ANNUAL PROGRESS REPORT – 2010-11
(01.04.2010 TO 31.03.2011)

1. GENERAL INFORMATION ABOUT THE KVK

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

Address	Telephone		E mail
	Office	FAX	
Krishi Vigyan Kendra Navsari Agricultural University Regional Rice Research Station Vyara, Dist. Tapi, Gujarat-394 650	(02626) 221869	(02626) 220212	kvkvyara@yahoo.co.in

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

Address	Telephone		E mail
	Office	FAX	
Director of Extension Education Navsari Agricultural University Navsari	(02637) 282026	(02637) 282706	deenaunvs@yahoo.co.in

1.3. Name of the Programme Coordinator with phone & mobile No

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. Nikulsinh M. Chauhan	-	9427868668	nikulsinh_m@yahoo.in

1.4. Year of sanction: 2004 (As ZARS KVK – 2000)

1.5. Staff Position (as on 1st April 2011)

Sr. No.	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale (Rs.)	Present basic (Rs.)	Date of joining	Permanent /Temporary	Category (SC/ST/ OBC/ Others)
1	Programme Coordinator	Dr. N. M. Chauhan	PC	Extension Education	15600-39100 G.P. - 8000	30320	16/02/2009	Permanent	General
2	Subject Matter Specialist	Dr. A. P. Patel	SMS	Agronomy	15600-39100 G.P. - 6000	21600	10/07/2009	Permanent	ST
3	Subject Matter Specialist	Mr. S. T. Bhatt	SMS	Horticulture	15600-39100 G.P. – 6000	15600	01/04/2011	Permanent	General
4	Subject Matter Specialist	Dr. J. H. Rathod	SMS	Plant Protection	15600-39100 G.P. – 6000	24810	31/07/2009	Permanent	General
5	Subject Matter Specialist	Mr. C. D. Pandya	SMS	Extension Education	15600-39100 G.P. – 6000	24750	29/07/2009	Permanent	General
6	Subject Matter Specialist	Arti N. Soni	SMS	Home Science	15600-39100 G.P. – 6000	22250	04/04/2008	Permanent	General
7	Subject Matter Specialist	Dr. J. K. Raval	SMS	Veterinary Science	15600-39100 G.P. – 6000	15600	01/04/2011	Permanent	OBC
8	Programme Assistant	--	Prog. Assi.	--	Vacant	--	--	--	--
9	Computer Programmer	Nisheeta R. Patel	Comp. Prog.	--	Fixed	6000	21/08/2008	Permanent	SC
10	Farm Manager	Mr. V. N. Parmar	Farm Manager	--	Fixed	6000	23/08/2007	Permanent	General
11	Accountant / Superintendent	--	Acct. / Super.	--	Vacant	--	--	--	--
12	Stenographer	Mr. K. R. Parmar	Steno.	--	Fixed	4500	18/08/2008	Permanent	General
13	Driver	Mr. C. I. Patel	Driver	--	Fixed	4500	23/08/2007	Permanent	OBC
14	Driver	--	Driver	--	Vacant	--	--	--	--
15	Supporting staff	--	Supp. Staff	--	Vacant	--	--	--	--
16	Supporting staff	--	Supp. Staff	--	Vacant	--	--	--	--

1.6. Total land with KVK (in ha) :

S. No.	Item	Area (ha)
1	Under Buildings	2.5
2.	Under Demonstration Units	--
3.	Under Crops	6.0
4.	Orchard/Agro-forestry	0.8
5.	Others (specify)	--

1.7. Infrastructural Development:

A) Buildings

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1	Administrative Building	ICAR	--	--	--	--about to complete--		
2	Farmers Hostel	--	--	--	--	-- about to complete --		
3	Staff Quarters (5)	ICAR	--	--	--	-- about to complete --		
4	Demonstration Units (2)	--	--	--	--	--	--	--
5	Fencing	--	--	--	--	--	--	--
6	Rain Water harvesting system	--	--	--	--	--	--	--
7	Threshing floor	--	--	--	--	--	--	--
8	Farm godown	--	--	--	--	--	--	--

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Jeep (Bolero)	2004	4,30,500=00	226555	Working
Tractor	2001	3,31225=00	4502	Working
Motorcycle	2011	48,816=00	--	Working

C) Equipments & AV aids

Sr. No.	Name of Equipments/ Instruments/ Farm Machineries	No.	Date of Purchase	Price	Present Status
1	**2**	**3**	**4**	**5**	**6**
(1)	Furniture (Godrej)				
1	Table T-9	4	30/3/2001	26636	Working
2	Table T-104	1	30/3/2001	8515	Working
3	Chair CH-18C	20	30/3/2001	43300	Working
4	Chair PCH-700 B	1	30/3/2001	8168	Working
5	Chair CH-7 B	4	30/3/2001	5692	Working
6	Store Well – Glass Door	1	30/3/2001	9259	Working
7	Slotted Angel Racks	4	30/3/2001	4900	Working

Sr. No.	Name of Equipments/ Instruments/ Farm Machineries	No.	Date of Purchase	Price	Present Status
(2)	Mahindra Tractor model 575 DI 45 HP & Accessories	1	30/3/2001	3,31,225	Working
(3)	Photo Copier NP 7160 Canon NPG-1	1	31/3/2001	117274	Not working
(4)	Furniture (Godrej)				
1	Table –T- 402	5	27/12/2002	24600	Working
2	Comp. Table C-6	1	27/12/2002	5255	Working
3	Store Well – Glass Door	1	27/12/2002	9330	Working
4	Store Well Plane	2	27/12/2002	16000	Working
5	Chair CHR-7B	15	27/12/2002	22350	Working
6	Chair PCH-5000 2 T	2	27/12/2002	7230	Working
7	Filing Cabinet	1	27/12/2002	7900	Working
(5)	Computer & Peripherals	1	28/12/2002	51850	Working
(6)	3 KVA on line UPS	1	28/12/2002	38000	Not working
(7)	HP Laser Jet 1200 Printer	1	28/12/2002	20600	Not working
(8)	MSXP standard edition with Indian Longwise Proofing tools	1	30/12/2002	6450	Not Working
(9) 1	CD writer	1	28/12/2002	3025	Working
2	HP Scan jet 2300c Scanner	1	28/12/2002	3700	Not Working
(10) 1	Ceramic steel white writing board 4'x6'	1	21/2/2003	9000	Working
2	Ceramic chalk writing board 4'x 6'	1	21/2/2003	9000	Working
(11) 1	Over Head Projector	1	22/3/2003	27690	Working
2	Plastic screen with tripod stand	1	22/3/2003	4500	Working
(12) 1	LG 29 CA Color TV 29"	1	21/3/2003	26990	Working
2	Thomson 5 in 1 VCD player	1	21/3/2003	6990	Working
(13)	P.A. System				
1	Amplifier SSA 250	1	22/3/2003	9400	Working
2	Eco Mixture DMX 40	1	22/3/2003	3249	Working
3	Full Range Speaker SRX 250 D	4	22/3/2003	24472	Working
4	Microphone		22/3/2003		Working
	ALD 101 x LR	1	22/3/2003	1140	Working
	ATP 20 M	1	22/3/2003	489	Working
	WM 201	1	22/3/2003	1615	Working
5	Unit Horn Combination UHC 30 x T	1	22/3/2003	1188	Working
6	Micro Phone Stand		22/3/2003		Working
	DGN	1	22/3/2003	456	Working
	DGT	1	22/3/2003	285	Working
	ATS:5	1	22/3/2003	100	Working
(14)	A.V. Trolly	1	22/3/2003	4132	Working
(15)	Laminated Chart with wooden Frame size 20" x 30"	33	22/3/2003	24420	Working
(16)	Sony Digital Handy cam	1	22/3/2003	32750	Working

Sr. No.	Name of Equipments/ Instruments/ Farm Machineries	No.	Date of Purchase	Price	Present Status
1	Power adapter	1	22/3/2003		Working
2	Battery	1	22/3/2003		Working
3	Remote Control	1	22/3/2003		Working
4	AV Connecting Cable	1	22/3/2003		Working
5	Belt shoulder strap	1	22/3/2003		Working
6	Handy Cam Recording Caset	1	22/3/2003		Working
(17)	Automatic slide Projector	1	22/3/2003	13695	Working
(18)	Portable Generator EXK 2000 AC	1	24/3/2003	38200	Working
(19)	Education Exhibition Panel System	1	25/3/2003	13500	Working
1	News Paper Stand	1	25/3/2003	3500	Working
2	Displayer/Book/ Magazine Stand	1	25/3/2003	3500	Working
3	Notice Writing Board with Acrylic Shutter	1	25/3/2003	4450	Working
(20)	Stainless steal Vessels	23	28/3/2003	19450	Working
(21)	Modem	1	31/3/2003	2020	Working
(22)	Laminated Charts with Plywood Framing size 24”x30”	5	12/3/2004	3000	Working
(23)	Colour Enlargement charts	33	29/3/2004	24420	Working
(24)	Jeep Mahindra & Mahindra Bolero D.I.	1	2/12/2004	430500	Working
(25)	Bolero Acessories		2/12/2004	21650	Working
(27)	Whirlpool freez	1	27/3/2006	15800	Working
(28) 1	Electronic Automatic Kel Pus Microprocessor based eight place macro block digestion system model KES-08L	1	27/3/2006	88120	Working
2	Electronic Kel plus micro processor based Automatic Distillation system model distil EM	1	27/3/2006	142300	Working
(29)	Double still with thermo sensor hr (All glass) cat No 2348	1	27/3/2006	33924	Working
(30)	Nova Rotary shaking machine				
1	(a)Capacity 16 flasks of 250 ml	1	28/3/2006	24500	Working
2	(b)Capacity 25 flasks of 250 ml	1	28/3/2006	29750	Working
3	Nova Hot plate Rectangular model NV-8535 stainless steel				
	(a) Size 12” x 20”	1	28/3/2006	8500	Working
	(b) Size 18” x 24”	1	28/3/2006	11250	Working
4	Nova willy mill stain lese steel camber Size 100 x 50 mm	1	28/3/2006	31900	Working
(31)1	Laboratory Table	4	27/3/2006	34400	Working
2	Racks	6	27/3/2006	9000	Working
3	Stools	12	27/3/2006	5400	Working

Sr. No.	Name of Equipments/ Instruments/ Farm Machineries	No.	Date of Purchase	Price	Present Status
4	Steel cupboard storewell	4	27/3/2006	19200	Working
5	Steel cupboard storewel	4	27/3/2006	14000	Working
6	Steel racks	4	27/3/2006	8600	
7	Partition racks	3	27/3/2006	22500	Working
8	Office chair	4	27/3/2006	4000	Working
(32)	Systronics make				
1	Micro controller based Digital spectrophotometer model -106	1	27/3/2006	26800	Working
2	Systronics make micro controller based flame photometer compressor model-128	1	27/3/2006	35200	Working
3	Systronics make micro controller based PH meter	1	27/3/2006	10900	Working
4	Systronics make micro processor based conductivity meter	1	27/3/2006	12800	Working
(33)	Hot air oven	1	27/3/2006	21200	Working
(34) 1	Chemical Balance	1	27/3/2006	75000	Working
2	CENTRO FIX WATERBATH	1	27/3/2006	10800	Working
3	CENTRO FIX – Muffle furnace	1	27/3/2006	29500	Working
4	Automatic autoclave	1	27/3/2006	21000	Working
(35)	City weigh balance model ST-10 Cap- 10 kg	1	27/3/2006	10640	Working
(36) 1	LG AC-15 ton	1	31/3/2006	23740	Working
2	Micro kjeldahl Assembly	1	31/3/2006	10700	Working
(37)	Burner maker type with stop coke	8	31/3/2006	2000	Working
(38)	Voltas make water cooler	1	31/3/2006	26500	Working
(39) 1	Soft Pin up Board	25	29/11/2007	96250	Working
2	Single Pole Stand	26	29/11/2007	35360	Working
(40)	Microscope for Computer	1	17/3/2008	294028	Working
(41) 1	SDZ – TR – PL – HL Microscope controlled Transformer	1	15/3/2008	209444	Working
2	OP – 150 R Fibre Optic Illumivater	1	15/3/2008		Working
3	GMTV – 33 H High Resolution Coloured CCTV system	1	15/3/2008		Working
(42)	Colony Counter – MSW – 408	1	15/3/2008	5668	Working
(43)	Oven Universal – MSW – 213	1	15/3/2008	65788	Working
(44)	Insect Rating Case	5	17/3/2008	14000	Working
(45)	LG A/C machine 2.0 Ton Split AC with Remote	2	17/3/2008	58680	Working
(46)	LG Refrigeration–280 Lit. Model -295TMG4	1	25/3/2008	18000	Working

Sr. No.	Name of Equipments/ Instruments/ Farm Machineries	No.	Date of Purchase	Price	Present Status
(47)	Phillips Grinder – 1618	2	25/3/2008	6000	Working
(48)	Sony Cyber Shot – DSC – W 90	1	25/3/2008	14800	Working
(49) 1	Pressure Cooker – 8 lit.	1	24/3/2008	4500	Working
2	S/A/S Tope – 17''	1	24/3/2008		Working
3	S/A/S Tope – 21''	1	24/3/2008		Working
4	S. S. Cover	2	24/3/2008		Working
(50) 1	Insect Display show cases	4	24/3/2008	17420	Working
2	Insect Show cases cabinet	1	24/3/2008		Working
(51) 1	Compaq Computer – 3250 IL	1	25/3/2008	28950	Working
2	MS XP Professional Vista License Copy	1	25/3/2008	6000	Working
(52)	Top Loading Balance – BH 200 H	1	19/3/2008	28120	Working
(53)	Digital Conductivity TDS Meter Model - 307	1	24/3/2008	11648	Working
(54)	Digital PH meter Model - 802	1	24/3/2008	7006	Working
(55)	Distillation Apparatus (J – sil)	1	24/3/2008	15912	Working
(56)	H/P Laser Jet Printer - 1022	1	25/3/2008	10990	Working
(57)	Steel Rack KV-110 78''x36''x15''	5	25/3/2008	9844	Working
(58) 1	Steel Cupboard – 78''x36''x19''	2	23/3/2008	11100	Working
2	Computer Table	1	23/3/2008	3300	Working
3	Computer Chair	2	23/3/2008	5200	Working
(59)	Shaking Incubator – 24 BL	1	25/3/2008	95387	Working
(60)	CentriFuge – R – 24 Voltage stabilizer 3.0 KVA	1 1	25/3/2008 25/3/2008	32025 6630	Working
(61)	Double Pan Balance Analytical Weight Box	1 1	24/3/2008	3640	Working
(62)	Gas Cylinder, Regulator, Gas Stove	1	13/3/2008	1930	Working
(63)	B.O.D. Incubator - 270	1	22/3/2008	90534	Working
(64)	KLENZFLO Horizontal laminar clean air work station – 1500c	1	28/3/2008	138320	Working
(65)	Crompton Greaves Fans	4	28/3/2008	6800	Working
(66)	Humidifier (S.S. Body)	1	30/3/2008	11034	Working
(67)	ASPEE Tractamount Bloover fro Intranational	1	30/3/2008	99960	Working
(68)	Panasonic Multifunctional Device Copy/Print/Scan/Fax	1	28/03/2010	14900	Working
(69)	Eco Display Unit Size : 6' x 2'	1	28/03/2010	9625	Working
(70)	DIM System size : 36'' x 24''	2	28/03/2010	19250	Working
(71) 1	Podium	1	28/03/2010	4200	Working

Sr. No.	Name of Equipments/ Instruments/ Farm Machineries	No.	Date of Purchase	Price	Present Status
2	Podium	1	28/03/2010	4200	Working
(72) 1	LCD Projector - Mo.D.832 Mx	1	06/01/2011	66305	Working
2	VIVITEK Dongel	1	06/01/2011	16910	Working
3	WALTOP 6'' Interactive RF Pod	1	06/01/2011	14863	Working
4	Motorized Screen size – 5'x7'	1	06/01/2011	12905	Working
5	Impact 65 T (PA system)	1	06/01/2011	17800	Working
(73) 1	23'' – LCD Computer	1	15/10/2010	33420	Working
2	Branded CPU E-Machine		15/10/2010	''	Working
3	Printer – Canon	1	15/10/2010	8500	Working
4	UPS – Umax 600 VA	1	15/10/2010	1850	Working
5	HP Scanner	1	15/10/2010	4500	Working
6	Q.H. Internet Security	1	15/10/2010	1150	Working
(74)	Crystal EPABX system set and accessories	1	11/02/2011	49219	Working
(75) 1	Power Tiller	1	18/02/2011	149430	Working
2	Multi crop Thresher	1	18/02/2011	23100	Working
		1	18/02/2011	26000	Working
3	Power Sprayer	1	18/02/2011	24850	Working
4	Winnower	1	18/02/2011	24150	Working
5	Seed cum Ferti. drill	1	18/02/2011	28880	Working
(76) 1	Steel Cupboard 18"X 36"X 78"	9	8/1/2011	58977	Working
2	Visitor Chair	25	8/1/2011	48475	Working
3	Rack- 6 X 3 X 1 foot	15	8/1/2011	43170	Working
4	Rivolving Chair	6	8/1/2011	21810	Working
***(77)**1	Gayatri two-way Leveller Heavy Duty	1	11/3/2011	12600	Working
2	Gayatri Cultivator Heavy Duty	1	11/3/2011	20700	Working
***(78)**	Plough & Harrow	1	17/2/2011	19000	Working
***(79)**1	Rotavator- 5.25	1	13/3/2011	60380=95	Working
2	Hydrolic trailor	1	13/3/2011	102380=90	Working
(80)	Varoon Vinowing Monoblock Electric Fan	1	25/3/2011	6900	Working
(81)	Splender Pro Kick Spoke	1	31/3/2011	41860	Working
(82)	Sub-mersible pump set 2 H.P. with accessories	1	28/3/2011	14600	Working
(83)	Splendor Pro Kick Spoke	1	29/3/2011	48816	Working

***77, 78 and79 purchased from University Grant not from ICAR**

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

Sl. No.	Date	Name and Designation of Participants	Salient Recommendations	Action taken
1.	17/8/2010	1. Dr. A. R. Pathak, Vice Chancellor Navsari Agricultural University, Navsari 2. Dr. R. B. Patel, Director of Extension Education, N.A.U., Navsari 3. Dr. C. L. Patel, Director of Research N.A.U, Navsari 4. Dr. V. J. Zinzala, District Agriculture Officer District Panchayat, Vyara, Tapi 5. Mr. G. M. Borad, Representative Director, District Rural Development Agency, Vyara 6. Mr. P. M. Acharya, Deputy Director of Agriculture (Ext.), Lal Banglow, Athwalines, Surat 7. Mr. C. C. Garasiya, Deputy Director of Horticulture Farmers Training Centre, Panwadi, Vyara 8. Dr. K. J. Shukla, Deputy Director of Animal Husbandry, District Panchayat, Tapi 9. Mr. N. G. Gamit, Deputy Director of Agriculture(Training), Farmers Training Centre, Vyara 10. Mr. R. L. Ganvit, Branch Manager Gujarat State Seed Corporation, Apna Bazar, Vyara, Dist. Tapi 11. Mr. R. B. Patel, Depo Incharge GSFC, Market Yard, Vyara, Dist. Tapi 12. Mr. Abhesingbhai M. Chuadhari, Chairman A. P. M. C., Market Yard, Vyara, Dist. Tapi	1. Training on Farm Mechanization should be taken. 2. Activities of Animal Science discipline should be increased. 3. FAQs database for the major crops of the area should be published on NAU website.	Followed Followed Followed

		13. Mr. B. J. Savaliya, Kendra Incharge GNFC, Market Yard,Vyara, Dist. Tapi 14. Mr. D. G. Patel, Range Forest Officer Vyara Range, Dist. Tapi 15. Mr. T. M. Visani, Assistant Director (G.L.D.C.) Parsiwad, Vyara, Dist. Tapi 16. Mr. Chndrakant P. Mandaviya, President, Abhyutthan Gram Vikas Trust, Avdhut Krupa, Devjipura, Songadh 17. Mrs. Mishulaben Gamit, Executive Secratory, Hangati Mahila Trust, Mandal, Ta. Songadh 18. Mr. Vipinbhai Chaudhari, Progressive Farmer, Vanskui 19. Mr. Chandubhai Gamit, Progressive Farmer, Ghodchit 20. Mrs. Revaben Ranjitbhai Chaudhari, Member, Sakhi Mandal, Ghodchit, Ta. Songadh, Dist. Tapi 21. Mrs. Hetalben Chaudhari, Progressive Farm women, President of SHG, Vanskui 22. Smt. M. R. Patel, CDPO Vyara - 1, Taluka Panchayat, Vyara, Dist. Tapi 23. Smt. K. C. Gamit, CDPO Vyara – 2, Taluka Panchayat, Vyara, Dist. Tapi 24. Dr. H. D. Mehta, Associate Research Scientist Regional Rice Research Station, Vyara, Dist. Tapi 25. Dr. N. M. Chauhan, Programme Coordinator **Member Secretary** K.V.K.,Vyara, Dist. Tapi 26. Mr. Iswarbhai C. Gamit, President, Farm		

		Science Club, Ghodchit 27. Fr. Francis D'sa cj., M.E.S. Mandal, Seed Village linkage programme 28. Mrs. Karmiben D. Gamit, Hangati Trust, andal 29. Mr. Kiranbhai B. Sagarwala, ANARDE foundation, Surat 30. Mr. D. T. Desai, Patidar Agro centre, 30, Market yard, Vyara 31. Aemabhai B. Gamit, Bharadda 32. Mr. Guljibhai G. Gamit, Bharadda 33. Mr. Rameshbhai Bholiyabhai, Bharadda 34. Mr. Chhotubhai Ramchandra Gamit, Aanandkut, Ta. Uchchhal 35. Mr. Dilipbhai B. Gamit, Selud 36. Mrs. Induben Ramanbhai Gamit, Kapura 37. Mrs. Kamlaben P. Gamit, Hangati Trust, Mandal, Linkage Programme 38. Mrs. Shobhanaben B. Gamit, Saheli Van Bachat Mandal 39. Mr. S. P. Wadhwani, Bizz News TV, Vyara, Press Reporter 40. Mr. Dharmesh Wani, Gujarat Raksha, Vyara Press Reporter 41. Mr. Sanjay R. Wani, Gujarat Raksha, Vyara Press Reporter		

**** Attach a copy of SAC proceedings along with list of participants:*** **- Annexure - I**

2. DETAILS OF DISTRICT

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

S. No	Farming system/enterprise
1.	Agriculture and Animal Husbandry as well as and Agro forestry
2.	Agriculture and horticulture
3.	Agro-forestry

2.2 Description of Agro-climatic Zone & major agro ecological situations (based on soil and topography)

1. Agro-climatic zones

S. No	Agro-climatic Zone	Characteristics
1.	South Gujarat Heavy Rainfall Zone-I	• It consists of three talukas of Tapi district i.e. Songadh, Vyara and Valod taluka • It has an intensive rainfall over 1500 to 2200 mm per annum • Rain mostly received during month of July-August • The zone has clyey soil with normal pH and Ec, medium organic carbon and phosphorous and high potash
2.	South Gujarat Rainfall Zone-II	• It consists of two talukas i.e. Uchchhal and Nizar. • Rainfall of the area varying between 1000 to 1500 mm per annum • This zone has black soil of medium to heavy texture • 75 per cent of the area is rainfed.

2. Agro-ecosystems

Sr. No	Agro ecological situation	Characteristics
1.	Situation I	• The total geographical area is about 5.57 lack ha., which is 58 per cent of the zone, of which 53 Per cent is under forest • Cultivated area is 15.29 per cent as it is a heavy rainfall situation • 5 per cent area is under doubled crop • Major Field crops grown are paddy, minor millets, pulses, sorghum and oilseeds like ground nut and soybean.
2.	Situation III	• The total geographical area is about 2.22 lack ha, which is 25.21 per cent of the zone, of which 59.3 Per cent is under cultivation • Cultivated area is 1.64 lakh ha. • 14.5 per cent area is under doubled crop. Soil of this situation is deep and fine Textured.

2.3 Soil type/s

S. No	Soil type	Characteristics	Area in ha
1.	Hilly Area – Light soil	Lateritic and eroded shallow soil with high infiltration rate	130023
2.	Plain area- Heavy Black soil	Heavy Black to medium black with medium to poor drainage. In some area it is water logged and salt affected	208779

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

S. No	Crop	Area (ha)	Production (M.T.)	Yield (kg/ha)
1	RICE IRRI.	106	217	2046
2	RICE UN IRRIGATED	151	164	1084
3	TOTAL KH. RICE	257	381	1482
4	KH. BAJARA	0	0	0
5	KH. JOWER	202	304	1501
6	KH. MAIZE	16	22	1439
7	KH. RAGI	0	0	0
8	OTH. KH. CEREALS	0	0	0
9	TOTAL KH. CEREALS	475	707	1488
10	KH. MUNG	17	7	433
11	KH. MATH	0	0	0
12	KH. UDAD	24	13	555
13	KH. TUR	146	83	568
14	OTH. KH. PULSES	29	15	500
15	TOTAL KH. PULSES	191	105	550
16	TOTAL KH. FOOD GRAIN	666	812	1219
17	IRRIGATED WHEAT	49	122	2503
18	UN IRRIGATED WHEAT	0	0	0
19	TOTAL WHEAT	49	122	2503
20	RABI JOWAR	41	38	927
21	TOTAL JOWAR	243	342	1407
22	OTH. RABI CEREALS	1	1	1100
23	TOTAL RABI CEREAL	91	161	1769
24	GRAM	17	24	1399
25	OTH. RABI PULSES	9	7	750
26	TOTAL RABI PULSES	26	31	1192
27	TOTAL RABI FOODGRAIN	117	192	1641
28	SUMMER BAJARA	0	0	0
29	TOTAL BAJARA	0	0	0
30	SUMMER RICE	7	15	2248
31	TOTAL RICE	264	396	1500
32	TOTAL CEREALS	573	883	1541
33	TOTAL PULSES	217	136	627
34	TOTAL FOOD GRAIN	790	1019	1290
35	KH.GROUNDNUT	29	49	1681
36	SUM. GROUNDNUT	59	127	2169
37	TOTAL GROUNDNUT	88	176	2000
38	SESAMUM	0	0	0
39	CASTOR	2	4	1963
40	RAPE & MUSTARD	0	0	0
41	TOTAL OIL SEED	90	180	2000
42	TOBACCO	0	0	0

43	SUGARCANE	195	1420	7275
44	IRRI. COTTON (LINT)	19	69	603
45	UN IRRI. COTTON (LINT)	31	38	214
46	TOTAL COTTON (LINT)	50	107	364
47	CUMIN	0	0	0
48	FENNEL	0	0	0
49	ISABGUL	0	0	0
50	ONION	6	155	27210
51	GARLIC	0	0	0
52	POTATO	0	0	0
53	CHILLI ES	1	1	980
54	GUAR SEED	0	0	0

*** Sources**: District Agricultural Officer, Tapi District

2.5. Weather data

Month	Rainfall (mm)	Temperature ^{0} C		Relative Humidity (%)
		Maximum	Minimum	
April-10	-	36.70	21.80	64.40
May-10	-	38.50	21.30	73.60
June-10	67.8	34.50	21.80	75.90
July-10	503.7	34.10	21.50	84.00
August-10	591.5	30.40	20.20	90.10
September-10	381.5	29.70	19.20	86.20
October-10	34.0	29.50	19.10	81.00
November-10	42.0	30.30	20.00	81.00
December-10	-	30.00	20.00	74.30
January-11	-	29.94	15.40	68.50
February-11	-	30.60	17.10	66.90
March-11	-	30.70	20.00	64.10

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

Category	Population	Production ('000 tones)	Productivity (kg/day)
Cattle			
Crossbred	68,650	74.87	6.58
Indigenous	2,18,400	99.00	2.99
Buffalo	2,35,000	271.03	3.64
Sheep	3,500	5 M.tone(wool)	1.33 wool/sheep
Goats	1,04,100	7.95	0.253
Pigs	24,000	585.9 meat	-
Rabbits	1000	-	-
Poultry			
Desi	5,55,700	244.31 lakh eggs	0.3198 (no.)
Improved	2,22,200	530.99 lakh eggs	0.8085 (no.)
Donkey	1143	-	-

*** Source:** 24th survey report on estimates & major livestock products for the years 2006-07 Guj. State, Directorate of Animal Husbandry, Gandhinagar

2.7 Details of Operational area / Villages (2010-11)

Sr.No.	Taluka	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1.	Vyara	Mirpur	Mirpur	Paddy, Groundnut, Gram, Vegetable, Sorghum	▪ Productivity of major crops is very low ▪ Majority of the area is un-irrigated ▪ No scope for other crops due to erratic heavy rainfall ▪ Lack of technology knowledge in farmers ▪ Poor food grain storage practices ▪ Inadequate intake of fruits & vegetables ▪ Poor economic condition ▪ Poor livestock management & disease management	▪ Crop production technology ▪ IPM in field crops and vegetables ▪ Storage of fruit grains ▪ Health & nutrition for vulnerable groups ▪ Introduction of soybean crop to replace drilled paddy ▪ Livestock management ▪ Kitchen gardening ▪ Income generating activities ▪ Crop diversification
2.	Vyara	Vanskui	Vanskui	Paddy, Sugarcane, Groundnut, Vegetables	▪ Lack of technological knowledge among farmers ▪ Poor drainage of soil ▪ Adoption level of farmers is very low ▪ Lack of Knowledge about scientific method of fruit & vegetable preservation ▪ Low milk production ▪ Lack of knowledge about inter cropping ▪ High mortality rate in calf	▪ IPM in field crops ▪ Land configuration ▪ High value horticulture crop cultivation ▪ Short duration vegetable crops ▪ Milch animal management ▪ Calf rearing ▪ Fruits & vegetable preservation ▪ Practices of inter crops in sugarcane
3.	Songadh	Ghodchit	Ghodchit	Paddy, Pigeon pea, Soybean, Sorghum, Sugarcane, Gram, Groundnut	▪ Low awareness about Agriculture and Animal Husbandry ▪ Fear in adoption of new technology ▪ Lack of guidance about new agricultural technology ▪ Poor animal management ▪ Equipments (Oil-engine) for irrigation is very less ▪ Poor food grain storage practices	▪ Organic farming ▪ Introduction of soybean crop to replace drilled paddy ▪ Dry land horticulture ▪ Advanced irrigation methods ▪ Vermi – composting ▪ Balanced diet for animal ▪ Care of milch animal ▪ Kitchen gardening

Sr.No.	Taluka	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
					▪ Lack of awareness about Health & Nutrition	▪ Replacing the paddy with vegetable in well drained soil ▪ Increase area under vegetable ▪ Food grain storage ▪ Health & Nutrition for pregnant & lactating mother & children ▪ Increase area under drip irrigation
4.	Songadh	Nishana (Amji)	Nishana (Amji)	Paddy, Pigeon pea, Sorghum, Groundnut, Watermelon and Brinjal	▪ Low irrigation facility ▪ Erratic heavy rainfall ▪ Majority of area has light soil with undulated land ▪ Low technological level among farmers ▪ Poor economic status ▪ Poor food grain storage ▪ Lack of awareness about health & nutrition	▪ Increase area under drip irrigation ▪ Low-cost green house ▪ Storage of food grains ▪ High-value horticultural crop ▪ Increase area under pulses and oil seed crops in un-irrigated area ▪ Crop production technology ▪ Health and nutrition for vulnerable groups ▪ Kitchen gardening ▪ Income generation activities
5.	Uchchhal	Bhadbhunja	Bhadbhunja	Paddy, Gram, Pigeon pea, Sorghum, Vegetable, Udad, Maize	▪ Lack of knowledge about scientific package of practices of different crops ▪ Lack of awareness about insects and pests & diseases ▪ Lack of knowledge about soil analysis ▪ Lack of knowledge about balanced nutritional diet ▪ Lack of knowledge about fruits & vegetable preservation ▪ Inadequate intake of fruits & vegetables	▪ Introduction of soybean crop to replace drilled paddy ▪ Crop production technology ▪ Awareness about insects, pests and diseases ▪ Short duration vegetable cultivation if Arid horticulture development ▪ Gobar gas plant ▪ Vermi composting ▪ Compost making ▪ Kitchen gardening ▪ Bucket drip

Sr.No.	Taluka	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
					▪ Disease management	▪ Increase area under oil seed and pulse crops ▪ Fruit & vegetable preservation ▪ Balanced diet from locally available food material ▪ Give demonstration of silage and urea treatment ▪ Training on vaccination and de-worming
6.	Uchchhal	Selud	Selud	Paddy, Pigeon pea, Sorghum, Gram, Maize, Groundnut	▪ No facilities for irrigation after October ▪ Soil of this area is very light ▪ Uneven distribution of rainfall ▪ Socio-economic condition is very poor ▪ No knowledge of scientific agricultural production technology and animal husbandry ▪ Youth club is not active ▪ Poor livestock management ▪ Lack in dietary pattern of pregnant & nursing mother and children ▪ Lack of awareness about health & nutrition ▪ High mortality in calf	▪ Increase area under Soybean ▪ Low cost production technology and drip irrigation ▪ Income generation activities and kitchen gardening ▪ Livestock management ▪ Disease management ▪ Initiating youth club activities ▪ Women and child care ▪ Low cost green house ▪ Calf rearing
7.	Valod	Kanjod	Kanjod	Paddy, Sugarcane, Groundnut, Okra	▪ Low production in field crops ▪ Lack of knowledge about scientific production technology ▪ High doses of insecticides ▪ Youth club is not active ▪ Poor facilities of rural bank ▪ Low productivity of okra ▪ Lack of knowledge about off season cultivation of vegetable.	▪ Crop production technology ▪ Increase area under vegetable crops ▪ Increase area under oil seed crops ▪ Drip irrigation ▪ Initiating youth club activities ▪ Value addition ▪ INM in vegetable

Sr.No.	Taluka	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
						▪ Off season cultivation
8.	Valod	Degama	Degama	Sugarcane, Paddy, Groundnut, Vegetable	▪ Lack of technological knowledge about crop production technology ▪ Lack of knowledge about fruits & vegetable preservation ▪ Level of adoption in field crops & vegetables are very low ▪ SHGs is not active ▪ No cooperative society ▪ Lack of knowledge about insect & pest ▪ Lack of knowledge about Sugarcane & vegetable	▪ Crop production technology ▪ Value addition ▪ Income generating activities ▪ Activation of SHGs ▪ IPM in field crops & vegetables ▪ INM in vegetables & sugarcane
9.	Nizar	Sarvala	Sarvala	Cotton, Gram, Wheat, Sorghum, Soyabean, Papaya, Banana	▪ High cost of cultivation ▪ Information centre is far away from the village ▪ Poor marketing ▪ Lack of technological knowledge about crop production technology ▪ Lack of knowledge regarding IPM ▪ Highly dependent on Private Traders for agricultural information ▪ Weed management in black soil is a big problem ▪ High production cost due-to lift irrigation	▪ Crop production technology ▪ IPM in cotton ▪ Increase area under papaya crop ▪ Popularize maize crop ▪ Introduction of chemical weed control ▪ Value addition in soyabean and papaya
10.	Nizar	Mubarakpur	Mubarakpur	Cotton, Papaya, Banana, Wheat, Gram, Soybean, Castor, Sorghum	▪ High cost of cultivation in field crops ▪ Poor marketing ▪ Lack of availability of inputs ▪ Poor grain storage practices ▪ Lack of knowledge about insect & pest in Cotton ▪ Poor Livestock management	▪ Crop production technology ▪ IPM in Cotton ▪ Value addition ▪ Marketing management ▪ Food grain storage ▪ Livestock management

2.8 Priority/thrust areas

Crop/Enterprise	Thrust area
Paddy, Sorghum, Groundnut, Vegetables, Sugarcane, Oilseed crops & pulses	Crop production management (ICM)
Drumstick, Custard apple	Dry land horticulture
Vegetables, Soybean, Groundnut, Gram	Organic farming
Paddy, Sugarcane, Cotton, Groundnut	Integrated pest management
Paddy, Sorghum, Sugarcane, Cotton, Groundnut, Vegetables	Integrated nutrient management
Green house technology, Drip irrigation, High value crops	High tech horticulture
Soybean, Sorghum, Pigeon pea	Soil and Water conservation
Sugarcane, Paddy, Vegetables, Maize	Water management
Low cost green house	Low cost green house
Formation of Self Help Groups	Women empowerment
Sewing & Preservation	Self employment to farm women and rural youth
Fruits, Vegetables, Cereals & pulses	Value addition
Dairy management	Management of milch animals
Health & Nutrition	Health & nutrition for vulnerable groups.
Soybean & Vegetables	Introduction of Soybean & Vegetables instead of drilled paddy (Crop diversification)
Okra, Tomato, Watermelon	Off-season cultivation

3. TECHNICAL ACHIEVEMENTS

3. A. Details of target and achievements of mandatory activities by KVK during Rabi: 2009-10 and Kharif: 2010-11

OFT (Technology Assessment and Refinement)				FLD (Oilseeds, Pulses, Cotton, Other Crops/Enterprises)			
1				2			
Number of OFTs		Number of Farmers		Number of FLDs (ha)		Number of Farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
5	5	31	31	96.5	96.5	495	495

Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)					Extension Activities			
3					4			
Number of Courses			Number of Participants		Number of activities		Number of participants	
Clientele	Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
Farmers	58	93	1160	3752	871	5418	2917	39910
Rural youth	21	16	420	617				
Extn. Functionaries	6	5	120	187				
Total	**85**	**114**	**1700**	**4556**	**871**	**5418**	**2917**	**39910**

Seed Production (Qtl.)		Planting material (Nos.)	
5		6	
Target	Achievement	Target	Achievement
150	189.85	800	800

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	Crop production management	Paddy Ground nut Sugarcane Cotton Soybean Gram Pigeon pea	Use of local variety High seed rate, Imbalance use of fertilizers No use of bio fertilizer	--	Varietal demonstration Nutrient management Use of biofertilizers	Scientific Cultivation of major crops	Scientific cultivation of sugarcane and oilseed crops	Field days, khedut shibirs, News paper coverage, film show Radio talk Exhibitions etc.	Seeds of improved varieties paddy, ground nut, soybean Gram Pigeon pea etc
2	Dry Land Horticulture	Drum stick Custard apple Ber, guava Vegetables	Due to rain fed area, and inadequate irrigation facility cultivated area under fruits and vegetable is very less and per capita consumption is also less	--	Low cost green house Vadi yojna	Arid horticulture development in rain fed area	--	Field days, khedut shibirs, News paper coverage, film show Exhibitions etc.	Seeds of different vegetables and planting material of mango, drum stick and custard apple
3	Organic farming	Vegetables, Groundnut, Gram, Soybean	High use of chemicals	--	--	Training on vermicompost	--	khedut shibirs, News paper coverage, film show Exhibitions etc Vermi-compost demonstrations	--

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.
4	Integrated Pest Management	Brinjal, Okra, Cotton, Mango cucurbits	Farmers are unable to manage disease and insect pest eventhogh frequent application of insecticides at higher doses	--	IPM of Brinjal fruit and shoot borer IPM of okra fruit and shoot borer IPM in cotton Integrated management of fruit flies in mango and cucurbits	IPM in vegetables IPM in cotton Management of fruit flies	IPM in Vegetables	Field days, khedut shibirs, News paper coverage, film show Exhibitions etc.	Pheromone traps, neem products, Microbial products Methyl eugenol traps
5	Integrated Nutrient Management	Brinjal, Okra, Cotton	Imbalance use of fertilizers farmers are unable to harvest good crop	--	INM in Brinjal INM in Okra Nutrient management in Cotton	INM in vegetables & Cotton	INM in vegetables & Cotton	Field days, khedut shibirs, News paper coverage, film show , etc.	Bio compost & Chemical, Fertilizers, Potassium Nitrate
6	High tech Horticulture	Green house technology, Drip irrigation, High value crops	Due to lack of technological knowledge farmers are unable to get good returns	--	--	Green house technology	--	khedut shibirs, News paper coverage, film show	--
7	Soil & water conservation and water management	Pigeon pea, Ground nut, Gram	Heavy rainfall and water logging cause high mortality of plants	Land configuration in pigeon pea	Growing ground nut and gram on raised bed	Land configuration in field crops	--	Field days, khedut shibirs, News paper coverage, film show Exhibitions etc.	Seeds, ground nut, Gram , pigeon pea and bio-fertilizer, saplings

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.
8	Low Cost Green House	Major crops	Poor economic condition of farmers	--	--	Low cost green house	--	khedut shibirs, News paper coverage, film show Exhibitions etc	--
9	Women empowerment	Formation of Self Help Groups	Poor socio-economic condition of farm women	--	Kitchen Gardening	Health & Nutrition Fruits & Vegetable preservation, SHG formation, Income generation activities	--	khedut shibirs, News paper coverage, film show, Mahila Shibir, Pashupalan shibir	Seeds for kitchen garden
10	Self employment to Rural youth and farm women	Mushroom Value addition & Sewing	Poor economic condition of farmers	--	--	Vocational training on Value addition, Masala Preparation	--	News paper coverage, film show, Method of demonstration	--
11	Value addition	Fruits, Vegetables, Cereals & Pulses	Low price of the products	--	--	Training of Value Addition	--	Khedut shibir, News Paper Coverage, Method Demonstration	--
12.	Management of Milch	management of dairy	Poor management of	--	--	Daily requirement	--	khedut shibirs, News paper	--

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.
	animals	animal	dairy animals			of Nutrition in milch animal. Scientifically calf rearing		coverage, film show Demonstration units on campus	
13.	Health & Nutrition for Vulnerable groups	- Pregnant and Lactating women, Infant and children	Malnutrition	--	Kitchen Gardening	Health & Nutrition, Kitchen Gardening, Nutritional deficiencies& its management, Balance Diet from locally available food material	--	Mahila Shibir, News Paper coverage, Field Day, SHG Meeting, Film Show	Seeds & Seedling of vegetables
14.	Crop Diversification	Soybean and Vegetables	Low yield of drilled paddy	--	--	Scientific cultivation of Soybean & Vegetables	--	Khedut Shibir, News paper Coverage, Field Day, Film Show, Popular Articles	--
15.	Off-season cultivation	Okra, Tomato, Watermelon	Low Market Value	--	--	Scientific cultivation of Off-season crops	--	Field Day, Khedut Shibirs, Film Show, News Paper, Coverage, Popular Articles.	--

3.1 Achievements on technologies assessed and refined

A.1 Abstract of the number of technologies assessed* in respect of crops/enterprises

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Crop Management	1	--	1	1	--	--	--	--	--	3
TOTAL	**1**	**--**	**1**	**1**	**--**	**--**	**--**	**--**	**--**	**3**

A.1.1 Abstract of the number of technologies assessed in respect of livestock / enterprises

Thematic areas	Cattle	Poultry	Sheep	Goat	Piggery	Rabbitary	Fisheries	TOTAL
Nutrition Management	1	-	-	-	-	-	-	1
TOTAL	**1**	**-**	**-**	**-**	**-**	**-**	**-**	**1**

A.2. Abstract of the number of technologies refined* in respect of crops/enterprises

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Crop Management	--	--	--	--	1	--	--	--	--	1
TOTAL	**--**	**--**	**--**	**--**	**1**	**--**	**--**	**--**	**--**	**1**

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

A. Technology Assessment

Trial 1

1.	**Title**	**:**	Low yield of paddy
2.	**Problem diagnose/defined**	**:**	Use of higher and over age seedlings for transplanting
3.	**Details of technologies selected for assessment /refinement**	**:**	T1. Randomly transplanting of paddy Farmer practices T2. Line method of transplanting (20 X 15 cm) T3. System of Rice Intensification method (25 X 25 cm)
4.	**Source of technology**	**:**	Kharif – 2010
5.	**Production system thematic area**	**:**	Paddy – Sugarcane cropping system
6.	**Thematic area**	**:**	System of Rice Intensification (SRI)
7.	**Performance of the Technology with performance indicators**	**:**	The SRI technology of paddy required less seed rate and gave more number of tillers, filled grain and increased seed yield than traditional method.
8.	**Final recommendation for micro level situation**	**:**	SRI technology is better than traditional method of transplanting paddy.
9.	**Constraints identified and feedback for research**	**:**	Time consuming
10.	**Process of farmers participation and their reaction**	**:**	Appreciate the technology and ready to adopt.

11). Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology refined	Para-meters	Data on the parameter				Results of refinem-ent	Feedback from the farmer
							No. of Tillers/ hill	No. of filled grains/ panicle	Panicle length (cm)	Yield (q/ha)		
1	2	3	4	5	6	7	8				9	10
Paddy	Irrigated	Use of higher and over age seedlings for transplanting	Low yield of paddy	5	T1.Randomly transplanting of paddy - Farmer practices	--	9	95	20.5	52.00	T3. SRI method (25x25) gave higher yield	In SRI technology of paddy cultivation used less seed rate and gave higher tillering, higher no. of filled grains & seed yield. Farmers are very much interested because maintain soil health, maximum water use efficiency, less water required in this technology.
					T2. Line method of transplanting (20 X 15 cm)	--	14	118	24	58.75		
					T3. System of Rice Intensification method (25 X 25 cm)	--	21	145	27.2	69.75		

**** No. of farmers***

Technology Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
Randomly transplanting of paddy -Farmer practices	52.00	39700	1 : 3.23
Line method of transplanting (20 X 15 cm)	58.75	46950	1 : 3.98
System of Rice Intensification method (25 X 25 cm)	69.75	58200	1 : 5.04

Trial 2

1.	**Title**	**:**	Low productivity in cotton
2.	**Problem diagnose/defined**	**:**	High dose of agro chemicals and imbalance use of nitrogenous fertilizers
3.	**Details of technologies selected for assessment /refinement**	**:**	T1 – No seed treatment and 6-7 application of imidacloprid 70% WS @ 15 ml in 10 ltr of water T2- Seed treatment with imidacloprid 70% WS @ 7.5 gm/kg seed + two foliar application of thiomethoxam @ 3 gm/10 ltr. at ET level T3- Seed treatment with imidacloprid 70 % WS @ 7.5 gm/kg seed, raising maize or jowar as border crop, castor as a trap crop, chrysopa release and two foliar applications of thiomethoxam 5 gm in 10 ltr. of water, use of 1500 ppm neem ban
4.	**Season**	**:**	Kharif - 2010
5.	**Source of technology**	**:**	NAU
6.	**Production system thematic area**	**:**	--
7.	**Thematic area**	**:**	IPM
8.	**Performance of the Technology with performance indicators**	**:**	Refined technology gave higher BC ratio (1:6.08)
9.	**Final recommendation for micro level situation**	**:**	Use of IPM for better control of pest of cotton
10.	**Constraints identified and feedback for research**	**:**	--
11.	**Process of farmers participation and their reaction**	**:**	Appreciate the technology and ready to adopt

11). Results of On Farm Trials

Crop/ enterpri-se	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Data on the parameter				Results of assessm-ent	Feedback from the farmer
						No. of aphids / leaf	No. of jassids/ leaf	No. of white fly/ plant	No. of Mealybug/ plant		
1	2	3	4	5	6	7				8	9
Cotton	Irrigated	High dose of agro chemicals and imbalance use of nitrogenous fertilizers	Low product-ivity in cotton	5	T1 – No seed treatment and 6-7 application of imidacloprid 70% WS @ 15 ml in 10 ltr of water	10	11	75	35	--	IPM gave good control of insects on cotton
					T2- Seed treatment with imidacloprid 70% WS @ 7.5 gm/kg seed + two foliar application of thiomethoxam @ 3 gm/10 ltr. at ET level	8	10	65	30		
					T3- Seed treatment with imidacloprid 70 % WS @ 7.5 gm/kg seed, raising maize or jowar as border crop, castor as a trap crop, chrysopa release and two foliar applications of thiomethoxam 5 gm in 10 ltr. of water, use of 1500 ppm neem ban	6	8	55	20		

**** No. of farmers***

Technology Assessed	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
10	**11**	**12**	**13**
T1 – No seed treatment and 6-7 application of imidacloprid 70% WS @ 15 ml in 10 ltr of water	22.14	57564	1:3.08
T2- Seed treatment with imidacloprid 70% WS @ 7.5 gm/kg seed + two foliar application of thiomethoxam @ 3 gm/10 ltr. at ET level	25.35	67572	1:3.92
T3- Seed treatment with imidacloprid 70 % WS @ 7.5 gm/kg seed, raising maize or jowar as border crop, castor as a trap crop, chrysopa release and two foliar applications of thiomethoxam 5 gm in 10 ltr. of water, use of 1500 ppm neem ban	29.20	87600	1:6.08

Trial 3

1.	**Title**	**:**	Low plant stand in Tur (Land configuration in Pigeon pea)
2.	**Problem diagnose/defined**	**:**	Low yield, High rainfall, Poor plant population
3.	**Details of technologies selected for assessment /refinement**	**:**	T1 Flat bed sowing (Farmers practices) T2 Sowing on raised bed / broad bed furrow T3 Ridge and furrow
4.	**Season**	**:**	Kharif - 2009
5.	**Source of technology**	**:**	Research scientist, Pulse crop, NAU, Navsari
6.	**Production system thematic area**	**:**	Drill Paddy + pigeon pea cropping system
7.	**Thematic area**	**:**	Land configuration (ICM)
8.	**Performance of the Technology with performance indicators**	**:**	The refined technology ridges and furrow sowing of pigeon pea had more no. of branches per plant (14.70/plant) and no. of pods per plant (586.26/plant) at harvest and higher yield (1415 kg/ha) as compared to other treatment of land configuration.
9.	**Final recommendation for micro level situation**	**:**	Ridges and furrow system found better for higher pigeon pea yield.
10.	**Constraints identified and feedback for research**	**:**	Developed resistant variety for Tur against pod fly.
11.	**Process of farmers participation and their reaction**	**:**	Appreciate the technology and ready to adopt ridge and furrow system

11). Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology refined	Parameters	Data on the parameter				Results of refinem-ent	Feedback from the farmer
							No. of branches/ plants	No. of pods / plants	Seed wt./plant (dry) gm	seed yield / ha (kg/ha)		
1	2	3	4	5	6	7	8				9	10
Pigeon pea	Irrigated	Low yield, high rain fall, poor plant population	Land configuration in pigeon pea	5	T1. Flat bed sowing - Farmer practices	--	9.8	511.37	28.10	1024	Ridges & furrow method of sowing gave good yield	It is difficult to prepare raised bed so adoption of ridges & furrow is better
					T2. Raised bed	--	13.40	534.67	29.70	1120		
					T3. Ridges & furrow	--	14.70	586.26	36.80	1415		

**** No. of farmers***

Technology Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
Flat bed sowing	1024	25600	3.14
Raised Bed	1120	28000	3.44
Ridge & furrow	1415	35375	4.34

Trial 4

1.	**Title**	**:**	Refinement of Sowing time in okra
2.	**Problem diagnose/defined**	**:**	Low yield, growing during off season (rabi)
3.	**Details of technologies selected for assessment /refinement**	**:**	T1. Date of sowing 15th November (Farmers practices) T2. Date of sowing 15th October T3. Date of sowing 30th October
4.	**Source of technology**	**:**	Main Vegetable Research Station, Anand
5.	**Production system thematic area**	**:**	Paddy – Okra base cropping system, Time of Sowing
6.	**Thematic area**	**:**	Integrated crop management
7.	**Performance of the Technology with performance indicators**	**:**	**-**
8.	**Final recommendation for micro level situation**	**:**	Farmers of Tapi district should grow okra in month of 15th October. It is the best time for higher yield
9.	**Constraints identified and feedback for research**	**:**	Research on fertilizer management & spacing in hybrid okra.
10.	**Process of farmers participation and their reaction**	**:**	Farmers appreciate the technology & ready to adopt.

11). Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Data on the parameter					Results of assess-ment	Feedback from the farmer
						No. of branches/ main stem	No. nodules / main stem	No. of fruit / plant	Yield / plant (gm)	Yield / kg/ha		
1	2	3	4	5	6	7					8	9
Okra	Irrigated	Low yield growing during rabi season	Refinement of sowing time in okra	6	T1. Date of sowing at 15th Nov. (Farmers practices)	0.23	8.03	8.5	84.5	9388	15th Oct. sowing of okra gave higher yield	Selection of early maturing variety for 15th October okra sowing which got better income
					T2. Date of sowing at 15th Oct.	**2.06**	**18.0**	**22.2**	**221.7**	**24632**		
					T3. Date of sowing at 30th Oct.	0.9	12.87	14.6	145.9	16210		

**** No. of farmers***

Technology Assessed	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
10	11	12	13
1. Date of sowing at 15th October	24.632	247750	**5.1**
2. Date of sowing at 15th November (Farmers practices)	9.388	60418	2.06

****Field crops – kg/ha, * for horticultural crops -= kg/t/ha, * milk and meat – litres or kg/animal, * for mushroom and vermi compost kg/unit area.***

***** Give details of the technology assessed or refined and farmer's practice***

Trial 5

1.	**Title**	**:**	Low milk production of Cow
2.	**Problem diagnose/defined**	**:**	1. Lack of knowledge about urea treatment. 2. Poor management of Dairy animal (breeding, feeding and management) 3. Poor knowledge of health & hygiene.
3.	**Details of technologies selected for assessment /refinement**	**:**	T1. Farmers practice (Paddy straw without urea treatment) T2. Paddy straw with urea treatment (6-8 kg daily) T3. Paddy straw with urea treatment + Mineral mixture (35 gm mineral mixture feeding daily)
4.	**Source of technology**	**:**	Text book of Animal Husbandary- G.C.Benerji
5.	**Production system thematic area**	**:**	**--**
6.	**Thematic area**		Feed Management
7.	**Performance of the Technology with performance indicators**	**:**	**--**
8.	**Final recommendation for micro level situation**	**:**	Paddy straw treated with 4% urea and 35 gm mineral mixture feeding daily gaves higher milk production.
9.	**Constraints identified and feedback for research**	**:**	**--**
10.	**Process of farmers participation and their reaction**	**:**	Farmers appreciate the technology & ready to adopt.

11). Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters	Data on the parameter		Results of assess-ment	Feedback from the farmer
							Milk production (kg/day)	Service Period (days)		
1	2	3	4	5	6	7	8		9	10
Animal Science	Low milk production in HF Cow	1. Low Milk Production 2. Lack of knowledge about urea treatment. 3. Poor manage-ment. 4. Poor knowledge of health & hygiene. 5. Lack of knowledge about feeding manageme nt.	Low milk production in HF Cow	5	T1. (Farmers practices) Paddy straw without urea treatment	Milk production and service period	5.9	148	Paddy straw with urea treatment + Mineral mixture (35 gm mineral mixture feeding daily)	Increase milk production after urea treated paddy straw and mineral mixture feeding
				5	T2. Paddy straw with urea treatment (6-8 kg daily)		6.7	148		
				5	T3. Paddy straw with urea treatment + Mineral mixtur e (35 gm mineral mixture feeding daily)		7.2	126		

**** No. of farmers***

Technology Assessed	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
T1 - Farmers practice (Paddy straw without urea treatment)	5.9	15	1:1.16
T2 - Paddy straw with urea treatment	6.7	29.2	1:1.30
T3- Paddy straw with urea treatment + Mineral mixture (35 gm daily)	7.2	32.6	1:1.34

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 2010-11 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 in ha
1	Groundnut	ICM New Variety	- Land Configuration - Seed Treatment - Use of Bio-fertilizer	FLDs	6	58	17
2	Gram	Land Configuration	- Use of Bio-fertilizer - Land configuration	FLDs	24	230	110
3	Okra	IPM	Integrated Pest Management.	FLDs	12	310	166
4	Brinjal	IPM	Integrated Pest Management.	FLDs	8	106	35
5	Cucurbits	IPM	Integrated Pest Management.	FLDs	9	45	19
6	Mango	IPM	Integrated Pest Management.	FLDs			
7	Okra	INM	Integrated Nutrient Management	FLDs	60	456	56
8	Brinjal	INM	Integrated Nutrient Management	FLDs	35	358	42
9	Paddy	INM	GM + Paddy (Jaya)	FLDs	25	125	25
10	Paddy	ICM	New variety	FLDs	45	250	125
11	Paddy	ICM	New variety	FLDs	5	20	5
12	Paddy	ICM	New variety	FLDs	3	17	5
13	Paddy	ICM	SRI technology	FLDs	10	50	15
14	Paddy (IPM)	IPM	IPM	FLDs	5	20	5
15	Cotton	Impliment Demo.	- Use of KNo_3 , Weed management, Ridges & furrow and spacing	FLDs	3	10	4

**** Thematic areas as given in Table 3.1 (A1 and A2)***

b. Details of FLDs implemented during 2010-11 (Information is to be furnished in the following three tables for each category i.e. cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.)

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
Oilseed										
1	Groundnut	ICM	New Variety	Rabi-09 Summer-10	10	10	27	--	27	--
Cereal crops										
1	Paddy	INM	GM + Paddy (Jaya)	Kharif-10-11	5	5	20	0	20	--
2	Paddy	ICM	New variety	Kharif-10-11	5	5	20	0	20	--
3	Paddy	ICM	New variety	Kharif-10-11	5	5	20	0	20	--
4	Paddy	ICM	New variety	Kharif-10-11	7	7	21	0	21	--
5	Paddy	ICM	SRI technology	Kharif-10-11	20	20	50	0	50	--
6	Paddy (IPM)	IPM	IPM	Kharif-10-11	5	5	20	0	20	--
Pulses										
1	Pigeon pea	Land Configuration	New variety/ Land Configuration	Kharif-10-11	8	8	39	0	39	--
2	Gram	Land Configuration	Use of Bio fertilizer Land Use Configuration	Rabi-09-10	5	5	24	--	24	--
3	Gram	IDM	Integrated Disease management.	Rabi-09-10	5	5	24	--	24	--
Cotton										
1	Cotton	Production Technology	Use of KNo_3 , Weed management, Ridges & furrow and spacing	Kharif-10-11	4	4	03	07	10	--
Horticultural Crops										
1	Okra	INM	INM	Rabi-09-10	2	2	8	--	8	--
2	Brinjal	INM	INM	Rabi-09-10	2	2	8	--	8	--

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
3	Okra	IPM	Integrated pest management.	Rabi-09-10	3	3	12	--	12	--
4	Brinjal	IPM	Integrated pest management.	Rabi-09-10	3	3	12	--	12	--
5	Cucurbits	IPM	Integrated pest management.	Summer-09-10	2	2	10	--	10	--
6	Mango	IPM	Integrated pest management.	Summer-09-10	5	5	10	--	10	--

Details of farming situation

Crop	Season	Farming situation (RF/ Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Oilseed											
Groundnut	Rabi-09 Summer-10	Irrigated	Light Soil Medium Black	L	M	H	Paddy	8th Jan. to 28th Jan., 2010	5th May to 27th May, 2010	1386 mm	--
Cereal Crops											
Paddy	Kharif'10	Rainfed	Medium Black	L	M	H	GM	3rd June, to 19th June, 2010	19th Oct. to 1st Nov. 2010	1620.5	73
Paddy	Kharif'10	Irrigated	Light Soil	L	M	H	Fallow	3rd July, to 11th July, 2010	4th Oct. to 18th Oct. 2010		
Paddy	Kharif'10	Irrigated	Medium Black	L	M	H	Summer G'nut	10th June to 26th June, 2010	19th Oct. to 9th Nov.,2010		
Paddy	Kharif'10	Irrigated	Medium Black	L	M	H	Fallow	10th June to 26th June, 2010	19th Oct. to 9th Nov.,2010		
Paddy	Kharif'10	Irrigated	Medium Black	L	M	H	Summer G'nut	10th June to 26th June, 2010	19th Oct. to 9th Nov.,2010		

Crop	Season	Farming situation (RF/ Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Pulses											
Gram	Rabi-09	Irrigated	Light Soil Medium Black	L	H	H	Paddy	5th Nov. to 21st Nov., 2009	17th March to 2nd Apr., 2010	1386 mm	--
Gram	Rabi-2009	Irrigated	Light soil Light shallow	L	M	H	Paddy	5th Nov. to 21st Nov., 2009	17th March to 8th April, 2010	1825	61
Pigeon pea	Kharif'10	Irrigated	Light soil Light shallow	L	M	H	Fallow	2nd July to 29th July, 2010	12th Feb. to 4th March, 2011	--	--
Cotton											
Cotton	Kharif-10-11	Irrrigated	Medium Black	L	M	H	Wheat	15th May to 21st May, 2010	15th April to 21st April, 2011	--	--
Horticultural Crops											
Okra	Rabi-09	Irrigated	Light, Light shallow & medium black soil	L	M	H	Paddy	5th Nov. to 15th Nov., 2009	10th March to 30th March 2010	--	--
Brinjal	Rabi-09	Irrigated	Light shallow & medium black	L	M	H	Paddy	2th Nov. to 10th Nov., 2009	13th May to 25th May 2010	--	--
Okra	Rabi-2009	Irrigated	Light soil Medium black	L	M	H	Paddy	5th Nov. to 15th Nov. 2009	10th to 30st March 2010	--	--
Brinjal	Rabi-2009	Irrigated	Light soil Medium black	L	M	H	Paddy	2nd Nov. to 10th Nov. 2009	13th May to 25th May 2010	--	--
Paddy (IPM)	Kharif'10	Irrigated	Medium Black	L	M	H	Summer G'nut	10th June to 26th June, 2010	19th Oct. to 9th Nov.,2010	--	--

Crop	Season	Farming situation (RF/ Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Cucurbits	Summer-09-10	Irrigated	Light soil Medium black	L	M	H	Paddy	5th Jan. to 20th January 2010	20th April to 30th April 2010	--	--
Mango	Summer-09-10	Irrigated	Light soil Medium black	L	M	H	--	15th April 2010	--	--	--

Performance of FLD

Sr. No.	Crop	Technology Demonstrated	Variety	No. of Farmers	Area (ha.)	Demo. Yield Qtl/ha			Yield of local Check Qtl./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
Oilseed crops												
1	Groundnut	New Variety	GG-6	27	10	32.50	24.50	28.50	23.25	22.58	28.5	23.25
Cereal Crops												
1	Paddy	Green Manuring	GM+Jaya	20	5	64.50	54.50	59.50	47.75	24.61	59.50	47.75
2	Paddy	New variety	GR-5	20	5	17.50	13.50	15.50	12.25	28.75	15.50	12.25
3	Paddy	New variety	NAUR-1	20	5	66.30	54.50	60.50	47.75	26.70	60.50	47.75
4	Paddy	New variety	GAR-13	21	7	59.75	51.75	55.75	46.50	18.89	55.75	46.50
5	Paddy	SRI technology	NAUR-1 (SRI)	50	20	68.75	55.00	61.75	47.75	29.32	61.75	47.75
6	Paddy (IPM)	IPM	NAUR-1	20	5	64.75	54.25	59.50	53.00	12.26	59.50	53.00
Pulses												
1	Gram	Use of Bio-fertilizer Land Config.	GG-2	24	5	21	13	17.00	11.50	47.82	17.00	11.50
2	Gram	IDM	GG-2	24	5	21	13	19	11.50	47.82	19	11.50

Sr. No.	Crop	Technology Demonstrated	Variety	No. of Farmers	Area (ha.)	Demo. Yield Qtl/ha			Yield of local Check Qtl./ha	Increase in yield (%)	Data on parameter in relation to technology demonstrated	
						H	L	A			Demo	Local
3	Pigeon pea	New variety	Vaishali	39	8	18	11	14.50	10.30	40.77	14.50	10.30
Cotton												
1	Cotton	Use of KNo_3 , Weed management, Ridges & furrow and spacing	Bt.	10	4	29.50	21.25	26.04	19.58	32.99	26.04	19.58
Horticultural Crops												
1	Okra	INM	Hybrid	8	2.0	162.4	104.03	156.11	104.03	50.06	156.11	104.03
2	Brinjal	INM	Surtiraviya	8	2.0	204.8	156.80	193.31	156.80	23.28	193.31	156.80
3	Okra	IPM	Hybrid	12	3	163.6	151.90	157.75	104.80	50.50	157.75	104.80
4	Brinjal	IPM	Surti Ravaiya	12	3	206.8	150.8	178.80	130.80	36.0	178.80	130.80
5	Cucurbits	IPM	Hybrid	10	2	118.0	75.0	98.5	80.2	23.0	98.5	80.2
6	Mango	IPM	Kesar	10	5	1.5 % fruits were damaged by fruit fly in treated plot. Detail below.						

Sl. No.	Treatment	No. of fruitfly collected/ha	Percent fruitfly damage	Est. Yield Kg/ha	Loss Kg/ha	Yield Kg/ha	Treat. cost Kg/ha	Gross income (Rs)	Net Income	Income Over Control	CBR
1	Navroiji Trap @ 10/ha	18075	1.5	8000	450	6975	400	174375	173975	17725	1:44.31
2	Control	--	18.0	8000	1500	6250	000	156250	--	--	

Estimated Av. Yield of Mango:- 8 t/ha ; Cost of harvest : Rs 10/20 kg ; Labour charge Rs 100/day ; Price of Mango Rs 25/kg

Economic Impact (continuation of previous table)

Average Cost of cultivation (Rs./ha)		Average Gross Return (Rs./ha)		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)	
Demonstration	Local Check	Demonstration	Local Check	Demonstration	Local Check	Demo	Local
14	15	16	17	18	19	20	
Oilseed Crops							
14500	14300	49875	40688	35375	26388	2.44	1.85
Cereal Crops							
13230	16580	50575	40587.50	39345	27007.50	3.82	2.45
6065	4450	10075	7962.50	4010	3512.50	1.66	1.79
13230	13580	51425	40587.50	38195	27007.50	3.88	2.99
13230	13580	50175	41850.00	36945	28270.00	3.79	3.06
11330	13580	52487	40587.50	41157.50	27007.50	4.63	2.99
Pulses							
8900	8460	59500	40256	50600	31790	5.69	3.76
9180	8460	59500	40250	50400	31790	5.54	3.76
8580	7440	58000	41715	49420	32275	6.75	5.60
Cotton							
18700	22280	58311	54035	45710	34100	2.35	1.58
Horticulture Crops							
56940	60150	195137	130037	138197	69887	2.42	1.16
40784	42460	144980	117600	104196	75140	2.55	1.7
57080	60150	195230	132500	138150	72350	2.42	1.20
40900	41460	145800	118900	104900	77440	2.56	1.86
28400	28520	78410	59230	50010	30710	1.76	1.07

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 (q/ha)	Local check (q/ha)	Percentage increase in productivity over local check
Gram	Rabi-09-10	Bio-fertilizer	Irrigated	17	11.50	47.82
Groundnut	Rabi-09 Summer-10	Bio-fertilizer	Irrigated	28.5	23.25	22.58
Okra	Rabi-09	INM	Irrigated	156.11	104.03	50.06
Brinjal	Rabi-09	INM	Irrigated	193.31	156.80	23.28
Okra	Rabi-09	IPM	Irrigated	157.75	104.80	50.50
Brinjal	Rabi-09	IPM	Irrigated	178.8	130.80	36.00
Cucurbits	Rabi-09 Summer-10	IPM	Irrigated	98.5	80.20	23.00
Mango	Rabi-09 Summer-10	IPM	Irrigated	6975	6250	16.00
Gram	Rabi-09	IPM	Irrigated	17	11.50	47.82
Paddy	Kharif-10-11	INM	Irrigated	59.50	47.75	24.61
Paddy	Kharif-10-11	ICM	Rainfed	15.50	12.25	28.75
Paddy	Kharif-10-11	ICM	Irrigated	60.50	47.75	26.70
Paddy	Kharif-10-11	ICM	Irrigated	55.75	46.50	18.89
Paddy	Kharif-10-11	ICM	Irrigated	61.75	47.75	29.32
Pigeon pea	Kharif-10-11	ICM	Rainfed	14.50	10.30	40.77
Paddy (IPM)	Kharif-10-11	IPM	Irrigated	59.50	53.00	12.26
Cotton	Kharif-10-11	Production Technology	Irrigated	26.04	19.58	32.99

Technical Feedback on the demonstrated technologies

Sr. No	Technical Feed Back
1	Fertilizer requirement for ratoon cotton crop.
2	Short duration, early, dual purpose pigeon pea variety.
3	Harvesting tool for okra fruits.
4	Control of wilt complex in brinjal
5	Bio control of termite.
6	Micronutrient requirement for okra, brinjal and cucurbits.
7	Required to developed farm machinery and threshing equipments for groundnut
8	Unavailability of raised bed former
9	Require to develop high yielding hybrid rice suitable for this region
10	YVM , fruit& shoot borer management technology require in Okra
11	Land configuration (spacing) in oil seeds and pulse crops.

Farmers' reactions on specific technologies

Sr. No	Farmer's Feed Back
1	Navroji trap for fruit fly is very effective.
2	Raised bed methods in Pigeon pea gave really good results. Appreciate the variety of Pigeon pea like Vaishali. This variety gives good results under bio-fertilizer treated plot.
3	Green manuring in paddy t.p. gave good results it maintain soil health &gave more yield than traditional method.
4	New variety of Paddy, gram and groundnut gave good results than old.
5	Large scale adoption of IPM technology should be made and more concentration should be given to collection and destruction of fallen fruits in brinjal, okra, cotton and cucurbits crops.
6	The technology of INM increases yield and soil health and quality of fruits in brinjal and okra.
7	Land configuration in gram and pigeon pea gives good results than local method.

Extension and Training activities under FLD

Sr. No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1	**Field days**				
	i. Oilseeds& Pulses	8	8/1/10, 6/2/10, 21/4/10, 29/4/10, 14/9/10, 5/10/10, 8/3/11, 10/3/11	365	--
	ii. Other than FLDs	6	14/9/10, 14/9/10, 5/10/10, 8/3/11, 10/3/11, 10/1/11	212	--
2	**Farmers Training**				
	i. Oilseeds & Pulses	13	5/4/10, 5/5/10, 14/5/10, 19/5/10, 1/6/10, 2/6/10, 7/7/10, 30/7/10, 12/11/10, 20/11/10, 26/11/10	247	--
	ii. Other than FLDs	9	5/4/10, 5/5/10, 14/5/10, 1/6/10, 2/6/10, 7/7/10	204	--
3	**Media coverage**				
	i. Oilseeds& Pulses	4	--	--	--
	ii. Other than FLDs	2	--	--	--
4	**Training for extension functionaries**				
	i. Oilseeds& Pulses	2	5/5/10 & 7/2/11	55	--
	ii. Other than FLDs	1	14/5/10	63	--

c. Details of FLD – Discipline - Home Science:

(1) Result of Front Line Demonstration on Kitchen Gardening:

No. of Farm women: 50 **Area: 1 Guntha/demo.** **Season:- Kharif: 2010-11**

Name of Enterprise	No. of Demo	Crop yield (Kg)												Total Prod-uction	Average rate (Rs/kg)	Gross return (Rs.)	
		Tomato	Ridge gourd	Brinjal	Bottle gourd	Tur	Cluster bean	Indian bean	Bitter gourd	Sponge gourd	Chibhadu	Okra	Cucumber			Before FLD	After FLD
Kitchen Garden	50	18.792	5.968	24.132	11.464	9.98	4.092	3.612	4.086	5.804	10.142	16.886	4.716	119.674	30	930=00	3590=22, along with domestic consumption

Critical inputs supplied:- Seeds : Tomato, Ridge gourd, Brinjal, Bottle gourd, Tur, Cluster bean, Indian bean, Bitter gourd, Sponge gourd, Chibhadu, Okra, Cucumber

Farm women Reaction:

S. No	Feed Back
1	Before Demonstration, farm women were growing only two or three vegetable crops in their backyard but after demonstration they are growing different vegetable crops through kitchen gardening in scientific way.
2	Kitchen gardening gives continuous supply of fresh vegetables at lower cost which gives daily nutritious diet.
3	In kitchen gardening, farm women are not applying any agrochemicals so they produce organic vegetables.
4	We are utilized maximum backyard space and waste water.
5	Income is generated by selling extra vegetables grown in kitchen garden.
6	Farm women are attracted towards hybrid vegetables.

(2) Result of Front Line Demonstration on Introduction of improved NAVEEN sickle for paddy harvesting:

Thematic area: Women drudgery reduction technology

Crop	Season & Year	No. of Demonstration	Field capacity per labour (ha/h)		Increase in field capacity (%)	Labour requirement (man-h / ha)		Economics		
			Harvesting by NAVEEN sickle	Harvesting by local sickle		Demon	Local check	Cost of operation * Rs. / ha / day		Saving cost (%)
								Demon	Local check	
Paddy	Kharif 2010	20	0.0075	0.0059	27.12	134	170	1700	2200	29.41

***** Cost of operation is calculated as per Govt. rules.

** NAVEEN sickle is recommended by CIAE, Bhopal.

Technical feedback:

1. Improved NAVEEN sickle reduces women drudgery in terms of time, efficiency and physical hazards (finger injuries, hand grip, muscle stress etc.)
2. During paddy harvesting, field capacity per farm woman is increased up to 27.12% by using NAVEEN sickle as compared to local sickle.
3. NAVEEN sickle saves 26.86% labour and 29.41% cost of operation as compared to local sickle.

Farm women's reaction:

1. NAVEEN sickle increases working efficiency in short period of time, i.e. it is cost and time saving.
2. NAVEEN sickle reduces fatigue, muscle stress, wrist pain and pain in shoulders as compared to local sickle.

(3) Result of Front Line Demonstration on feeding of POSHAK AAHAR to malnourished rural tribal children:

No. of demonstration: 10

Demonstration period: Aug.'10 to Nov.'10 (4 months)

Village: Ghodchit **Taluka:** Songadh

Critical input supplied: POSHAK AAHAR – Protein rich diet i.e. Mixture of wheat, jowar, rice, soybean and bengalgram dal (cereals & pulses with 3:1 ratio)

Average Weight gain of tribal children per month:

Age group	No. of tribal children	Average body weight of tribal children (Kg.)					Weight gain (Kg.)	Increase in Weight (%)	Feeding of POSHAK AAHAR to children (gm/day/child)
		Before demon.	After demonstration						
			First month	Second month	Third month	Fourth month			
1-3 years	Malnourished 10	7.988	8.500	8.733	8.977	9.255	1.267	56.50	100 to 150
	Healthy 10	9.830	9.920	10.070	10.460	10.640	0.810		----

* Recommended by **WHO.**

Technical Feedback:

1. After feeding of POSHAK AAHAR to malnourished tribal children, the growth and development of children are better and the health and nutritional status are improved.
2. POSHAK AAHAR are the low cost protein rich diet and easily available in local market which are compatible for children due to lower economic status.

Mother's reaction on critical inputs:

1. POSHAK AAHAR are good in taste therefore children are eating POSHAK one to two times in a day. So that weight of children is increased & ultimately weakness of children is decreased.
2. POSHAK AAHAR is cheaper and easily available at home.
3. Recipes of POSHAK AAHAR can be prepared as per taste required.

d. Details of FLD - Animal Science:

Urea treatment to paddy straw

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.)				*Economics of check (Rs.)			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Buffalo	Nutrition management	Urea treatment to paddy straw	20	20	Avg. milk yield lit per day	Avg. milk yield lit per day	14%	----	---	95	125	30	1:1.31	91	107	16	1:1.17
					5.8 (21.55 Rs/lit)	4.96 (21.55 Rs/lit)											

Mineral mixture feeding

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.)				*Economics of check (Rs.)			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Buffalo	Nutrition management	Mineral mixture feeding	50	50	Avg. milk yield lit per day	Avg. milk yield lit per day	13%	----	---	100	128	28	1:1.28	98	113	15	1:1.15
					6.09 (21.00 Rs/lit)	5.38 (21.00 Rs/lit)											

Silage feeding

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.)				*Economics of check (Rs.)			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Buffalo	Nutrition management	Silage feeding	10	10	Avg. milk yield lit per day	Avg. milk yield lit per day	11%	----	---	97	123	26	1:1.27	90	105	15	1:1.16
					5.85 (21.00 Rs/lit)	5.00 (21.00 Rs/lit)											

Farmers Reaction:

S. No	Feed Back
1	Use of mineral mixture increase milk production and decrease chances of anoestrus in buffaloes.
2	Urea treated paddy straw increase milk production of buffaloes.
3	Due to silage preparation, green fodder becomes available throughout the year which maintains milk production.

3.3. Achievements on Training (Including the sponsored, vocational, FLD and trainings under Rainwater Harvesting Unit):

A) ON CAMPUS

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
(A) Farmers & Farm Women										
I Crop production										
Integrated Farming	2	44	0	44	35	0	35	79	0	79
Integrated Crop Management	4	0	0	0	170	34	204	170	34	204
Production of organic inputs	2	0	0	0	44	36	80	44	36	80
II Horticulture										
a) Vegetable Crops										
Production of low volume and high value crops	2	0	0	0	41	38	79	41	38	79
Protective cultivation(Green House, Shade Net etc.)	6	0	0	0	128	113	241	128	113	241
Off-season cultivation	1	0	0	0	12	51	63	12	51	63
IV Livestock Production and Management										
Feed Management	1	0	0	0	34	1	35	34	1	35
Dairy Management	1	0	0	0	24	09	33	24	09	33
V Home Science/Women empowerment										
Household food security by Kitchen gardening and nutritional gardening	3	0	0	0	0	82	82	0	82	82
Income generation activities for empowerment of Rural women	1	0	0	0	0	25	25	0	25	25
Location specific	1	0	0	0	0	25	25	0	25	25

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
drudgery reduction technology										
Women and child care	2	0	0	0	0	69	69	0	69	69
Designing and development for high nutrient efficiency diet	1	0	0	0	0	16	16	0	16	16
VII Plant Protection										
IPDM	4	0	0	0	127	75	202	127	75	202
IX Production of Inputs at site										
Seed production	1	0	0	0	26	4	30	26	4	30
TOTAL (A)	**32**	**44**	**0**	**44**	**641**	**578**	**1219**	**685**	**578**	**1263**
(B) Rural Youth										
Seed production	1	0	0	0	29	3	32	29	3	32
Integrated Crop Management	2	0	0	0	74	11	85	74	11	85
Integrated Nutrient Management	4	0	0	0	120	88	208	120	88	208
Protected cultivation of vegetable crops	1	0	0	0	22	0	22	22	0	22
Feed Management	1	0	0	0	20	17	37	20	17	37
Disease management	1	0	0	0	29	5	34	29	5	34
Value addition	1	0	0	0	0	22	22	0	22	22
TOTAL (B)	**11**	**0**	**0**	**0**	**294**	**146**	**440**	**294**	**146**	**440**
(C) Extension Personnel										
Integrated Crop Management	1	0	0	0	70	0	70	70	0	70
Protected cultivation technology	1	0	0	0	31	0	31	31	0	31
Formation and	1	0	3	3	0	28	28	0	31	31

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
management of Self Help Groups										
WTO and IPR issues	1	0	0	0	28	2	30	28	2	30
Capacity building for ICT application	1	0	0	0	12	13	25	12	13	25
TOTAL (C)	**5**	**0**	**3**	**3**	**141**	**43**	**184**	**141**	**46**	**187**
GRAND TOTAL	**48**	**44**	**3**	**47**	**1076**	**767**	**1843**	**1120**	**770**	**1890**

B) OFF Campus

Thematic area	No. of courses	Participants								
		others			SC/ST			Grand Total		
		M	F	T	M	F	T	M	F	T
(A) Farmers & Farm Women										
I Crop Production										
Integrated Farming	2	20	0	20	56	7	63	76	7	83
Seed Production	2	0	0	0	52	46	98	52	46	98
Integrated Crop Management	7	0	0	0	159	74	233	159	74	233
II Horticulture										
a) Vegetable Crops										
Off season veg. cultivation	2	0	0	0	14	72	86	14	72	86
Nursery raising	1	0	0	0	0	32	32	0	32	32
Protective cultivation (Green Houses, Shade Net etc.)	1	21	0	21	0	0	0	21	0	21
b) Fruits										
Layout and Management of Orchards	8	0	0	0	259	233	492	259	233	492
III Soil Health and Fertility Management										
Integrated Nutrient Management	1	10	0	10	2	0	2	12	0	12
IV Livestock Production and Management										
Dairy Management	9	0	0	0	212	120	332	212	120	332

Thematic area	No. of courses	Participants								
		others			SC/ST			Grand Total		
		M	F	T	M	F	T	M	F	T
Feed Management	2	0	0	0	45	0	45	45	0	45
Production of quality animal product	1	0	0	0	18	17	35	18	17	35
Animal Nutrition management	1	0	0	0	0	105	105	0	105	105
V Home Science/Women empowerment										
Women & Child care	3	0	0	0	0	128	128	0	128	128
Design & development of low/minimum cost diet	5	0	0	0	0	139	139	0	139	139
Design & development for high nutrient efficiency diet	1	0	0	0	0	23	23	0	23	23
Minimization of nutrient loss in processing	2	0	0	0	0	62	62	0	62	62
Value addition	1	0	0	0	0	45	45	0	45	45
Income generation activities for empowerment of rural women	1	0	0	0	0	51	51	0	51	51
VII Plant Protection										
Integrated Pest Management	5	69	0	69	98	43	141	167	43	210
Integrated Pest Disease Management	1	0	0	0	23	63	86	23	63	86
X Capacity Building and Group Dynamics										
Leadership Development	1	0	0	0	17	0	17	17	0	17
Formation and management of Self Help Groups	1	0	0	0	0	19	19	0	19	19
Enterpreneurship development of farmers/rural youth	1	0	0	0	17	48	65	17	48	65
Marketing	2	0	0	0	40	30	70	40	30	70
TOTAL (A)	**61**	**120**	**0**	**120**	**1012**	**1357**	**2369**	**1132**	**1357**	**2489**
(B) RURAL YOUTH										
Integrated Crop Management	2	0	0	0	86	17	103	86	17	103
Integrated Nutrient Management	1	14	0	14	3	0	3	17	0	17

Thematic area	No. of courses	Participants								
		others			SC/ST			Grand Total		
		M	F	T	M	F	T	M	F	T
Designing & development for high nutrient efficiency diet	1	0	0	0	0	25	25	0	25	25
Dairy Management	1	0	0	0	32	0	32	32	0	32
TOTAL (B)	**5**	**14**	**0**	**14**	**121**	**42**	**163**	**135**	**42**	**177**
GRAND TOTAL	**66**	**134**	**0**	**134**	**1133**	**1399**	**2532**	**1267**	**1399**	**2666**

C) Consolidated table (ON and OFF Campus)

Thematic area	No. of Courses	Number of other participants			Number of SC/ST			Total number of participants		
		M	F	T	M	F	T	M	F	T
(A) Farmers & Farm Women										
I Crop Production										
Integrated Farming	4	64	0	64	91	7	98	155	7	162
Integrated Crop Management	11	0	0	0	329	108	437	329	108	437
Production of organic inputs	4	0	0	0	44	36	80	44	36	80
Seed Production	2	0	0	0	52	46	98	52	46	98
II Horticulture										
a) Vegetable crops										
Production of low volume and high value crops	2	0	0	0	41	38	79	41	38	79
Protective cultivation(Green House, Shade Net etc.)	7	21	0	21	128	113	241	149	113	262
Off-season cultivation	3	0	0	0	26	123	149	26	123	149
Nursery raising	1	0	0	0	0	32	32	0	32	32
b) Fruits										
Layout and Management of Orchards	8	0	0	0	259	233	492	259	233	492
III Soil Health and Fertility Management										
Integrated Nutrient Management	1	10	0	10	2	0	2	12	0	12

Thematic area	No. of Courses	Number of other participants			Number of SC/ST			Total number of participants		
		M	F	T	M	F	T	M	F	T
IV Livestock Production and Management										
Feed Management	4	0	0	0	79	106	185	79	106	185
Dairy Management	10	0	0	0	236	129	365	236	129	365
Production of quality animal product	1	0	0	0	18	17	35	18	17	35
V Home Science/Women empowerment										
Household food security by Kitchen gardening and nutritional gardening	3	0	0	0	0	82	82	0	82	82
Income generation activities for empowerment of Rural women	2	0	0	0	0	76	76	0	76	76
Location specific drudgery reduction technology	1	0	0	0	0	25	25	0	25	25
Women and child care	5	0	0	0	0	197	197	0	197	197
Designing and development for high nutrient efficiency diet	7	0	0	0	0	178	178	0	178	178
Minimization of nutrient loss in processing	2	0	0	0	0	62	62	0	62	62
Value addition	1	0	0	0	0	45	45	0	45	45
VII Plant Protection										
Integrated Pest Management	5	69	0	69	98	43	141	167	43	210
Integrated Pest Disease Management	5	0	0	0	150	138	288	150	138	288
IX Production of Inputs at Site										
Seed production	1	0	0	0	26	04	30	26	04	30
X Capacity building and Group Dynamics										
Leadership Development	1	0	0	0	17	0	17	17	0	17
Formation and management of	1	0	0	0	0	19	19	0	19	19

Thematic area	No. of Courses	Number of other participants			Number of SC/ST			Total number of participants		
		M	F	T	M	F	T	M	F	T
Self Help Groups										
Enterpreneurship development of farmers/rural youth	1	0	0	0	17	48	65	17	48	65
Marketing	2	0	0	0	40	30	70	40	30	70
TOTAL (A)	**93**	**164**	**0**	**164**	**1653**	**1935**	**3588**	**1817**	**1935**	**3752**
(B) RURAL YOUTH										
Seed production	1	0	0	0	29	3	32	29	3	32
Integrated Crop Management	2	0	0	0	74	11	85	74	11	85
Integrated Nutrient Management	4	0	0	0	120	88	208	120	88	208
Protected cultivation of vegetable crops	1	0	0	0	22	0	22	22	0	22
Feed Management	1	0	0	0	20	17	37	20	17	37
Disease management	1	0	0	0	29	5	34	29	5	34
Value addition	1	0	0	0	0	22	22	0	22	22
Integrated Crop Management	2	0	0	0	86	17	103	86	17	103
Integrated Nutrient Management	1	14	0	14	3	0	3	17	0	17
Designing & development for high nutrient efficiency diet	1	0	0	0	0	25	25	0	25	25
Dairy Management	1	0	0	0	32	0	32	32	0	32
TOTAL (B)	**16**	**14**	**0**	**14**	**415**	**188**	**603**	**429**	**188**	**617**
(C) Extension Personnel										
Integrated Crop Management	1	0	0	0	70	0	70	70	0	70
Protected cultivation technology	1	0	0	0	31	0	31	31	0	31
Formation and management of Self Help Groups	1	0	3	3	0	28	28	0	31	31
WTO and IPR issues	1	0	0	0	28	2	30	28	2	30

Thematic area	No. of Courses	Number of other participants			Number of SC/ST			Total number of participants		
		M	F	T	M	F	T	M	F	T
Capacity building for ICT application	1	0	0	0	12	13	35	12	13	35
TOTAL (C)	**5**	**0**	**3**	**3**	**141**	**43**	**184**	**141**	**46**	**197**
GRAND TOTAL	**114**	**178**	**3**	**181**	**2209**	**2166**	**4375**	**2387**	**2169**	**4566**

Note: Details of above training programmes given in the proforma as Annexure-II

(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
					Male	Female	Total	Type of units	Number of units	Number of persons employed	
Home Science	5-6/1/2011	Preparation of Masala	Income generation activities for empowerment of rural women	2	-	51	51	-- Work in progress --			
	1-2/2/2011	Preparation of Masala	Income generation activities for empowerment of rural women	2	-	22	22	-- Work in progress --			
Agronomy	17-18/1/11	Preparation of composting & vermicomp-osting	Production of organic input	2	53	06	59	-- Work in progress --			

3.4. Extension Activities (including activities of FLD programmes)

Sl. No.	Nature of Extension Activity	Purpose/ topic and Date	No. of activities	Participants											
				Farmers (Others) (I)			SC/ST (Farmers) (II)			Extension officials (III)			Grand Total (I+II+III)		
				M	F	T	M	F	T	M	F	T	M	F	T
1	Field Day	For FLD	17	0	0	0	428	144	572	6	1	7	434	145	579
2	Khedut Shibir	Cereals, Pulses, Vege., other crops	7	0	0	0	748	769	1517	6	1	7	754	770	1524
3	Mahila Shibir	Health & Nutrition, SHG, Women empowerment	3	0	0	0	222	3155	3377	6	1	7	228	3156	3384
4	Agril. Exhibition	Krishi Mela, Khedut din, Krishi Mahotsav	6	771	138	909	1788	5177	6965	6	1	7	2559	139	2698
5	Crop Symposium	Paddy crop(SRI) & Export oriented Okra	2	0	0	0	398	1014	1412	6	1	7	404	1015	1419
6	Ex-trainee sammelan	-	1	0	0	0	17	6	23	6	1	7	23	7	30
	Kishan Gosthi	-	4	0	0	0	34	98	132	6	1	7	40	99	139
7	Celebration of Women in Agril. Day	Agriculture, Nutrition & Health 04/12/10	1	0	0	0	587	388	975	4	1	5	591	389	980
8	Celebration of International Women's Day	Women Empowerment 8/3/11	1	0	0	0	15	63	78	1	1	2	16	64	80
9	Parthenium Awareness Week - 2010 programme	(3/8/2010)	1	0	0	0	75	16	91	4	1	5	79	17	96

Sl. No.	Nature of Extension Activity	Purpose/ topic and Date	No. of activities	Participants											
				Farmers (Others) (I)			SC/ST (Farmers) (II)			Extension officials (III)			Grand Total (I+II+III)		
				M	F	T	M	F	T	M	F	T	M	F	T
10	Formation of SHG	For women empowerment	2	0	0	0	0	26	26	0	1	1	0	27	27
11	SHG Meeting	For activation of new & exsisting SHGs	9	0	0	0	0	207	207	0	1	1	0	208	208
12	Formation of Farm Science Club	-	2	0	0	0	75	16	91	2	0	2	77	16	93
13	Farm Science Club meeting	-	3	0	0	0	103	8	111	4	0	4	107	8	115
14	Farmers Meeting	-	1	0	0	0	26	7	33	6	1	7	32	8	40
15	Mahila Meeting	-	1	0	0	0	0	17	17	0	1	1	0	18	18
16	Guest Lecture	FTC & ATMA	39	682	36	718	2237	1873	4110	6	1	7	2925	1910	4835
17	Film Show	SHG, Pashupalan, Agriculture	13	0	0	0	592	60	652	5	1	6	100	61	161
18	Diagnostic Visit	-	2	1	0	1	2	0	2	1	0	1	4	0	4
19	Field Visit	-	7	0	0	0	68	87	155	6	1	7	75	88	163
20	FLD Meeting	-	8	87	0	87	29	51	80	6	1	7	122	52	174
21	Scientist visit to Farmers' Field	-	19	4	0	4	101	27	128	6	1	7	111	28	139
22	Farmers Visit to KVK	-	44	65	0	65	513	122	635	6	1	7	554	123	677
23	Exposure Tour	Visit at Krishi Mela, NAU, JAU, AAU	1	0	0	0	20	57	77	1	1	2	21	58	79
24	Krishi Mahotsav	--	1	0	0	0	3527	2482	6009	6	0	6	3534	2482	6016
25	Night camp	-	3	0	0	0	70	33	103	3	1	4	73	34	107
26	Telephone	-	209	11	0	11	156	53	209	6	1	7	173	54	227

Sl. No.	Nature of Extension Activity	Purpose/ topic and Date	No. of activities	Participants											
				Farmers (Others) (I)			SC/ST (Farmers) (II)			Extension officials (III)			Grand Total (I+II+III)		
				M	F	T	M	F	T	M	F	T	M	F	T
	Helpline														
27	Guidance through letter	-	3	0	0	0	3	0	3	2	0	2	5	0	5
28	Animal Camp	264 Animals	1	0	0	0	0	0	0	6	1	7	0	0	264 animals
29	Pashupalan Shibir	-	3	0	0	0	488	1103	1591	6	1	7	494	1104	1598
30	Method Demonstration	Preparation of vermicompost and masalas	3	0	0	0	53	28	81	1	1	2	54	29	83
31	Popular Articles	-	28	0	0	0	0	0	0	6	1	7	6	1	7
32	Book published	-	5	-	-	-	-	-	-	6	1	7	6	1	7
33	TV Telecast	-	4	-	-	-	-	-	-	3	0	3	3	0	3
34	Radio Talk	-	1	-	-	-	-	-	-	1	0	1	1	0	1
35	Newspaper Coverage	-	52	-	-	-	-	-	-	6	1	7	6	1	7
36	Folder Prepared	-	23	-	-	-	-	-	-	6	1	7	6	1	7
37	Extension literature distributed	-	4130	179	482	661	1038	2431	3469	6	1	7	1223	2914	4137
38	Research Paper published	-	11	-	-	-	-	-	-	4	0	4	4	0	4
39	Soil & Water Sample analyzed	-	4797	-	-	-	4797	0	4797	1	0	1	4798	0	4798
40	Sample diagnosed in PHC	-	78	2	0	2	73	3	76	1	0	1	76	3	79
41	Farmers-Scientists Interaction	-	1	0	0	0	8	0	8	1	0	1	9	0	9
Grand Total			**5419**	**1801**	**656**	**2457**	**17730**	**19521**	**37251**	**171**	**31**	**202**	**19702**	**20208**	**39910**

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	Jaya	78.85	27085	57
		Gurjari	57.80	23750	50
		IR-28	53.20	--	Stored in godown and selling for next season

SUMMARY

Sr. No.	Major group/class	Quantity (qtl.)	Value (Rs.)	Provided to No. of Farmers
CEREALS	Paddy-Jaya	78.85	27085	57
	paddy-Gurjari	57.80	23750	50
	Paddy-IR-28	53.20	--	--
	TOTAL	**189.85**	**50835**	**107**

PLANTING MATERIALS

Major group/class	Crop	Variety	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
FRUITS	Mango	Kesar	600	33000	30
	Mango	Dasheri	200	11000	10

SUMMARY

Sl. No.	Major group/class	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
1	FRUITS - MANGO	800	44000	40
	TOTAL	**800**	**44000**	**40**

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

(A) KVK News Letter: - --Nil-- * Regular news of KVK is published in NAU Spectrum, NAU Publication.

(B) Literature developed/published

Item	Title	Authors name	Number of copies
Research papers	Effect of Integrated Nutrient Management on growth, yield and economics of sweet corn (*Zea mays L.*)	Dr.N.M.Chauhan Dr. A.P.Patel	Not applicable
	Participation of the Tribal Farm Women in Animal Husbandry	Dr.N.M.Chauhan	Not applicable
	Profit from papaya	Shri B.M.Tandel Dr.N.M.Chauhan	Not applicable
	Residual effect of nutrient management on productivity and its economics under lucerne-paddy sequential cropping	Dr.N.M.Chauhan Dr. A.P.Patel	Not applicable
	KVK shifting the life of normal tribal farmer to an innovated high-tech farmer through integrated farming	Dr.N.M.Chauhan Shri B.M.Tandel	Not applicable
	IPM Block, Nizar through efforts of KVK for integrated farming system in Ecofrendly way	Dr.N.M.Chauhan Dr. J.H.Rathod	Not applicable
	Role of KVK in upliftment of tribal dominated areas of South Gujarat through export oriented okra cultivation	Dr.N.M.Chauhan Shri B.M.Tandel	Not applicable
	Contribution of tribal farm women in Decision making for IFS	Dr.N.M.Chauhan Dr. N.B.Chauhan	Not applicable
	Association of the tribal farm women in crop husbandary in IFS	Dr.N.M.Chauhan	Not applicable
	Effect of Integrated Nutrient Management on growth, yield and economics of sweet corn (*Zea mays* L.)	Dr.N.M.Chauhan	Not applicable
	Farmer's perception about ICT Application-A case study of Gujarat State	Dr.N.M.Chauhan	Not applicable
Total	**9**		
Technical reports	MPR, QPR, SAC report, FLD report, AAP, APR, MER, AGRESCO, ZREAC report, QRT Report	PC & All SMS	-
Popular articles	List of articles given in Annexure – III	PC & All SMS	

Leaflets/folders	APNAVVA JEVO PAK “SOYBEAN”	Dr. A. P. Patel & Dr. N. M. Chauhan	1500
	SWA-SAHAY JUTH NI RACHANA ANE TENU MAHAVA	Arti N. Soni & Dr. N. M. Chauhan	2000
	AADHUNIK KHETI ANE ATYADHUNIK BAHENO	Dr. N. M. Chauhan	1500
	DANGAR MA SANKLIT JIVAT NIYANTRAN	Dr. J. H. Rathod & Dr. N. M. Chauhan	1500
	KHETI NE UDHYOG SAMAKAX BANAVVA MATE DASH MUDDA NI SONERI SALAH	Dr. N. M. Chauhan	1500
	SAGARBHA STRI ANE MATA MATE POSHAK AAHAR	Arti N. Soni & Dr. N. M. Chauhan	1500
	SHAKBHAJINU AAHAR MA MAHATVA	Arti N. Soni & Dr. N. M. Chauhan	1000
	EK ROKADIYO PAK : BHINDA NI KHETI	Shri B. M. Tandel & Dr. N. M. Chauhan	2000
	BALAK NI SARSAMBHAL	Arti N. Soni & Dr. N. M. Chauhan	1000
	DANGARNI KHETI PADHDHATI	Dr. A. P. Patel & Dr. N. M. Chauhan	2000
	DANGARNI SRI PADHDHATI THI ROPANI	Dr. A. P. Patel & Dr. N. M. Chauhan	2000
	CHIRANJIV KHETI	Dr. N. M. Chauhan	2000
	BAKARA PALAN	Dr. J. M. Patel & Dr. N. M. Chauhan	1000
	MAKAI (Sweet Corn) NI VAIGYANIK KHETI PADHDHATI	Dr. A. P. Patel & Dr. N. M. Chauhan	1000
	GHAR AANGANE SHAKBHAJI	Shri B. M. Tandel & Dr. N. M. Chauhan	2000
	SHAKBHAJIMA UTPADAN VADHARVA MATE DHYAN MA LEVANI ADHYATAN TECHNOLOGY	Shri B. M. Tandel & Dr. N. M. Chauhan	1000
	OFF SEASON MA SHAKBHAJINI KHETI	Shri B. M. Tandel & Dr. N. M. Chauhan	1000
	RINGAN NI VAIGYANIK KHETI	Shri B. M. Tandel & Dr.	1000

		N. M. Chauhan	
	SUKI KHETI PADHDHATI ANGENA AGATYANA MUDDA	Dr. A. P. Patel & Dr. N. M. Chauhan	1000
	KATHOL PAKO MA SANKALIT ROG JIVAT NIYANTRAN	Dr. J. H. Rathod, Dr. N. M. Chauhan & Shri R. S. Patel	1000
	JANTUNASHAK DAVANO SALAMAT UPYOG	Dr. J. H. Rathod, Dr. N. M. Chauhan & Shri R. S. Patel	2000
	ASARKARAK KRUSHI VISTARAN MATE PAYANA VISTARAN KARYAKARONI PAVITRA FARAJO	Shri C. D. Pandya & Dr. N. M. Chauhan	1000
	STRIO MA LOHTATVANI UNAP (ANEMIA) VISHE JANO	Arti N. Soni & Dr. N. M. Chauhan	2000
	FAL ANE SHAKBHAJI PARIRAXAN	Arti N. Soni & Dr. N. M. Chauhan	1000
Total	**24**		**34500**
Book Published	A SERIES OF ACHIEVEMENTS OF KVK, VYARA		
	KHETIMA JAMIN ANE PAK SARAKSHANNU MAHATVA		
	MULYAVARDHAN DWARA MAHILAONO UDHYOG-SAHSIKTA VIKAS		
	PASHUPALANMA VAIGYANIK ABHIGAM		
	SANKALIT ROG-JEEVAT NIYANTRAN MARGDARSHIKA		
	KVK TAPI – A BOON FOR UPLIFTMENT OF FARMING COMMUNITY		

(C) Details of Electronic Media Produced

S. No.	Type of media (CD / VCD / DVD / Audio-Cassette)	Title of the programme	Number
1	Tribal farmer's Feedback--DVD	KVK Tapi in the service of Tribal farming community.	100

3.7 SUCCESS STORIES / CASE STUDIES:

3.7.1 Replacement of the Pigeon pea variety through FLD, a success story (Accepted in NAU Spectrum)

Introduction:

Agriculture is the strength of the country and seed is the back bone of crop production. Among all the agricultural inputs, only seed had inbuilt potential, where as other inputs like nutrients, irrigation and plant protection chemicals, contribute to the production potential of the seed. If potential of the seed is poor, optimum yield is not possible in spite of judicious use of inputs. Research findings reveal that 10-12 percent increase in yield is attributed to good quality seed. Pigeon pea (Tur) is the main pulse crop in south Gujarat. Tribal belt is preferring tur as a main leguminous food in their daily diet.

Profile of the village:

The village Gatadi is situated in Songadh block of Tapi district. It is located 24 km from block place, 17 km from district place cum Krishi Vigyan Kendra, Vyara. The total population of village is around 650 with 335 male and 315 female. Considering caste wise distribution, cent per cent population is of Schedule Tribe (650), clearly indicating dominance of ST.

The total area of village is 230.95 ha, out of which net cultivable area is 194.30 ha,(84%). Nearly 40 per cent cultivated land having irrigation facility which is mostly irrigated through tube well, well, water lifted from the river and check dams. **Amrutbhai Gamit** is a surpanch, **Aknathbhai Chaudhary** is a Talati, while **Ganpatbhai** is working as VLW in the village. The Gatadi village of Tapi district is tribal dominated and it is the most neglected village and up till now no any extension agency is available to cater the need of farmers regarding agricultural technology.

The main crops of the village are paddy, sorghum and tur in *Kharif* and Sugarcane, vegetables and gram in *Rabi*. A small pocket of the village is covered under groundnut in summer. Only milk co-operative is functioning in the village, helping the farmers for marketing of their livestock products.

Tur is an important pulse crop and plays an important role in **improvement of the soil through improving soil microbial activities.** In Gujarat tur is grown about 2651 ha with production 2942 in year 2007-08 kharif. Among this Surat district covers 326 ha under tur crop.

In the year 2007, **KVK, Vyara** has adopted village **Gatadi** as a **Satellite village** for its intensive activities of Transfer of Technologies related to agriculture for increasing agricultural production there by raising standard of living of the farmers.

The entry point visit to the village was made by the team of Subject Matter Specialists. To find out the technological adoption gaps and to identify the thrust areas

for the agricultural development, a PRA was made. During PRA, interacting with the farmers it was found that the farmers were unable to harvest the tur crop due to unavailability as well as no knowledge regarding improved varieties of the Tur. Sowing of local varieties with high seed rate on flat bed without knowing scientific cultivation practices of tur. One of the major thrust areas identified as to introduce the high yielding early variety of the tur in the village. Even though using higher seed rate, farmers were frustrated with tur cultivation as they were unable to get better yield from the Tur. As no extension agency was targeting these farmers, they had to rely on private traders for seed. The traditional cultivation of crops makes agriculture costly but they did not get the remunerative yield from the pigeon pea crop.

Considering the situation and dialogues with farmers, Subject Matter Specialists (Agronomy, Horticulture) suggested implementation of land configuration and INM in tur with introduction of the high yielding variety .The training as well as demonstrations on high yielding early variety of the tur Vaishali was the need of village for profitable cultivation of Tur. The interested farmers were given on campus as well as off campus training with special emphasis on identification of insect- pests and diseases of tur, components of INM, economic use of irrigation water, ways to produce quality products, etc. through video show and power point presentations. The farmers were also aggravated to visit and interact with the farmers who have adopted this technology.

Fortunately, with financial assistance of the ICAR under National Pulse Development Scheme, KVK Vyara was able to give demonstrations of Vaishali variety FLD in 10 ha. [5 ha. in the year 2007-08 and 5 ha. in the year 2008-09] benefiting **19 farmers** of the Gadat, Gatadi and champawadi villages of Songadh block during 2007-08 and **26 farmers** of the Gadat, Gatadi, Bhitkhurd and Bhitbudrak villages in year 2008-09. New Pigeon pea variety **"Vaishali"** along with INM & land configuration was demonstrated, constant follow up visits, ex trainee visits, khedut and mahila Sammelans, field days, farmer's days and other extension activities have been concentrated. Initially, farmers were vacillating in adopting newly released variety of the pigeon pea and land configuration but with constant encouragement, KVK scientists are successful in building up confidence in them. The major achievement of the demonstrations is that farmers were booming in getting higher production of the tur. The advanced guidance provided by KVK scientists. The farmers from neighboring villages were also attracted and associated with the KVK for adopting their *village under FLD scheme*. Based on two main pillars of the extension education" **Seeing is Believing**" and "**Learning by Doing**" , the idea was spread and the adoption was increased to the remarkable level.

The farmers of such villages had sold the green pods of the pigeon pea as well as also harvested seed from the demonstrated variety. The farmers were able to get a net profit of **Rs.50, 000/ha.** The increase in yield was to the tune of **33-68%;** the field days were organized at demonstrated plots and got wide publicity of the new variety.

The farmers from the neighboring villages were also attracted towards new variety of the tur and demanded for seed of the Vaishali variety. The spread of the said variety was in surrounding villages and the FLD villages were became **seed centres** for the same. Next year the same FLD was taken in surrounding villages and the whole cluster had been shifted from conventional variety to the Vaishali variety. The replacement of the seed was-15%. The crop was ready earlier up to the tune of 2-3 months as compared with conventional varieties. Farmers were able to take a next crop after tur on same piece of the land. As, it was matured earlier than traditional varieties by 45-60 days. The feed back from the farmers were collected and the results had been analyzed and presented in the following Tables.

The Gatadi village is now became a model for Vaishali variety in the Block. The surrounding villages of Songadh, Vyara and Uchchhal taluka had also adopted vaishali to the tune of 22% and many more villages are in a cylinder for adopting Vaishali variety of the Tur. The total seed of the said variety was supplied to them on free of cost. The constant follow up and monitoring of the package of practices made them habitant with scientific cultivation of the tur. The whole villagers are flattering conversant regarding ***better results of the new variety in relation to yield, income, soil, water, environment and health point of view.***

Initially, total 6 innovated farmers were trained for the same. Among them , the trained farmers *viz* :- **Mr. Maganbhai Gamit, Girishbhai Gamit, Rakeshbhai Gamit, Vineshbhai Chaudhari, Thakorbhai Gamit and Panjibhai Gamit** residing at Gatadi village are working as a resource persons for whole village as well as surrounding villages. Last year the seed produced by those villagers were sold to other farmers of the region and they were able to get higher price of the seed as compared with market saling. The same variety will be given to 10 selected villages and constant follow up will be maintained by KVK scientists and at grand growth period of the crop a big farmers day will be arranged **including dignitaries of the NAU: Hon. Vice Chancellor, Director of Extension Education, State department of the agriculture and all GOs, /NGOs of the region**. **Simultaneously the big farmer's day on Tur was conducted for mass multiplication of the advantages of the Vaishali variety and our sincere efforts would be towards whole block conversion in to seed block for Vaishali variety within 2-3 years.**

Table-1: Training programmes organized on tur production.

Subject	Title of the trainings	Duration (Days)	No. of participants		
			Male	Female	Total
Crop production	Oil seeds & pulse production technology	2	49	36	85
	Importance of bio fertilizer in oilseeds & pulses crop.	1	18	-	18
	Land preparation for major crops of the area.	1	34	50	84

	Improved production technology for pigeon pea cultivation	2	22	0	22
	FLD training on Tur	1			
	Integrated weed management in Tur	1	34	0	34
	Important post sowing/ plant agro technologies for more return in kharif crop.	1	21	17	38
	Package of practices of major kharif crop	2	28	23	52
	Importance of land preparation for kharif crop	1	0	19	19

Table-2 Comparison of economics of Vaishali demonstration plot and control plot in tur crop.

Sr.No.	Name of The village	Yield(Qt/ha) Demon.	Yield(Qt/ha) Local Cheque	Increase in yield (%)	Net profit (Rs/ha) Demon.	Net profit (Rs/ha) Localcheque.
1	**Year Khari 2007**					
	Gatadi &	8.84	6.62	33.5	10609	7332
	Champawadi					
2	**Year Kharif 2008**					
	Gatadi	12.48	7.40	68	46538	26600
	Gadat					
	Bhitkhurd					
	Bhitbudrak					

Price- Pigeon pea grain (2007)-Rs.12/kg grain.

Pigeon pea grain (2008)-Rs.40/kg grain.

Table-3 Adoption of Vaishali variety N=100

Characteristics	Number	Percentage
Overall knowledge level		
Low	11	11.00
Medium	74	74.00
High	15	15.00
Total	**100**	**100.00**
Head wise knowledge Level		
Cultural practices		
Low	15	15.00
Medium	61	61.00
High	24	24.00
Total	**100**	**100.00**
Fertilizer Management		
Low	15	15.00
Medium	70	70.00
High	15	15.00
Total	**100**	**100.00**
Irrigation management		
Low	20	20.00
Medium	57	57.00

High	23	23.00
Total	**100**	**100.00**
Marketing of Green pod		
Low	22	22.00
Medium	55	55.00
High	23	23.00
Total	**100**	**100.00**

Farmer's reactions:

1. Vaishali variety is better than habitual/local cultivars in the villages.
2. Variety is suitable for vegetable as well as for grain/seeds.
3. During the year 2008 only this variety gave substantial yield in this region, all other traditional varieties failed at all.
4. Sowing on ridges allowed all plants to stay alive and produce even in high rainfall area successfully.
5. Vaishali variety gave good economic returns as compared with traditional varieties grown in the province.
6. INM including recommended dose of fertilizers (RDF) +FYM + Rhizobium inoculation) crop was found better than only use chemical fertilizer**.**
7. Seed production along with green pod marketing gave higher net homecoming as compared with only grain production.
8. No menace against failure of the crop due to early maturing and less pest attacks at maturity stage, due to short duration variety.

Conclusion:

Higher yielding and improved varieties is the one of the most important component to get higher yield in agriculture crop production machinery, which technology promises higher yield. INM & land configuration also helps in improving yield. Majority of the respondents gained medium level of the overall knowledge and adopted all cultural practices of the tur production, the knowledge level of the farmers regarding scientific cultivation of tur was increased remarkably, (**Table-4**). This may be due to the proper guidance given by KVK scientists, Demonstrations and constant follow up by KVK missionary. The yield was increased to the tune of **33-68% and the net profit was increased to the tune of 30.68%.**

Implication: The study has acknowledged the knowledge level of the tur growers towards improved technology. This story can be guideline for other extension worker to implement this way of extension technology for their clients. On this groundwork the extension personnel may locate clients for training and also those who can be used as counselors to other farmers. The study is also useful for effective propagation of the improved technology in other regions for eco friendly and sustainable agricultural development.

Suggestions :- Based on this study we can suggest our other extension workers as well as to the policy makers to take a keen interest in the matter and do needful for

great publicity of such technologies in their respective areas of working for successful journey towards next phase of Green Revolution on sustainable basis. This study is also eye opening for the persons working in the field of extension education. This thing looks like diminutive but its impact is of great magnitude.

Reference:

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Nirmalkumar, S.K. Rautaray,M. Gupta and Singh, A.K**. (2005), *Ind.J. Ext.Edu*. vol.no-41 no 1& 2, PP: 49-54.**

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S.R. Meena and Jhamtani.(2005), Change in cropping pattern subsequent to farm mechanization,***Ind.J. Ext.Edu*. vol.no-41, No- 1& 2, PP: 31-36.**

3.7.2 Integrated Nutrient Management, a windfall to get higher production of vegetables in Tribal areas of South Gujarat- A Success story.

Introduction:

Farmers are trailing their productivity and quality of the vegetable crops due to injudicious use of chemical fertilizers and less use of organic matter. An organic matter serves as mechanical spring in soil and improves resilience once stress is removed. Imbalance application of nutrient neither increase yield nor profit in the long run but it may result in accelerating deficiency of other nutrients in the soil. The integrated nutrient management (INM) maintains soil fertility for sustaining increase in crop productivity through optimizing all possible sources, such as organic and inorganic nutrients of plant .Required plant nutrients for growth and quality in an integrated manner, appropriate to ecological, social and economic possibilities (Chundawat, 2001). Farmers of this region struggle for livelihood and divert from traditional agriculture to high output vegetables cropping viz. **Okra, Brinjal, and Papdi** Therefore, to harvest optimum yield of vegetable crops in eco-friendly way it is very essential to go towards integrated nutrient management which will be capable to improve the soil health. To demonstrate the integrated nutrient management on vegetable crops on farmer's field, this will increase the awareness of this improved technology and to increase the productivity of vegetable crops and to improve the soil health. The demonstrations on INM were conducted in different villages of Tapi District in the State of Gujarat.

Methodology:

Under Rashtriy Krishi Vikas Yojna (RKVY) KVK, Vyara adopted seven tribal villages of Tapi district. 200 acres area had been covered in INM demonstration. Before adopting the villages, vegetable growers losing their productivity and quality of the

vegetable crops due to injudicious use of chemical fertilizers and less use of organic matter. Hence, in RKVY scheme the demonstrations on integrated nutrient management on vegetable crops on farmer's field were conducted to increase the awareness of this improved technology and to increase the productivity of vegetable crops as well as to improve the health of soil, water and environment in the golden era of organic Farming.

Demonstrations were planned for INM including organic in form of enriched bio-compost, recommended dose of fertilizers and bio-fertilizers. Seeds/seedlings were treated with bio-fertilizers (*Azotobactor* + PSB) @ 2kg/ha each at the time of sowing/transplanting. Enriched Biocompost @ 10 ton /ha was applied at the time of land preparation in all four crops i.e. Brinjal, Okra and Papdi The recommended doses of chemical fertilizers for Brinjal was 100-50-50 NPK kg/ha, Okra was 150-50-50 NPK kg/ha, and that for Indean bean 20-40-00 NPK kg/ha. 100% P& K fertilizers was applied at the time of planting. While N fertilizer was applied in 4 equal splits, for Brinjal, 1st at 25 DATP and remaining 3 splits at 25-30 days interval, while for Okra, 1st at 21 DAS and remaining 3 splits at 25 days interval. Where in case of Indean bean 100 % N& P was applied as basal dose.Total 7 demonstrations on Okra and 46 on Brinjal were conducted. Soil samples before sowing and after harvest of crops were taken and analyzed.

Results and Discussion:

Growth and yield were reported higher with integrated nutrient management than conventional method of cultivation of Okra, Brinjal and Papdi. Plant height of Okra plants were reported about 35cm more in INM demonstrated plots than control plot. While in case of Brinjal and Papdi almost similar plant height was recorded. More plant height with INM may be due to better vegetative growth resulted in demonstration plot due to more conversion of photosynthetic product in to protoplasm. About 40%, higher Number of fruits harvested per plant in Okra with INM plot. In Brinjal about 56 %(Rabi) and 78% (Kharif) more number of fruits was harvested with INM treatments compared with control. In case of Papadi 54.04% higher number of pod was harvested with INM treatments compared with control. 35.6% higher Yield was obtained in case of okra. About 53% higher yield was observed in Papdi in INM demonstrated compared with traditional Papadi growing plots. While in brinjal Rabi season 53.5 % and in Kharif season 48 % moer yield in INM treatment than conventional methods. The higher yield might be due to better supply of plant nutrients in balance form in INM plots, as organic matter improves soil health and creates sympathetic root environment for better augmentation and there by better absorption of nutrients, organic manures decreases fixation of nutrients and enhance availability by solubilizing action of microbes. Integrated nutrient management demonstration plots reported improvement in soil properties and nutrient content of soil after harvest of crops compared to initial soil nutrient values based on chemical analysis. The organic carbon content was marginally

improved while P and K status was improved considerably. It might be due to solubilizing effect of organic matter on native fixed nutrient by improving physico-chemical and biological properties of soil. It may be a result of positive effect of bio-fertilizers on soil properties. Brinjal and Papadi were demonstrated in kharif season due to got more price in kharif and farmers get double price then seasonal growing.

Conclusion:

It can be concluded that organic manuring play important role for improvement in crop production, soil health and nutrient use efficiency. The quality of fruit and keeping quality also improved by use of balanced ration along with good amount and quality of organic matters. The INM practice is very very essential for eco-friendly vegetable cultivation. It is also important for production of Indian Consumption Quality Agricultural production (ICQAP) as well as Export quality agricultural products (EQAP).To preserve soil, environment and water for their future use the INM technology is a current need of the time. It is proved that INM may be the sole responsible factor to produce better quality as well as well as higher profitable vegetable cultivation in this area.

Implications:

Successful growing of vegetables with INM will be unique tools of TOT for vertical and horizontal spread of the said technology in tribal dominated areas of Tapi district. Tribal farmers are very curious to adopt such technology in their vegetable cultivation. The inquiries from different parts of the district regarding INM technology as well as inquiry of the farmers in market for INM inputs may be called as a grand success of the demonstrated technology. These Demonstrations will be a boon, can say foundation stone of the spread of ecofriendly technology for higher and better production of the vegetables in tribal area and would be responsible for increasing income and thereby raising the standard of living of the “Vanvasi” people. It is really an unique peace of work done by this KVK In the benefit of tribal of South Gujarat.

3.7.3 Role of KVK in upliftment of Tribal dominated areas of South Gujarat through export oriented Okra cultivation.

Introduction:-

Tapi District is one of the Tribal dominated Districts of the South Gujarat. The District covers only **38% area** of cultivable land under irrigation. Major segments of the district are belongs to rain fed farming. The tribal farmers are yet very much conscious regarding economic use of irrigation water. Since last five years the tribal people have started Okra cultivation in the district through motivation and practical training by KVK, Vyara, Dist- Tapi. The dominant pocket is adjacent to Dolvan Market yard. Tribal farmers are using costly seeds of Hybrid okra. Mainly hybrids are produced by Private, National and Multi National Companies. Tribes are using higher doses of Chemical

fertilizers and Insecticides- Pesticides. After harvesting of Okra majority of farmers handle very roughly. They transport okra in guny, plastic bag & overloaded it. They did not aware of value addition of okra. So, quality of okra was detiorated. They expensed a huge budget behind Agrochemicals. Resulted in higher cost of production. Ultimately they are with expectation of higher prices of their okra in the market. Since last four years Export of Okra had been started by brokers. One or two big containers every after an alternate day's are exported from dolvan market which is costed around 33 cores per season. The okra market has created an identity of the region at National as well as international level.The role played by KVK in this task is immeasurable.

In year 2007, **Krishi Vigyan Kendra (KVK), NAU, Vyara** started work to decrease the cost of cultivation, reduce the use of agro chemicals, to train the farmers towards value addition in okra and to introduce eco friendly cultivation of okra in the western region of Tapi district. In this context KVK Subject matter specialist has been started 15 days interval visit in all the village around the Dolvan market for diagnosis of the pest-disease and any other problem related to okra cultivation. KVK scientist hammering the technology for export quality production of okra to the farmers. Subject matter specialist horticulture has been organized ON and OFF campus trainings, celebration of okra day and conduct FLDs on INM in Okra. In krishi mahotsav subject matter specialist (horticulture) had contacted directly with farmers and solved their problems regarding cultivation practices and how to reduce the cost of cultivation. Subject matter specialist (horticulture) demonstrated INM technology in 124 field of different villages. Field days were arranged at farmer's field to show the technology feed back from the farmers. In field days farmers showed the crop and realized that they are using more seed rate, more use of agrochemical. **Krishi Vigyan Kendra (KVK), NAU, Vyara** has organized one day seminar on **"Export oriented Okra" at Dolvan market on 14th November-2009** for spread of technology related to export quality okra production.

Main aim of organized seminar on export oriented okra was to increase more & more farmers participated & they get knowledge about time of sowing, seed rate, INM,IPM, IBNM, post harvest management & marketing and raising their standard of living through higher net profit.

The technical session was fully for profitable- export oriented okra. Dr. B. M. Tandel delivered his speech on scientific cultivation of Okra. He gave more emphasis on time of sowing which was more important for getting higher price & more net return. Because, in survey of market price of okra has higher in month of mid November to January. Other things were Integrated Nutrient management in okra for better quality production & soil health. Dr. Maganbhai Patel, Entomologist has delivered his speech on Integrated Pest Management (IPM) in Okra. Value addition and export oriented okra was explained by Dr. Alpesh Leuva, IBM, Expert, NAU, Navsari. The team of Expert from Anand Agricultural University headed by Dr, J.G. Patel has delivered their unique

speech on **Integrated Bionutrient Management (IBNM) in Okra** for NCF cultivation on Okra in a golden era of Organic Farming. The team of scientists from NAU, Navsari and KVK, Vyara has delivered a nice talk on different aspects of profitable okra cultivation and exporting with higher net return. In questionnaire sessions the puzzles from farmers were solved by the scientists satisfactorily. Nearly **4000 tribal farmers and farm women** had taken active participation in the seminar.

Results:

In earlier, 2000 ha area comes under cultivation of okra during rabi season. It produces 22000 ton okra. Farmers get average price of okra was 17.5 Rs/kg. Total turn over of tribal area of okra growers was 37.4 crores. During this year total area under rabi okra cultivation was 2560 ha & 25600 ton production. Month wise distribution of okra in dolvan market. In Oct.-Nov.2009 53.6 qt. okra was come & price 28 Rs/kg, but in Dec. –January and Feb-March total 895.2 and 277.3 qt. okra was came and average price of this okra 47.5 and 31 Rs/ kg respectively.

In year 2008-09 dolvan and Surat market 2286 qt. fresh okra came in October to march month. The price of okra was 15 Rs/kg in October, then it was increase up to 27.5 Rs/kg in Nov. Dec.. Up to end of March it was down up to 7.5-10 Rs/kg. But in year 2009-10 1225.5 qt. okra comes in dolvan and 1206.5 qt. in Surat market. In month of October price of okra was starting from 20 Rs/kg and in month of November its increase 27.5 to 30 Rs/kg. Broad publicity of export oriented seminar, national level broker are come to buy okra. They were directly contact with farmer & buy okra on their field & they get 2 to 2.5 Rs/kg higher then dolvan and surat market. They supplied okra in Mumbai & Delhi. In month of Dec. January farmers get 45 to 60 Rs/kg price. Which was so higher & they were never seen this much price in life. Farmer was also growing quality production and more brokers at least 24 was came in market and more competition for buying okra. Earlier 95 % farmers put okra in plastic bag & over loaded in tempo transportation. So detiorated the quality of okra , ultimately get lower price. After seminar farmers realized that only production was not important but quality & grading is also important for getting higher price. They get higher price in A grade quality & slightly lower in B grade and lowest price of C grade quality okra.

Farmers know that production was not important but grading and transportation was also important and now 35 -40 % farmers are use plastic krates.

Lastly, due to this seminar, farmers grow good quality production, they doing grading in their product, use plastic karats for transportation and get more price as compare to earlier year.

Implications:

This high-tech okra production and marketing technologies has changed the vision of the tribal farmers. 72 new motor cycles had been purchased by tribal youths only due to higher income through okra. Five Tribal farmers were able to purchase four wheelers from export oriented okra cultivation. The whole pockets became famous for

export oriented okra cultivation. The NRIs originated from this district can say in foreign countries that this okra is coming form my native. In real sense this success has changed the vision of the KVK scientists towards farming communities and vice versa. This KVK has proved the real role of Information hub in the tribal dominated areas like, Tapi district. About Rs. 50.00 crore was obtained through okra exporting from this market in three years.

3.7.4 The role of KVK in shifting the life of normal tribal farmer to an innovated high-tech farmer. A success story

Back ground information:

The village Bhitkhurd is a tribal dominated village with 100% per cent tribal population, situated in Utchhal block of Tapi district. It is located 9 km away from block place, 57 km from district place and Krishi Vigyan Kendra, NAU, Vyara. The total population of the village is around 4000. The total geographical area of the village is about 824 ha. Out of which net cultivated area is about 510 ha. The irrigated area of village is 20 ha which is mostly irrigated by tube wells. Total graphical area of the taluka is 8260 ha & out of this 8260 ha area is cultivated and only 701 ha area is covered under irrigation facility.

The main crops of the village are drilled Paddy, Tur, Transplanted Paddy and Sorghum in kharif while Wheat, Chickpea and few vegetables in *Rabi season*.

Intervention:

Process:

In the year 2007, KVK, Vyara has adopted the village Bhitkhurd. In first year for intensive activities of Transfer of Technologies related to agriculture and allied sector for increasing agricultural production there by raised the standard of living of farmers. First Subject Matter Specialist of KVK, Vyara conducted PRA in this village and find out the technological adoption gap in agricultural crop and to identify the thrust areas for the village.

During PRA, interacting with farmers, it was found that the farmers were unable to get economical dwelling coming from their land. As they grow drill paddy, Tur, gram and T.P. paddy with old varieties, which is having very low yielding capacity. In rain fed farming, poor management in their field, such as high seed rate, improper spacing, imbalance use of fertilizers & high weed infestation. All these factors collectively resulted in extravagant agriculture of the village. The farmers of this tribal belt were unable toward adopting new technologies, recent innovations in agriculture. So, some times they left their field. They were frustrated with agriculture; result was migration for livelihood security.

Considering the situation, Subject Matter Specialist (Horticulture) dialoged with farmers and suggested first to replace the seed of all field crops and cultivation of high value vegetable crops. Interested group of farmers were invited to KVK, Vyara for

giving detail training on scientific cultivation of field crops and motivated on growing vegetables and seed plot through video show and power point presentations. Those interested farmers were also visit NAU, campus farm for motivation to old traditional farming.

Among trained farmers, **Mr. Bhanudashbhai Sahitravbhai Gamit,** a resident of Bhitkhurd is a school dropout and presently involved in agriculture and dairy farming. His father, Sahitravbhai is also a farmer and engaged in farming for last 25 years. He is migrated Bhitkhurd from Maharashtra. He has 9 acres of cultivated land. Previously, due to lack of irrigation facility they had to depend on rainfall and were able to cultivate sorghum and drill paddy in *kharif* and gram in *Rabi* on conserved soil moisture. From all the available resources, he was able to earn **net return of** only **Rs. 22000**.

With availability of irrigation water through lift irrigation in Tapi command area and use of tube well, for 4.2 acres of land led him cultivation of irrigated, T.P. paddy, wheat and gram in initial years, he was able to earn **38-41 thousands** from 4.2 acres of land.

Mr. Bhanudashbhai had bayed pick up van for doing transportation business. But he did not succeed in the form of option other than farming for his livelihood. He has taken interest in his farming. He was eager to know incredible newer developments in agriculture. He has great impatience and curiosity to know recent innovations in agriculture. But as he is residing at remote place, he was unable to get latest information regarding development in agriculture. He was in search of an organization which can cater his need for newer technologies in the field of agriculture.

Technology:

KVK scientist had selected few interested young farmers and conducted training programme on scientific cultivation of paddy & gram. KVK scientist demonstration on newly technology of paddy, tur and gram on farmer's field. All those crops gave 25- 34 % higher yield than conventional method of farming. Mr. Bhanudhas has trust on SMS (Horticulture) and start new technology adopted in field of agriculture. The Subject Matter Specialist (Horticulture) Mr. B. M. Tandel suggested him to grow gram var. GG-2, in life saving irrigated area. He produced 2000kg gram in 4 acres of land and he earned net Rs. 52000. As an innovated farmer, he immediately accepted the idea given by KVK scientist and neighbor state and started cultivation under guide line of SMS (horticulture). In kharif season he cultivated T.P. paddy & Tur in 6 acres of land and in other area under drill paddy. He had been using 70 % less seeds than earlier and use improve varieties, applied fertilizer under guidance of Mr. B. M. Tandel. Production was double in Tur and T.P. Paddy and 40 % increase in yield of drill paddy. He got net returns of Rs. 83, 495 from 9 acre land. In rabi season he was grow onion in 3 acre, brinjal in 0.5 acre, gram in 1 acre and wheat in 2 acre. He has cultivation of all crops under direct guideline of SMS (Horticulture), time to time supervision given to him by telephonic and direct contact and field visit. He was produced 30 ton onion, 3700 kg

brinjal and 1400 kg wheat, which was so higher then earlier production. He able to grow new crop and make self confidence. Total net output from these all crops were Rs .2, 67,500. He also produced seeds of onion in this year.

Impact:

Economic:

Due to adoption of scientific approach in agriculture he obtained a higher yield. He received total income of **Rs. 3.5 Lakhs** from total 9 acres of land. The total cost of cultivation was **Rs. 69000 /-**.The net profits was **Rs. 2.81 Lakhs**. This led him higher income and also raised his standard of living with better social status. Previously he had to borrow money from others for his social expenses. At present he is in a position to land money to others. Cultivation of good quality agriculture product attracted the merchants towards Bhitkhurd village. He started to sell paddy after milling paddy after thorough processing and get more prices then others.

Horizontal spread:

Now, Mr. Bhanudashbhai is become an **innovator** for other farmers for Tur, Gram ,Paddy and Onion cultivation in the region. Under his guidance total **26 farmers are** growing tur and paddy, 25 farmers and Maharastra state farmers are growing Gram having irrigation facility. In this year around other 29 farmers had started growing onion cultivation by guidance of Mr**. Bhanudashbhai**. **This can be said as an apparent impact of effective and efficient functioning of KVK in the service of farming communities at grass root level.**

Table 1: Effect of INM on crops.

Particular	Yield attribut			
	Plant height (cm)	Number of fruit per plant	Yield	
			gm. /plant	ton. / ha
Okra(Rabi)				
Conventional method	89.93	15.3	152	13.46
INM (demon.)	121.57	21.4	215	18.20
% increase over conventional	35.18	39.86	41.44	35.6
Brinjal (Rabi)				
Conventional method	70.25	25.97	1210	19.41
INM (demon.)	69.60	42.62	2290	29.92
% increase over conventional	-	56.4	89.25	53.5
Brinjal (Kharif)				
Conventional method	89.35	21.64	1082	18.08
INM (demon.)	98.42	38.57	1492	26.87
% increase over conventional		78	37.8	48.18
Indian bean				
Conventional method	48.21	87.56	138	3.97
INM (demon.)	51.29	134.34	223	5.933
% increase over conventional		54.04	61.5	53

Table 2: Effect of INM on soil properties.

Soil analysis									
pH		Ec (ds/m^2)		Organic carbon (%)		Available P_2O_5		Available K_2O	
Initial	After harvest	initial	After harvest	initial	After harvest	initial	After harvest	initial	After harvest
Okra									
6.74		0.32		0.97		53.57		400.39	
Brinjal									
7.22		0.43		0.82		48.90		451.02	
Indian bean									
7.79		0.48		0.69		38.05		353.73	

3.7.5 Impact of Kitchen Gardening Demonstration in Tribal Farm Women, a Success Story.

Introduction:

Krishi Vigyan Kendra, NAU, Vyara is an innovative science based institution which is engaged with transfer of scientific technology related to agriculture and allied fields in adopted villages of Tapi district. Tapi district is a Tribal dominated district with poor economic condition of farmers. The farm women of this area are mostly engaged with daily wages farm work which is available in particular crop season. Majority of tribal farm women have lack of knowledge about health & nutrition, dietary pattern of pregnant & lactating women and supplementary feeding for children. Due to poor economic condition, they are enabling to purchase fruits & vegetables from market for their daily dietary need. It resulted in poor health and imbalance nutritional status of farmers, farm women and children.

The farm women of this area are growing one or two vegetable crops of local variety in their backyard in traditional way. To motivate the farm women towards growing improved varieties of different vegetables to fulfill their nutritional requirement, it has been decided to conduct Front Line Demonstrations on Kitchen Gardening in adopted villages of Tapi district. Kitchen Gardening model developed by NAU in satellite village. Total 100 demonstrations have conducted on Kitchen Gardening in total 17 villages of Vyara, Songadh & Uchchhal taluka of Tapi district.

Objectives:

1. To improve the health & nutritional status of Tribal Farm families.
2. To increase the income of Tribal farmers.
3. To demonstrate Kitchen Gardening in scientific way.
4. To make farm women familiar with different vegetables & high value dietary vegetable crops.

Economics of Kitchen Gardening:

Season	No. of Farm Women	Area	Vegetable crops	Total Production (Kg)	Average Rate (Rs./Kg)	Gross Return (Rs.)	
						Before FLD	After FLD
Rabi'08	50	1 Guntha / FW	Okra, Tomato, Brinjal, Cabbage, Cauliflower, Chilli, Bitter gourd, Bottle gourd, Ridge gourd, Palakh	71.1	13	Not done kitchen garden	924=30 Along with domestic consumption
Kharif'09	50	1 Guntha / FW	Okra, Tomato, Brinjal, Cowpea, Indean bean, Pigeon pea, Chilli, Fenugreek, Cluster bean, Bitter gourd, Bottle gourd, Ridge gourd, Palakh	120.56	18	546=00	2170=00 Along with domestic consumption

Feedback of Tribal Farm Women:

1	Kitchen gardening gives continuous supply of fresh vegetables at lower cost which gives daily nutritious diet.
2	Income is generated by selling extra vegetables grown in kitchen garden.
3	Before Demonstration, farm women were growing only two or two vegetable crops in their backyard but after demonstration they are growing different vegetable crops through kitchen gardening in scientific way.
4	In kitchen gardening, farm women are not applying any agrochemicals so they produce organic vegetables.
5	Farm women are utilized maximum backyard space and waste water.
6	Farm women are attracted towards hybrid vegetables.
7	Farm women are utilized their spare time through kitchen gardening i.e. Kitchen Gardening is the profit making leisure time activity.

Conclusion:-

Demonstrations on Kitchen Gardening have misrepresented the eye site of the tribal farm women among health and hygienic safety measures. The tribal farm women can not have enough money to purchase costly vegetables for their family. The sickle cell anemia and other disease are great constraints. The main reason behind this is malnutrition, imbalanced ration and illiteracy .The said FLDs has paved the way of healthier, long, prosperous and biodegradable life of the tribal farm women.

Implications:-

Looking to the success of the kitchen garden demonstrations the tribal farm women themselves motivated and ready to adopt this technology by their own cost. Next year nearly 200 kitchen garden demonstrations were prearranged in this belt. The tribal farm women from other regions were also demanded for kitchen garden demonstrations. This year almost definitely more than 500 demonstrations will be conducted in Vyara and Songadh block with the help of different agencies. The nutritional discrepancy and undernourishment would be diminishing. **The use of back yard space and wear and tear water of domestic purpose would be utilized in a better way.**

3.7.6 Role of KVK in cultivating Land Configuration, in Tribal belt of Tapi District.

Front Line Demonstration is the new concept of field demonstration evaluated by the Indian Council of Agricultural Research with the inception of Technology innovation in Oilseeds, Pulses and other main crops of the region. The main objectives of the Front Line Demonstrations (**FLDs**) is to demonstrate recently released innovative technologies to the farmers field as well as to generate the production data of the newly evolved technologies, varieties as well as any recently innovated agricultural technologies on farmers field. Krishi Vigyan Kendra is the Front Line Transfer of Technologies centre launched by ICAR in the year 1974. At present more than 580 KVKs working in the country to transfer the agricultural technologies at grass toor level. KVK, Regional Rice Research Station, Vyara, Dist- Tapi is started in the year 2006 in Tribal dominated areas of South Gujarat.

The FLDs were organized in tribal areas of Tapi district of Gujarat state .Each variety of Gram viz-GG-2, Pigeon pea viz-,Vaishali and three varieties of Groundnut viz-GG-20, TG-26, TG-37A and GG-6 were demonstrated on land configuration technology of KVK. The KVK scientists were actively involved in conducting these demonstrations. KVK scientist supplied treated seeds of the improved verities of Groundnut, Gram and pigeon pea along with bio-fertilizers to the farmers. Selected farmers were trained about land configuration and production technologies of all the three crops prior to conduct

the demonstrations on their farm. The results of demonstrations on land configuration on different crops are presented as below.

The data presented in Table-1 indicated that groundnut crop was grown on raised bed obtain higher pod yield during summer season as compared with in kharif season. The percent increased in yield over control plot during kharif 2006, 2007 and 2008 were 37 %, 29% and 23%, respectively. Where as in summer season during 2007, 2008 and 2010 were 23, 27 and 22.58 per cent, respectively. The C.B.R. obtained during summer crop was higher than the CBR of *kharif* season crop. It was 4.88 and 4.5 during summer 2007 and 2008, respectively. Overall total income of demonstration plot was 35% higher in *kharif* and 33 % higher in summer season over control plot (i.e. flat bed sowing).

The data regarding Gram crop during the year -2006, 2007, 2008 and 2009 in Rabi on broad ridge bed method was found significant, the data of table-2 shows that just by land configuration only, the yield could be increased up to 30-55%. The calculated CBR of the year 2006, 2007, 2008 and 2009 were 4.62, 6.80, 5.30 and 6.69 respectively

The data in table-3 regarding the pigeon pea cultivar Vaishali was grown by ridges and furrow method during *kharif* 2007, 2008, 2009 and 2010. The average yield of demonstration plot obtained during both the year was 884, 1248, 1773 and 1450 kg/ha, respectively. This gave 33.5%, 33%,39.60 and 40.75 increase in yield over control plot. The total income of demonstration Plot were 33%, 68%, 39.60 % and 39.03% higher over control plot during both the *kharif* season. This can be see apparently that only land configuration in the heavy rain fall zone of the southern belt of Tribal dominated areas is advisable to adopt such technology in Gram, Pigeon pea and Ground nut for higher production, higher net profit and higher CBR to improve socio-economic status of the Tribes.

The demonstrated was organized in tribal area of Tapi district of Gujarat state. One variety of Gram cv.GG-2, one Vaishali variety of Pigeon pea and three variety of Groundnut like GG-20, TG-26, TG-37A and GG-6 were demonstrate on land configuration technology of KVK were actively involved in conducting this demonstration. KVK scientist supplied treated seeds of the improved verities of Groundnut, Gram and pigeon pea along with bio-fertilizer to the farmers. Select farmers were trained about land configuration and production technologies of all the three crops before conducting the demonstration on their farm. The results of conducting demonstration on land configuration on different crops are presented here.

Groundnut

The soil of this area was medium black, sandy loam, low in organic matter and medium in available phosphorus and high level of potash. Groundnut crop seed sowing by row to row with distance of 45 cm, on 1.2 meter broad ridge bed and 30 cms. space left between two bed. Other recommended practices were done. The crop was sown @

100 kg. Seeds/ha. In second week of December and in *summer* season and last week of June in *kharif* season. To disseminate the recommended technology.

The data presented in Table-1 indicated that groundnut crop was grown on raised bed obtain higher pod yield during *summer* season than that of in kharif season. The percent increase in yield over control plot during kharif 2006, 2007 and 2008 was 37 %, 29% and 23% respectively where as that of in *summer* season during 2007, 2008 and 2009-10 was 23, 27 and 22.58 per cent respectively. The C.B.R. obtained during *summer* crop was higher than the CBR of *kharif* season crop. It was 4.88, 4.5 and 2.44 during *summer* 2007, 2008 and 2010 respectively. Overall total income of demonstration plot was 35% higher in *kharif* and 33 % higher in *summer* season over control plot (i.e. flat bed sowing).

Gram

Farmers of Tribal area were growing gram after harvesting of paddy crop but farmers get low yield due to use of local variety poor land management and poor fertilizer management. So that KVK supplied improved variety seeds and bio fertilizer to demonstrated broad ridge bed planting at farmers' field. Result of land configuration presented here.

In table-2 presenting the Gram crop was grown during rabi-2006,2007, 2008 and 2009 on broad ridge bed method. The data of table-2 shows that just by land configuration, the yield can be increased up to 30-55%, calculated CBR of 2006, 2007 2008 and 2009 was 4.62, 6.80, 5.30 and 6.69 respectively.

Pigeon pea

Kharif pulse, especially pigeon pea experiences waterlogging in rainfall region spreading in our large area of south Gujarat. The short duration cultivars (120-130 days) particularly at seedling stage are more sensitive to waterlogging. The damage includes yellowing of leaves, followed by senescence and abscission due to poor soil aeration and shortage of nutrient uptake. The poor aeration also results in poor nodulation and nitrogen fixation. it has also important in predisposed phytopthora blight and root rot incidences leading to complete crop failure incase of prolonged water logging among the management options ridge- furrow planting technique has been found verry successful in draining excess water from the crop root zone and therefore ensures better crop growth and yield. in this techniques, 15-20 cm height ridges are made through tractor and bullock drawn ridger. rides are spaced 19 cm in case of short duration of pigeon pea varieties

Presenting the data of table-3 the pigeon pea cultivar Vaishali was grown by ridges and furrow method during *kharif* 2007 2008, 2009 and 2010. The average yield of demonstration plot obtained during both the year was 884, 1248, 1773 and 1450 kg/ha respectively. This gave 33.5%, 33%, 39.60% and 40.77% increase in yield over control plot. The total income of demonstration Plot was 33%, 68%, 39.60 % and 39.03% more income over control plot during the *kharif* season.

Conclusion

The variety GG-2 for Gram, Vaishali for Pigeaon pea and GG-20, TG-26, TG-37A and GG- 6 for Groundnut were found suitable for this region. In heavy rainfall are land configuration for oilseed and pulses were also found advantageous Land configuration along with high yielding varieties of groundnut, gram and pigeon pea resulted in higher yield, higher net return and higher CBR, too. It is advisable to disseminate the same technologies to other areas of the south Gujarat for getting higher yield and avoiding the mortality at initial growth stage to maintain proper plant population.

Implication:-

This research would be a guideline for other extension workers to perform better in their field. It leads toward effectively, efficiently, as well as result and impact oriented work in the field of Agricultural extension. This is a mile stone work for the effective TOT in the Tribal dominated interior region of the south Gujarat. It will be eye opening for disseminating any recently released innovative agricultural technology successfully among illiterate and poor participants. At the outset of the concluding we can say KVK Vyara is becoming really an **information hub** for farming communities. Our efforts are to make this KVK Farmers friendly, farmers centric, farmers leading and the overall agricultural development on sustainable basis. Precision farming and Eco friendly development of the region is our prime Motto. The **Research-Extension-Farmer-Market** Linkage Extension approach is a current need of the time to get better agricultural output. The **next phase of Green Revolution** can only be possible through integration of all above said approaches.

A popular demand from different villages to arrange the programme at their villages by KVK is the testimony of the important role of the KVK in their development in general and agriculture particular quiet well. We all have to run on **information super highway**.

Table No.:1 Profitability of FLDs on land configuration in Groundnut

Crop: Groundnut **Farming Situation: Irrigated**

Season: Kharif & Summer

Variety	Year	No. of Demo.	Average yield of Demo Plot (Kg/ha)	Average yield of Control Plot (Kg/ha)	Percent increase over control (%)	Cost of Cultivation of Demon. Plot (Rs/ha)	Cost of Cultivation of Control Plot (Rs/ha)	Total income of Demon. Plot (Rs/ha)	Total income of Control Plot (Rs/ha)	CBR
GG-20	Kharif 06	10	1157	839	37	9570	8800	28925	18878	3.02
TG-26	Summer 07	14	1874	1518	23	1006	10900	46850	34155	4.68
GG-20	Kharif 07	13	705	545	29	9115	9510	17625	13625	2.9
TG-37	Summer 08	40	2299	1803	27	12722	11722	57475	45075	4.5
GG-20	Kharif 08	20	1663	1347	24	9215	9925	39912	32328	4.3
GG-6	Summer 2009-10	27	2850	2325	22.58	14500	14300	49875	40688	2.44

Table No.:2 Profitability of FLDs on land configuration in Gram

Crop: Gram (Cv. GG-2) Farming Situation: Irrigated Season: Rabi

Year	No. of Demo.	Average yield of Demo Plot (Kg/ha)	Average yield of Control Plot (Kg/ha)	Percent increase over control (%)	Cost of Cultivation of Demon. Plot (Rs/ha)	Cost of Cultivation of Control Plot (Rs/ha)	Total income of Demon. Plot (Rs/ha)	Total income of Control Plot (Rs/ha)	CBR
Rabi 06	14	1652	1074	53	8220	8560	37996	24702	4.62
Rabi 07	23	2078	1600	29.8	8898	8362	51950	40000	6.8
Rabi 08	22	2078	1477	40	8898	8362	47794	33971	5.30
Rabi 09	24	1700	1150	47.82	8900	8460	59500	40256	6.69

Table No.:3 Profitability of FLDs on land configuration in Pigeon pea

Crop: Pigeon pea (Cv. Vaishali) Farming Situation: Irrigated Season: Rabi

Year	No. of Demo.	Average yield of Demo Plot (Kg/ha)	Average yield of Control Plot (Kg/ha)	Percent increase over control (%)	Cost of Cultivation of Demon. Plot (Rs/ha)	Cost of Cultivation of Control Plot (Rs/ha)	Total income of Demon. Plot (Rs/ha)	Total income of Control Plot (Rs/ha)	CBR
Kharif 07	19	884	662	33.5	8140	7232	19448	14564	3.3
Kharif 08	20	1248	740	33.0	8140	7232	49938	29600	6.1
Kharif 09	24	1773	1270	39.60	8150	7315	66488	47625	8.15
Kharif 10	39	1450	1030	40.77	8580	7440	58000	41715	7.75

3.7.7 Replacement of drilled paddy through high recurring Soybean crops in tribal belt of South Gujarat

The eastern tribal hilly region of South Gujarat including Tapi, Surat and Dang districts, they cultivate their land during kharif season only. It was found that the farmers were unable to get economical homecoming from their land holdings. They grow drill paddy with old varieties, which is having very low yielding capacity. The farmers of this tribal belt were unable toward adopting new ideas / technologies /crops and recent innovations in agriculture. So, some time they left their field without crop for a year or more. Considering the situation and with frequent live contacts as well as discussion with farmers, Subject Matter Specialists of KVK suggested replacing drill paddy with another more remunerative economical crop i.e. soybean. This crop has immense capacity to improve soil condition by adding huge amount of organics in the form of leaves and deep tap root systems, Rhizobium bacterial activity. So, the present study was undertaken in adopted satellite villages of KVK, Vyara. The data were tabulated, analyzed and interpreted in light of objective of the study. The result indicated that the soybean cultivation is highly profitable in tribal dominated areas of the Surat and Tapi district. This crop is also advisable to the farmers for improvement of the soil physical, chemical and biological health. The human health point of view this crop is highly advisable to the people of the tribal region to control the diseases related to the malnutrition and deficiency syndromes. At the end we can suggest this crop in the region to increase the income of the farmers and also to improve their own, family as well as soil health.

INTRODUCTION:

Traditional agriculture characterized with age old cropping system with an aim to fulfill need of the family. Most of the tribal areas of the country, including our state have a similar trend of living. They live in nature and find their livelihood from nature. They are doing agriculture, but these abscond on god's blessings. The eastern tribal hilly region of South Gujarat including Tapi, Surat and Dang districts, they cultivate their land during kharif season only. The rainfed crops grown by these tribal farmers are drilled paddy, sorghum, pigeon pea and other pulses either single crop, mixed or intercrops. They grow paddy to fulfill food need of the family as rice is the staple food of this people. The agriculture of this tribal villages are longstanding, still today they grow traditional paddy varieties like Tichun (T.N-1), Dodiu, Dhanhar, Sathi, kada,Kalitapki, etc.age old varieties. In the year 2007-08, KVK Vyara has adopted village Gadat, Gatadi, Dhamodi, Pati and Bedi as a satellite village for its intensive activities of Transfer of Technologies (**TOTs**) related to agriculture for increasing agricultural production and net return to improve over all living standard of villagers.

During PRA survey of the village, interacting with the farmers it was found that the farmers were unable to get economical homecoming from their land holdings. They grow drill paddy with old varieties, which is having very low yielding capacity. Further,

this rain fed drilled paddy anguish with poor field management such as high seed rate, improper spacing, imbalance use of fertilizer, no use of organic matter, high weed infestation, unavailability/poor facilities of lifesaving irrigation at critical crop growth stages. All these factors collectively resulted in uneconomical agriculture of the village. The farmers of this tribal belt were unable toward adopting new ideas / technologies /crops and recent innovations in agriculture. So, some time they left their field without crop for a year or more. As no external help, information was reach to the farmers they were frustrated with agriculture. This was resulted in migration for livelihood security as well as decreasing interest of the rural youth towards modern high-tech agriculture.

Considering the situation and with frequent live contacts as well as discussion with farmers, Subject Matter Specialists of KVK suggested replacing drill paddy with another more remunerative economical crop. The survey of possible other alternate crops and their marketing facilities in the region, it was decided to replace drill paddy with introduction of soybean crop. Soybean is a pulse cum oil seed crops, have good yield in hilly region of nearby area, soil improvement through increasing microbial activities in the soil. This crop has immense capacity to improve soil condition by adding huge amount of organics in the form of leaves and deep tap root systems, ***Rhizobium*** bacterial activity. Further, Soybean has fast growing system create smoothering effect on weeds by early covering on land surface. Keeping this in view, a study was undertaken with specific objective of replacing drilled paddy with soyabean crop.

METHODOLOGY:

Study was under taken in satellite villages i.e. Gadat, Gatadi, Dhamodi, Pati and Bedi as demonstration on soybean were conducted in these villages. List of farmers on whose farms demonstration were organized were prepared from the records of the KVK. Thus, all the farmer i.e. 50 numbers of farmers were selected for the present study. The records collected on soybean production technology were used and these were compared with the prevailing technologies of drilled paddy in these villages. The yield data and economics of both the crops were collected. The data collected were tabulated, analyzed and interpreted in the light of the objective.

RESULTS AND DISCUSSION:

KVK scientists had selected few interested young farmers and invited them to KVK for detail discussion about ***replacement of drill paddy with soybean crop***. The detail package of practices of new introducing Soybean crop was taught to them. The trainings including scientific package of practices, integrated management of pest & diseases, PHT, Value addition, economic importance of soybean was given to them by KVK scientists. The detail training was given to them based on two main pillars of extension education, "**Seeing is Believing**" and "**Learning by Doing**" with power point presentation along with constant follow up time by time. After successful training and change in mindset of farmers for soybean, this new crop of soybean was introduced. Through out the crop season constant visit of FLD plots were made and required

information provided to them for successful soybean cultivation. At maturity stage of the soybean **Field days** were also organized on soybean demonstration plots for mass dissemination of the demonstrated technology. The feed back were collected from the FLD farmers to generate production data as well as to collect the reaction of the farmers(Table 1).

Economic:

The soybean growing farmers came forward with open dialogue that, they got higher net return from soybean crop as compared with drilled paddy. In addition to that, one more opinion as per their perception that there is labour saving in soybean cultivation due to less weeds, less fertilizer, disease, pest and equipment management. They also opinioned that soybean crop improves soil condition. Hence, next crop in the same field in succession is also performs well without much investment on fertilizer due to soil enrichment through soil microbial activities. The farmers were able to get more net return than drilled paddy. The increase in income over drilled paddy was **Rs.17-22 thousands** per hectare. The net profit was increased up to the tune of **54.51 per cent (Table-2)** on average of three years.

Horizontal spread:

KVK scientists also informed to use soybean in daily diet as protein supplement. Now they started to use this golden bean in their daily diet. This year about 35 per cent of the villagers will be adopting soybean instead of drill paddy. In year 2006 total area under soybean was 2886 ha. After conducting training, demonstration and other extension activities, i.e. khedutdin, krushi mela, krishi mahotshav, shibir, field day the area under soybean was 4852 ha in year 2009.

CONCLUSION:

The soybean cultivation is highly profitable in tribal dominated areas of the Surat and Tapi district. This crop is also advisable to the farmers for improvement of the soil physical, chemical and biological health. The human health point of view this crop is highly advisable to the people of the tribal region to control the diseases related to the malnutrition and deficiency syndromes. At the end we can suggest this crop in the region to increase the income of the farmers and also to improve their own, family as well as soil health.

Table-1 Extension activities in the village

Name of activities	Number	Farmers
On campus Training	7	146
FLD Visit	5	87
FLD – Day	3	223
Off campus Training	6	340
Off campus – special	1	Simadi - Kamrej
Feedback Meeting	4	Gadat, Gatadi, Dhamodi, Pati and Bedi

Table-2 Comparison of economics of Soybean demonstration plot and Drilled paddy.

Sr. No.	Name of The village	Yield (Qt/ha) Demon. Soybean	Yield (Qt/ha) Drilled paddy	Net Return (Rs/ha) Soybean	Net profit (Rs/ha) Drill paddy	Net profit (Rs/ha) In Soybean over drilled paddy.	% increase over drilled paddy
1	**Year Khari 2007**						
	Gadat	11.64	13.75	11662	6475	4187	**35.90%**
2	**Year Kharif 2008**						
	Gadat	18.74	11.13	23732	4641	19091	**68.00%**
3	**Year Kharif 2009**						
	Gadat	19.70	12.34	29550	6300	21050	**59.64%**

**** Average increase from 3 year data-54.51%**

Reference:

Chauhan, N.M. and Thakor, R.F. (2005), KVK in the service of Tribal farmers of South Gujarat, ***Indian farming***, **Vol-13, No-2 Pp: 17-18**.

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3.7.8 Increasing area and productivity of Paddy in tribal belt of South Gujarat

District Profile

Krishi Vigyan Kendra Vyara is located in the Tapi district – the southeastern part and the tribal belt of Gujarat. The district shares it borders with Surat, Navsari and Dang district in North-west, South and East respectively with Maharashtra state in East .The geographical area of the district is 7.79 lac ha. The conspicuous features of the district are undulating topography with steep slopes and heavy rainfall. The av. Rainfall of the district is about 80 –100 inches per annum. The distribution is erratic and thus, causing damage to the crops like Pulses, Paddy and other cereals.The district is composed largely of tribal communities. This, communities depend primarily on agriculture for their livelihood supplemented by income from seasonal employment in nearest industrial town. Soils of the district in general can be classified as medium black to heavy black, Red murrum and rocky with low innate fertility. Agriculturally, about 60 per cent of the cultivated area is undersigned crop during monsoon. The main crops of the district are – Paddy, Sorghum, Groundnut, Pulses, Sugarcane, Gram and vegetables-Brinjal,Okra. Paddy is the staple foods of the tribal communities of the district. Among Vegetable crops Okra is main crop for export quality.

Krishi Vigyan Kendra

KVK Vyara is working under the auspices of Navsari Agricultural University. It has started its activities since September,2000. Kendra has undertaken **Seed multiplication programme of Paddy since 2000-01**.

Genesis of Programme

To ascertain the constraints encountered by Paddy growers of this area, a Benchmark survey was carried out by multidisciplinary team of scientist of KVK during the year 2000-01. The results of the survey revealed following …

Large majority of the tribal farmers are cultivating conventional varieties (Tichun native –1, Sathi and Kada) of paddy.
Conventional varieties are early mature, having coarse grain with dull husk colour, and highly susceptible to water logging as the rain coincide with maturity of paddy in later stage.
Paddy growers are using higher seed rate i.e. 30 – 40 Kg for transplanting 1 acre of land as they produce seed of their own.
They were planting 10-12 seedlings / hill resulting in to over plant population and lower yield. It also increases the cost of cultivation because harvesting takes much time.
Farmers were using impure seed, as they produce it on their farm without taking much care.
Av. Yield of Paddy (conventional varieties) is about 2500 Kgs./ha.under good management practices.
Market value of the conventional varieties is less ranges between Rs. 5 –6 /Kg. because of coarse grain and unpleasant colour of husk.
Tribal farmers are not satisfied with yield status of conventional varieties of Paddy.
The farmers having assured irrigation facilities or low land kyari expressed their desired to have high yielding variety with **late maturity** to avoid damage by rains to crop at the maturity time.
On the contrary, farmers growing paddy under rainfed condition expressed their desire to have high yielding **early mature** variety.
It was also noticed that most of the tribal farmers posses small piece of land. Whatever they produced from the land during monsoon, they have to depend on it for their livelihood. They are striving hard for their food especially during August and September.

Intervention of KVK

Considering the above facts KVK has initiated the **programme of multiplication of seeds of high yielding varieties of Paddy** under both rain fed and irrigated condition since 2000-01 on instructional farm. The objective was to popularize high yielding varieties by supplying pure seeds to the farmers on regular basis and thereby increase the area and productivity of Paddy. It has been planned to cover at least 20-25 per cent of the area under the Paddy in the surrounding 45 villages with increasing the productivity and profitability per unit area.

Approach

As many as 92 training programmes especially on production technologies of HYVs of Paddy are organized covering 2636 farmers.(Table-3). Front Line Demonstrations of HYVs of Paddy are also conducted on farmer's field to show them the production potentialities. The details of the demonstrations conducted is given in Table-4. Field trials of the HYVs were conducted on instructional farm of Kendra to screen the best varieties from among the seeds of different varieties supplied by Navsari Agrilcutural University. In all, 41 Field days and 18 farmers days are also organized on KVK farm as well as on demo plots on farmer's field, benefiting 17593 paddy growers. Details are given in Table-5. This has created awareness amongst tribal farmers about use of HYVs of paddy .

Efforts are made to produce and supply the improved seeds of the paddy to the paddy growers of this area.

Details of seed production by KVK and its distribution to the farmers on cost basis.

Sr. No	Year	Season	Qty produced (Kg)	Qty sold (Kg)	No. of farmers	Area (Acre) Covered
1	2000	Kharif	3570	1247	68	103
2	2001	Kharif	551400	551400	215	86
3	2002	Kharif	53865	53865	1567	125
4	2003	Kharif	60320	60320	1850	145
5	2004	Kharif	46603	46603	1465	128
6	2005	Kharif	44440	44440	1288	115
7	2006	Kharif	51803	51803	1572	135
8	2007	Kharif	37310	37310	344	75
9	2008	Kharif	10300	10300	364	76
10	2009	Kharif	22693	22693	1025	150
Total			**882304**	**879981**	**9758**	**1138**

Achievement of the programme

Successfully introduced HYVs of paddy such as IR-28,GR-3, GR-4, GR-5, GR-7, GR-11, Gurjari and Jaya in this area.

- About **545** ha of land have been covered under HYVs of Paddy replacing conventional varieties. More then **1200 farmers of 45 villages** are directly benefited by this programme.
- **Av. Yield of Paddy per unit area is almost doubled.**
- Reduction in cost of cultivation as a means of reduction in seed rate and maintenance of optimum plant population. Earlier farmers were using 30-40 Kg seed rate for transplanting of one acre of land . Now with adoption of HYVs they are using 10-12 Kg of seeds for the transplanting of same area.
- Farmers getting higher yields and more profit from the unit area as improved varieties fetch little higher prices as compared to local varieties because of slender grains .

> More than 55 farmers have started multiplication of seeds in their own farm under the supervision and guidance of KVK scientist. This will increase the area under HYVs at a faster rate in coming years. This in turn will helps in changing socio-economic status of the tribal farmers of this area.

Economics

Conventional varieties

- Av. Yield 3000 Kg/ha.
- Av. Market price Rs. 5-7 /Kg.
- Total cost of cultivation Rs.9170 / ha.
- Av. Income Rs. 21000 / ha.
- **Net profit Rs. 11838 / ha**

High yielding varieties

- Av. Yield 4500 Kg/ha.
- Av. Market price Rs. 6-8 /Kg.
- Total cost of cultivation Rs.8120/ha.
- Av. Income Rs.36000/ ha.
- **Net profit Rs. 27880 / ha**.

Thus, by adopting HYVs and recommended improved technologies (Table 4) such as seedrate, fertilizer doses , crop geometry, timely hand weeding and plant protection measures for the control of stem borer, tribal farmers of the targeted area are getting higher production and income from paddy cultivation.

Table 1: Year wise area, Production and Productivity of Paddy of the Tapi district.

Sr. No	Year	Season	Area(ha)	Production (MT)	Productivity Kg/ha
1	1997-98	Kharif	53,276	1,55,198	2913
		Summer	15,007	6,00,93	4004
2	1998-99	Kharif	59,552	1,22,266	2053
		Summer	1,037	31,480	3035
3	1999-00	Kharif	59,980	1,86,480	3109
		Summer	1,454	5,905	4061
4	2000-01	Kharif	58,010	1,69,302	2918
		Summer	1,553	6,379	4108
5	2001-02	Kharif	85167	16777	1970
		Summer	1311	3833	2924
6	2002-03	Kharif	79627	236378	2969
		Summer	4831	14009	2900
7	2003-04	Kharif	80000	154800	1935
		Summer	5300	17000	3226
8	2004-05	Kharif	79535	201130	2529
		Summer	1205	18600	3100
9	2005-06	Kharif	77817	198393	2550
		Summer	3839	6086	3500
10	2006-07	Kharif	77817	198393	2550
		Summer	3839	6086	3500

11	2007-08	Kharif	94306	252660	2679
12	2008-09	Kharif	257	381	1482
13	2009-10	Kharif	257	381	1482

Table 2 : Year wise details of the area covered under HYVs of Paddy

Sr.No	Year	Name of village	Area (ha)
1	2000-01	Dhamodi	07
		Chikhalda	04
		Saraiya	02
		Chhindiya	13
		Tichakiya	08
	Total		**34**
2	2001-02	Chhirma	14
		Khanpur	08
		Ambach	06
		Velda	09
	Total		**37**
3	2002-03	Madav	29
		Vedachhi	36
		Vanskui	10
		Olpad	15
		Choryasi	19
		Unchamala	20
	Total		**129**
4	2003-04	Khurdi	09
		Nani chikhali	08
		Paniyari	07
		Lotarva	05
	Total		**29**
5	2004-05	Unchamala	16
		Gunkhadi	25
		Amalgundi	10
	Total		**51**
6	2005-06	Bandharpada	19
		Dolara	20
		Agasvan	14
		Dhajamba	38
	Total		**91**
7	2006-07	Gadat	38
		Pati	25
		Champawadi	67
	Total		**130**
8	2007-08	Bedi	41
		Gatadi	36
		Ambach	24
		Kapura	38
		Vadkui	54
	Total		**193**
9	2008-09	Dolvan	20
		Panchol	15
		Rupwada	18

		Allu-Boriya	25
		Shiker	10
	Total		**88**
10	2009-10	Godchit	12
		Mirpur	10
		Bhadbhunja	13
		Selud	08
		Gadat	24
		Pati	32
		Mandal	45
		Nishana-Amji	15
		Jamkhadi	11
		Vanskui	25
		Degama	24
		Limdada	10
	Total		**229**

Table : 3 Training Programmes on Production Technologies of HYVs of Paddy.

Year	No's of Training Programme			Participants		
	On	Off	Total	Male	Female	Total
1997-98	2	8	10	167	24	191
1998-99	1	6	7	127	17	144
1999-00	3	4	7	133	20	153
2000-01	2	4	6	78	45	123
2001-02	2	5	7	134	--	134
2002-03	4	7	11	232	37	269
2003-04	3	6	9	179	56	235
2004-05	1	10	11	298	84	382
2005-06	2	11	13	344	141	485
2006-07	2	5	7	120	67	187
2007-08	2	7	9	125	54	179
2008-09	2	5	7	130	55	185
2009-10	4	8	12	272	185	457
Total	**24**	**68**	**92**	**1912**	**724**	**2636**

Table : 4 Front Line Demonstration on HYVs of Paddy organized by KVK

Year	Season	Area	No.of Farmers	Variety	Village	Average Yield (Q/ha)		Incre. In yield (%)
						Demo	Local	
2001	Kharif	4	10	Jaya GR-5	4	59.15 24.99	52.00 18.00	13.75 38.80
2002	Kharif	3.80	9	Gurjari GR-7 GR-5 GR-8	6	55.75 62.50 20.40 15.27	52.00 55.00 17.00 17.00	7.21 13.64 20.00 9.82
2002	Summer	12.5	24	Gurjari GR-3 GR-7	4	69.29 64.97 79.66	62.00 -- 65.29	11.75 -- 22.00

2003	Kharif	14	31	Gurjari GR-7 GR-5 GR-8	7	65.08 68.24 26.96 17.48	53.92 61.50 19.50 14.00	21 11 38 25
2003	Summer	2	4	Gurjari	4	68.38	60.00	14
2004	-	-	-	-	-	-	-	-
2004	Summer	-	-	-	-	-	-	-
2005	Kharif	10	26	Gurjari GR-7 GR-8 GR-12	8	52.90 54.66 15.60 45.58	41.41 41.84 11.92 40.74	28 31 31 12
2005	Summer	8	16	Gurjari	3	61.38	49.04	25
2006	-	-	-	-	-	-	-	-
2007	Kharif	10	42	GR-5 GR-7 GR-8 GR-9 GR-12	8	22.23 52.05 16.74 20.66 51.09	13.75 40.65 13.28 16.00 40.93	60 28 26 29 25
2008	Kharif	17	42	GR-5 GR-8 GR-9 Jaya	6	18.63 14.19 10.53 52.59	11.13 9.14 9.14 43.77	62 27 15 20
2009	Kharif	15	54	GR-9 GR-7 Jaya	8	11.13 51.50 58.75	9.30 41.50 47.25	19.67 24.09 24.34
2010	Kharif	22	81	Jaya GR-5 NAUR-1 GAR-13	8	59.50 15.50 60.50 55.75	47.75 12.25 47.75 46.50	24.61 28.75 26.70 18.89

Table : 5 Extension Activities on Production Technologies of Paddy

Year	Name of Activity	No	Participants		
			Male	Female	Total
2000-01	Field Day	3	50	75	125
	Farmers Day	2	412	88	500
2001-02	Field Day	1	55	45	100
	Farmers Day	1	750	430	1180
2002-03	Field Day	4	431	107	538
	Farmers Day	1	370	430	800
2003-04	Field Day	4	102	37	139
	Farmers Day	1	670	145	815
2004-05	Field Day	5	121	55	176
	Farmers Day	2	700	250	950
2005-06	Field Day	2	73	0	73
	Farmers Day	1	400	210	610
2006-07	Field Day	2	95	65	160
	Farmers Day	1	375	125	500
2007-08	Field Day	4	85	55	140
2007-08	Farmers Day	1	475	145	620
2008-09	Field day Farmers Day	7 2	 1209	 1942	301 3151

2009-10	Field day Farmers Day	6 4	125 2749	170 2130	295 4879
2010-11	Field day Farmers Day	3 2	123 398	6 1014	129 1412

Table : 6 Adoption of Paddy production technologies by tribal farmers. N= 120

Sr.No	Reco. practices	Before		After	
		No.	%	No.	%
1	High yielding varieties	41	35.65	91	71.00
2	Reco. Seed rate	35	24.53	94	73.45
3	No. of seedlings /hill	32	20.45	82	67.43
4	Cutting of tips of young seedlings	28	21.23	73	60.53
5	Spraying of insecticide for stem borer	25	17.28	64	54.38
6	Soil application of Carbofuran for stem borer	32	23.55	78	67.78
7	Reco. Dose of fertilisers	25	20.83	66	55.00
8	Hand weeding	38	32.43	89	74.55

3.8 Give details of innovative methodology/technology developed and used for Transfer of Technology during the year

- The mobile telephone numbers of Programme Coordinator and Subject Matter Specialists is being given to farmers and extension functionaries during extension activities which are best utilized by farmers.
- Telephone Advisory Service has been started and its response from farmers is very effective.
- Agricultural Information column in News Paper **Gujarat Mitra** is regularly run by KVK which is published in **Every Monday Edition**. In this column the answers are being given for the questions asked by the farmers.

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

S. No.	Crop / Enterprise	ITK Practiced	Purpose of ITK
1.	All crops	3 kg of Jathropa leaves is taken in 20 liters of water and boiled at a temperature of 60 to 70^0 C until it becomes 5 liters. Take 250 ml and add it to 15 liters and spray.	For controlling sucking pests
2.	All crops	Farmers are using mixture of cow dung, urine and buttermilk for the control of sucking pest.	For controlling sucking pests
3.	Cotton	One farmer used black ants for the control of cotton insect pests. For the purpose, the used to put jaggery at the base of plant (5-10) grams) and release black ants which are reared in tank.	To control cotton pests
4.	Okra	Growing okra in winter with high seed rate and closer spacing	To get more number of tender fruits per plant which fetch more prices in market.

5.	Pulse crops	Use of ash for storage of Tur, Beans, Gram	To control storage gram pests
6.	Jowar	Use of dry neem leaves for sorghum storage	To control storage gram pests
7.	Animal	Use of wild plants with sand and pest it on neck of the animal	To control HAEMORRHAGIC SEPTICEMIA

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

- Identification of courses for farmers / farm women: – PRA and group discussion, eye to eye contact
- Rural Youth: – Group discussion with youth, at the time of field visit.
- Inservice personnel: – Discussion with extension workers, line department officials, field extension functionaries and NGOs staff.

3.11 Field activities

i. Number of villages adopted: - 10

ii. No. of farm families selected :- 3538

iii. No. of survey/PRA conducted :- 10

3.12 Activities of Soil and Water Testing Laboratory

Status of establishment of Lab : Working (under ICAR)

1. Year of establishment : 2005-06 (September 2006)

2. List of equipments purchased with amount :

Sr. No.	Name of Equipments	Qty.	Cost(Rs.)
1	**2**	**3**	**4**
1.	Whirlpool freeze	1	15800
2.	Electronic Automatic Kel Pus Microprocessor based eight place macro block digestion system model KES-08L	1	88120
3.	Electronic Kel plus micro processor based Automatic Distillation system model distil EM	1	142300
4.	Double still with thermo sensor hr (All glass) cat No 2348	1	38550
5.	Nova Rotary shaking machine		
	(a)Capacity 16 flasks of 250 ml	1	24500
	(b)Capacity 25 flasks of 250 ml	1	29750
6.	Nova Hot plate Rectangular model NV-8535 stainless steel		
	(a) Size 12” x 20”	1	8500
	(b) Size 18” x 24”	1	11250
7.	Nova willy mill stain lese steel camber Size 100 x 50 mm	1	31900
8.	Laboratory Table	4	34400
9.	Racks	6	9000
10.	Stools	12	5400

11.	Steel cupboard - storewel	4	19200
12.	Steel cupboard storewel	4	14000
13.	Steel racks	4	8600
14.	Partition racks	3	22500
15.	Office chair	4	4000
16.	Systronics make		
(a)	Micro controller based Digital spectrophotometer model -106	1	26800
(b)	Systronics make micro controller based flame photometer compressor model-128	1	35200
(c)	Systronics make micro controller based PH meter	1	10900
(d)	Systronics make micro processor based conductivity meter	1	12800
17.	Hot air oven	1	21200
18.	Chemical Balance	1	75000
19.	CENTRO FIX WATERBATH	1	10800
20.	CENTRO FIX – Muffle furnace	1	29500
21.	Automatic autoclave	1	21000
22.	City weigh balance model ST-10 Cap- 10 kg	1	10640
23.	LG AC-15 ton	1	23740
24.	Micro kjeldahl Assembly	1	10700
25.	Burner maker type with stop coke	8	2000
26.	Voltas make water cooler	1	26500
	Total	**67**	**539780**

3. Details of samples analyzed so far :

Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized
Soil Samples	7790	7790	17	250000
Water Samples	200	200	13	10000
Total	**7990**	**7990**	**30**	**260000**

4.0 IMPACT

4.1. Impact of KVK activities

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Introduce new variety (vaishali) in Tur	250	89.00	19800	59900
Introduce new crop soybean to replace drill paddy	120	25.00	4750	19400
IPM in cotton	450	84.50	33200	42525
Scientific package of practice of okra	200	86.00	36400	76300
INM in brinjal	135	83.54	60050	95980
Use of biofertilizer and land configuration in gram	248	85.45	25650	39245

NB: Should be based on actual study, questionnaire/group discussion etc. with ex-participants.

4.2. Cases of large scale adoption

Sr. No	Crop/ Enterprise	Thematic Area	Large scale adoption (%) in adopted villages	
			Before KVK	After KVK
1	Groundnut	ICM New Variety	25	64
2	Gram, Pigeon pea	Land Configuration	10	80
3	Okra	IPM	18	58
4	Brinjal	IPM	18	45
5	Cotton	INM	8	25
6	Kitchen Garden	--	20	65
7	Okra	INM	10	48
8	Paddy	ICM	24	68
9	Cotton	IPM	27	55

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

4.3.1 Impact of training regarding scientific cultivation of okra

The Okra crop is becoming more and more popular in Tapi district. The considerable acreage area (4000 hectare) is under okra cultivation. Due to lack of knowledge regarding scientific package of practices tribal farmers are assassinating huge budget behind crop production, indiscriminating use of agrochemical and loosing the health of soil, water and environment and also unable to get higher net return due to lack of knowledge regarding value addition and market management. To overcome this problem KVK, Tapi has started an integrated campaign. KVK, Tapi conducted 9 on campus and 7 off campus trainings, total number of beneficiaries of FLD is 124 covering 7 villages of Tapi district and other extension activities during last three year. The details regarding such innovated movement is presented here as an impact study.

Table 1:-Overall knowledge of scientific package of practices of okra

N=100

Category	Before contact with KVK (%)	After contact with KVK (%)
Low level of knowledge	55	16
Medium level of knowledge	35	56
High level of knowledge	10	28

Results of overall knowledge of scientific package of practices of Okra indicated that the medium and high level of knowledge before KVK was 35.00 per cent and 10.00

per cent, respectively, which was increased up to 50.00 per cent and 28.00 per cent after contact with of KVK (Table-1).

Table 2:- Knowledge regarding selected scientific innovations for okra cultivation

N=100

Sr.No.	Selected scientific innovations	Low	Medium	High
1	New high yielding varieties	16	28	56
2	Seed rate	11	16	73
3	Integrated Nutrient management	26	35	39
4	Integrated Pest Management	25	61	14
5	Knowledge regarding yellow mosaic virus/ powdery mildew	26	43	31
6	Plant growth regulator	7	11	82
7	Value addition	6	16	78

In case of knowledge regarding selected scientific innovations for okra cultivation medium and high level of knowledge was 35.00 per cent and 39.00 per cent, respectively in case of integrated nutrient management , Where as in integrated pest management was 61.00 per cent and 14.00 per cent, respectively. High knowledge level regarding plant growth regulators and value addition was 82.00 per cent and 78.00 per cent, respectively (Table-2).

Table 3:- Overall adoption of scientific package of practices of Okra. (Percentage)

N=100

Category	Before contact with KVK (%)	After contact with KVK (%)
Low level of adoption	14	4
Medium level of adoption	69	28
High level of adoption	17	68

The data presented in table 3 indicated that medium and high level adoption was 69.00 per cent and 17.00 before KVK where that of after conducted with KVK was 28.00 per cent and 68.00 per cent, respectively.

Table 4:- Adoption of critical okra production technology (%). N= 100

Sr. No.	Name of technology	Adoption (%)
1	New high yielding varieties	82
2	Seed rate	76
3	Integrated Nutrient management	82
4	Integrated Pest Management	61
5	Knowledge regarding yellow mosaic virus/ powdery mildew	72
6	Plant growth regulator	73
7	Value addition	77

Adoption of okra production technology, 82.00 per cent farmers adopted high yielding varieties and INM. 76.00 per cent farmers adopted recommended seed rate. In case of plant growth regulator and value adoption 73%.00 per cent and 77.00 per cent

adoption was observed (Table-4). From the above discussion, it can be concluded that knowledge level and adoption level of the tribal farmer s were increased after imparting training and conducting FLD by KVK scientists. KVK, Vyara is working as a knowledge hub for latest agricultural technology in Tapi district.

4.3.2 Impact of training regarding scientific cultivation of brinjal

In Tapi district farmers were obtaining very low yield in Brinjal. Low productivity of Brinjal was due to lack of knowledge about scientific cultivation, poor nutrient management and lack of knowledge in IPDM. KVK conducted 9 on campus and 7 off campus trainings, total number of beneficiaries of FLD is 97 covering 7 villages of Tapi district and other extension activities during last three year. Impact study results are present here.

Table 1:- Overall knowledge of scientific package of practices of brinjal N=100

Category	Before contact with KVK (%)	After contact with KVK (%)
Low level of knowledge	59	7
Medium level of knowledge	28	51
High level of knowledge	13	42

Results of overall knowledge of scientific package of practices of Brinjal indicated that the medium and high level of knowledge before KVK was 28.00 per cent and 13.00 per cent, respectively, which was increased up to 51.00 per cent and 42.00 per cent after contact with KVK (Table-1).

Table 2:- Knowledge regarding selected scientific innovations for Brinjal cultivation N=100

Sr.No.	Selected scientific innovation	Low	Medium	High
1	Integrated Nutrient management	9	26	65
2	Pest and disease control	22	59	19
3	IPM	29	55	16
4	Plant growth regulator	4	12	84
5	Recommended spacing	6	38	56
6	Value addition	5	14	81

In case of knowledge regarding selected scientific innovations for Brinjal cultivation medium and high level of knowledge was 26.00 per cent and 65.00 per cent, respectively in case of integrated nutrient management , Where as in pest and disease control was 59.00 per cent and 19.00 per cent, respectively. High knowledge level regarding plant growth regulators and value addition was 84.00 per cent and 81 .00 per cent (Table-2).

Table 3:- Overall adoption of scientific package of practices of Brinjal. (Percentage) N=100

Category	Before contact with KVK (%)	After contact with KVK (%)
Low level of adoption	28	6
Medium level of adoption	56	22
High level of adoption	16	72

The perusal of data presented Table 3 indicated that before contact with KVK, more than half (56.00 per cent) of the respondents had medium level of adoption followed by low (28.00 per cent) and high (16.00 per cent) level of adoption. But, after contact with KVK, it was found that 72.00 per cent had high level of adoption followed by medium (22.00 per cent) and low (6.00 per cent) level of adoption.

Table 4:- Adoption of critical Brinjal production technology (%). N= 100

Sr. No.	Name of technology	Adoption (%)
1	Integrated Nutrient management	89
2	Pest and disease control	68
3	IPM	59
4	Plant growth regulator	82
5	Recommended spacing	92
6	Value addition	86

The adoption of Brinjal production technology, 89% farmers adopted INM, 92.00 per cent farmers adopted recommended spacing. In case of plant growth regulator and value adoption 82.00 per cent and 86.00 per cent adoption was observed. Pest and disease control & IPM 68% and 59% farmers adopted the technology (Table-4).

From the above discussion, it can be concluded that the impact of training conducted by KVK has beneficial effect on knowledge level and adoption level of the tribal farmers about scientific cultivation of brinjal. Among the Knowledge regarding selected scientific innovations for brinjal cultivation, majority (84.00 per cent) of the respondent had knowledge about plant growth regulator followed by value addition (81.00 per cent) and integrated nutrient management (65.00 per cent) after receiving training. In case of adoption of critical brinjal production technology, majority (92.00 per cent) of the respondents had adopted recommended spacing followed by integrated nutrient management (89.00 per cent), value addition (86.00 per cent) and plant growth regulator (82.00 per cent).

4.3.3 Impact of training regarding package of practices of soybean crop

The soybean cultivation is highly profitable in tribal dominated areas of the Surat and Tapi district. This crop is also advisable to the farmers for improvement of the soil physical, chemical and biological health. The human health point of view this crop is highly advisable to the people of the tribal region to control the diseases related to the mal nutrition and deficiency syndromes. Farmers of Tapi district growing rain fed drill paddy but its produce very low yield so it's get very low remunerative. In place of drill paddy soybean crop earn more net profit then drill paddy. KVK conducted 8 on campus and 10 off campus trainings, total number of beneficiaries of FLD is 43 covering 7 villages of Tapi district and other extension activities during last three year. The impact study results are present here.

Table 1:- Overall knowledge of package of practices of soybean crop. N=100

Category	Before contact with KVK (%)	After contact with KVK (%)

Low level of knowledge	89	07
Medium level of knowledge	09	14
High level of knowledge	02	79

Results of overall knowledge of soybean indicated that the low, medium and high level of knowledge before contact with KVK was 89.00 per cent, 09.00 per cent & 02.00 per cent, respectively and it was increased up to 07.00 per cent, 14.00 per cent and 79.00 per cent after contact with KVK (Table-1).

Table 2:- Knowledge regarding selected scientific innovations for soybean crop.

N=100

Sr.No.	Selected scientific innovation	Low	Medium	High
1	New high yielding varieties	10	5	85
2	Seed rate	13	74	13
3	Bio fertilizer	11	16	73
4	Weeding	23	8	69
5	Integrated Nutrient management	09	13	78

In case of Knowledge regarding selected scientific innovations for soybean high knowledge regarding selected scientific innovations were found except seed rat.

Table 3:- Overall adoption of scientific cultivation of soybean. (Percentage)

N=100

Category	Before contact with KVK (%)	After contact with KVK (%)
Low level of adoption	75	05
Medium level of adoption	13	06
High level of adoption	12	89

Data presented in table -3 indicated that majority of the farmer had low level of knowledge (75.00 per cent) before contact with KVK. After contact with KVK, 89.00 per cent of the farmers had high level of knowledge.

Table 4:- Adoption of critical soybean production technology (%). N= 100

Sr. No.	Name of technology	Adoption (%)
1	New high yielding varieties	92
2	Seed rate	87
3	Bio fertilizer	73
4	Weeding	70
5	Integrated Nutrient management	88

Data present in table 4 indicated that 92.00 per cent of the farmer had adopted new high yielding variety fallowed by INM (88.00 per cent).

From the above discussion, it could be inferred that after imparting training and other intensive approach by KVK, Tapi, majority (79.00 per cent) of the tribal farmers of these area had high the knowledge level and majority (89.00 per cent) of the tribal farmers of these area had high adoption level about package of practices of soybean crop. At the end we can suggest this crop in the region to increase the income of the farmers and also to improve their own, family as well as soil health.

The study has acknowledged the knowledge level of the farmers towards profitable cultivation of the soybean. This study can be guideline for other extension worker to implement this way of extension technology for their clients in their respective area of operation for TOT. On this foundation the extension personnel may locate clients for training and also those who can be used as counselors to other farmers. The study is also useful for effective propagation of the new technology in other regions for eco friendly and sustainable agricultural development. The study also reflects the role of KVKs in effective Transfer of Technologies (**TOTs**) at grass root level.

4.3.4 Impact of training regarding package of practices of gram crop

Tribal area of Tapi district grow gram on moisture conserve or in light irrigation, but they get very low yield due to use of low yielding variety, poor knowledge about scientific cultivation of gram. KVK, Tapi had done intensive effort on training about scientific cultivation, demonstration on new variety & land configuration. KVK conducted 6 on campus and 8 off campus trainings, total number of beneficiaries of FLD is 48 covering 7 villages of Tapi district and other extension activities during last three year. So impact study results are present replacing drill paddy.

Table 1:- Overall knowledge of package of practices of gram crop N=100

Category	Before contact with KVK (%)	After contact with KVK(%)
Low level of knowledge	78	08
Medium level of knowledge	16	10
High level of knowledge	06	82

Data depicted in table 1 indicated that 78.00 per cent of the farmers had low level of knowledge which was increased (82.00 per cent) after contact with KVK.

Table 2:- Knowledge regarding selected scientific innovations for gram crop

N=100

Sr.No.	Selected scientific innovation	Low	Medium	High
1	New high yielding varieties	08	05	87
2	Land configuration	06	13	81
3	Seed rate	14	08	78
4	Bio fertilizer	19	06	75
5	Weeding	17	12	71
6	Integrated Nutrient management	07	10	83

Data show in the table 2 indicated that 87.00 per cent of the farmers had knowledge about new high yielding varieties followed by Integrated Nutrient management (83.00 per cent), Land configuration (81.00 per cent) and bio fertilizer (75.00 per cent).

Table 3:- Overall adoption of scientific cultivation of gram (percentage) N=100

Category	Before contact with KVK (%)	After contact with KVK (%)

Low level of adoption	76	04
Medium level of adoption	18	12
High level of adoption	06	84

Data presented in table-3 indicated that 76.00 per cent of the farmers had low level of adoption which was increased after contact with KVK (84.00 per cent).

Table 4:- Adoption of critical gram production technology (%). N= 100

Sr. No.	Name of technology	Adoption (%)
1	New high yielding varieties	89
2	Land configuration	85
3	Seed rate	82
4	Bio fertilizer	78
5	Weeding	72
6	Integrated Nutrient management	76

The data show in the table 4 indicated that 89.00 per cent of the farmers had new high yielding varieties which were followed by Land configuration (85.00 per cent), Seed rate (82.00 per cent) and Bio fertilizer (78.00 per cent).

From the above discussion, it could be said that overall knowledge level and adoption level of the tribal farmers about package of practices of gram had increased up to 82.00 per cent and 84.00 per cent, respectively after imparting training by KVK, Tapi.

4.3.5 Impact of training regarding package of practices of pigeon pea crop

Pigeon pea is the main pulse crop in South Gujarat. Tribal belt is preferring pigeon pea as a main leguminous food in their daily diet. Farmers grow very old variety and lack knowledge about improved variety, and scientific cultivation of pigeon pea. So they get very low production. KVK conducted 9 on campus and 12 off campus trainings, total number of beneficiaries of FLD is 73 covering 7 villages of Tapi district and other extension activities during last three year. So impact study results are present here.

Table 1:- Overall knowledge of package of practices of pigeon pea crop N=100

Category	Before contact with KVK (%)	After contact with KVK (%)
Low level of knowledge	74	06
Medium level of knowledge	21	07
High level of knowledge	05	87

Data depicted in table 1 indicated that 74.00 per cent of the farmers had low level of knowledge which was increased (87.oo per cent) after contact with KVK.

Table 2:- Knowledge regarding selected scientific innovations for pigeon pea crop

N=100

Sr.No.	Selected scientific innovation	Low	Medium	High
1	New high yielding varieties	06	12	82
2	Land configuration	07	07	86

3	Seed rate	04	08	88
4	Bio fertilizer	18	06	76
5	Weeding	11	11	78
6	Integrated Nutrient management	10	06	84

Data show in the table 2 indicated that 88.00 per cent of the farmers had knowledge about seed rat followed by, Land configuration (86.00 per cent), INM (84.00 per cent) and bio fertilizer (76.00 per cent).

Table 3:- Overall adoption of scientific cultivation of pigeon pea (percentage)

N=100

Category	Before contact with KVK (%)	After contact with KVK (%)
Low level of adoption	65	05
Medium level of adoption	16	08
High level of adoption	09	87

Data presented in table-3 indicated that 65.00 per cent of the farmers had low level of adoption which was increased after contact with KVK (87.00 per cent).

Table 4:- Adoption of critical pigeon pea production technology (%). N= 100

Sr. No.	Name of technology	Adoption (%)
1	New high yielding varieties	88
2	Land configuration	90
3	Seed rate	84
4	Bio fertilizer	78
5	Weeding	75
6	Integrated Nutrient management	84

The data show in the table 4 indicated that 90.00 per cent of the farmers had land configuration which was followed by new high yielding varieties (88.00 per cent), Seed rate (84.00 per cent) and INM (84.00 per cent).

From the above discussion, it could be said that majority of the respondents had high level of knowledge and adopted all the pigeon pea production technology. These may be due to the proper guidance given by the KVK scientists, demonstration and constant follow up by KVK missionary.

Based on this study we can suggest our other extension workers as well as to the policy makers to take a keen interest in the matter and do needful for great publicity of such technologies in their respective areas of working for successful journey towards next phase of Green Revolution on sustainable basis. This thing looks like diminutive but its impact is of great magnitude.

4.3.6 Impact of training regarding *IPM components on Cucurbitaceous vegetables*

Cucurbitaceous vegetables *viz.*, bitter gourd, small gourds, cucumber etc. are infested by two species of fruit flies i.e. melon fruit fly, *Bactocera cucurbitae* (Coquilleti) and the Ethiopian fruit fly, *Dacus ciliatus* (Loew), which limits the economic returns to the farmers by their damage to the final product *i.e.,* fruits. The female fly insert its eggs

in soft tender fruit tissue by piercing fruits with the ovipositor, as a result, a watery fluid oozes from the punctures which on hardening become resinous brown. The maggots emerged from the eggs, start feeding on pulp of the fruit. The secondary infection by microorganisms from site of egg laying cause rotting of the fruits rendered them unfit for the consumption. This reduces the market value of the produce. The infested fruits become distorted and drop. The mature maggots jumped out of the fruits and pupate inside the soil. The extent of loss reported to be varied from 30 to 100 per cent depending upon cucurbits species and the season.

As the maggot being an internal feeder, it is rather difficult to control the maggot. The only option is to manage the adult fruit flies and that too before they mat and female deposit eggs. The chemicals means i.e. using insecticides for managing fruit flies is no longer effective.

The melon fruit fly, *B. cucurbitae* can be effectively managed by Male Annihilation Technique by attracting large numbers of males through “Cue Lure”, a pheromone of *B. cucurbitae*. But, the other species of fruit fly *i.e*., *D. ciliatus* cannot be managed by Male Annihilation Technique as no pheromones/ Para pheromones are available. To manage this species, application of insecticides with baiting technique is useful. Therefore, to manage both the species integrate approach using field sanitation, large scale destruction of males by Male Annihilation Technique and application of insecticidal baits is effective. Recently, Navsari Agricultural University has developed a specialized **NAUROJI trap** using cue lure. In this trap a ply wood blocks of size 5cm x 5 cm x 1 cm impregnate with cue lure are used.

To popularize the integrated management technique as well as the trap developed by the university, front line demonstrations were given to the farmers of Khadaka chikhali village of Vyara taluka, Dist. Tapi during the year 2007-08 & 2008-09.

The village Khadka Chikhali is situated in Vyara block of Tapi district. It is situated 2 km away from Vyara town, the district place of Tapi and Krishi Vigyan Kendra, Vyara head quarter. Khadka Chikhali is a tribal dominated village with marginal farmers with limited land holdings.

Even though, the village is situated in vicinity of Vyara town; no extension agency was catering the need of the farmers. They have to rely on local pesticide dealer for their technical needs.

The main crops of the village are paddy, groundnut, sugarcane and vegetable. Being an advantage of having in vicinity of the town, the farmers with the limited land holdings grow vegetables and sell it to local market. Among different vegetable crops, the farmers mostly depend on cucurbitaceous vegetables like bitter gourd, little gourd and cucumber. In cucurbits, the menace of fruit fly is one of the major constraints in the area. The farmers were unable to manage the fruit flies with chemical pesticides.

In the year 2008, Krishi Vigyan Kendra, Vyara has decided to demonstrate the technology for integrated management of Fruit fly in the village. The entry point visit

was made by the scientists of the KVK, Vyara. Discussing with farmers, it was found that infestation of fruit flies is major limiting factor in production of cucurbitaceous vegetables. Considering the situation and dialogue with the farmers, plant protection specialist suggested implementation of integrated fruit fly management in cucurbitaceous vegetables and training as well as the demonstration was the need of the village. The interested farmers were given training with special emphasis on fruit fly species, their life cycle, nature of damage, and management strategies through power point presentations. During both the years, 20 farmers each with 0.2 ha land were given demonstrations under Bitter gourd crop. Among different farmers, **Kaushikbhai** acted as resource person for the village.

The detailed components of IPM *i.e.*

1. Regular collection of damaged and fallen fruits and destruction with deep burying or by burning.
2. Installation of “Cue Lure” NAUROJI traps @ 10 per hectare.
3. Application of bait using fermented water with jaggery and insecticide endosulfan applied as large droplets with broom are demonstrated, constant follow up visits were made and field days were organized.

Table 1: Crop parameters from which impact gain measured

S. N.	Particulars	Year	Treated	Untreated	% increase/ reduction
1.	Per cent infestation	2007-08	4.8 (3-6%)	18.75 (12-40%)	87.00
		2008-09	2.95 (0-6%)	23.55 (10-40%)	74.40
		Average	3.879	21.15	80.70
2.	Reduce in number of sprays	2007-08	1	5	80
		2008-09	1	5	80
		Average	1	5	80
3.	Yield t/ha	2007-08	10.54	9.62	9.56
		2008-09	10.19	8.31	22.12
		Average	10.365	8.965	15.84
4.	Income of the farmer Rs./ha.	2007-08	94860	86580	8280
		2008-09	101900	83100	18800
		Average	98380	84840	13540
5.	Expenditure /ha.	2007-08	1050	2500	1450
		2008-09	1050	2500	1450
		Average	1050	2500	1450
6.	Net income of farmers	2007-08	93810	84080	9730
		2008-09	100850	80600	20250
		Average	97330	82340	14990

Table: 2. Extension activities carried out in the village Khadka Chikhali.

S. N.	Name of activity	No.	Beneficiaries
1	Training :On campus : Off campus	One Two	20 37

2.	Visits to farmers	Eleven	97
3.	Field day cum impact study	One	20

Table: 3 Knowledge of fruit fly control in farmers of the village.

S. N.	Particulars	Before FLD	After FLD
1	Knowledge about insect pests of crop	Low	High
2.	Knowledge about fruit fly and its damage	Low	High
3.	Knowledge about fruit fly trap	Nil	High
4.	Knowledge about integrated management of fruit fly	Nil	High

5.0 LINKAGES

5.1 Functional linkage with different organizations

Sr. No.	Name of Organization	Nature of Linkage
1	Dept. of Agriculture	Participation • Khedut Shibir • Soil Health Card & In-service Training • Extension Activities, RKVY, SRI techniques, Krishi Mela, krishi mahotsav etc.
2	Dept. of Horticulture	Participation • Khedut Shibir • Extension Activities, NHB & NHM Krishi Mela, krishi mahotsav etc.
3	ATMA	Participation • Khedut Shibir/Mahila Shibir • Extension Activities • Training programmes • Krishi Mela, krishi mahotsav etc.
4	Main Rice Res. Station, AAU, Nawagam	Collaboration-FLD on paddy
5	Main Cotton Res. Station, NAU, Surat	Collaboration-FLD on cotton IPM Mission in Nizar block
6	Main Water Management Research Unit, NAU, Navsari	Collaboration-FLD on soil & water management, Greenhouse
7	Research Stations, NAU	Participation-Farmers day, Seed-FLDs, etc.
8	FTC, Vyara	Joint implementation- Farmers visit and expert lectures, Farmer's Fair, Krishi Mela, krishi mahotsav etc.
9	Govt. of Gujarat	Collaboration – Krishi Mahotsav, ATMA, RKVY, NFSCM, etc.
10	State Bank of India/Bank of Baroda	SHG work, SAC Meet.
11	Catholic Charch, Mandal	TOT, Seed village, Kitchen Garden, Vermicompost [**52** Villages Network]
12	Integrated Child Development Sevices (ICDS)	Inservice training for Anganwadi workers and SHG activities, Nutritional FLDs etc
13	NGOs	Training, Demonstration, Extension Activities, FLDs, OFTs etc.

14	Department of Animal Husbandry	Animal Husbandry camps, shibirs, Exhibitions, Dairy related activities.
15	College of veterinary, NAU, Navsari	Animal Husbandry camp, Surgical camps, Pashupalan shibirs, Krishi Mela etc..
16	SUMUL	Animal Husbandry related activities

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

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
1. Plant Health Clinic	March 08	National Horticulture Mission	15.50 lakhs
2. RKVY	Nov.'08	Govt. of Gujarat	109.71 lakhs (yr:2010-11)
3. Soil Health Card	Oct.'09	Govt. of Gujarat	4.50 lakhs
4. Mega seed project	Dec.'10	Govt. of Gujarat	2.32 lakhs

5.3 Details of linkage with ATMA

a) Is ATMA implemented in your district **Yes** / No

Sr. No.	Programme	Nature of linkage	Remarks
1	Participation in • Khedut Shibir/Mahila Shibir • Extension Activities, • FLDs, OFTS, FFS, Impact assessment of ATMA Activities AMC, AGB etc Training programmes	Technical Support	--

* All technical support is given by KVK to ATMA

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

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
1. Plant Health Clinic	March 08	National Horticulture Mission	15.50 lakhs

5.5 Nature of linkage with National Fisheries Development Board :-

KVK gives feedback to this department for FLDs, demonstrations, trainings

6. PERFORMANCE OF INFRASTRUCTURE IN KVK

6.1 Performance of demonstration units (other than instructional farm)

Sr. No.	Demo Unit	Year of estt.	Area	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	
1	Small scale Nursery	2010	4 Gunthas	--	--	--	3.00 lakh(RKVY)	--	--
2	Low cost green House	2010	1.00 Guntha	--	--	--	27000/- (RKVY)	--	--
3.	Wadi Model	2010	1.00 ha	--	--	--	-------	--	--

6.2 Performance of instructional farm (Crops) including seed production

Name Of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Cereals									
Rice	1/7/10 to 12/7/10	18/11/10 to 29/11/10	1.87	Jaya	Certified	78.85	13230	27075	--
	3/7/10 to 16/7/10	18/11/10 to 29/11/10	2.30	Gurjari	Certified	57.80	13230	23750	--
	13/7/10 to 29/7/10	10/11/10 to 18/11/10	1.76	IR-28	Certified	53.20	11230	***	--

***** Paddy seed would be sold in June-2011, at present in Store.**

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

6.4 Performance of instructional farm (livestock and fisheries production) :- -- NIL--

6.5 Rainwater Harvesting: - --NIL--

6.6 Utilization of hostel facilities: - --NIL--

7. 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	Navsari	2704-1
With KVK	State Bank of India	Vyara	10716339605

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

No Fund is released by council.

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

No Fund is released by council.

7.4 Utilization of funds under FLD on Cotton *(Rs. in thousand)*

No Fund is released by council.

7.5 Utilization of KVK funds Year: 2010-11

Sr. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	**Pay & Allowances**	42.79	42.79	4562132
2	**Traveling allowances**	1.00	1.00	59116
3	**Contingencies**	7.00	7.00	565674
a	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	1.50	1.5	149930
b	POL, repair of vehicles, tractor and equipments	0.90	0.90	89888
c	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	0.85	0.85	77107
d	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	0.80	0.80	71767
e	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	1.90	1.90	111131
f	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	0.65	0.65	44696
g	Training of extension functionaries	0.40	0.40	21155
h	Maintenance of buildings	--	--	--
TOTAL (A)		**50.79**	**50.79**	**5186922**
B. Non-Recurring Contingencies				
1	**Equipments and Furniture**			
a)	**Computer with accessories**	0.50	0.50	49420
b)	**LCD projector**	1.00	1.00	128783
c)	**PA system**	0.30	0.30	
d)	**Replacement of furniture**	2.00	2.00	198295
e)	**EPBAX**	0.50	0.50	49219
f)	**Power tillar**	1.50	1.50	149430
g)	**Multicrop thresher**	0.50	0.50	49100
h)	**Power sprayer**	0.25	0.25	24850
i)	**Winnower**	0.25	0.25	24150
j)	**Seed cum fertilizer drill**	0.30	0.30	28880
2	**Works**			
a)	**Adm. Building (02nd & Final Instt.)**	36.39	36.39	76.04
b)	**Farmer's Hostel (02nd & Final Instt.)**	20.38	20.38	
c)	**Staff Quarter (02nd & Final Instt.)**	26.37	26.37	
3	**Library** (Purchase of assets like books & journals)	0.10	0.10	9504
4	**Vehicle (Motorcycle)**	0.50	0.50	48816
TOTAL (B)		**90.84**	**90.84**	8364447
C. REVOLVING FUND		--	--	--
GRAND TOTAL (A+B+C)		**141.63**	**141.63**	**13551369**

7.5 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 2008 to March 2009	15955	251000	191914	75041
April 2009 to March 2010	75041	264491	229035	110497
April 2010 to March 2011	110497	992494	614740	377754

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

8.1 Constraints

(a) Administrative

1. The post of Programme Assistant(1), Office superintendent cum Accountant(1) & Supporting staffs (2), Driver(1) are vacant.

(b) Financial

1. Provision should be made for educational tour for farmers.Seperate fund for technology week celebration, Extension activities,Fencing and Security staff
2. Lack of tribal allowance for KVK Staff.
3. Lack of Pakka roads, drainage channels and electrification in campus.

(c) Technical

1. Lack of facility of Farm Godown, Fencing and Threshing floor and Impliment shed
2. Lack of facility of Minibus.
3. Lack of e connectivity.

Summary of Annual Progress of KVK 2010-11

STAFF POSITION

KVK	PC			SMS			PA			ADMN			AX			SUPP			TOTAL		
	S	F	V	S	F	V	S	F	V	S	F	V	S	F	V	S	F	V	S	F	V
Vyara, Dist. Tapi	1	1	-	6	6	-	3	2	1	2	1	1	2	2	-	2	-	2	16	12	4

S- Sanctioned F- Filled V- Vacant

REVOLVING FUND

KVK	Opening Balance on 1.4.10 (Rs.)	Revenue Generated (Rs.)	Closing Balance on 31.3.11 (Rs.)
Vyara, Dist. Tapi	110497	992494	377754

SCIENTIFIC ADVISORY COMMITTEE

KVK	No. of meetings conducted	Date of meeting
Vyara, Dist. Tapi	1	17/08/2010

ACTIVITIES OF KVK

TECHNOLOGY ASSESSMENT AND REFINEMENT

Details of technologies assessed and refined

Technologies assessed**

Sr. No.	Enterprise	Crop/Animal/ Species	Name of the technology**	Thematic Area
1	Commercial crops	Cotton	IPM	IPM
2	Cereals	Paddy	SRI	SRI
3	Pulses	Pigeon pea	ICM	Land configuration
4	Animal Husbandry	Cow	Urea Treatment of Paddy strow and mineral mixture feeding	Nutrition Management

Technologies refined**

Sr. No.	Category	Crop/ Enterprise	Name of the technology**	Thematic Area
1	Vegetables	Okra	ICM (Time of sowing)	Paddy – Okra base cropping system

Abstract of the number of technologies assessed* in respect of crops/enterprises

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Crop Management	1	--	1	1	--	--	--	--	--	3
TOTAL	**1**	**--**	**1**	**1**	**--**	**--**	**--**	**--**	**--**	**3**

Abstract of the number of technologies assessed in respect of livestock / enterprises

Thematic areas	Cattle	Poultry	Sheep	Goat	Piggery	Rabbitary	Fisheries	TOTAL
Nutrition Management	1	-	-	-	-	-	-	1
TOTAL	**1**	**-**	**-**	**-**	**-**	**-**	**-**	**1**

Abstract of the number of technologies refined* in respect of crops/enterprises

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Crop Management	--	--	--	--	1	--	--	--	--	1
TOTAL	--	--	**--**	--	1	--	--	--	--	**1**

Abstract on the number of technologies assessed in respect of livestock/enterprises :- -- NIL --

Abstract on the number of technologies refined in respect of livestock/ enterprises :- -- NIL --

PERFORMANCE OF IMPORTANT TECHNOLOGIES

Trial 1

1.	**Title**	**:**	Low yield of paddy
2.	**Problem diagnose/defined**	**:**	Use of higher and over age seedlings for transplanting
3.	**Details of technologies selected for assessment /refinement**	**:**	T1. Randomly transplanting of paddy Farmer practices T2. Line method of transplanting (20 X 15 cm) T3. System of Rice Intensification method (25 X 25 cm)
4.	**Source of technology**	**:**	Kharif – 2010
5.	**Production system thematic area**	**:**	Paddy – Sugarcane cropping system
6.	**Thematic area**	**:**	System of Rice Intensification (SRI)
7.	**Performance of the Technology with performance indicators**	**:**	The SRI technology of paddy required less seed rate and gave more number of tillers, filled grain and increased seed yield than traditional method.
8.	**Final recommendation for micro level situation**	**:**	SRI technology is better than traditional method of transplanting paddy.
9.	**Constraints identified and feedback for research**	**:**	Time consuming
10.	**Process of farmers participation and their reaction**	**:**	Appreciate the technology and ready to adopt.

11). Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology refined	Para-meters	Data on the parameter				Results of refinem-ent	Feedback from the farmer
							No. of Tillers/ hill	No. of filled grains/ panicle	Panicle length (cm)	Yield (q/ha)		
1	2	3	4	5	6	7	8				9	10
Paddy	Irrigated	Use of higher and over age seedlings for transplanti-ng	Low yield of paddy	5	T1.Randomly transplanting of paddy - Farmer practices	--	9	95	20.5	52.00	T3. SRI method (25x 25) gave higher yield	In SRI technology of paddy cultivation used less seed rate and gave higher tillering, higher no. of filled grains & seed yield. farmers are very much interested because maintain soil health, maximum water use efficiency, less water required in this technology.
					T2. Line method of transplanting (20 X 15 cm)	--	14	118	24	58.75		
					T3. System of Rice Intensification method (25 X 25 cm)	--	21	145	27.2	69.75		

**** No. of farmers***

Technology Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
Randomly transplanting of paddy -Farmer practices	52.00	39700	1 : 3.23
Line method of transplanting (20 X 15 cm)	58.75	46950	1 : 3.98
System of Rice Intensification method (25 X 25 cm)	69.75	58200	1 : 5.04

Trial 2

1.	**Title**	**:**	Low productivity in cotton
2.	**Problem diagnose/defined**	**:**	High dose of agro chemicals and imbalance use of nitrogenous fertilizers
3.	**Details of technologies selected for assessment /refinement**	**:**	T1 – No seed treatment and 6-7 application of imidacloprid 70% WS @ 15 ml in 10 ltr of water T2- Seed treatment with imidacloprid 70% WS @ 7.5 gm/kg seed + two foliar application of thiomethoxam @ 3 gm/10 ltr. at ET level T3- Seed treatment with imidacloprid 70% WS @ 7.5 gm/kg seed, raising maize or jowar as border crop, castor as a trap crop, chrysopa release and two foliar applications of thiomethoxam 5 gm in 10 ltr. of water, use of 1500 ppm neem ban
4.	**Season**	**:**	Kharif – 2010
5.	**Source of technology**	**:**	NAU
6.	**Production system thematic area**	**:**	--
7.	**Thematic area**	**:**	IPM
8.	**Performance of the Technology with performance indicators**	**:**	Refined technology gave higher BC ratio (1:6.08)
9.	**Final recommendation for micro level situation**	**:**	Use of IPM for better control of pest of cotton
10.	**Constraints identified and feedback for research**	**:**	--
11.	**Process of farmers participation and their reaction**	**:**	Appreciate the technology and ready to adopt

11). Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials *	Technology Assessed	Data on the parameter				Results of assess-ment	Feedback from the farmer
						No. of aphids/ leaf	No. of jassids/ leaf	No. of white fly/ plant	No. of Mealybug/ plant		
1	2	3	4	5	6	7				8	9
Cotton	Irrigated	High dose of agro chemicals and imbalance use of nitrogenous fertilizers	Low productivity in cotton	5	T1 – No seed treatment and 6-7 application of imidacloprid 70% WS @ 15 ml in 10 ltr of water	10	11	75	35	--	IPM gave good control of insects on cotton
					T2- Seed treatment with imidacloprid 70% WS @ 7.5 gm/kg seed + two foliar application of thiomethoxam @ 3 gm/10 ltr. at ET level	8	10	65	30		
					T3- Seed treatment with imidacloprid 70 % WS @ 7.5 gm/kg seed, raising maize or jowar as border crop, castor as a trap crop, chrysopa release and two foliar applications of thiomethoxam 5 gm in 10 ltr. of water, use of 1500 ppm neem ban	6	8	55	20		

**** No. of farmers***

Technology Assessed	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
10	11	12	13
T1 – No seed treatment and 6-7 application of imidacloprid 70% WS @ 15 ml in 10 ltr of water	22.14	57564	1:3.08
T2- Seed treatment with imidacloprid 70% WS @ 7.5 gm/kg seed + two foliar application of thiomethoxam @ 3 gm/10 ltr. at ET level	25.35	67572	1:3.92
T3- Seed treatment with imidacloprid 70 % WS @ 7.5 gm/kg seed, raising maize or jowar as border crop, castor as a trap crop, chrysopa release and two foliar applications of thiomethoxam 5 gm in 10 ltr. of water, use of 1500 ppm neem ban	29.20	87600	1:6.08

Trial 3

1.	**Title**	**:**	Low plant stand in Tur (Land configuration in Pigeon pea)
2.	**Problem diagnose/defined**	**:**	Low yield, High rainfall, Poor plant population
3.	**Details of technologies selected for assessment /refinement**	**:**	T1 Flat bed sowing (Farmers practices) T2 Sowing on raised bed / broad bed furrow T3 Ridge and furrow
4.	**Season**	**:**	Kharif - 2009
5.	**Source of technology**	**:**	Research scientist, Pulse crop, NAU, Navsari
6.	**Production system thematic area**	**:**	Drill Paddy + pigeon pea cropping system
7.	**Thematic area**	**:**	Land configuration (ICM)
8.	**Performance of the Technology with performance indicators**	**:**	The refined technology ridges and furrow sowing of pigeon pea had more no. of branches per plant (14.70/plant) and no. of pods per plant (586.26/plant) at harvest and higher yield (1415 kg/ha) as compared to other treatment of land configuration.
9.	**Final recommendation for micro level situation**	**:**	Ridges and furrow system found better for higher pigeon pea yield.
10.	**Constraints identified and feedback for research**	**:**	Developed resistant variety for Tur against pod fly.
11.	**Process of farmers participation and their reaction**	**:**	Appreciate the technology and ready to adopt ridge and furrow system

11). Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology refined	Parameters	Data on the parameter				Results of refinem-ent	Feedback from the farmer
							No. of branches/ plants	No. of pods / plants	Seed wt./plant (dry) gm	seed yield / ha (kg/ha)		
1	2	3	4	5	6	7	8				9	10
Pigeon pea	Irrigated	Low yield, high rain fall, poor plant population	Land configuration in pigeon pea	5	T1. Flat bed sowing - Farmer practices	--	9.8	511.37	28.10	1024	Ridges & furrow method of sowing gave good yield	It is difficult to prepare raised bed so adoption of ridges & furrow is better
					T2. Raised bed	--	13.40	534.67	29.70	1120		
					T3. Ridges & furrow	--	14.70	586.26	36.80	1415		

**** No. of farmers***

Technology Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
Flat bed sowing	1024	25600	3.14
Raised Bed	1120	28000	3.44
Ridge & furrow	1415	35375	4.34

Trial 4

1.	**Title**	**:**	Refinement of Sowing time in okra
2.	**Problem diagnose/defined**	**:**	Low yield, growing during off season (rabi)
3.	**Details of technologies selected for assessment /refinement**	**:**	T1. Date of sowing 15th November (Farmers practices) T2. Date of sowing 15th October T3. Date of sowing 30th October
4.	**Source of technology**	**:**	Main Vegetable Research Station, Anand
5.	**Production system thematic area**	**:**	Paddy – Okra base cropping system, Time of Sowing
6.	**Thematic area**	**:**	Integrated crop management
7.	**Performance of the Technology with performance indicators**	**:**	**-**
8.	**Final recommendation for micro level situation**	**:**	Farmers of Tapi district should grow okra in month of 15th October. It is the best time for higher yield
9.	**Constraints identified and feedback for research**	**:**	Research on fertilizer management & spacing in hybrid okra.
10.	**Process of farmers participation and their reaction**	**:**	Farmers appreciate the technology & ready to adopt.

11). Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Data on the parameter					Results of assess-ment	Feedback from the farmer
						No. of branches/ main stem	No. nodules / main stem	No. of fruit / plant	Yield / plant (gm)	Yield / kg/ha		
1	2	3	4	5	6	7					8	9
Okra	Irrigated	Low yield growing during rabi season	Refinement of sowing time in okra	6	T1. Date of sowing at 15th Nov. (Farmers practices)	0.23	8.03	8.5	84.5	9388	15th Oct. sowing of okra gave higher yield	Selection of early maturing variety for 15th October okra sowing which got better income
					T2. Date of sowing at 15th Oct.	**2.06**	**18.0**	**22.2**	**221.7**	**24632**		
					T3. Date of sowing at 30th Oct.	0.9	12.87	14.6	145.9	16210		

**** No. of farmers***

Technology Assessed	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
10	11	12	13
1. Date of sowing at 15th October	24.632	247750	**5.1**
2. Date of sowing at 15th November (Farmers practices)	9.388	60418	2.06

****Field crops – kg/ha, * for horticultural crops -= kg/t/ha, * milk and meat – litres or kg/animal, * for mushroom and vermi compost kg/unit area.***

***** Give details of the technology assessed or refined and farmer's practice***

Trial 5

1.	**Title**	:	Low milk production of Cow
2.	**Problem diagnose/defined**	:	1. Lack of knowledge about urea treatment. 2. Poor management of Dairy animal (breeding, feeding and management) 3. Poor knowledge of health & hygiene.
3.	**Details of technologies selected for assessment /refinement**		T1. Farmers practice (Paddy straw without urea treatment) T2. Paddy straw with urea treatment (6-8 kg daily) T3. Paddy straw with urea treatment + Mineral mixture (35 gm mineral mixture feeding daily)
4.	**Source of technology**	:	Text book of Animal Husbandary-G.C.Benerji
5.	**Production system thematic area**	:	**--**
6.	**Thematic area**		Feed Management
7.	**Performance of the Technology with performance indicators**	:	**--**
8.	**Final recommendation for micro level situation**	:	Paddy straw treated with 4% urea and 35 gm mineral mixture feeding daily gaves higher milk production.
9.	**Constraints identified and feedback for research**	:	**--**
10.	**Process of farmers participation and their reaction**	:	Farmers appreciate the technology & ready to adopt.

11). Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters	Data on the parameter		Results of assess-ment	Feedback from the farmer
							Milk production (kg/day)	Service Period (days)		
1	2	3	4	5	6	7	8		9	10
Animal Science	Low milk production in HF Cow	1. Low Milk Production 2. Lack of knowledge about urea treatment. 3. Poor manage-ment. 4. Poor knowledge of health & hygiene. 5. Lack of knowledge about feeding manageme nt.	Low milk production in HF Cow	5	T1. (Farmers practices) Paddy straw without urea treatment	Milk production and service period	5.9	148	Paddy straw with urea treatment + Mineral mixture (35 gm mineral mixture feeding daily)	Increase milk production after urea treated paddy straw and mineral mixture feeding
				5	T2. Paddy straw with urea treatment (6-8 kg daily)		6.7	148		
				5	T3. Paddy straw with urea treatment + Mineral mixtur e (35 gm mineral mixture feeding daily)		7.2	126		

**** No. of farmers***

Technology Assessed	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
T1 - Farmers practice (Paddy straw without urea treatment)	5.9	15	1:1.16
T2 - Paddy straw with urea treatment	6.7	29.2	1:1.30
T3- Paddy straw with urea treatment + Mineral mixture (35 gm daily)	7.2	32.6	1:1.34

FRONTLINE DEMONSTRATIONS

Crop/enterprise	No. of demonstrations	Area (ha)
Oilseeds	27	10
Pulses	87	18
Cereals	151	47
Vegetable crops	50	12
Fruit crops	10	5.00
Cotton	10	4
Kitchen Gardening	50	0.50
Women drudgery reduction - NAVEEN Sickle for paddy harvesting	20	--
Feeding of POSHAK AAHAR to malnourished tribal children	10	--
Mineral mixture salt block feeding	80	--
Total	**495**	**96.5**

OILSEEDS

Crop	Season	Name of technology	No. of farmers	Area (ha)	Performance of technology on different parameters*						Result **
					Yield (qt./ha.)		No. of Pod / Plant		No. of Branch/ Plant		
					Demon.	Local Check	Demon.	Local Check	Demon.	Local Check	
Groundnut	Rabi-09 Summer-10	New Variety	27	10	28.50	23.25	24.70	19.20	8-10	5-7	This technology performed in groundnut gave higher yield than local practices

PULSES

Crop	Season	Name of technology	No. of farmers	Area (ha)	Performance of technology on different parameters*						Result **
					Yield (qt./ha.)		No. of Pod / Plant		No. of Branch / Plant		
					Demon.	Local Check	Demon.	Local Check	Demon.	Local Check	
Pigeon pea	Kharif-10-11	New variety/ Land Configuration	8	8	14.50	10.30	625.45	450.95	12-15	5-.8	Performance of new variety and land configuration in pigeon pea gave higher yield than local variety
Gram	Rabi-09-10	Use of Bio fertilizer Land Use Configuration	5	5	19	11.50	61.25	40.25	6-8	3-4	Performance of new variety, land configuration and use of bio fertilizer in gram gave higher yield than local variety
Gram	Rabi-09-10	Integrated Disease management.	5	5	17.00	11.50	--	--	--	--	--

CEREALS, HORTICULTURE AND OTHER CROPS

Crop	Season	Name of technology	No. of farmers	Area (ha)	Performance of technology on different parameters*						Result **
					Yield (qt./ha.)		Test wt.		No. of productive tiller/plant		
					Demon.	Local Check	Demon.	Local Check	Demon.	Local Check	
Paddy	Kharif-10-11	INM	20	5	59.50	47.75	31gm/1000 seed	23gm/1000 seed	12-15	7-9	Green manuring before T.P. of Paddy maintain soil health and its residual effect on Paddy gave higher grain yield
Paddy	Kharif-10-11	ICM	20	5	15.50	12.25	28gm/1000 seed	17gm/1000 seed	4-6	2-4	Performance of new variety and its yield is better than local variety
Paddy	Kharif-10-11	ICM	20	5	60.50	47.75	31gm/1000 seed	23gm/1000 seed	11-15	7-9	Performance of new variety and its yield is better than local variety
Paddy	Kharif-10-11	ICM	21	7	55.75	46.50	31gm/1000 seed	23gm/1000 seed	11-15	7-9	Performance of new variety and its yield is better than local variety
Paddy	Kharif-10-11	ICM	50	20	61.75	47.75	31gm/1000 seed	23gm/1000 seed	13-17	7-9	This technology of T.P. gave higher yield than local method and save water, seed ecofriendly

Crop	Season	Name of technology	No. of farmers	Area (ha)	Performance of technology on different parameters*						Result **
					Yield (qt./ha.)		Test wt.		No. of productive tiller/plant		
					Demon.	Local Check	Demon.	Local Check	Demon.	Local Check	
Paddy (IPM)	Kharif-10-11	IPM	20	5	59.50	53.00	31gm/1000 seed	23gm/1000 seed	11-15	7-9	-
Okra	Rabi-09-10	INM	2	2	156.11	104.03	21 fruit/plant	12 fruit/plant	202g.	103g.fruit/plant	INM in okra gave higher yield and also maintain the quality of okra this technology control on imbalance use of fertilizer
Brinjal	Rabi-09-10	INM	2	2	193.31	156.80	43.25 fruit/plant	26.47 fruit/plant	2.403 fruit/plant	1.345 fruit/plant	INM gave higher yield and also maintain the quality of brinjal this technology control on imbalance use of fertilizer
Okra	Rabi-09-10	Integrated pest management.	3	3	157.75	104.80	--	--	--	--	INM gave higher yield and also maintain the quality of brinjal this technology control on imbalance use of fertilizer
Brinjal	Rabi-09-10	Integrated pest management.	3	3	178.80	130.80	--	--	--	--	--

Crop	Season	Name of technology	No. of farmers	Area (ha)	Performance of technology on different parameters*						Result **
					Yield (qt./ha.)		Test wt.		No. of productive tiller/plant		
					Demon.	Local Check	Demon.	Local Check	Demon.	Local Check	
Cucurbits	Summer-09-10	Integrated pest management.	2	2	98.5	80.2	--	--	--	--	--
Mango	Summer-09-10	Integrated pest management.	5	5	1.5 % fruits were damaged by fruit fly in treated plot. Detail below.						

Sl. No.	Treatment	No. of fruitfly collected/ha	Percent fruitfly damage	Est. Yield Kg/ha	Loss Kg/ha	Yield Kg/ha	Treat. cost Kg/ha	Gross income (Rs)	Net Income	Income Over Control	CBR
1	Navroiji Trap @ 10/ha	18075	1.5	8000	450	6975	400	174375	173975	17725	1:44.31
2	Control	--	18.0	8000	1500	6250	000	156250	--	--	

Estimated Av. Yield of Mango:- 8 t/ha ; Cost of harvest : Rs 10/20 kg ; Labour charge Rs 100/day ; Price of Mango Rs 25/kg

Details of FLD – Discipline - Home Science:

(1) Result of Front Line Demonstration on Kitchen Gardening :

No. of Farm women: 50 **Area: 1 Guntha/demo.** **Season:- Kharif: 2010-11**

Name of Enterprise	No. of Demo	Crop yield (Kg)												Total Prod-uction	Average rate (Rs/kg)	Gross return (Rs.)	
		Tomato	Ridge gourd	Brinjal	Bottle gourd	Tur	Cluster bean	Indian bean	Bitter gourd	Sponge gourd	Chibhadu	Okra	Cucumber			Before FLD	After FLD
Kitchen Garden	50	18.792	5.968	24.132	11.464	9.98	4.092	3.612	4.086	5.804	10.142	16.886	4.716	119.674	30	930=00	3590=22, along with domestic consumption

Critical inputs supplied:- Seeds : Tomato, Ridge gourd, Brinjal, Bottle gourd, Tur, Cluster bean, Indian bean, Bitter gourd, Sponge gourd, Chibhadu, Okra, Cucumber

Farm women Reaction:

S. No	Feed Back
1	Before Demonstration, farm women were growing only two or three vegetable crops in their backyard but after demonstration they are growing different vegetable crops through kitchen gardening in scientific way.
2	Kitchen gardening gives continuous supply of fresh vegetables at lower cost which gives daily nutritious diet.
3	In kitchen gardening, farm women are not applying any agrochemicals so they produce organic vegetables.
4	We are utilized maximum backyard space and waste water.
5	Income is generated by selling extra vegetables grown in kitchen garden.
6	Farm women are attracted towards hybrid vegetables.

(2) Result of Front Line Demonstration on Introduction of improved NAVEEN sickle for paddy harvesting:

Thematic area: Women drudgery reduction technology

Crop	Season & Year	No. of Demonstration	Field capacity per labour (ha/h)		Increase in field capacity (%)	Labour requirement (man-h / ha)		Economics		
			Harvesting by NAVEEN sickle	Harvesting by local sickle		Demon	Local check	Cost of operation * ` / ha / day		Saving cost (%)
								Demon	Local check	
Paddy	Kharif 2010	20	0.0075	0.0059	27.12	134	170	1700	2200	29.41

***** Cost of operation is calculated as per Govt. rules.

Technical feedback:

1. Improved NAVEEN sickle reduces women drudgery in terms of time, efficiency and physical hazards (finger injuries, hand grip, muscle stress etc.)
2. During paddy harvesting, field capacity per farm woman is increased up to 27.12% by using NAVEEN sickle as compared to local sickle.
3. NAVEEN sickle saves 26.86% labour and 29.41% cost of operation as compared to local sickle.

Farm women's reaction:

1. NAVEEN sickle increases working efficiency in short period of time, i.e. it is cost saving and time saving.
2. NAVEEN sickle reduces fatigue, muscle stress, wrist pain and pain in shoulders as compared to local sickle.

(3) Result of Front Line Demonstration on feeding of POSHAK AAHAR to malnourished rural tribal children:

No. of demonstration: 10

Demonstration period: Aug.'10 to Nov.'10 (4 months)

Village: Ghodchit **Taluka:** Songadh

Critical input supplied: POSHAK AAHAR – Protein rich diet i.e. Mixture of wheat, jowar, rice, soybean and bengalgram dal (cereals & pulses with 3:1 ratio)

Average Weight gain of tribal children per month:

Age group	No. of tribal children	Average body weight of tribal children (Kg.)					Weight gain (Kg.)	Increase in Weight (%)	Feeding of POSHAK AAHAR to children (gm/day/child)
		Before demon.	After demonstration						
			First month	Second month	Third month	Fourth month			
1-3 years	Malnourished 10	7.988	8.500	8.733	8.977	9.255	1.267	56.50	100 to 150
	Healthy 10	9.830	9.920	10.070	10.460	10.640	0.810		----

* Recommended by **WHO.**

Technical Feedback:

1. After feeding of POSHAK AAHAR to malnourished tribal children, the growth and development of children are better and the health and nutritional status are improved.
2. POSHAK AAHAR are the low cost protein rich diet and easily available in local market which are compatible for children due to lower economic status.

Mother's reaction on critical inputs:

1. POSHAK AAHAR are good in taste therefore children are eating POSHAK one to two times in a day. So that weight of children is increased & ultimately weakness of children is decreased.
2. POSHAK AAHAR is cheaper and easily available at home.
3. Recipes of POSHAK AAHAR can be prepared as per taste required.

Details of FLD - Animal Science :

Urea treatment to paddy straw

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.)				*Economics of check (Rs.)			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Buffalo	Nutrition management	Urea treatment to paddy straw	20	20	Avg. milk yield lit per day 5.8 (21.55 Rs/lit)	Avg. milk yield lit per day 4.96 (21.55 Rs/lit)	14%	----	---	95	125	30	1:1.31	91	107	16	1:1.17

Mineral mixture feeding

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.)				*Economics of check (Rs.)			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Buffalo	Nutrition management	Mineral mixture feeding	50	50	Avg. milk yield lit per day 6.09 (21.00 Rs/lit)	Avg. milk yield lit per day 5.38 (21.00 Rs/lit)	13%	----	---	100	128	28	1:1.28	98	113	15	1:1.15

Silage feeding

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.)				*Economics of check (Rs.)			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Buffalo	Nutrition management	Silage feeding	10	10	Avg. milk yield lit per day 5.85 (21.00 Rs/lit)	Avg. milk yield lit per day 5.00 (21.00 Rs/lit)	11%	----	---	97	123	26	1:1.27	90	105	15	1:1.16

Farmers Reaction:

S. No	Feed Back
1	Use of mineral mixture increase milk production and decrease chances of anoestrus in buffaloes.
2	Urea treated paddy straw increase milk production of buffaloes.
3	Due to silage preparation, green fodder become available throughout the year which maintain milk production.

Training (including Vocational, Sponsored and FLD Training)

Thematic area	No. of Courses	Number of other participants			Number of SC/ST			Total number of participants		
		M	F	T	M	F	T	M	F	T
(A) Farmers & Farm Women										
I Crop Production										
Integrated Farming	4	64	0	64	91	7	98	155	7	162
Integrated Crop Management	11	0	0	0	329	108	437	329	108	437
Production of organic inputs	4	0	0	0	44	36	80	44	36	80
Seed Production	2	0	0	0	52	46	98	52	46	98
II Horticulture										
a) Vegetable crops										
Production of low volume and high value crops	2	0	0	0	41	38	79	41	38	79
Protective cultivation(Green House, Shade Net etc.)	7	21	0	21	128	113	241	149	113	262
Off-season cultivation	3	0	0	0	26	123	149	26	123	149
Nursery raising	1	0	0	0	0	32	32	0	32	32
b) Fruits										
Layout and Management of Orchards	8	0	0	0	259	233	492	259	233	492
III Soil Health and Fertility Management										
Integrated Nutrient Management	1	10	0	10	2	0	2	12	0	12
IV Livestock Production and Management										
Feed Management	4	0	0	0	79	106	185	79	106	185
Dairy Management	10	0	0	0	236	129	365	236	129	365
Production of quality animal product	1	0	0	0	18	17	35	18	17	35

Thematic area	No. of Courses	Number of other participants			Number of SC/ST			Total number of participants		
		M	F	T	M	F	T	M	F	T
V Home Science/Women empowerment										
Household food security by Kitchen gardening and nutritional gardening	3	0	0	0	0	82	82	0	82	82
Income generation activities for empowerment of Rural women	2	0	0	0	0	76	76	0	76	76
Location specific drudgery reduction technology	1	0	0	0	0	25	25	0	25	25
Women and child care	5	0	0	0	0	197	197	0	197	197
Designing and development for high nutrient efficiency diet	7	0	0	0	0	178	178	0	178	178
Minimization of nutrient loss in processing	2	0	0	0	0	62	62	0	62	62
Value addition	1	0	0	0	0	45	45	0	45	45
VII Plant Protection										
Integrated Pest Management	5	69	0	69	98	43	141	167	43	210
Integrated Pest Disease Management	5	0	0	0	150	138	288	150	138	288
IX Production of Inputs at Site										
Seed production	1	0	0	0	26	04	30	26	04	30
X Capacity building and Group Dynamics										
Leadership Development	1	0	0	0	17	0	17	17	0	17
Formation and management of Self Help Groups	1	0	0	0	0	19	19	0	19	19
Enterpreneurship development of farmers/rural youth	1	0	0	0	17	48	65	17	48	65
Marketing	2	0	0	0	40	30	70	40	30	70
TOTAL (A)	**93**	**164**	**0**	**164**	**1653**	**1935**	**3588**	**1817**	**1935**	**3752**

(B) RURAL YOUTH										
Seed production	1	0	0	0	29	3	32	29	3	32
Integrated Crop Management	2	0	0	0	74	11	85	74	11	85
Integrated Nutrient Management	4	0	0	0	120	88	208	120	88	208
Protected cultivation of vegetable crops	1	0	0	0	22	0	22	22	0	22
Feed Management	1	0	0	0	20	17	37	20	17	37
Disease management	1	0	0	0	29	5	34	29	5	34
Value addition	1	0	0	0	0	22	22	0	22	22
Integrated Crop Management	2	0	0	0	86	17	103	86	17	103
Integrated Nutrient Management	1	14	0	14	3	0	3	17	0	17
Designing & development for high nutrient efficiency diet	1	0	0	0	0	25	25	0	25	25
Dairy Management	1	0	0	0	32	0	32	32	0	32
TOTAL (B)	**16**	**14**	**0**	**14**	**415**	**188**	**603**	**429**	**188**	**617**
(C) Extension Personnel										
Integrated Crop Management	1	0	0	0	70	0	70	70	0	70
Protected cultivation technology	1	0	0	0	31	0	31	31	0	31
Formation and management of Self Help Groups	1	0	3	3	0	28	28	0	31	31
WTO and IPR issues	1	0	0	0	28	2	30	28	2	30
Capacity building for ICT application	1	0	0	0	12	13	35	12	13	35
TOTAL (C)	**5**	**0**	**3**	**3**	**141**	**43**	**184**	**141**	**46**	**187**
GRAND TOTAL	**114**	**178**	**3**	**181**	**2209**	**2166**	**4375**	**2387**	**2169**	**4556**

Note: Details of above training programmes given in the proforma as Annexure-II

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
					Male	Female	Total	Type of units	Number of units	Number of persons employed	
Home Science	5-6/1/2011	Preparation of Masala	Income generation activities for empowerment of rural women	2	-	51	51	-- Work in progress --			
	1-2/2/2011	Preparation of Masala	Income generation activities for empowerment of rural women	2	-	22	22	-- Work in progress --			
Agronomy	17-18/1/11	Preparation of composting & vermicomp-osting	Production of organic input	2	53	06	59	-- Work in progress --			

Extension activities

Sl. No.	Nature of Extension Activity	Purpose/ topic and Date	No. of activities	Participants											
				Farmers (Others) (I)			SC/ST (Farmers) (II)			Extension officials (III)			Grand Total (I+II+III)		
				M	F	T	M	F	T	M	F	T	M	F	T
1	Field Day	For FLD	17	0	0	0	428	144	572	6	1	7	434	145	579
2	Khedut Shibir	Cereals, Pulses, Vege., other crops	7	0	0	0	748	769	1517	6	1	7	754	770	1524
3	Mahila Shibir	Health & Nutrition, SHG, Women empowerment	3	0	0	0	222	3155	3377	6	1	7	228	3156	3384

Sl. No.	Nature of Extension Activity	Purpose/ topic and Date	No. of activities	Participants											
				Farmers (Others) (I)			SC/ST (Farmers) (II)			Extension officials (III)			Grand Total (I+II+III)		
				M	F	T	M	F	T	M	F	T	M	F	T
4	Agril. Exhibition	Krishi Mela, Khedut din, Krishi Mahotsav	6	771	138	909	1788	5177	6965	6	1	7	2559	139	2698
5	Crop Symposium	Paddy crop(SRI) & Export oriented Okra	2	0	0	0	398	1014	1412	6	1	7	404	1015	1419
6	Ex-trainee sammelan	-	1	0	0	0	17	6	23	6	1	7	23	7	30
	Kishan Gosthi	-	4	0	0	0	34	98	132	6	1	7	40	99	139
7	Celebration of Women in Agril. Day	Agriculture, Nutrition & Health 04/12/10	1	0	0	0	587	388	975	4	1	5	591	389	980
8	Celebration of International Women's Day	Women Empowerment 8/3/11	1	0	0	0	15	63	78	1	1	2	16	64	80
9	Parthenium Awareness Week - 2010 programme	(3/8/2010)	1	0	0	0	75	16	91	4	1	5	79	17	96
10	Formation of SHG	For women empowerment	2	0	0	0	0	26	26	0	1	1	0	27	27
11	SHG Meeting	For activation of new & exsisting SHGs	9	0	0	0	0	207	207	0	1	1	0	208	208
12	Formation of Farm Science Club	-	2	0	0	0	75	16	91	2	0	2	77	16	93
13	Farm Science Club meeting	-	3	0	0	0	103	8	111	4	0	4	107	8	115

Sl. No.	Nature of Extension Activity	Purpose/ topic and Date	No. of activities	Participants											
				Farmers (Others) (I)			SC/ST (Farmers) (II)			Extension officials (III)			Grand Total (I+II+III)		
				M	F	T	M	F	T	M	F	T	M	F	T
14	Farmers Meeting	-	1	0	0	0	26	7	33	6	1	7	32	8	40
15	Mahila Meeting	-	1	0	0	0	0	17	17	0	1	1	0	18	18
16	Guest Lecture	FTC & ATMA	39	682	36	718	2237	1873	4110	6	1	7	2925	1910	4835
17	Film Show	SHG, Pashupalan, Agriculture	13	0	0	0	592	60	652	5	1	6	100	61	161
18	Diagnostic Visit	-	2	1	0	1	2	0	2	1	0	1	4	0	4
19	Field Visit	-	7	0	0	0	68	87	155	6	1	7	75	88	163
20	FLD Meeting	-	8	87	0	87	29	51	80	6	1	7	122	52	174
21	Scientist visit to Farmers' Field	-	19	4	0	4	101	27	128	6	1	7	111	28	139
22	Farmers Visit to KVK	-	44	65	0	65	513	122	635	6	1	7	554	123	677
23	Exposure Tour	Visit at Krishi Mela, NAU, JAU, AAU	1	0	0	0	20	57	77	1	1	2	21	58	79
24	Krishi Mahotsav	--	1	0	0	0	3527	2482	6009	6	0	6	3534	2482	6016
25	Night camp	-	3	0	0	0	70	33	103	3	1	4	73	34	107
26	Telephone Helpline	-	209	11	0	11	156	53	209	6	1	7	173	54	227
27	Guidance through letter	-	3	0	0	0	3	0	3	2	0	2	5	0	5
28	Animal Camp	264 Animals	1	0	0	0	0	0	0	6	1	7	0	0	264 animals
29	Pashupalan Shibir	-	3	0	0	0	488	1103	1591	6	1	7	494	1104	1598
30	Method Demonstration	Preparation of vermicompost and masalas	3	0	0	0	53	28	81	1	1	2	54	29	83

Sl. No.	Nature of Extension Activity	Purpose/ topic and Date	No. of activities	Participants											
				Farmers (Others) (I)			SC/ST (Farmers) (II)			Extension officials (III)			Grand Total (I+II+III)		
				M	F	T	M	F	T	M	F	T	M	F	T
31	Popular Articles	-	28	0	0	0	0	0	0	6	1	7	6	1	7
32	Book published	-	5	-	-	-	-	-	-	6	1	7	6	1	7
33	TV Telecast	-	4	-	-	-	-	-	-	3	0	3	3	0	3
34	Radio Talk	-	1	-	-	-	-	-	-	1	0	1	1	0	1
35	Newspaper Coverage	-	52	-	-	-	-	-	-	6	1	7	6	1	7
36	Folder Prepared	-	23	-	-	-	-	-	-	6	1	7	6	1	7
37	Extension literature distributed	-	4130	179	482	661	1038	2431	3469	6	1	7	1223	2914	4137
38	Research Paper published	-	11	-	-	-	-	-	-	4	0	4	4	0	4
39	Soil & Water Sample analyzed	-	4797	-	-	-	4797	0	4797	1	0	1	4798	0	4798
40	Sample diagnosed in PHC	-	78	2	0	2	73	3	76	1	0	1	76	3	79
41	Farmers-Scientists Interaction	-	1	0	0	0	8	0	8	1	0	1	9	0	9
Grand Total			**5419**	**1801**	**656**	**2457**	**17730**	**19521**	**37251**	**171**	**31**	**202**	**19702**	**20208**	**39910**

Production and supply of quality seed and planting material

SEED MATERIALS

Major group/class	Crop	Variety	Quantity (qtl.)	Value (Rs.)	Provided to No. of Farmers
CEREALS	Paddy	Jaya	78.85	27085	57
		Gurjari	57.80	23750	50
		IR-28	53.20	--	Stored in godown and selling for next season

SUMMARY

Sr. No.	Major group/class	Quantity (qtl.)	Value (Rs.)	Provided to No. of Farmers
CEREALS	Paddy-Jaya	78.85	27075	57
	paddy-Gurjari	57.80	23750	50
	Paddy-IR-28	53.20	--	--
	TOTAL	**189.85**	**50825**	**107**

PLANTING MATERIALS

Major group/class	Crop	Variety	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
FRUITS	Mango	Kesar	600	33000	30
	Mango	Dasheri	200	11000	10

SUMMARY

Sl. No.	Major group/class	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
1	FRUITS - MANGO	800	44000	40
	TOTAL	**800**	**44000**	**40**

PUBLICATIONS

Type of Publication	No. of Items/topics	Number copies
News Letter	-	-
Technical reports	MPR, QPR, SAC report, FLD report, AAP, APR, MER, AGRESCO, ZREAC report, QRT report	-
Technical bulletins	-	-
Popular articles	List of articles given in Annexure – III	
Extension literature	24	
Research Paper	9	--
Book Published	5	--

SOIL AND WATER TESTING

Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized
Soil Samples	7790	7790	17	250000
Water Samples	200	200	13	10000
Total	**7990**	**7990**	**30**	**260000**

SUCCESS STORIES

1. Replacement of the Pigeon pea variety through FLD, a success story (Accepted in NAU Spectrum)
2. Integrated Nutrient Management, a windfall to get higher production of vegetables in Tribal areas of South Gujarat- A Success story.
3. Role of KVK in upliftment of Tribal dominated areas of South Gujarat through export oriented Okra cultivation.
4. The role of KVK in shifting the life of normal tribal farmer to an innovated high-tech farmer. A success story
5. Impact of Kitchen Gardening Demonstration in Tribal Farm Women, a Success Story.
6. Role of KVK in cultivating Land Configuration, in Tribal belt of Tapi District.
7. Replacement of drilled paddy through high recurring Soybean crops in tribal belt of South Gujarat
8. Increasing area and productivity of Paddy in tribal belt of South Gujarat

Case Studies

--Nil--

Impact Studies

1. Impact of training regarding scientific cultivation of okra
2. Impact of training regarding scientific cultivation of brinjal
3. Impact of training regarding package of practices of soybean crop
4. Impact of training regarding package of practices of gram crop
5. Impact of training regarding package of practices of pigeon pea crop
6. Impact of training regarding IPM components on *Cucurbitaceous* vegetables

Annexure - I

Proceeding of Seventh Scientific Advisory Committee Meeting of Krishi Vigyan Kendra, NAU, Vyara held on 17/08/2010 at 10:30 am at Training Hall, KVK, NAU, Vyara

♦ **List of the members remained present in the meeting :**

Sr. No.	Name	Members/ Invitees	Designation
1	Dr. A. R. Pathak	Chairman	Vice Chancellor Navsari Agricultural University, Navsari
2	Dr. R. B. Patel	Member	Director of Extension Education Navsari Agricultural University, Navsari
3	Dr. C. L. Patel	Member	Director of Research Navsari Agricultural University, Navsari
4	Dr. V. J. Zinzala	Member	District Agriculture Officer District Panchayat, Vyara, Tapi
5	Mr. G. M. Borad	Member	Representative Director District Rural Development Agency, Vyara
6	Mr. P. M. Acharya	Member	Deputy Director of Agriculture (Ext.), Lal Banglow, Athwalines, Surat
7	Mr. C. C. Garasiya	Member	Deputy Director of Horticulture Farmers Training Centre, Panwadi, Vyara
8	Dr. K. J. Shukla	Member	Deputy Director of Animal Husbandry, District Panchayat, Tapi
9	Mr. N. G. Gamit	Member	Deputy Director of Agriculture(Training) Farmers Training Centre, Vyara
10	Mr. R. L. Ganvit	Member	Branch Manager Gujarat State Seed Corporation, Apna Bazar, Vyara, Dist. Tapi
11	Mr. R. B. Patel	Member	Depo Incharge GSFC, Market Yard, Vyara, Dist. Tapi
12	Mr. Abhesingbhai M. Chuadhari	Member	Chairman A. P. M. C., Market Yard Vyara, Dist. Tapi
13	Mr. B. J. Savaliya	Member	Kendra Incharge GNFC, Market Yard, Vyara, Dist. Tapi
14	Mr. D. G. Patel	Member	Range Forest Officer Vyara Range, Dist. Tapi

15	Mr. T. M. Visani	Member	Assistant Director (G.L.D.C.) Parsiwad, Vyara, Dist. Tapi
16	Mr. Chndrakant P. Mandaviya	Member (NGO)	President, Abhyutthan Gram Vikas Trust, Avdhut Krupa, Devjipura, Songadh
17	Mrs. Mishulaben Gamit	Member (NGO)	Executive Secratory, Hangati Mahila Trust, Mandal, Ta. Songadh
18	Mr. Vipinbhai Chaudhari	Member (Co-operatives)	Progressive Farmer, Vanskui
19	Mr. Chandubhai Gamit	Member	Progressive Farmer, Ghodchit
20	Mrs. Revaben Ranjitbhai Chaudhari	Member	Member, Sakhi Mandal, Ghodchit, Ta. Songadh, Dist. Tapi
21	Mrs. Hetalben Chaudhari	Member	Progressive Farm women President of SHG, Vanskui
22	Smt. M. R. Patel	Member	CDPO Vyara - 1, Taluka Panchayat, Vyara, Dist. Tapi
23	Smt. K. C. Gamit	Member	CDPO Vyara – 2, Taluka Panchayat, Vyara, Dist. Tapi
24	Dr. H. D. Mehta	Member	Associate Research Scientist Regional Rice Research Station Vyara, Dist. Tapi
25	Dr. N. M. Chauhan	Member (Secretary)	Programme Coordinator Member Secretary K.V.K.,Vyara, Dist. Tapi
26	Mr. Iswarbhai C. Gamit	Invitee	President, Farm Science Club, Ghodchit
27	Fr. Francis D'sa cj.	Invitee	M.E.S. Mandal, Seed Village linkage programme
28	Mrs. Karmiben D. Gamit	Invitee	Hangati Trust, Mandal
29	Mr. Kiranbhai B. Sagarwala	Invitee	ANARDE foundation, Surat
30	Mr. D. T. Desai	Invitee	Patidar Agro centre, 30, Market yard, Vyara
31	Aemabhai B. Gamit	Invitee	Bharadda
32	Mr. Guljibhai G. Gamit	Invitee	Bharadda
33	Mr. Rameshbhai Bholiyabhai	Invitee	Bharadda
34	Mr. Chhotubhai Ramchandra Gamit	Invitee	Aanandkut, Ta. Uchchhal
35	Mr. Dilipbhai B. Gamit	Invitee	Selud
36	Mrs. Induben Ramanbhai Gamit	Invitee	Kapura
37	Mrs. Kamlaben P. Gamit	Invitee	Hangati Trust, Mandal, Linkage Programme

38	Mrs. Shobhanaben B. Gamit	Invitee	Saheli Van Bachat Mandal
39	Mr. S. P. Wadhwani	Invitee	Bizz News TV, Vyara, Press Reporter
40	Mr. Dharmesh Wani	Invitee	Gujarat Raksha, Vyara Press Reporter
41	Mr. Sanjay R. Wani	Invitee	Gujarat Raksha, Vyara Press Reporter

♦ **List of members who could not remain present in meeting :**

Sr. No.	Designation	Members/ Invitees
1	Hon. Zonal Project Director, Zone-VI, ICAR, Jodhpur Rajasthan	Member
2	Joint Director of Agriculture, Lal Banglow, Athwalines, Surat	Member
3	Project Administrator, Integrated Tribal Development Project, Songadh, Dist. Tapi	Member
4	Lead Bank Officer, Regional Office, B.O.B., Dutch Garden, Surat	Member
5	Social Welfare Officer, Market Yard, Vyara, Dist Tapi	Member
6	Assistant Director (Fisheries), Near CRPF Campus, Ukai, Dist. Tapi	Member
7	Divisional Forest Officer, Jilla Seva Sadan-2, B Block, 2nd Floor, Athwalines, Surat	Member
8	Executive Engineer, Ukai Kakrapar Irrigation Project, Tapi	Member
9	Office Incharge, All India Radio, Bhatar Road, Surat	Member
10	Programme Director, Prasarbharti, Bhatar Road, Surat	Member
11	Information Officer, Information & Broadcasting Dept., Chowk Bazar, Surat	Member
12	General Manager, District Industrial Centre, Surat	Member
13	Chairman Gram Seva Samaj, Vyara	Member

The Seventh Scientific Advisory Committee Meeting of Krishi Vigyan Kendra, NAU, Vyara was organized to review the progress made by KVK during July-2009 to August-2010 and to discuss the action plan for October-2010 to September-2011. The SAC meeting was held at training hall of KVK, Vyara on 17th August, 2010. The meeting was inaugurated by Dr. A. R. Pathak, Honorable Vice Chancellor, NAU, Navsari. Dr. H. D. Mehta, Associate Research Scientist, Regional Rice Research Station, NAU, Vyara welcomed dignitaries, committee members, farmers and invitees. Dr. R. B. Patel, Director of Extension Education, NAU, Navsari explained the importance of FLDs and OFTs. Dr. N. M. Chauhan, Programme Co-ordinator, KVK has made a sound presentation on APR and Action Plan along with case studies, impact studies, success

stories and feedback from farmers/farm women, GOs, NGOs and co-operative sectors. Dr. C. L. Patel, I/c. Director of Research, NAU, Navsari gave good suggestions for making the activities of KVK more effective ad result oriented. Honorable Vice Chancellor, Dr. A. R. Pathak in his concluding remarks congratulated Programme Co-ordinator and his team of scientist and suggested to publish FAQs data base for the major crops of the area on NAU website. The overall discussion made during the meet was really unique and the most prominent event was the remarkable suggestions and feedback emerged out from each and every member inside the house. We can say it's a good sign for future betterment of this KVK. Vote of thanks was presented by Dr. J. H. Rathod, Subject Matter Specialist (Plant Protection), KVK, NAU, Vyara.

7.1 Approval of minutes of Sixth Scientific Advisory Committee.

The action taken on the minutes of Sixth Scientific Advisory Committee Meeting of KVK, Vyara held on 6th July, 2009 was presented by Programme Co-ordinator was approved by the house.

7.2 Progress made by KVK during July 2009 to August 2010.

Programme Co-ordinator, KVK, NAU, Vyara presented the report on progress made by KVK, Vyara for the period of July, 2009 to August, 2010. Following suggestions were made by the house.

7.2.1 Training on Farm Mechanization should be taken.

7.2.2 Activities of Animal Science discipline should be increased.

7.2.3 FAQs database for the major crops of the area should be published on NAU website.

7.3 Action plan for the period of October, 2009 to September, 2010.

Discussion was made on the Action Plan for the period of October, 2009 to September, 2010 presented by Programme Co-ordinator, KVK, NAU, Vyara which was approved with following suggestions.

7.3.1 Effort should be continued to popularize the Groundnut Vty : GG-6.

7.3.2 FLD on Groundnut Vty : GG-11 should be taken.

7.3.3 FLDs and OFTs on Animal Husbandry should be taken. Soybean crop should be taken as inter crop with drilled paddy instead of sole crop.

7.3.4 Training on A.I. component should be taken.

7.3.5 The number of Vocational Trainings pertaining to income generation by farm women should be increased.

Annexure - II

Details of Training programmes :

Date	Clientele	Title of the training programme	Discipline	Thematic area	Durat-ion in days	Venue (Off / On Campus)	Number of other participants			Number of SC/ST			Total number of participangs		
							M	F	T	M	F	T	M	F	T
13/04/10	P.F	Preparation of Vermi-compost (RKVY)	Agronomy	Production of organic inputs	1	ON	0	0	0	22	18	40	22	18	40
15/04/10	P.F	Preparation of Vermi-compost (RKVY)	Agronomy	Production of organic inputs	1	ON	0	0	0	22	18	40	22	18	40
29/04/10	F.W.	Importance of Wadi Yojana and inter crop cultivation in Wadi (RKVY)	Horticulture	Orchard Development	1	ON	0	0	0	4	51	55	4	51	55
05/05/10	F.W.	Scientific cultivation of drilled and transplanted paddy	Agronomy	ICM	1	OFF	0	0	0	4	21	25	4	21	25
10/05/10	P.F	Cultivation of high value horticulture crop	Horticulture	High Tech Horti.	1	OFF	21	0	21	0	0	0	21	0	21
10/05/10	P.F	Scientific cultivation of cotton / organic manure preparation	Agronomy	ICM	1	OFF	20	0	20	0	0	0	20	0	20
13/05/10	P.F	Care and management of mango orchard and importance of inter cropping in mango orchard	Horticulture	Management	1	OFF	0	0	0	65	14	79	65	14	79
14/05/10	P.F	Scientific cultivation of Kharif paddy	Agronomy	ICM	1	OFF	0	0	0	33	0	33	33	0	33
14/05/10	P.F	Control measures of pests & diseases in kharif crops	Plant Pro.	IPDM	1	OFF	0	0	0	30	0	30	30	0	30
15/05/10	F.W.	Kitchen Gardening	Horticulture	Kitchen	1	ON	0	0	0	0	30	30	0	30	30

				Gardening											
17-18/05/10	E.F.	Formation and Management of Self Help Groups	Home Sci.	Capacity Building	2	ON	0	3	3	0	28	28	0	31	31
25/05/10	F.W.	Balanced diet from locally available food material	Home Sci.	Balanced Nutrition	1	OFF	0	0	0	0	57	57	0	57	57
25/05/10	F.W.	Calf rearing	Ani. Sci.	Dairy Management	1	OFF	0	0	0	0	40	40	0	40	40
27/05/10	P.F	Animal Nutrition	Ani. Sci.	Nutrition	1	ON	0	0	0	34	1	35	34	1	35
07/06/10	F.W.	Marketing of Agriculture products	Ext. Edu.	Marketing	1	OFF	0	0	0	20	30	50	20	30	50
11/06/10	F.W.	Kitchen Gardening	Home Sci.	Kitchen Gardening	1	ON	0	0	0	0	27	27	0	27	27
15/06/10	F.W.	Preparation of Masalas	Home Sci.	Income Generation	1	ON	0	0	0	0	25	25	0	25	25
03/06/10	P.F	Importance of Wadi in Sustainable agri. (RKVY)	Horticulture	Orchard Development	1	OFF	0	0	0	28	28	56	28	28	56
04/06/10	F.W.	Importance of Wadi in Sustainable agri. (RKVY)	Horticulture	Orchard Development	1	OFF	0	0	0	4	13	17	4	13	17
05/06/10	P.F	Wadi yojna for sustainable agriculture (RKVY)	Horticulture	Orchard Development	1	OFF	0	0	0	33	46	79	33	46	79
05/06/10	P.F	Wadi yojna for sustainable agriculture (RKVY)	Horticulture	Orchard Development	1	OFF	0	0	0	47	4	51	47	4	51
05/06/10	P.F	Wadi yojna for sustainable agriculture (RKVY)	Horticulture	Orchard Development	1	OFF	0	0	0	29	111	140	29	111	140
15/06/10	P.F	Importance of Wadi Yojna (RKVY)	Horticulture	Orchard Development	1	OFF	0	0	0	36	0	36	36	0	36
15/06/10	P.F	Importance of Wadi Yojna (RKVY)	Horticulture	Orchard Development	1	OFF	0	0	0	17	17	34	17	17	34
19/05/10	P.F	Scientific cultivation of paddy and pigeon pea	Agronomy	I.C.M.	1	OFF	0	0	0	56	7	63	56	7	63

01/06/10	P.F	Paddy SRI and FLD	Agronomy	I.C.M.	1	OFF	0	0	0	16	2	18	16	2	18
02/06/10	F.W.	Scientific cultivation of paddy	Agronomy	I.C.M.	1	OFF	0	0	0	19	46	65	19	46	65
02/06/10	P.F	Scientific cultivation of pigeon pea	Agronomy	I.C.M.	1	OFF	0	0	0	36	0	36	36	0	36
05/06/10	RY	Scientific cultivation of paddy (RKVY)	Agronomy	Crop production (ICM)	1	ON	0	0	0	49	1	50	49	1	50
17-19/06/10	In-service	Capacity Building	Ext. Edu.	Capacity Building	3	ON	2	0	2	10	23	33	12	23	35
23/06/10	F.W.	FLD training on Kitchen Gardening	Home Sci.	Kitchen Gardening	1	ON	0	0	0	0	25	25	0	25	25
24/06/10	F.W.	Nutrition for pregnant and lactating women	Home Sci.	Health & Nutrition	1	OFF	0	0	0	0	39	39	0	39	39
24/06/10	F.W.	Care and management of dairy animal	Ani. Sci.	Management	1	OFF	0	0	0	11	29	40	11	29	40
22/06/10	F.W.	Propogation of mango graft (DRDA)	Horticulture	Nursery	1	OFF	0	0	0	0	32	32	0	32	32
01/07/10	F.W.	Nutritional deficiency diseases in children and its management	Home Sci.	Health & Nutrition	1	OFF	0	0	0	0	17	17	0	17	17
1-2/07/10	E.F.	Scientific cultivation of vegetables (Aabhyuththan Trust sponsored, Songadh)	Horticulture	ICM	2	ON	0	0	0	25	6	31	25	6	31
06/07/10	P.F	IPDM in Kharif paddy	Plant Pro.	IPDM	1	ON	0	0	0	22	0	22	22	0	22
07/07/10	P.F	Scientific cultivation of Sugarcane	Agronomy	Integrated farming	1	ON	0	0	0	35	0	35	35	0	35
08/07/10	RY	Care to be taken in paddy seed production plot	Agronomy	Seed production	1	ON	0	0	0	29	3	32	29	3	32
13/07/10	P.F	Care taken during handling of pesticides	Plant Pro.	IPM	1	OFF	0	0	0	61	43	104	61	43	104

30/07/10	P.F	Integrated Nutrient Management in Cotton	Agronomy	INM	1	OFF	10	0	10	2	0	2	12	0	12
30/07/10	RY	Integrated Nutrient and Weed Management in Cotton	Agronomy	INM	1	OFF	14	0	14	3	0	3	17	0	17
30/07/10	P.F	Integrated Pest Management in cotton	Plant Pro.	IPM	1	OFF	15	0	15	5	0	5	20	0	20
30/07/10	P.F	Integrated Pest Management in cotton	Plant Pro.	IPM	1	OFF	21	0	21	2	0	2	23	0	23
02/08/10	F.W.	Preparation of low cost nutritious diet for children (FLD training)	Home Sci.	Design & Deve. of low / minimum diet	1	OFF	0	0	0	0	21	21	0	21	21
30/08/10	P.F	Cultivation of vegetables under low cost green house	Horticulture	Low cost green house	1	ON	0	0	0	29	7	36	29	7	36
31/08/10	P.F	Cultivation of leafy vegetables under low cost green house	Horticulture	Low cost green house	1	ON	0	0	0	34	16	50	34	16	50
06/09/10	F.W.	Anemia and its management	Home Sci.	Women & Child care	1	ON	0	0	0	0	44	44	0	44	44
17/09/10	P.F	Scientific cultivation of Sugarcane	Agronomy	Integrated farming	1	ON	0	0	0	44	0	44	44	0	44
21/09/10	F.W.	Preparation of protein rich diet for children	Home Sci.	Design & Dev. for high nutrient efficiency diet	1	OFF	0	0	0	0	23	23	0	23	23
21/09/10	P.F	Scientific cultivation of Okra (Sponsered training, Songadh)	Horticulture	Production of low volume & high value crops	1	ON	0	0	0	40	14	54	40	14	54
21/09/10	P.F	Importance of A.I. to improve pedigree	Ani. Sci.	Animal breeding management	1	OFF	0	0	0	38	16	54	38	16	54
22/09/10	F.W.	Important point in	Ani. Sci.	Animal Nutrition	1	OFF	0	0	0	0	105	105	0	105	105

		animal nutrition		Management												
23/09/10	P.F	Points to be considered while calf rearing	Ani. Sci.	Dairy Cattle Management	1	OFF	0	0	0	50	16	66	50	16	66
24/09/10	F.W.	Anemia and its management	Home Sci.	Women & Child care	1	ON	0	0	0	0	25	25	0	25	25
08/10/10	RY	Scientific cultivation of Sugarcane	Agronomy	ICM	1	OFF	0	0	0	37	16	53	37	16	53
15/10/10	F.W.	Dradgery reduction technology of improved NAVEEN sickle for paddy harvesting (FLD training)	Agronomy	Location specific drudgery reduction technology	1	ON	0	0	0	0	25	25	0	25	25
22/10/10	RY	Feeding management in dairy animal	Ani. Sci.	Feed Management	1	ON	0	0	0	20	17	37	20	17	37
25/10/10	RY	INM in okra	Horticulture	INM	1	ON	0	0	0	22	69	91	22	69	91
26/10/10	RY	INM in okra	Horticulture	INM	1	ON	0	0	0	43	5	48	43	5	48
27/10/10	RY	INM in okra	Horticulture	INM	1	ON	0	0	0	35	11	46	35	11	46
30/10/10	RY	Cultivation of leafy vegetables under LCGH	Horticulture	LCGH	1	ON	0	0	0	22	0	22	22	0	22
30/10/10	P.F	Management of milch animal	Ani. Sci.	Dairy Management	1	OFF	0	0	0	24	6	30	24	6	30
02/11/10	RY	INM in Okra	Ani. Sci.	INM	1	ON	0	0	0	20	3	23	20	3	23
03/11/10	F.W.	IPDM in Okra	Plant Pro.	IPDM	1	OFF	0	0	0	2	45	47	2	45	47
12/11/10	P.F	Points to be consider for increasing crop production in Rabi season.	Agronomy	ICM	1	OFF	0	0	0	17	3	20	17	3	20
13/11/10	P.F	A.I. and its importance in dairy animal	Ani. Sci.	Dairy Management	1	OFF	0	0	0	13	7	20	13	7	20
18/11/10	P.F	Scientific cultivation of wheat and sugarcane	Agronomy	ICM	1	ON	0	0	0	44	2	46	44	2	46

18/11/10	F.W.	Scientific cultivation of vegetables	Horticulture	Production of low volume & high value crops	1	ON	0	0	0	1	24	25	1	24	25
20/11/10	P.F	Scientific cultivation of Rabi crops	Agronomy	ICM	1	OFF	0	0	0	26	12	38	26	12	38
25/11/10	P.F	Scientific cultivation of Maize	Agronomy	ICM	1	ON	0	0	0	32	0	32	32	0	32
26/11/10	P.F	Scientific cultivation of Rabi crops	Agronomy	ICM	1	OFF	0	0	0	42	36	78	42	36	78
06/12/10	P.F	Marketing of Agril. produce	Ext. Edu.	Marketing	1	OFF	0	0	0	20	0	20	20	0	20
06/12/10	F.W.	Balanced diet from locally available food material	Home Sci.	Design & Dev. of low / minimum cost diet	1	OFF	0	0	0	0	33	33	0	33	33
22/12/10	F.W.	Preparation of low cost nutritious diet for children	Home Sci.	Design & Dev. of low / minimum cost diet	1	OFF	0	0	0	0	22	22	0	22	22
22/12/10	RY	Housing of dairy animal	Ani. Sci.	Dairy Management	1	OFF	0	0	0	32	0	32	32	0	32
23/12/10	P.F	Clean milk production	Ani. Sci.	Production of quality animal product	1	OFF	0	0	0	18	17	35	18	17	35
28/12/10	F.W.	Formation and Management of Self Help Groups	Home Sci.	Formation and Management of Self Help Groups	1	OFF	0	0	0	0	19	19	0	19	19
29/12/10	P.F	Care and maintenance of farm machinery and imlpements	Ext. Edu.	Care and maintenance of farm machinery and implements	1	OFF	0	0	0	17	0	17	17	0	17
29/12/10	F.W.	Nutrition for mother & Child	Home Sci.	Women & Child care	1	OFF	0	0	0	0	32	32	0	32	32
30/12/10	F.W.	Scientific cultivation of brinjal	Horticulture	Off Season Cultivation	1	OFF	0	0	0	0	31	31	0	31	31
6/1/11	P.F	Method of seed production programmes	Ext. Edu.	Production of Inputs at site	1	ON	0	0	0	26	4	30	26	4	30
5-6/1/11	F.W.	Preparation of	Home Sci.	Income	2	OFF	0	0	0	0	51	51	0	51	51

		different masalas (vocational training)		generation activities for empowerment of rural women												
7/1/11	F.W.	Minimization of nutrient loss in processing	Home Sci.	Minimization of nutrient loss in processing	1	OFF	0	0	0	0	43	43	0	43	43
11/1/11	F.W.	Cultivation of tomato in low cost green house	Horticulture	Protected cultivation	1	ON	0	0	0	0	25	25	0	25	25
15/1/11	P.F	Care and maintenance of low cost green house	Horticulture	Protected cultivation	1	ON	0	0	0	32	13	45	32	13	45
17-18/1/11	P.F.	Preparation of composting & vermicomposting	Agronomy	Production of organic inputs	2	OFF	0	0	0	53	06	59	53	06	59
24/1/11	P.F	A.I. and its importance in dairy animal	Ani. Sci.	Dairy Management	1	OFF	0	0	0	25	3	28	25	3	28
1/2/11	P.F	Control measures of sucking pest in cotton	Plant Pro.	IPM	1	OFF	33	0	33	0	0	0	33	0	33
1-2/2/11	RY	Preparation of different masalas	Home Sci.	Value addition	2	ON	0	0	0	0	22	22	0	22	22
7/2/11	P.F	Pulse crop production technology	Agronomy	ICM	1	ON	0	0	0	22	8	30	22	8	30
9/2/11	F.W.	Minimization of nutrient loss in processing	Home Sci.	Minimization of nutrient loss in processing	1	OFF	0	0	0	0	19	19	0	19	19
10/2/11	RY	Pulse crop production technology	Agronomy	ICM	1	ON	0	0	0	25	10	35	25	10	35
16/2/11	F.W.	Off season cultivation	Horticulture	Off Season vegetable	1	OFF	0	0	0	14	41	55	14	41	55
20/2/11	P.F	A.I. and its importance in dairy animal	Ani. Sci.	Dairy Management	1	OFF	0	0	0	20	0	20	20	0	20

21/2/11	F.W.	Preparation of protein rich diet for children	Home Sci.	Designing & Development for high nutrient efficiency diet	1	ON	0	0	0	0	16	16	0	16	16
4/3/11	RY	Iron deficiency Anemia and preparation of iron rich diet from locally available food material (OFT training)	Home Sci.	Designing & Development for high nutrient efficiency diet	1	ON	0	0	0	0	25	25	0	25	25
11/3/11	EF	WTO and its implications on Indian Agriculture	Ext. Edu.	WTO and IPR issues	1	ON	0	0	0	28	2	30	28	2	30
11/3/11	F.W.	Vine crop cultivation (Bottle guard)	Horticulture	Off Season vegetable	1	OFF	0	0	0	12	51	63	12	51	63
11/3/11	F.W.	Preparation of tomato ketchup and pineapple jam	Home Sci.	Value addition	1	OFF	0	0	0	0	45	45	0	45	45
11/3/11	P.F	Animal nutrition for maintance, pregnancy and productivity	Ani. Sci.	Feed Management	1	OFF	0	0	0	24	0	24	24	0	24
14/3/11	R.Y.	Iron deficiency Anemia and preparation of Iron rich diet from locally available food material (OFT training)	Home Sci.	Designing & Development for high nutrient efficiency diet	1	OFF	0	0	0	0	46	46	0	46	46
17/3/11	F.W.	Enterpreneurship development of farmers	Ext. Edu.	Enterpreneurship development of farmers/Rural youth	1	OFF	0	0	0	17	48	65	17	48	65
9/3/11	P.F	Moongbean & maize crop production technology and	Agronomy	ICM	1	ON	0	0	0	72	24	96	72	24	96

		summer cultivation practices														
18-19/3/11	E.F.	Scientific cultivation of Sugarcane	Agronomy	ICM	2	ON	0	0	0	70	0	70	70	0	70
22/3/11	P.F	Pre-monsoon care in dairy animal	Ani. Sci.	Dairy Management	1	OFF	0	0	0	31	3	34	31	3	34
14/3/11	F.W.	Bio-control in vegetables	Plant Pro.	IPDM	1	ON	0	0	0	8	27	35	8	27	35
17/3/11	P.F	Management of groundnut pest and disease	Plant Pro.	IPDM	1	OFF	0	0	0	21	18	39	21	18	39
18/3/11	P.F	Integrated Pest & Disease Management in groundnut	Plant Pro.	IPDM	1	ON	0	0	0	32	0	32	32	0	32
24/3/11	P.F	Interface on IPM	Plant Pro.	IPDM	1	ON	0	0	0	65	48	113	65	48	113
28/3/11	P.F	Animal Health Management	Ani. Sci.	Dairy Management	1	ON	0	0	0	24	9	33	24	9	33

Annexure - III

- **List of Popular Articles**

1	Dr. N.M.Chauhan (2010). JAGYA TYATHI SAVAR, CHALO PACHHA VALIA SHRDINI VYAVAHARIK KHETI TARAF…. SHRDINI GAEKAL, AAJ ANE AAVATI KAL
2	Arati N. Soni (2010). GRAMIN GRUHINIO ANAJ SANGRAHNI GHARGATHTHU JANVANINI KALA JANI LO
3	Dr. N.M.Chauhan (2010). ANNA AVA ODAKAR 'SAJEEV KHETI SAVADHAN'
4	Dr. N.M.Chauhan (2010). DANGARNU AADARSH DHARUWADIU
5	Dr. J.M.Patel (2010). AADARSHA BAKARA-PALAN
6	Dr. N.M.Chauhan and Dr. A.P.Patel (2010). CHOMASU DANGARMA DHARO UCHHER ANE COMPOST KHATAR
7	Shri B.M.Tandel and Shri V.N.Parmar (2010). MASALA PAKOMA AADU AKE SAFAL KHETI
8	Shri B.M.Tandel and Shri V.N.Parmar (2010). OFF SEAASONMA SHAKABHAJINI KHETI
9	Shri B.M.Tandel and Shri V.N.Parmar (2010). SHAKABHAJI PAKOMA UTPADAN VADHARVA MATE DHYAMA LEVANI ADHYATAN TECHNOLOGY
10	Dr. J.M.Patel (2010). PASHU AAHARMA KHANIJ TATVANU MAHATVA
11	Dr. Vinay Parmar and Dr. N.M. Chauhan (2010). GHAR AAGANE SHAKBHAJI " KITCHEN GARDENING"
12	Dr. N.M.Chauhan (2010). UTPADAN VADHARI KHETI KHARCHA GHATADI DANGARNU DHARUVADIU TAIYAR KARVANI KALA
13	Shri B.M.Tandel (2010). EK SAFAL BAGAYATI PAK-KEL
14	Dr. N.M.Chauhan (2010). AGRICULTURE e-FORMATION TECHNOLOGY
15	Dr. N.M.Chauhan (2010). KAPASNO JANI DUSHMAN-MEALY BUGNU NIYANTRAN
16	Dr. N.M.Chauhan (2010). KATHOD PAKMA SANKALIT ROG-JEEVAT NIYANTRAN
17	Dr. N.M.Chauhan (2010). BHAUGOLIK ANE VYAVASTHAPAN MAHITI PRASARAN SEWA
18	Dr. J.M.Patel and Dr. N.M. Chauhan (2010). AADARSHA BAKARA-PALAN
19	Dr. N.M.Chauhan (2010). TAKAU CHIRANJIV KHETI
20	Shri B.M.Tandel, Dr. N.M.Chauhan, Dr. A.P.Patel, Dr. J.H.Rathod and Dr. J.J.Pastagia (2010). SAFAL VARTAO
21	Arati N. Soni (2010). BAL AAROGYA MATE SOYABEANNO UPAYOG
22	Dipal N. Soni and Arti N. Soni (2010). BALAKONI TANDURASTI MATE SAMTOL AAHAR
23	Arti N. Soni (2010). GRAM MAHILAO DWARA FAL ANE SHALBHAJI PARIRAKSHANNI VAIGYANIK PADHDHATINO UPYOG
24	Dr. J.M.Patel, Dr. N.M. Chauhan and Dr. N.B.Patel (2010). AADARSHA BAKARA-PALAN
25	Dr. N.M.Chauhan (2011). KRISHI MAHITI VYAVASTHAPANNI KHETIMA AGATYATA
26	Arti N. Soni (2011). KHETIKARYA KARTI MAHILAO MATE POSHAK AAHAR

Annexure – IV
District Profile

1. General census

Information regarding District villages and Population

Taluka	No. of villages	Population (2001)				
		Male	Female	Total	SC	ST
Vyara	149	125082	124724	249810	2629	211611
Valod	40	441333	42994	87127	953	64112
Nizar	87	52098	53287	105385	1878	83843
Uchchal	68	36125	36827	73042	193	71084
Songadh	177	101335	101335	204270	2732	170464
Total	**521**	**358863**	**359167**	**719634**	**8385**	**601114**

2. Agricultural and allied census

-Classification of Land

Taluka	Forest	Uncultivated	Total cultivated	Irrigated Area	Unirrigated	Fallow land	Pasture	Total geographical area	Cultivated land (%)
Vyara	18495	2210	54225	22858 (42.15)	31367	220	1575	81260	66.73
Valod	0	239	17978	16383 (91.13)	1595	282	421	20228	88.88
Nizar	332	16151	21561	10181 (47.22)	11380	61	1587	40079	53.8
Uchchal	23447	23325	8468	1937 (22.87)	6531	33	356	66500	12.73
Songadh	31751	3726	61891	12037 (19.45)	49854	29	4969	135404	45.71
Total	**74025**	**45651**	**164123**	**63396 (38.63)**	**112974**	**625**	**8908**	**343471**	**47.78**

Area under fruit crops, vegetables and spices & condiments :

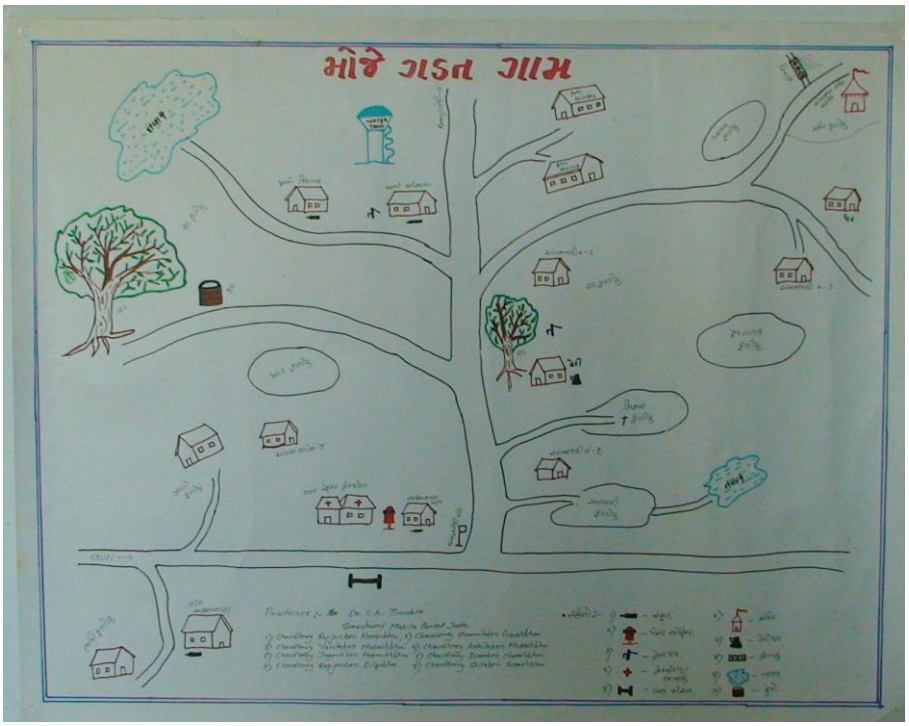
Crop	Area (Ha.)
Fruit crops	1378
Vegetables	1785
Spices & condiments	2080

3. **Agro climatic zone** **:** As per Table no. 2.2.1
4. **Agro eco system** **:** As per Table no. 2.2.2
5. **Major and micro-farming systems** **:** As per Table no. 2.1
6. **Major production systems like rice based (rice-rice, rice-green gram, etc.), cotton based, etc. :**
   Rice – Gram, Rice – Groundnut, Rice – Sugarcane, Rice – Okra, Rice – Brinjal, Rice + Pigeon pea + Sorghum
   Cotton – Wheat, Soybean – Gram, Soybean – Wheat, Soybean – Okra, Sugarcane – Green Gram
7. **Major agriculture and allied enterprises :**
   Sugar factory, Rice based industry, Groundnut based factory, Dairy industries, Cold storage

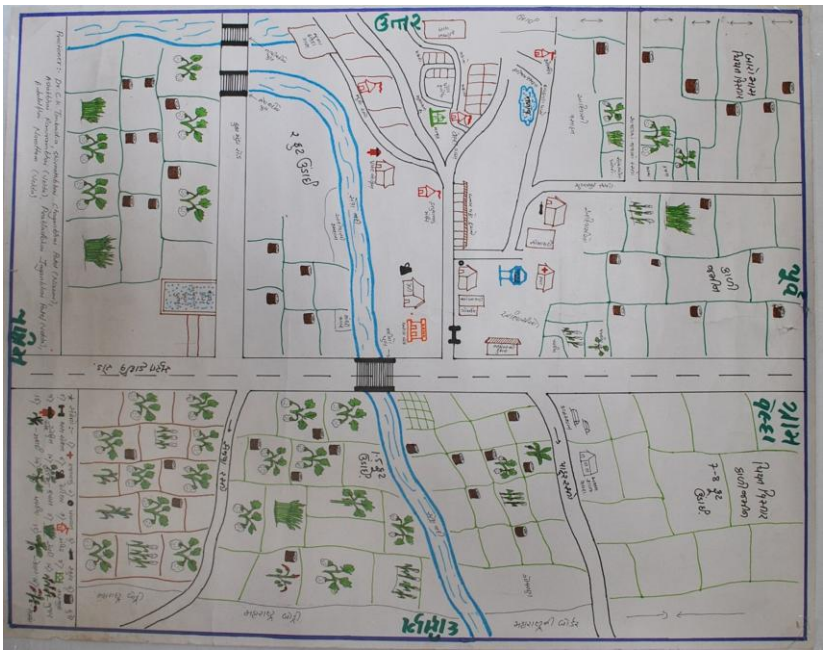
Annexure – V

Agro-ecosystem analysis of the focus / target area

1. **Names of villages, focus area, target area etc. :** As per Table no. 2.6
2. **Survey methods used (survey by questionnaire, PRA, RRA, etc.) :** PRA
3. **Various techniques used and brief documentation of process involved in applying the techniques used like release transect, resource map, etc.**
   Various techniques used are given below:
   Social Map: It seeks to explore the spatial dimensions of people's realities. The focus here is on the depiction of habitation pattern and the nature of housing, social infrastructure: roads, drainage system, schools, drinking water facilities etc. It develops a comprehensive understanding of the physical and social aspects of village life. It is made by local people and not by experts. It is not drawn to scale. It depicts what the local people believe to be relevant and important for them. Thus it reflects their perception of the social dimensions of their reality with a high degree of authenticity.



Resource Map: It focuses on the natural resources in the locality and depicts land, hills, rivers, fields, vegetation etc. It is not drawn to scale and not done by the experts but by the local people. The resource map drawn by the local people is considered to be accurate and detailed because the local people have in-depth knowledge about their surroundings.



Mobility Map: It explore the movement pattern of an individual, a group or a community. The focus is on where people go and for what. It reflects the people's perception of movement patterns and reasons thereof.

Time line : It is used to explore the temporal dimensions from a historical perspective. It captures the chronology of events as recalled by local people. It is drawn as a sequential aggregate of past events. The important points is that it is not the history as such but the events of past as perceived and recalled by the local people themselves.

Venn diagram: It is used to study institutional relationship and is sometimes also referred to as institutional diagram. It is however popularly known as "Chapati diagram" as it uses circles of various sizes to represent institutions or individuals. The bigger the circle, the more important is the institute/individual as perceived by the local people.

Pair-wise Ranking Method: It helps in arriving at people's priorities and preferences. In this method, two items, attributes, factors etc, are compared at a time. This process of comparing of two at a time is carried on till each item has been compared with the other. The frequency of how many times each of the items have been preferred is ascertained. This frequency gives an idea of preferences of the people.

4. **Analysis and conclusions : --**
5. **List of location specific problems and brief description of frequency and extent/ intensity/severity of each problem :** As per Table no. 2.7
6. **Matrix ranking of problems**

   Matrix Ranking : It makes the comparision of various of various items on the basis of different criteria. It helps in arriving at a comparative understanding of the items, based on certain characteristics or criteria and thereby making an informed choice.
7. **List of location specific thrust areas :** As per Table no. 2.8
8. **List of location specific technology needs for OFT and FLD :** As per Table no. 3.B
9. **Matrix ranking of technologies : --**
10. **List of location specific training needs :** As per Annexure - II

Annexure - VI

TECHNOLOGY INVENTORY AND ACTIVITY CHART- III

Include

1. Name 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.

Sr. No.	Technology	Crop/enterprise	Year of release or recommendation of technology	Source of technology	Reference/ citation
1	Introduction of new variety	Pigeon pea – Vaishali	2007-08	Pulse Res. Station, NAU, Navsari	-
2	New variety & land configuration	Groundnut – GG-20	1991	NRCG, Junagadh	-
3	New variety & land configuration	Groundnut – GG-6	1996	NRCG, Junagadh	-
4	New variety & land configuration	Gram – GG-2	1994	Pulse Res. Station, NAU, Navsari	-

3. Activity Chart

Crop/ Enterprise	Problem	Cause	Solution	Activity	Reference of technology
Cotton	Low productivity of cotton under rainfed black soil	1. Imbalance use of fertilizer application. 2. Pest and disease occurrence	1. Application of RD of fertilizer. 2. IPM	1. Conduct component FLD to demonstrate on farmers field on RD of fertilizer 2. Training, awareness and FLD programme on IPM of cotton.	Main cotton research station, NAU., Surat

Ground nut	Low productivity of groundnut	No use of biofertilizer and imbalance use of RD of fertilizer	1. An application of RD of fertilizer and biofertilizer	Conducted FLD training and awareness programme	Research Scientist, Oil seeds Project, Junagadh
Pigeon pea	Low productivity of pigeon pea	Use of local variety and sowing on flate land	1. Introduce new variety of Pigeon pea like Vaishali 2.Land configuration, 3. Use of bio fertilizer and RD of fertilizer	Conducted FLD and OFT on Pigeon pea and training programme	Director of Research and Pulse research station NAU, Navsari
Gram	Low productivity	Use of local variety	1.Introduce new variety 2.use of Bio fertilizer and RD of fertilizer	Conducted FLD and training , awareness programme	Director of Research and Pulse research station NAU, Navsari
Drill Paddy (GR-5)	Low productivity	Use of local variety	Introduce new variety	Conducted FLD and training programme	Rice research Station, NAU, Vyara
Paddy	Low productivity	They are not sowing of Green manure before TP of planting	Imbalance use of fertilizer and	1.Introduce Green manure and conducted FLD and training programme on Paddy 2. Use of RD of ferilizer 3. Use of improved variety	Director of Research,m Rice Research Station,NAU, Vyara

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

Crop	Name of technology	Recommended by Whom	Reason of selection	Characteristics of variety.
Groundnut (Kharif)	Land configuration	Research Scientist, Oil seeds, Junagadh	Growing G'nut on flat bed There is possibility of water stagnation during heavy rain which affect groundnut plant.& use old variety.	**GG-6** Bunch type, Erect pod bold, thick, oil content 50.2 %, yield 73.0 %.
Pigeon pea (Kharif)	Introduction of new variety, Land configuration	Research Scientist, Pulses Crop, Navsari	Use Local variety which give low yield & susceptible to wilt.	**Vaishali** Seed are white & red, more branches in plant, pod number high, tolerant to wilt, SMD, phytophtera, maturity days 150-160.
Gram (Rabi)	Land configuration	Research Scientist, Pulses Crop, Navsari	Use Local variety & growing on flat bed.	**GG-2** Bold size seeds with reddish colure also suitable for dalia. It is god variety for inter culturing with sugarcane.
Paddy (TP)	ICM	Research Sct. NARP, NAU, Navsari	To introduction of new variety for transplant and drill paddy.	**GR-7** (Early maturing-115 day) Medium grain, good cooking quality, Tolerant to grain discoloration ,blight, blast & hoppers, stem borer **GR-12** Medium duration ,fine long slender grain. Tolerant to grain discoloration ,blight, blast & hoppers, stem borer
Drill Paddy	ICM	Research Sct. MRRS,AAU, Navagam	To introduction of new variety for drill paddy	**GR-5** Early maturing, course grain, suitable to hilly region, non lodging type.
Brinjal	INM	Vegetable Research Unit, NAU, Navsari	Imbalance use of fertilizer & not using FYM.	--
Okra	INM	Vegetable Research Unit, NAU, Navsari	Imbalance use of fertilizer & not using FYM.	--
Cotton	Production Technology	NAU, Navsari	No Use of KNo_3 , No proper Weed management, flat sowing and improper spacing	--