest Technology	VIII
6	Migration to industrial area for job	IX
7	Non availability of quality seeds/planting material	IV
8	No mechanization due to small holdings	X
9	Undulating land	VIII
10	Poor fertility of soil	VII
11	Use of local varieties of crop	II
12	Indigenous cattle breed	V
13	Lack of knowledge about sci. crop/livestock management	III

7 List of location specific thrust areas

1. Increase the productivity of Sugarcane, Paddy, and Gram in particular.
2. Increase the area and productivity of horticultural crops.
3. Increase milk production.
4. Popularize the techniques of soil and water conservation.
5. Income generation activities for rural youth through skill oriented vocational training programme
6. Popularize the integrated approach for the control of pests and diseases.

8. List of location specific technology needs for OFT and FLD

- Improved and HYVs of major crops .
- Integrated Nutrient Management for major crops
- Integrated Pest and disease management for major crops
- Integrated water management in major crops
- HYVs of Fodder crops .
- Breed improvement.
- Technology for efficient water use.

9. List of location specific training needs

- Identification and selection of improved varieties of major crops .
- Selection and application of fertilizers for major crops
- Identification and control of pest and disease of major crops
- Water management in major crops .
- Improved package of practices of HYVs of Fodder crops .
- Awareness about cattle breed improvement .
- Awareness about micro irrigation techniques.

- **Matrix ranking of technologies**

Sr.No.	Technologies	Ranking of the technologies
1	Improved and HYVs of major crops .	I
2	Integrated Nutrient Management for major crops	IV
3	Integrated Pest and disease management for major crops	II
4	Integrated water management in major crops	V
5	HYVs of Fodder crops .	VI
6	Breed improvement.	III
7	Technology for efficient water use.	IV

Technology Inventory and Activity Chart – III

1 Names of research institutes, research stations, regional centres of NARS (SAU and ICAR) and other public and private bodies having relevance to location specific technology needs

2 Inventory of latest technology available .

Sl. No	Technology	Crop/enterprise	Year of release or recommendation of technology	Source of technology
1.	NAUR-1	Paddy	2008	Paddy Research Station,AAU ,Navagam
2	Co N 7071	Sugarcane	2007	Regional Sugarcane Research Station, NAU, Navsari
3	Co N 7072	Sugarcane	2007	Regional Sugarcane Research Station, NAU, Navsari
4	GT -101	Pigeon pea	2002	Main Pulse Research Station, GAU, S K Nagar
5	GG-2	Gram	1998	Main Pulse Research Station, GAU, S K Nagar
6	GM-4	Green Gram	2005	Main Pulse Research Station, GAU, S K Nagar
7	Meha	Green Gram	2004	Anand Agril.Uni.Anand
8	Guj Fingermillet -5	Fingermillet	2009	Navsari Agril.Uni.Navsari
9	Co-4	Perrenial grass	2004	TNAU Coimbtore

1 Activity Chart

Crop/Animal /Enterprise	Problem	Cause	Solution	Activity
Paddy	Low productivity of Paddy under rainfed heavy black soils of Valsad district	1. Use of domestic seeds 2. Imbalance fertilizer application. 3. Pest and disease occurance 4 Improper weed mgt. 5 Improper water mgt.	1 Use of HYVs 2 Appli. of recommend dose of fertilizer 3 Integrated Pest and disease management 4 Timely weed mgt. 5 Proper water mgt	1 Training and FLD to demonstrate HYVs required. 2. Training programme on Integrated Nutrient Management 3. Training and FLD programme on integrated pest management 4 Training on integrated weed management
Fingermillet	Low productivity under rainfed heavy black soils of Valsad district	1. Use of domestic seeds 2. Imbalance fertilizer application. 3. Pest and disease occurance 4 Improper weed mgt. 5 Improper water mgt.	1 Use of HYVs 2 Appli. of recommend dose of fertilizer 3 Integrated Pest and disease management 4 Timely weed mgt. 5 Proper water mgt	1 Training and FLD to demonstrate HYVs required. 2 Training programme on INM 3 Training and FLD programme on IPM 4 Training on IWM 5 Training for water mgt.

Sugarcane	Low productivity of Sugarcane under heavy black soils of Valsad district	1. Use of old age variety 2. Imbalance fertilizer application. 3. Pest and disease occurance 4 Improper weed mgt. 5 Improper water mgt.	1 Use of Latest variety 2 Application of recommend dose of fertilizer 3 Integrated Pest and disease management 4 Timely weed mgt. 5 Proper water mgt	1 Training and FLD to demonstrate latest HYVs . 2 Training programme on Integrated Nutrient Management 3 Training on integrated pest management 4 Training on integrated weed management 5 Training for water mgt .
Mango	Low productivity of Mango in Valsad district	1 Imbalance fertilizer application. 2 Pest and disease occurance.	1 Application of recommend dose of fertilizer 2 Integrated Pest management	1 . Single component FLD to demonstrate effect of recommended dose of nutrients. 2. Training and FLD programme on integrated pest management of Mango pest.
Crossbred Cow	Low milk production	1 Lack of knowledge 2 Imbalance supply of feed and fodder 3 Poor health service.	1 Scientific mgt. of crossbred cows 2 Mgt. for sufficient feed and fodder supply. 3 Improve health services.	1 Training on care and management of cross breed animal. 2 Single component FLD to demonstrate feed and fodder 3 Provide health service.
Vegetables	Low productivity of vegetables	1 Imbalance fertilizer application. 2 Pest and disease occurance. 3. Insufficient supply of seeds of HYVs. 4 Lack of market facility.	1 Appli. of recommend dose of fertilizer 2 Integrated Pest-disease management. 3 Supply of seeds and seedlings of HYVs. 4 Improve marketing facility	1 . Single component FLD to demonstrate effect of recommended dose of nutrients. 2. Training and FLD programme on integrated pest disease mgt. 3 Raising of seedlings of HYVs at kvk farm and supply to farmers . 4 Formation of vegetable growers cooperatives.

1. **Details of each of the technology under Assessment, Refinement and demonstration**

a. Detailed account on varietal/breed characters for each of the variety/breed selected for FLD and OFT

Sr. No	Crop	Variety	Recommended Technology	Characteristics
1.	Paddy	GNR -3	Developed by Regional Research station, NAU, Navsari, 2007-08	Semi dwarf with medium tillering green foliage, grain straw glumed, long slender.
2.	Sugarcane	CO N- 07072	Developed by Regional Research station, NAU, Navsari, 2007-08	It belonging to early maturity group, gave 26.37 and 24.63% higher cane yield over zonal (Co 671) and state (CoN 95132) checks, respectively.It gives 16.41 % higher than CON-03131, High yielding (146 t/ha), sugar yield, Disease and Lodging resistant
3	Fingermillet	G.N.-5	Released by NAU, Navsari, 2009	White seeded, 25% &19 % higher yield than GN-3 & GN-4, respectively

b. Details of technologies that may include formulation, quantity, time, methods of application of nutrients, pesticides, fungicides etc., for technologies selected under FLD and OFTs

FLDs Inputs Technical Details

Sr. No.	Crop	Input/ Techn.	Variety	Recommended Technology	Remarks
1.	Paddy	Azolla	Azolla pinnata	Recommended by AAU, Anand	Application of Azolla @ 200 kg ac.$^{-1}$ saving 30-50 kg N/ ha
2	Paddy, Fingermillet, Bottlegourd, Chilly, Bittergourd	Liquid biofertilisers	Azotobactor, PSB	Recommended by AAU, Anand and TNAU, coimbatore	Application of LBF @ 200 ml/acre as soil application or Seedling treatment or seed treatment can save 20-40 kg N/ ha, And 20 kg P/ ha

c. Details of location/area specificity of recommended technology viz., for each of the variety/breed/technology selected for FLD and OFT

On farm testing technogical details

Sr. No.	**Crop**	**Input/ Techn.**	**Variety**	**Recommended Technology**	**Remarks**
1.	Paddy	Azolla	Azolla pinnata	Recommended by AAU, Anand	Application of Azolla @ 200 kg $ac.^{-1}$ saving 30-50 kg N/ ha
2	Paddy & Bottlegourd	Liquid biofertilisers	Azotobactor, PSB	Recommended by AAU, Anand and TNAU, coimbatore	Application of LBF @ 200 ml/acre as soil application or Seedling treatment or seed treatment can save 20-40 kg N/ ha, And 20 kg P/ ha
3	Brinjal	Metaldihyde	--	Recommended by NAU, Navsari	Application of Metaldehyde (Snailkill pellets) 10 kg/ha