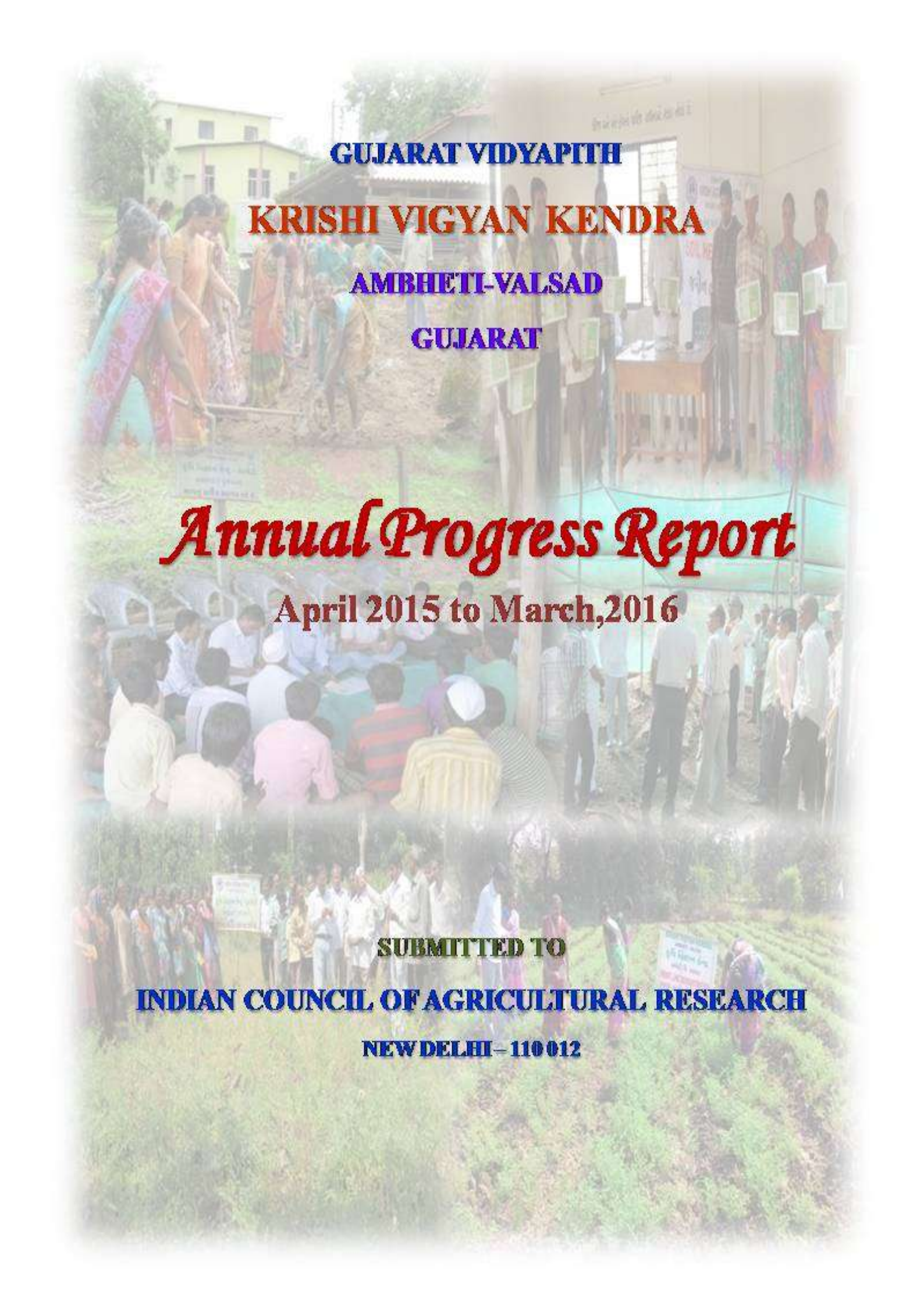

GUJARAT VIDYAPITH

KRISHI VIGYAN KENDRA

AMBHETI-VALSAD

GUJARAT

Annual Progress Report

April 2015 to March,2016

SUBMITTED TO

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

NEW DELHI – 110 012

INDEX

ANNUAL PROGRESS REPORT (April-2015-March-2016)

APR SUMMARY

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	92	1999	1506	3505
Rural youths	--	--	--	--
Extension functionaries	10	130	376	506
Sponsored Training	16	347	509	856
Vocational Training	09	--	215	215
Total	**127**	**2476**	**2606**	**5082**

2. Frontline demonstrations

Enterprise	No. of Farmers	Area (ha)	Units/Animals
Oilseeds	--	--	--
Pulses	282	28.50	--
Cereals	308	58.00	--
Vegetables	73	08.70	--
Other crops	170	10.00	--
Hybrid crops	--	--	--
Total	833	105.20	--
Livestock & Fisheries	--	--	--
Other enterprises	--	--	--
Total	--	--	--
Grand Total	833	105.20	--

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops	11	115	115
Livestock	--		
Various enterprises	01	05	05
Total	12	120	120
Technology Refined	--	--	--
Crops	--	--	--
Livestock	--	--	--
Various enterprises	--	--	--
Total	--	--	--
Grand Total	12	120	120

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	298	19579
Other extension activities	177	--
Total	475	19579

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marke-ting	Aware-ness	Other enterprise	Total
	Text only	14	--	--	--	--	--	14
	Total Messages	**14**	--	--	--	--	--	**14**
	Total farmers Benefitted	**76738**	--	--	--	--	--	**76783**

6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	411.10	430770
Planting material (No.)	810500	338300
Bio-Products – (Traps)	2023	61550
Livestock Production (No.)	02	40000

7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil - 657	650	23280
Water - 241	234	12050
Plant - 88	93	--
Total - 986	**977**	**35330**

8. HRD and Publications

Sr. No.	Category	Number
1	Workshops	06
2	Conferences	--
3	Meetings	05
4	Trainings for KVK officials	01
5	Visits of KVK officials	05
6	Book published	02
7	Training Manual	02
8	Book chapters	01
9	Research papers	01
10	Lead papers	01
11	Seminar papers	--
12	Extension folder	10
13	Proceedings	01
14	Award & recognition	--
15	On going research projects	--

DETAIL REPORT OF APR-2015-16

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 30th March, 2016)

Sl. No.	Sanctioned post	Name of the incumbent	Design-ation	Discip-line	Pay Scale (Rs.)	Present basic (Rs.)	Date of joining	Category (SC/ST/ OBC/Others)	Age	Email id
1	Programme Coordinator	Dr. R.F.Thakor	Sr. Sci.& Head	Ext . Edu.	37400-67000	55550	19/05/01	Other	50	rthakor1965@yahoo.co.in
2	Subject Matter Specialist	Sh. K.A.Patel	SMS	Pl. Prot.	15600-39100	31770	28/02/94	Other	47	kamlesh.patel40@gmail.com
3	Subject Matter Specialist	Sh. A.R.Patel	SMS	Ext . Edu.	15600-39100	31770	23/01/96	Other	51	arvindkvkvalsad@gmail.com
4	Subject Matter Specialist	Sh. L. T. Kapur	SMS	Soil Science	15600-39100	23000	16/12/06	SC	37	ltkvkambheti@gmail.com
5	Subject Matter Specialist	Sh. M.M.Gajjar	SMS	Agronomy	15600-39100	16880	17/09/13	Other	35	gajjarmit4772@yahoo.com
6	S M S	--	--	Horti.	--	--	--	--		--
7	Subject Matter Specialist	Smt. P.R.Ahir	Programme Assistant	Home Sci.	9300-34800	18540	01/05/01	OBC	39	--
8	Programme Assistant	Sh. B.M.Patel	Programme Assistant	Ani .Sci.	9300-34800	17290	02/12/02	Other	44	kvkbalu@ rediffmail.com
9	Computer Programmer	Sh. P.J.Joshi	Programme Assistant	Agri. Engg.	9300-34800	18380	23/12/02	Other	42	Prjoshi1p@rediffmail.com
10	Farm Manager	Sh. P.R.Patel	Farm manager	Farm manager	9300-34800	17780	01/05/01	OBC	40	paresh1567@gmail.com
11	Accountant / Superintendent	Sh. C.D.Patel	O.S	O.S	9300-34800	10130	27/09/13	Other	28	cp.kvk8272@gmail.com
12	Stenographer	Sh. V.B.Patel	Jr. st.cum Acc.	Accou ntant	5200-20200	12880	01/11/99	ST	49	vinodkvkambheti@gmail.com
13	Driver	Sh.R.D.Rohit	Driver	Driver	5200-20200	8780	16/06/08	SC	38	rdrohit1976@gmail.com
14	Driver	Sh. H.G.Valand	Driver	Driver	5200-20200	8450	01/08/09	OBC	37	harikrushna1979@gmil.com
15	Supporting staff	Sh. A.R. Patel	Peon	Office attendant	5200-20200	8330	01/11/99	ST	40	ashokpatelambheti@gmail.com
16	Supporting staff	Sh. B.M. Patel	Farm attendant	Farm attendant	5200-20200	5630	01/04/13	OBC	26	bhavinpatel386510@gmail.com

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	-- 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	--		
11	Plant Health Clinic	01	--		

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Tractor	1993	1,94,850	Approx. 27,000 hrs.	Condemned on March-/2016
Tractor Trolley	1995	61,500	-	Replacement requires.
Jeep (Bolero)	2010	477058	141370	Working condition.
Power tiller	2010	1,55,500	--	Working condition.
Motor Cycle	2011	49995	6851	Working condition.

C) Equipments and A.V. aids

Name of the Equipment	Year of purchase	Cost (Rs.)	Present status
P A S system	1997	10230	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.
P A S system	2009	28057	Working condition.
Handicam	2009	12990	Working condition.
Generator set	2009	37972	Working condition.
Laptop	2012	36368	Working condition.
television	2015	52000	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	09/02/16	1. Dr. Rajendra Khimani Registrar, Gujarat Vidyapith, Ahmedabad Chairman 2. Dr. H. M. Viradia Asso. Res.Sci. NAU Rep. DEE, NAU 3. Dr. V. B. Kharadi Asso. Res.Sci. NAU 4. Dr. J. P. Makati Asst. Res.	1. The representatives of organizations i.e. Vasudhara milk co-op, J.N.Trust, Gram shilpi and Gram Seva Kendra should be invited in the next meeting as a invitee members. 2. Content of the news letter published by kvk must be attached with the web site of Gujarat Vidyapith. 3. Nos. of visitors who visited web site of kvk should be mentioned in the report. 4. Demonstration of local paddy varieties, and HYVs should be conducted and data analysis of different parameters to be taken up with	Action on recommendations will be taken in coming year.

		Sci. NAU. 5. Shri K. M. Korat Dist. Agril. Officer, Valsad 6. Shri Vimal S Patel Dy. PD, ATMA, Valsad 7. Dr. M. C. Patel Dy. Director (A.H.), Valsad 8. Shri Keval Patel ATMA,Tech. Officer, Valsad 9. Mrs. Hemangini Barot NABARD , Valsad 10. Shri Nileshbhai. K. Patel Farmers Representative (Prog. farmer) 11. Shri Hasmukh N. desai Farmers Representative (Entrepreneur farmer) 12. Mrs. Ramilaben. M. Patel Farm women Representative (President, SHG) 13. Mrs. Pushpaben Patel Farm women Representative (Entrepreneur farm women) 14. Dr. R.F.Thakor Member Secretary	proper documentation. 5. To motivate the farmers for participatory development of village , CD of the village Punsari village should be show to the trainees. 6. To contact local Architects for expansion existing of dairy unit. 7. The variety CS-21 F of green fodder may be tested at KVK Farm after collecting seed material from Navsari Agri. University, Surat. 8. More emphasize should be given on reduction of cost of cultivation beside yield parameter in case of demonstration on liquid biofertilizers. 9. Different parameters considering the need of people should be tested under OFT on varietal assessment in paddy. 10. Result on characteristic of various varieties of eucalypts planted on demo unit at KVK should be prepared. 11. Best varieties of sweet potato and yam should be extrapolated through FLD. 12. BCR should be mentioned under the result of OFT submitted to ICAR. 13. Concept of healthy calf rearing should be focused in training programmes. 14. State department of agriculture, Valsad should organize training programmes for their extension personnel at KVK as it is a mandatory activity. 15. Bank officers may be invited in seminars to make aware the farmers/ farm women about different schemes of government. 16. Cattle owners may be aware about animal diseases through video film. 17. Shibir for women regarding health and nutrition should be organized. 18. New varieties of paddy, fodder sorghum and pulse crop should be extended through FLD. 19. Documentary video film on different field activities of KVK should be prepared with the help of Audio Visual department of Gujarat Vidyapith.	

2. DETAILS OF DISTRICT (2015-16)

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 (2015-16)

Month	Rainfall (mm)	Rainy days	Temperature C		Relative Humidity (%)	
			Maximum	Minimum	Maximum	Minimum
April	0	0	35.63	21.33	79.87	48.70
May	0	0	36.46	25.32	74.47	54.00
June	287.3	12	32.71	25.18	84.49	74.18
July	639.7	11	31.19	25.78	88.11	77.90
August	258.9	10	31.00	24.45	93.17	76.33
September	410.5	8	32.04	22.40	89.66	70.60
October	51.8	3	35.47	20.82	80.24	54.67
November	0	0	34.83	15.90	73.00	40.96
December	0	0	32.38	10.63	76.34	53.51
January	0	0	31.69	9.35	78.10	33.73
February	1.0	1	32.28	12.71	84.62	45.95
March	0	0	34.89	14.30	73.00	45.76

2.6 Production and Productivity of livestock ,Poultry ,Fisheries etc. in the district 2015-16

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 (2015-16)

Sr. No.	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Area
1	Kaparada	Nandgam, Chandvegan, Vardha Ozarada, Balchondi, Khutali, Amdha, Arnai, Dhodhadkuva, Varoli, Kolvera,.	Paddy , Fingermillet, Sugarcane, Pulses, Vegetables , Micro irrigation & Dairy.	Low productivity in all crops. Water scarcity Poor milk production	ICM ,INM, IPM, IWM Feed & fodder mgt. Integrated livestock mgt.
2	Dharampur	Kakadkuva, Nani vahiyal, Bhanvad, Bindval, Pangarbari, Hanmatmal	Paddy , Vegetables & Dairy .	Low productivity in all crops. Poor milk production	ICM ,INM, IPM, IWM Feed & fodder mgt. Integrated livestock mgt.
3	Pardi	Goima, Tarmalia, Velparva, Khuntej, Asma, Ambach, Lakhmapore, Rohina	Paddy ,Sugarcane, Pulses, Vegetables , Mango & Dairy.	Low productivity in all crops. Poor milk production	ICM ,INM, IPM, IWM Feed & fodder mgt. Integrated livestock mgt.
4	Umargam	Saronda, Aklara, Borigam	Paddy & Vegetable.	Low productivity in all crops.	ICM ,INM, IPM, IWM
5	Valsad	Ozar	Paddy & Vegetable.	Low productivity in all crops.	ICM ,INM, 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 2015-16

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
13	12	120	120	109.5 ha.	105.3 ha.	1090	833

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	108	92	2160	3505	Field day	10	06	500	581
Rural youth	05	09	100	215	Farmers seminar	10	10	1200	776
Extension Functionaries	08	10	160	506	Sci.-farmers interaction	15	26	400	725
					Farmers visit to kvk	700	799	700	799
					Scientist visit to farmers field	50	88	100	181
					Lecture delivered	10	33	1500	11140

Seed Production (Qt.)			Planting material (Nos.)		
5			6		
Target	**Achievement**	**Distributed to no. of farmers**	**Target**	**Achievement**	**Distributed to no. of farmers**
Paddy – 70.0	106.63	726	Drumstick- 1500 nos.	2000 nos.	155
Greengram - 1.00	0.87	25	Sugarcane - 300.0 qt.	300.0 qt.	23
Chickpea – 3.00	3.30	25	Veg.(Seedlings) - 3,00,000 nos.	3,34,500 nos.	700
Pigeon pea - 0.20	0.30	20	Fodder tousseks- 1,80,000 nos.	2,10,000 nos.	1063
			Sweetpotato cuttings-2,00,000 nos.	2,64,000 nos.	42

I.A TECHNOLOGY ASSESSMENT

Summary of technologies assessed under various crops by KVKs

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of farmers
Integrated Nutrient Management	Paddy	Assessment of combined use of Azolla and liquid Biofertilisers in Paddy	05	05
	Brinjal	Assessment of Integrated Nutrient Management in Brinjal.	20	20
	Fingermillet	Assessment of use of LBF enriched vermin compost in Fingermillet.	20	20
	Mango	Effect of micronutrient in Mango.	05	05
Varietal Evaluation	Paddy	Assessment of Paddy variety for kharif cultivation	10	10
	Sweetpotato	Assessment of improved varieties.	10	10
	Chickpea	Assessment of improved varieties.	10	10
Integrated Pest Management	Mango	Management of hoppers in Mango.	10	10
Integrated Crop Management	Paddy	Assessment of seed rate of Paddy nursery on yield of crop .	05	05
	Sweetpotato	Modification of production technology	10	10
Integrated Disease Management	Bittergourd	Management of mosaic disease in Bitter gourd	10	10
Others (Nutritional garden)	Vegetables	Assessment of techniques of kichen garden.	05	05
Total			**120**	**120**

Summary of technologies assessed under livestock by KVK- Nil

Summary of technologies assessed under various enterprises by KVKs - Nil

I.B. TECHNOLOGY REFINEMENT -Nil

I.C. TECHNOLOGY ASSESSMENT IN DETAIL

INTEGRATED CROP MANAGEMENT

Problem definition : Low return due to higher cost of production of paddy

Technology Assessed or Refined (as the case may be) : Assessment of paddy variety for kharif cultivation in Valsad district.

KVK, Valsad in GUJRAT conducted on farm trial to assess the variety of Paddy in rain fed condition. The result shown that the paddy variety GAR-13 gave 3,396 Kg/ha yield as compare to GNR-3 (2,809 Kg/ha) and Hybrid (3216 Kg/ha). Also the net return of Rs. 22,944 per ha. as compare to the hybrid (US-312) of Rs. 18,350 per ha and GNR-3 with net return of Rs. 15,313 per ha.

Table Performance of paddy variety

Technology Option	No. of Trial	Yield (Kg/ha)	Net Return (Rs./ha.)	B:C Ratio
Hybrid(US-312) (Farmers Practice)	10	3,216.00	18,350.0	1.8
GNR-3 (Recommended Practice)		2,809.00	15,313.0	1.7
GAR-13		3,396.00	22,944.0	2.1

Nursery Management

Problem definition: Ideal seed rate/m^2 for more yield in Rainfed condition

Technology Assessed or Refined (as the case may be) : Assessment of seed rate of paddy nursery on yield of crop.

KVK, Valsad in GUJRAT conducted on farm trial to assess or refine the Ideal seed rate of Paddy nursery on yield of crop in rain fed condition of Valsad district. The result sown that the seed rate @ 30 gm/m^2 in flat bed gave 3008 kg/ha yield as compare to recommended seed rate @30gm/m^2 10x1 m raised bed(100 no./ha) yield 3150 kg/ha and 2870 kg/ha from > 40 gm/m^2 flat bed of farmer practices. This results due to water stress or no rain or dry spell at growing seedling stage in nursery.

Table performance of seed rate in nursery Management

Technology Option	No. of Trial	Yield (Kg/ha)	Net Return (Rs./ha.)	B:C Ratio
>40 gm/m^2 flatbed (Farmers Practices)	5	2870	13852	1.6
30 gm/m^2 – 10 x 1 m raised bed 100 no./ha (Recommendation)		3150	15900	1.7
Seed rate @ 30 gm/m^2 flat bed		3008	16700	1.8

INTEGRATED CROP MANAGEMENT

Problem definition: Low yield of GRAM

Technology Assessed or Refined : Assessment of GRAM variety for rabi cultivation in Valsad district.

KVK, Valsad in Gujarat conducted on farm trial to assess the variety of GRAM in rain fed rabi cultivation. The result sown that the paddy variety PKV-2 gave 878 Kg/ha yield as compare to GG-2(788 Kg/ha) and Farmers Local variety (657 Kg/ha). Also the net return of Rs. 21910 per ha. as compare to the GG-2 of Rs. 18960 per ha and Farmers Local variety with net return of Rs. 14385 per ha.

Table Performance of paddy variety

Technology Option	No. of Trial	Yield (Kg/ha)	Net Return (Rs./ha.)	B:C Ratio
Local variety with Local practices (Farmers Practice)	10	657	14385	1.95
GG-2 with improved practices (Recommended Practice)		788	18960	2.15
PKV-2 with improved practices		878	21910	2.24

INTEGRATED NUTRIENT MANAGEMENT

Problem definition: Use of costly chemical fertilizer, reduce net profit and yield of Paddy.

Technology Assessed or Refined: Integrated Nutrient Management in Paddy

KVK, Valsad assess the technology of integrated nutrient management by the application of 50% N (RDF) through chemical fertilizers with Twice incorporation of Azolla @ 0.1 kg m^{-1}(30 & 60 DAP) and Liquid Biofertilisers (i.e Azotobactor & PSB) @ 1.25 lit ha^{-1} (as seedling treatment) in GAR13 variety of paddy and found that the yield of paddy was slightly lower than SAU recommendation but higher than Farmer practices with highest increase in net profit and BCR.

Table Performance of paddy to integrated nutrient management

Technology Options	No. of Trials	Seed yield (kg/ha)	Net profit (%)	BCR
T_1 : Farmer practice	**05**	**2,712**	**6498**	**1.23**
T_2 : RDF (100 : 50 : 00 kg NPK ha^{-1})		**3,525**	**14778**	**1.48**
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}		**3,252**	**16252**	**1.62**

INTEGRATED NUTRIENT MANAGEMENT

Problem definition: Injudicious use of costly chemical fertilizer, reduce net profit and yield of Fingermillet

Technology Assessed or Refined: Integrated Nutrient Management in Fingermillet

KVK, Valsad assess the technology of integrated nutrient management by the application of 50% SAU RDF through chemical fertilizers with LBF enriched(@ 1.25 lit ha^{-1}) Vermicompost @ 1 t ha^{-1} in Guj. Nagli- 5 variety of Fingermillet and found that the yield of fingermillet was enhanced with highest increase in net profit and BCR.

Table Performance of finger millet to integrated nutrient management

Technology Options	No. of Trials	Seed yield (kg/ha)	Increase in Yield (%)	Net profit (%)	BCR
T_1 : Farmer practice (No use of fertilizers)	05	1332	0.00	5176	1.82
T_2 : RDF (8 -10 t ha^{-1}FYM + 40 : 20 : 00 kg NPK ha^{-1})		1521	14.18	5853	1.46
T_3 : 20 : 10 : 00 kg NPK ha^{-1}+ 1 t ha^{-1} Vermi. + LBF @ 1.25 lit ha^{-1} (For enrichment of Vermi.		1587	19.14	7631	1.91

INTEGRATED NUTRIENT MANAGEMENT

Problem definition: use of costly chemical fertilizer, reduce net profit and yield of Brinjal

Technology Assessed or Refined : Integrated Nutrient Management in Brinjal

KVK, Valsad assess the technology of integrated nutrient management by the application of 60% SAU RDF through chemical fertilizers with LBF@ 1.25 lt. ha^{-1} and Vermicompost @ 12 t ha^{-1} in Surati Ravaiya variety of brinjal and found enhanced yield by 11.34% with highest increase in net profit and BCR.

Table : Performance of Brinjal to integrated nutrient management

Technology Options	**No. of Trials**	**Yield (kg/ha)**	**Increase in Yield (%)**	**Increase in Net profit (%)**	**BCR**
T_1 : Farmer practice (i.e 172 : 70 : 85 kg NPK ha^{-1})	**05**	**25137**	**0.00**	**0.00**	**4.88**
T_2 : 75% Recommended dose of fertilizer + 25% 0f RDF through Bio-compost (10 tones ha^{-1})		**28452**	**13.19**	**15.33**	**5.27**
T_3 : 60% Recommended dose of fertilizer +12 t FYM ha^{-1} (20% 0f RDF) +1.25 lt. ha^{-1} LBF(20% 0f RDF)		**27987**	**11.34**	**14.51**	**5.49**

(*RDF: 100 : 50 : 50 kg NPK ha^{-1})

NUTRIENT MANAGEMENT

Problem definition: Lower yield and profitability in Mango cultivation due to low fruit setting & low fruit retention

Technology Assessed or Refined: Nutrient management in Mango

KVK, Valsad in Gujarat conducted on-farm trial to find out appropriate nutrient management practice to enhance the mango productivity. The **assessed** practice of foliar spray of NAA (20 ppm) and 2% Urea with 3 Foliar spray of 0.1% borax and 0.2% $ZnSO_4$ during Nov., Dec. and Jan. found to be better with 68% fruit retention and 25.34 % increase in yield

Table : Effect NAA, Zn and Boron in fruit retention and yield in Mango.

Technology Option	No. of trials	Fruit retention (%)	Yield (kg./ha)	Increase in Yield (%)	B:C Ratio
T_1: Farmer practices (800:150:350 NPK gm/ tree) + 100kg FYM.	10	41	4785	0.00	2.35
T_2 : RDF (750:160:750 NPK gm/ tree)+ NAA (20ppm)+ 2% Urea (SAU Reco.)		59	5422	13.31	2.45
T_3: RDF +NAA (20 ppm)+ 2% Urea + 3 Foliar spray of 0.1% borax+0.2%$ZnSO_4$ (Nov., Dec. and Jan.)		68	5988	25.34	2.51

PEST AND DISEASE MANAGEMENT

Problem definition: low yield in Bittergourd due to mosaic disease

Technology Assessed : Management of mosaic disease in Bitter gourd through varietal screening

Mosaic – a viral disease is a serious threat to commercial production of bitter gourd in Kaparada block of Valsad district resulting in yield loss. Farmers of this area are using hybrid variety of different companies which are susceptible to mosaic disease. Farmers waste lot of money for spraying pesticides with no result in control. KVK Valsad conducted on-farm trial to assess different varieties for the management of mosaic disease in bitter gourd. Result of first year showed that the technology of Mosaic Resistant variety (Vivek) + Removal of infected plant and spraying of systemic insecticide for control of vector reduced the percentage of disease incidence from 24 to 8 and yield was increased by 21.87 per cent.

Table : Comparisons of technology for management of mosaic in Bittergourd

Technology Option	**No. of trials**	**Incidence of mosaic (%)**	**Yield (kg/ha)**	**% Increase in yield over farmer's practice**
Kohinoor Variety (Farmers Practice)	10	24	16000	--
Improved var. (Coimbatore long) + Removal of infected plant and spraying of systemic insecticide for control of vector (Recommended Practice)		12	18000	12.50
Mosaic Resistant variety (Vivek)+ Removal of infected plant and spraying of systemic insecticide for control of vector		08	19500	21.87

NUTRITIONAL MANAGEMENT

Problem definition: Malnutrition in tribal people due to poor nutritional management.

Technology Assessed: Assessment of different models of kitchen gardening

KVK, Valsad assess the technology for 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. Results showed that Gangama circle design of nutritional garden produces more no. of vegetables from limited land- water resource ,organically.

Table : Performance of different models of kitchen gardening .

Technology Options	**No. of Trials**	***Production (*kg/unit*)**	**Gross cost Rs. / unit**	**Gross return Rs. / unit**	**Net Return (Profit) Rs. / unit**	**B : C Ratio**
Farmer practice	**05**	140	1200	2800	1600	2.33
Recommended technology (Kitchen garden model- NAU)		220	1420	4400	2980	3.09
Gangama circle model of kitchen gardening		280	1550	5600	4050	3.61

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

II. FRONTLINE DEMONSTRATION

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

List of technologies demonstrated during previous year and popularized during 2015-16 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	35	250	75
2	Fingermillet	Varietal Evaluation	HYVs of Fingermillet	Demo. of improved variety seeds	08	210	50
3	Sugarcane	Varietal Evaluation	HYVs of Sugarcane	Demo. of improved variety planting material	06	20	12
4	Brinjal	Varietal Evaluation	HYVs of Brinjal	Demo. of improved variety seedlings	28	240	55
5	Bottlegourd	Varietal Evaluation	HYVs of Bottlegourd	Demo. of improved variety seeds	04	28	11
6	Greengram	Varietal Evaluation	HYVs of Greengram	Demo. of improved variety seedlings	06	35	12
7	Green fodder	Varietal Evaluation	HYVs of Perrenial grass	Demo. of improved variety planting material	60	300	15

b. Details of FLDs implemented during 2015-16

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	HYV, IPM, LBF	Kharif	25	33	183	--	183	--
2	Paddy	Integrated crop management	SIRA technology	Kharif	05	05	25	--	25	
3	Sugarcane	Varietal Evaluation	HYV, LBF	Rabi	02	02	20	--	20	--
4	Finger millet	Varietal Evaluation	HYV,LBF, Biopesticides	Kharif	25	20	100	--	100	--
5	Brinjal	Varietal Evaluation	HYV,IPM. INM	Kharif	05	03	16	--	16	--
6	Bittergourd	Varietal Evaluation	HYV, IPM, LBF	Kharif	05	3.5	35	--	35	--
7	Sweetpotato	Varietal Evaluation	HYV (Co-4)	Kharif	02	2.2	22	--	22	--
8	Green Fodder	Varietal Evaluation	HYV (SSG-501)	Rabi	07	08	150	--	150	--
9	Chickpea	Varietal Evaluation	HYV, IPM, LBF	Rabi	07	15	128	--	128	--
10	Pigeonpea	Varietal Evaluation	HYV, Seed treatment	Rabi	05	04	40	--	40	--
11	Indianbean	Varietal Evaluation	HYV, Biopesticides, LBF	Rabi	02	02	40	--	40	
12	Greengram	Varietal Evaluation	HYV,INM, IPM	Summer	05	7.6	74	--	74	--

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	1125	62
Paddy	Kharif	Rainfed	Medium black	Low	Medium	High	Pulses	1st fortnight of July	2nd fortnight of October	1125	62
Sugarcane	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Oct – Nov-15	January-16	1125	62
Finger millet	Kharif	Rainfed	Medium black	Low	Medium	High	Pulses	2nd fortnight of July	2nd fortnight of October	1125	62
Brinjal	Kharif	Irrigated	Medium black	Low	Medium	High	Pulses	2nd fortnight of Sept.	Oct -15 to Jan -16	360	24
Bittergourd	Kharif	Irrigated	Medium black	Low	Medium	High	Paddy	Sept-15	Nov-Dec-15	840	49
Sweetpotato	Kharif	Irrigated	Medium black	Low	Medium	High	Paddy	Sept-15	Dec-15	840	49
Green Fodder	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Dec-14	Mar –April - 15	--	--
Chickpea	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Dec-15	March- 16	--	--
Pigeonpea	Rabi	Rainfed	Medium black	Low	Medium	High	Paddy	Dec-14	April - 15		
Indianbean	Rabi	Irrigated	Medium black	Low	Medium	High	Paddy	Oct-15	March-16	--	--
Greengram	Summer	Irrigated	Medium black	Low	Medium	High	Paddy	Feb-15	May- 15	--	--

Technical feedback on the demonstrated technologies.

S. No	Feed Back
1	The pallet form for fertilizer application in SIRA technique is not easily available in the market.
2	Fingermillet (Guj Nagli-5) varietygives good response in longer rainy season only.
3	Paddy variety GAR-13 have more tillering and bold spike .
4	No uniform maturity found in Meha variety of Greengram .
5	The production of Sugarcane variety Co-N-7072 may be reduced in case of late harvesting.

Farmers' reactions on specific technologies

S. No	Name of Crop/ Commodity	Feed Back
1	Paddy	Seed rate as well as seedling rate has been reduced to 20-30 %. Grain quality is better for culinary purpose compared to hybrid varieties of private companies.
2	Fingermillet	Earhead is large and variety is found resistant to pest- disease compare to local variety.
3	Brinjal	Fruits of DPR variety have higher pulp content preferred more by the local people and fetches higher market prices .
4	Greengram	Meha variety is found resistant to YMV.
5	Bittergourd	Long dry spell reduce the numbers picking resulting into poor quality as well as production. Mosaic incidence found less.
6	Indianbean	Early pod setting resulting into early harvesting of greed pods fetches high market price (up to Rs.60 /- per kg.) due to shortage of supply of local production.
7	Sugarcane	Seed rate has been reduced to 50%.
8	Sweetpotato	Good colour and sweetness fetches higher market price.
9	LBF	Application of LBF is easy to apply and cheaper as compare to costly chemical fertilizers.

Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1	Field days	06	16/05/15	106	

			11/09/15 26/09/15 29/12/15 22/01/16 02/03/16	93 95 99 106 76	
2	Farmers Training	18	29-30/05/15 1-4/06/15 5-6/06/15 2-3/07/15 20-21/07/15 15-16/07/15 23-24/07/15 12/08/15 17/08/15 10/09/15 28/09/15 24/10/15 28-30/10/15 13/01/16 2-4/2/16 10-11/02/16 18/02/16 11-12/03/16	72 27 36 63 25 45 52 29 34 25 25 60 54 18 58 23 17 34	
3	Media coverage	05	21-5-15 15-6-15 28-9-15 28-10-15 24-3-16	--	
4	Training for extension functionaries	--	--		

Performance of Frontline demonstrations

Frontline demonstrations on oilseed crops : NIL

Frontline demonstration on pulse crops

Crop	Thematic Area	Technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
						Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						H	L	Av.										
Pigeonpea	ICM	Improved variety with line sowing	vaishali	40	4.0	9.0	6.9	7.48	6.05	23.63	18600	52378	33778	2.82	16310	42368	26058	2.60
Greengram	ICM	Improved variety	Meha	74	7.6	7.9	5.4	6.96	5.65	23.18	10370	34821	24451	3.36	9967	28250	18283	2.84
Chickpea	ICM	Improved variety with line sowing	GG-2	128	15	8.90	5.40	7.19	5.31	35.40	15200	32344	17144	2.13	12632	23889	11256	1.90
Indianbean	ICM	Improved variety	Guj.Val -2	40	02	16.8	10.2	12.6	9.5	32.63	23600	75600	52000	3.20	21800	57000	35200	2.61

FLD on Other crops

Category & Crop	Thematic Area	Name of the technology	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Change in Yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
						Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						High	Low	Av.										
Cereals																		
Paddy	ICM	Improved variety	GAR-13	183	33	39.5	16.8	27.03	21.09	28.16	21554	40552	18998	1.88	20515	31638	11123	1.54
Paddy	ICM	SIRA Tech.	GAR-13	25	05	36.5	26.5	32.73	24.30	34.69	22160	42546	20386	1.92	23263	31595	8333	1.36
Finger millet	ICM	Improved variety	Guj. Nagli - 5	100	20	17.2	15.1	15.55	14.05	10.67	12900	38375	25975	2.97	12500	35125	22625	2.81
Vegetables																		
Bittergourd	ICM	Improved variety	F1-kohinoor	35	3.5	223.6	162.3	215.5	176.4	22.16	64000	129300	65300	2.02	61000	105840	44840	1.73
Brinjal	ICM	Improved variety	DPR	16	03	228.4	175.2	217.5	181.3	19.96	56200	261000	204800	4.64	53500	199430	145930	3.73
Sweetpotato	ICM	Improved variety	CO-3-4	22	2.2	231.2	176.5	224.0	189.0	18.51	76200	224000	147800	2.93	73600	170100	96500	2.31
Commercial Crops																		
Sugarcane	ICM	Improved variety	Co-N 07072	20	02	119.8 t	96.45 t	117.4 t	105.8 t	10.96	73789	176100	102311	2.39	76425	158700	82275	2.08
Fodder																		
Sorghum (F)	ICM	Improved variety	SSG-501	150	08	515.4	352.6	462.0	405.0	14.07	32000	83100	51100	2.59	29600	72900	43300	2.46

FLD on Livestock -Nil

FLD on Fisheries –Nil

FLD on Women Empowerment -Nil

FLD on Farm Implements and Machinery -Nil

FLD on Other Enterprise: Kitchen Gardening -Nil

FLD on Demonstration details on crop hybrids - Nil

III. Training Programme

Farmers' Training including sponsored training programmes (on campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	02	--	--	--	53	28	81	53	28	81
Water management	03	--	--	--	38	67	105	38	67	105
Nursery management	01	--	--	--	65	35	100	65	35	100
Integrated Crop Management	08	--	--	--	285	162	447	285	162	447
Total	**14**	**--**	**--**	**--**	**441**	**292**	**733**	**441**	**292**	**733**
II Horticulture										
a) Vegetable Crops										
Production of low volume and high value crops	02	--	--	--	78	16	94	78	16	94
Nursery raising	01	--	--	--	20	02	22	20	02	22
b) Fruits										
Cultivation of Fruit	01	--	--	--	30	--	30	30	--	30
c) Tuber crops										
Production and mgt. technology	01	--	--	--	09	16	25	09	16	25
Total	**05**	**--**	**--**	**--**	**137**	**34**	**171**	**137**	**34**	**171**
III Soil Health and Fertility Management										
Integrated Nutrient Management	01	--	--	--	26	01	27	26	01	27
Production and use of organic inputs	02	--	--	--	48	22	70	48	22	70
Soil and Water Testing	02	--	--	--	44	41	85	44	41	85
Total	**05**	**--**	**--**	**--**	**118**	**64**	**182**	**118**	**64**	**182**
IV Livestock Production and Management										

Dairy Management	04	--	--	--	70	106	176	70	106	176
Feed management	06	--	--	--	155	219	374	155	219	374
Total	**10**	**--**	**--**	**--**	**225**	**325**	**550**	**225**	**325**	**550**
V Home Science/Women empowerment										
Nutritional gardening	01	--	--	--	--	30	30	--	30	30
Value addition	01	--	--	--	--	31	31	--	31	31
Total	**02**	**--**	**--**	**--**	**--**	**61**	**61**	**--**	**61**	**61**
VI Agril. Engineering										
Installation and maintenance of micro irrigation systems	04	--	--	--	83	02	85	83	02	85
Use of Plastics in farming practices	01	--	--	--	18	-	18	18	-	18
Total	**05**	**--**	**--**	**--**	**101**	**02**	**103**	**101**	**02**	**103**
VII Plant Protection										
Integrated Pest-disease Management	01	--	--	--	21	06	27	21	06	27
Bio-control of pests and diseases	01	--	--	--	58	08	66	58	08	66
Total	**02**	**--**	**--**	**--**	**79**	**14**	**93**	**79**	**14**	**93**
X Capacity Building and Group Dynamics										
Leadership development	02	--	--	--	63	01	64	63	01	64
Formation and Management of SHGs	02	--	--	--	51	74	125	51	74	125
Total	**04**	**--**	**--**	**--**	**114**	**75**	**189**	**114**	**75**	**189**
Grand Total	**47**				**1215**	**867**	**2082**	**1215**	**867**	**2082**

Farmers' Training including sponsored training programmes (off campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	01	--	--	--	15	14	29	15	14	29
Water management	01	--	--	--	16	--	16	16	--	16
Integrated Crop Mgt.	11	--	--	--	230	119	349	230	119	349
Total	**13**	**--**	**--**	**--**	**261**	**133**	**394**	**261**	**133**	**394**
II Horticulture										
a) Vegetable Crops										
Production of low volume and high value crops	01	--	--	--	10	06	16	10	06	16
Total	**01**	**--**	**--**	**--**	**10**	**06**	**16**	**10**	**06**	**16**
III Soil Health and Fertility Management										
Integrated Nutrient Management	02	--	--	--	41	11	52	41	11	52
Soil and Water Testing	01	--	--	--	17	--	17	17	--	17
Total	**03**	**--**	**--**	**--**	**58**	**11**	**69**	**58**	**11**	**69**
IV Livestock Production and Management										
Dairy Management	03	--	--	--	25	110	135	25	110	135
Feed management	05	--	--	--	29	107	136	29	107	136
Total	**08**	**--**	**--**	**--**	**54**	**217**	**271**	**54**	**217**	**271**
V Home Science/Women empowerment										
Nutritional gardening	03	--	--	--	25	161	186	25	161	186
Total	**03**	**--**	**--**	**--**	**25**	**161**	**186**	**25**	**161**	**186**
VI Agril. Engineering										
Installation and maintenance of micro irrigation systems	01	--	--	--	18	--	18	18	--	18

Repair and maintenance of farm machinery and implements	03	--	--	--	98	53	151	98	53	151
Total	**04**	**--**	**--**	**--**	**116**	**53**	**169**	**116**	**53**	**169**
VII Plant Protection										
Integrated Pest-disease Management	06	--	--	--	127	24	151	127	24	151
Bio-control of pests and diseases	04	--	--	--	61	22	83	61	22	83
Total	**10**	**--**	**--**	**--**	**188**	**46**	**234**	**188**	**46**	**234**
X Capacity Building and Group Dynamics										
Leadership development	01	--	--	--	21	04	25	21	04	25
Formation and Management of SHGs	02	--	--	--	51	08	59	51	08	59
Total	**03**	**--**	**--**	**--**	**72**	**12**	**84**	**72**	**12**	**84**
Grand Total	**45**	--	--	--	**784**	**639**	**1423**	**784**	**639**	**1423**

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

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	03	--	--	--	68	42	110	68	42	110
Water management	04	--	--	--	54	67	121	54	67	121
Nursery management	01	--	--	--	65	35	100	65	35	100
Integrated Crop Management	19	--	--	--	515	281	796	515	281	796
Total	**27**	**--**	**--**	**--**	**702**	**425**	**1127**	**702**	**425**	**1127**
II Horticulture										
a) Vegetable Crops										
Production of low volume and high value crops	03	--	--	--	88	22	110	88	22	110
Nursery raising	01	--	--	--	20	02	22	20	02	22
b) Fruits										
Cultivation of Fruit	01	--	--	--	30	--	30	30	--	30
c) Tuber crops										
Production and Management technology	01	--	--	--	09	16	25	09	16	25
Total	**06**	**--**	**--**	**--**	**147**	**40**	**187**	**147**	**40**	**187**
III Soil Health and Fertility Management										
Integrated Nutrient Management	03	--	--	--	67	12	79	67	12	79
Production and use of organic inputs	02	--	--	--	48	22	70	48	22	70
Soil and Water Testing	03	--	--	--	61	41	102	61	41	102
Total	**08**	**--**	**--**	**--**	**176**	**75**	**251**	**176**	**75**	**251**
IV Livestock Production and Management										
Dairy Management	07	--	--	--	95	216	311	95	216	311

Feed management	11	--	--	--	184	326	510	184	326	510
Total	**18**	**--**	**--**	**--**	**279**	**542**	**821**	**279**	**542**	**821**
V Home Science/Women empowerment										
Nutritional gardening	04	--	--	--	25	191	216	25	191	216
Value addition	01	--	--	--	--	31	31	--	31	31
Total	**05**	**--**	**--**	**--**	**25**	**222**	**247**	**25**	**222**	**247**
VI Agril. Engineering										
Installation and maintenance of micro irrigation systems	05	--	--	--	101	02	103	101	02	103
Use of Plastics in farming practices	01	--	--	--	18	-	18	18	-	18
Repair and maintenance of farm machinery and implements	03	--	--	--	98	53	151	98	53	151
Total	**09**	**--**	**--**	**--**	**217**	**55**	**272**	**217**	**55**	**272**
VII Plant Protection										
Integrated Pest-disease Management	07	--	--	--	148	30	178	148	30	178
Bio-control of pests and diseases	05	--	--	--	119	30	149	119	30	149
Total	**12**	**--**	**--**	**--**	**267**	**60**	**327**	**267**	**60**	**327**
X Capacity Building and Group Dynamics										
Leadership development	03	--	--	--	84	05	89	84	05	89
Formation and Management of SHGs	04	--	--	--	102	82	184	102	82	184
Total	**07**	**--**	**--**	**--**	**186**	**87**	**273**	**186**	**87**	**273**
Total	**92**	--	--	--	**1999**	**1506**	**3505**	**1999**	**1506**	**3505**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Value addition	01	--	--	--	--	16	16	--	16	16
Rural Crafts	03	--	--	--	--	71	71	--	71	71
Total	**04**	--	--	--	--	**87**	**87**	--	**87**	**87**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Mushroom production	01	--	--	--	--	21	21	--	21	21
Natural Fiber articles preparation	02	--	--	--	--	58	58	--	58	58
Rural Crafts	02	--	--	--	--	49	49	--	49	49
Total	**05**	--	--	--	--	**128**	**128**	--	**128**	**128**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Value addition	01	--	--	--	--	16	16	--	16	16
Rural Crafts	05	--	--	--	--	130	130	--	130	130
Mushroom production	01	--	--	--	--	21	21	--	21	21
Natural Fiber articles preparation	02	--	--	--	--	58	58	--	58	58
Total	**09**	--	--	--	--	**225**	**225**	--	**225**	**225**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Integrated nutrient management	01	07	05	12	--	--	--	07	05	12
Nutritional gardening	04	--	--	--	--	310	310	--	310	310
Eco friendly pest management	01	--	--	--	17	03	20	17	03	20
Total	**06**	**07**	**05**	**12**	**17**	**313**	**330**	**24**	**318**	**342**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Group Dynamics and farmers organization	02	--	--	--	48	35	83	48	35	83
Livestock feed and fodder production	01	--	--	--	27	--	27	27	--	27
Scientific cultivation of high valued vegetables	01	--	--	--	31	23	54	31	23	54
Total	**04**	--	--	--	**106**	**58**	**164**	**106**	**58**	**164**

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Integrated nutrient management	01	07	05	12	--	--	--	07	05	12
Nutritional gardening	04	--	--	--	--	310	310	--	310	310
Ecofriendly pest management	01	--	--	--	17	03	20	17	03	20
Group Dynamics and farmers organization	02	--	--	--	48	35	83	48	35	83
Livestock feed and fodder production	01	--	--	--	27	--	27	27	--	27
Scientific cultivation of high valued vegetables	01	--	--	--	31	23	54	31	23	54
Total	**10**	**07**	**05**	**12**	**123**	**371**	**494**	**130**	**376**	**506**

Table. Sponsored training programmes

Area of training	No. of Courses	No. of Participants									Sponsoring agency
		General			SC/ST			Grand Total			ATMA
		Male	Female	Total	Male	Female	Total	Male	Female	Total	
Crop production and management											
Increasing production and productivity of crops	08	--	--	--	218	224	442	218	224	442	
Soil health and fertility management	01	--	--	--	30	10	40	30	10	40	
Methods of protective cultivation	01	--	--	--	05	45	50	05	45	50	
Total	**10**	--	--	--	**253**	**279**	**532**	**253**	**279**	**532**	
Farm machinery		--	--	--							
Farm machinery, tools and implements	01				--	47	47	--	47	47	
Total	**01**	--	--	--	**--**	**47**	**47**	**--**	**47**	**47**	
Home Science		--	--	--							
Household nutritional security	01	--	--	--	06	54	60	06	54	60	
Total	**01**	--	--	--	**06**	**54**	**60**	**06**	**54**	**60**	
Agricultural Extension		--	--	--							
Capacity Building and Group Dynamics	04	--	--	--	88	129	217	88	129	217	
Total	**04**	--	--	--	**88**	**129**	**217**	**88**	**129**	**217**	
GRAND TOTAL	**16**	--	--	--	**347**	**509**	**856**	**347**	**509**	**856**	

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
PHT and value addition										
Value addition	01	--	--	--	--	16	16		16	16
Total	**01**	--	--	--	--	**16**	**16**		**16**	**16**
Income generation activities		--	--	--	--					
Rural Crafts	07	--	--	--	--	178	178		178	178
Mushroom cultivation	01	--	--	--	--	21	21		21	21
Total	**08**	--	--	--	--	**199**	**199**		**199**	**199**
Grand Total	**09**	--	--	--	--	**215**	**215**		**215**	**215**

IV. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	--	799	--	799
Diagnostic visits	66	527	--	527
Field Day	06	575	06	581
Kisan Ghosthi	26	725	--	725
Film Show	35	1061		1061
Kisan Mela	--	--	--	--
Exhibition	07	2554	06	2560
Scientists' visit to farmers field	88	181	07	188
Animal health camps	02	97	05	102
Farmers' seminar/workshop	10	770	06	776
Method Demonstrations	10	151	06	157
Celebration of important days	03	547	05	552
Special day celebration	--	--	--	--
Exposure visits	--	--	--	--
Soil Health camp	12	461	--	461
Lecture delivered in other programmes	33	11110	30	11140
Total	**298**	**19508**	**71**	**19579**

Details of other extension programmes

Particulars	Number
Extension Literature	10
News paper coverage	23
Popular articles	10
Radio Talks	10
TV Talks	06
Animal health amps (Number of animals treated)	107
Others (Soil health camps)	12
Total	**177**

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	Total
Valsad	**Text only**	**14**	--	--	--	--	--	**14**
	Total Messages	**14**	--	--	--	--	--	**14**
	Total farmers Benefitted	**76738**	--	--	--	--	--	**76783**

V. DETAILS OF TECHNOLOGY WEEK CELEBRATION (Kisan Week)

Number of KVKs organized Technology Week	Types of Activities	No. of Activities	Number of Participants	Related crop/livestock technology
1	Gosthies	06	775	Soil fertility, Mango, Vegetable & Pulse production , LBF
	Lectures organised			
	Exhibition	01	438	Mango production
	Film show			
	Fair			
	Distribution of Literature (No.)	05	580	Mango ,Indian bean cultivation ,Soil-water testing, LBF, Kitchen gardening
	Distribution of Seed (q)	01	25	Fodder sorghum
	Distribution of Planting materials (No.)			
	Bio Product distribution (Kg)			
	Bio Fertilizers (q)	01	58	Liquid Bio fertilizer
	Total number of farmers visited the technology week	06	775	

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

Production of seeds by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers
Cereals	PADDY	GAR-13 MTU-1010	--	67.03 39.60	201090 118800	726
Pulses	Green gram	Meha	--	0.87	12180	25
	Pigeon pea	Vaishali	--	0.30	3000	20
	Chickpea	GG-2	--	3.30	29700	25
Others	Sugarcane	Co.N-7072	--	300.00 qt.	66000	23
Total			--	**411.10**	**430770**	**819**

Production of planting materials by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Number	Value (Rs.)	Number of farmers
Vegetable seedlings	Brinjal	DPR	--	225000	90000	700
	Brinjal	--	Mukta round	60500	36300	
	Tomato	--	NS-501(Namdhari)	12000	12000	
	Chilli	--	4884 (Seminis)	17000	17000	
	Cabbage	--	Golden acre	10000	5000	
	Cauliflower	--	Snowball white	10000	5000	
	Drumstick	PKM-1	--	2000	20000	155
Tuber	Sweet potato	CO-3-4	--	264000 cuttings	96000	42
Fodder crop saplings	Perrenial grass	Co-4	--	210000 (tousseks)	75000	1063
Total					**356300**	**1960**

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity Nos./Kg	Value (Rs.)	No. of Farmers
Bio Agents	Fruitfly trap(Mango)	1973 no.	58550	135
	Fruitfly trap(vegetables)	50 no.	3000	25
Others	Earthworms	30.0 kg.	5250	06
	Vermicompost	22100 kg.	88400	110
Total		**24153**	**152200**	**276**

Table: Production of livestock materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers
Dairy animals				
Heifer	H F	02	40000	--
Total	H F	02	40000	--

VII. DETAILS OF SOIL, WATER AND PLANT ANALYSIS

Samples	No. of Samples	No. of Farmers	No. of Villages	Amount realized (Rs.)
Soil	657	650	53	23280
Water	241	234	48	12050
Plant	88	93	48	--
Total	**986**	**977**	**149**	**35330**

VIII. SCIENTIFIC ADVISORY COMMITTEE

Name of KVK	Number of SACs conducted
VALSAD	01

IX. NEWSLETTER/MAGAZINE

Name of News letter/Magazine	No. of Copies printed for distribution
KVK- Newsletter	400

X. PUBLICATIONS

Category	Number
Research Paper	02
Technical bulletins	03
Technical reports	05
Others Popular articles	10
Leaflet / folders	07

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

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

Introduction of alternate crops/varieties-Nil

Major area coverage under alternate crops/varieties- Nil

Farmers-scientists interaction on livestock management- Nil

Animal health camps organised - Nil

Seed distribution in drought hit states- Nil

Large scale adoption of resource conservation technologies - Nil

Awareness campaign - Nil

XIII. DETAILS ON HRD ACTIVITIES

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

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

XIV. CASE STUDIES (CASE STUDIES MAY BE GIVEN IN DETAIL AS PER THE FOLLOWING FORMAT)

a) ***Effective popularization on a larger scale of any one FLD technology and its role in transformation of district***

Name of the KVK : Krishi Vigyan Kendra-Ambheti-Valsad (Guj.)

Title : Introduction of yellow vein mosaic disease resistant variety for summer green gram crop.

Introduction :-

Green gram is an important pulse crop grown in summer season in Valsad district. The farmers of district use green gram varieties like K-851 which are susceptible to yellow vein mosaic disease. Thus farmer getting poor yield and fetches low market price and sometimes loss or failure of crop due to yellowing.

Intervention :-

A training program on cultivation practices of new improved summer green gram variety was organized.

The front line demonstration on Meha cultivar which is resistance to yellow vein mosaic disease were conducted at farmer's field.

Seed treatment of rhizobium culture and line sowing (45 cm. x 10-15 cm. spacing) to maintain plant population was demonstrated.

Output :-

Results of demonstration shows that the local variety gave yield of 565 kg/ha .Due to yellow vein mosaic disease reduce the quality of seed . Demonstrated summer green gram var. Meha with improved practices gave yield of 696 kg/ha having with good quality seeds. The demonstrated variety Meha gave 23.18 percent higher yield compared to local varieties.

TABLE : RESULT OF FRONTLINE DEMONSTRATIONS(FLDs)

Crop and Season	Farming Situation	Area (ha)	Grain Yield (kg/ha)		Gross Return (Rs/ha)		Net Return (Rs/ha)		BCR	
			(IP)	(FP)	(IP)	(FP)	(IP)	(FP)	(IP)	(FP)
Green gram (Summer)	Irrigated	7.6	696.4	565	34821	28250	24,451	18,283	3.36	2.84

Note : Average Selling price of Green gram 50 Rs./kg

Outcome :-

It is possible to take green gram crop in summer season by adopting cultivar Meha, without risk or failure due to yellowing. This give an opportunity to farmers with limited availability of irrigation water in tribal area and also produce the nutritive dry fodder for animals.

Impact:-

The demonstrated greengram variety Meha has created very good impression among the other summer green gram growers of the village and in surrounding villages. One of the farmer sell 45 kg seed@120 Rs. to other farmer's of the village and his relatives for summer cultivation of green gram. Now a days, farmers of Dharampur and Pardi block increase the area of green gram and take a healthy crop in summer season.

Photographs of summer green gram var. Meha

b) Performance of the end results of any one technology assessed, its refinement if any and its impact in district agriculture with respect to that crop or enterprise

Name of the KVK : Krishi Vigyan Kendra-Ambheti-Valsad (Guj.)

TITLE : Combined application of Azolla and LBF in Paddy

Introduction

Paddy is a major crop of Valsad district. Farmers of district use large amount of chemical fertilizers. Yield potentiality of rice and soil fertility declined due to continuous use of costly chemical fertilizers. Liquid biofertilisers and Azolla are much more economical and safer source of plant nutrients. The important factor in using *Azolla* and liquid biofertilizer for rice crop is its quick decomposition in soil and efficient availability of its nitrogen to rice. Combine use of Azolla and liquid biofertilisers can improve soil fertility and yield of paddy with reduction in cost of cultivation .

KVK intervention

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 done with their active participation. Treatments were thoroughly discussed with them and lastly according to their suggestions treatments were finalized as below,

T_1 : Farmer practice

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)

***** Broadcast the fresh *Azolla* in the transplanted rice field on 7th day after planting @ 500 kg ha^{-1}

From among these five farmers were selected for testing the technology on their farm. The technological backstopping were provided by the KVK scientist as a facilitator as and when required by the farmers. KVK-Valsad (Guj.) has conducted field trials at Asma village of Pardi block of Valsad district to assess the combined application of Azolla and liquid biofertilisers in paddy.

Output

Results of trials shows that highest seed yield was obtained with application of SAU`s RDF, but recommendation of large amount of organic manures increase the cost of cultivation and reduce in net profit than farmer practices. An application of 50% N of RDF with Twice incorporation of Azolla @ 0.1 kg m^{-1}(30 & 60 DAP) with Liquid Biofertilisers (i.e *Azotobactor* & PSB) @ 1.25 lit ha^{-1} (as seedling treatment) noted 5.71 to 9.96 percent increase in yield which was quietly less than SAU`s

recommendation although it reduced in cost of cultivation about 6.79 to 9.76 and increase in net profit about 29.70 to 43.07 percent than farmer practice with highest BCR 1.62 to 2.09 without adverse effect on soil health.

Table . Effect of combined application of Azolla and LBF on paddy

Treatment	Seed yield (kg/ha)			Increase in Yield (%)			Reduction in cost of cultivation (%)			Increase in Net profit (%)			BCR		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
T_1	3422	3543	2712	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.64	1.76	1.23
T_2	3814	4117	3525	11.47	16.19	29.97	-6.67	-9.39	-11.13	18.97	25.23	31.48	1.71	1.87	1.48
T_3	3617	3805	3252	5.71	7.38	19.96	9.76	9.54	6.79	29.89	29.70	43.07	1.92	2.09	1.62

Outcome

With the combined use of Azolla and liquid Biofertilisers in paddy crop, it is possible to reduce cost of cultivation by reducing chemical fertilizer cost with highest value of BCR without deteriorating the soil health.

Impact

Paddy growers of the surrounding villages have expressed interest to prepare Azolla nursery units and use of *Azolla* and LBF in paddy cultivation for healthy agriculture. Under the guidance of kvk as many as 20 Azolla nursery units have been developed. KVK supplied about 500lit. LBF (i.e Azotobactor, PSB,KMB etc.) to the farmers of Pardi block of Valsad.




Photographs of OFT Plots of combined application of Azolla and LBF in Paddy.