

**PROFORMA FOR PREPARATION OF ANNUAL REPORT (April-2015-March-2016)**

**APR SUMMARY**

(Note: While preparing summary, please don't add or delete any row or columns)

**1. Training Programmes**

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	67	1328	412	1740
Extension functionaries	1	18	0	18
Sponsored Training	13	277	100	377
Vocational Training	2	0	72	72
<b>Total</b>	<b>83</b>	<b>1623</b>	<b>584</b>	<b>2207</b>

**2. Frontline demonstrations**

Enterprise	No. of Farmers	Area (ha)	Units/Animals
Oilseeds			
Pulses	53	14	
Cereals	40	12	
Vegetables	45	10	
<b>Total</b>	<b>138</b>	<b>36</b>	
Livestock		-	45
Other enterprises			
<b>Total</b>		-	
<b>Grand Total</b>	<b>138</b>	<b>36</b>	

**3. Technology Assessment & Refinement**

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
<b>Technology Assessed</b>			
Crops	3	3	09
Livestock	2	3	20
Various enterprises	2	3	09
<b>Total</b>	<b>07</b>	<b>09</b>	<b>38</b>
<b>Technology Refined</b>			
Crops	2	3	06
Livestock			
Various enterprises			
<b>Total</b>	<b>2</b>	<b>3</b>	<b>06</b>
<b>Grand Total</b>	<b>9</b>	<b>9</b>	<b>44</b>

#### 4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	263	25824
Other extension activities	514	22501
<b>Total</b>	<b>777</b>	<b>48325</b>

#### 5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						Total
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	
Vadodara	Text only	18	12	07	0	06	0	43
	<b>Total farmers Benefitted</b>	<b>5253</b>	<b>5253</b>	<b>5253</b>	<b>5253</b>	<b>5253</b>	<b>0</b>	<b>5253</b>

#### 6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	169.1	630000
Planting material (No.)	78000	55000

#### 7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil- 636	565	55930
Water 21	12	490
<b>Total 657</b>	<b>577</b>	<b>56420</b>

#### 8. HRD and Publications

Sr. No.	Category	Number
1	Workshops	03
2	Conferences	0
3	Meetings	26
4	Trainings for KVK officials	07
5	Visits of KVK officials	05
6	Book published	0
7	Training Manual	03
8	Book chapters	0
9	Research papers	07
10	Lead papers	0
11	Seminar papers	0
12	Extension folder	15
13	Proceedings	0
14	Award & recognition	0
15	On going research projects	01

## DETAIL REPORT OF APR-2015-16

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

Address	Telephone		E mail	Web Address
	Office	FAX		
Krishi Vigyan Kendra, Mangal Bharti, At & Po. Golagamdi, Taluka : Sankheda, Dist : Vadodara, Gujarat, Pin : 391125	(02665) 243240	-	kvkvd@gmail.com	www.kvkvadodara.org

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

Address	Telephone		E mail	Web Address
	Office	FAX		
Mangal Bharti, At & Po. Golagamdi, Taluka : Sankheda, Dist : Vadodara, Gujarat, Pin : 391125	(02665) 243240	(02665) 243240	kvkvd@gmail.com	www.kvkvadodara.org

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. Bharat M. Mehta Programme Coordinator	-	09426834346	bmehta_61@rediffmail.com

1.4. Year of sanction : 1995

**1.5. Staff Position (as on 31<sup>st</sup> March, 2016)**

Sl. 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.B.M.Mehta	Prog. Coordinator	-	37400-9000-67000	46400	17/9/2013	Permanent	Other
2	Subject Matter Specialist	C. R. Patel	Subject Matter Specialist	Agronomy	15600-5400-39100	22930	23/6/2011	Permanent	Other
3	Subject Matter Specialist	M. C. Brahmhatt	-do-	Horticulture	-do-	22930	11/7/2011	Permanent	OBC
4	Subject Matter Specialist	J. P. Meena	-do-	Animal Science	-do-	22930	7/7/2011	Permanent	ST
5	Subject Matter Specialist	K. J. Soni	-do-	Home Science	-do-	22930	2/7/2011	Permanent	Other
6	Subject Matter Specialist	B. L. Dhayal	-do-	Ext.Edu	-do-	21000	23/8/13	Permanent	Other
7	Subject Matter Specialist	-	-do-	Plant Protection	-do-	-	-	-	-
8	Programme Assistant	K. K. Sutaria	Prog. Asst.	-	9300-4200-34800	17260	1/12/2008	Permanent	SC
9	Computer Programmer	M.R.Kulkarni	Prog. Asst. (Comp)	-	-do-	17260	21/01/2008	Permanent	Other
10	Farm Manager	Hariom Sharma	Farm Manger	-	-do-	13500	2/9/13	Permanent	Other
11	Accountant / Superintendent	V.V.Shah	Accountant / Office Superintendent	-	-do-	20590	04/06/2001	Permanent	Other

12	Stenographer	C.M.Raval	Steno.	-	5200-2400-20200	7600	2/9/13	Permanent	Other
13	Driver	R.N.Prajapati	Driver	-	5200-2000	9660	17/01/2008	Permanent	O.B.C
14	Driver	Z. S.Vora	Driver	-	-do-	7870	27/6/2011	Permanent	Other
15	Supporting staff	P.B.Rathwa	Supporting Staff	-	5200-1800	9390	5/9/2003	Permanent	S.T.
16	Supporting staff	J.R.Tadvi	Supporting Staff	-	-do-	9390	29/7/2002	Permanent	S.T

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

S. No.	Item	Area (ha)
1	Under Buildings	1.30
2.	Under Demonstration Units	2.00
3.	Under Crops	11.70
4.	Horticulture	1.50
5.	Pond	0.50
6.	Others if any	3.00

**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	2001	561.43	18,23,216/-	-	-	-
2.	Farmers Hostel	ICAR	2011	300.75	26,57,744/-	-	-	-
3.	Staff Quarters (8+6=14)	ICAR	2001	694.61	29,23,910/-	-	-	-
4	Fencing	ICAR	2006	1709 Rmt.	3,45,000/-	-	-	-
5	Rain Water harvesting system	ICAR	2007	62x39 mt.	9,78,000/-	-	-	-
6	Threshing floor	ICAR	2010	41.82 (sqmt)	1,93,440/-	-	-	-
7	Farm godown	ICAR	2010	55.76 (sqmt)	2,86,422/-	-	-	-
8	Implement shed	ICAR	2010	55.76	2,99,000/-	-	-	-

**B) Vehicles**

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Messy tractor with trolley	28/03/95	2,82,058=00	218962	Poor condition
Mahindra Bolero	29/03/10	6,25,000=00	138138	Working condition
Bajaj Discover	09/02/11	48,251=00	53183	Working condition

**C) Equipments & AV aids**

<b>Name of the equipment</b>	<b>Year of purchase</b>	<b>Cost (Rs.)</b>	<b>Present status</b>
Electronic type writer	30/03/95	16,380=00	Poor condition due to technical fault
Steel cupboard	30/03/95	3,300=00	Good
Iron cupboard	30/03/95	3,100=00	Good
Iron Table	30/03/95	6,370=00	Good
Chair	30/03/95	5,860=00	Good
Tractor Plough	31/03/95	15,000=00	Good
Slide Projector	31/03/95	16,500=00	Poor condition due to fault
Overhead Projector	31/03/95	10,500=00	Poor condition
VCR (onida)	01/09/96	14,300=00	Good
Micro Scope	19/09/96	3,500=00	Good
Camera (Canon)	28/09/96	2,350=00	Poor condition due to fault
Moving trolley	28/09/96	6,500=00	Good
Store well	30/09/96	10,800=00	Good
Store well	30/09/96	3,200=00	Good
Office table	30/09/96	6,525=00	Good
Office chair	30/09/96	1,400=00	Good
Glass door cupboard	30/09/96	3,900=00	Good
Office Table	30/09/96	2,175=00	Good
Office chair	30/09/96	350=00	Good
Colour T.V.(crown)	15/10/96	18,800=00	Poor condition
Office Table	30/10/96	3,200=00	Good
Office chair	30/10/96	350=00	Good
Microphone PCM with set accessories	11/03/98	8,495=00	Poor condition
Slide Projector with remote	01/04/98	11,300=00	Poor condition
Glass door cupboard	04/03/2000	3,150=00	Good
Wind wheel	20/10/2000	15,00=00	Good
Store well	31/01/2001	29,000=00	Good
Office chair	31/01/2001	3,000=00	Good
Table	31/01/2001	11,500=00	Good
File rake	31/01/2001	5,100=00	Good
Museum room self	28/02/2001	20,900=00	Good
Dias	01/03/2001	9,056=00	Good
Library table	15/03/2001	22,000=00	Good
Plastic chair	30/03/2001	11,900=00	Good
Multi panel kit-12	31/03/2001	11,954=00	Poor condition
Flash kit-4	31/03/2001	12,5000=00	Good
Eco display with 3 panel	31/03/2001	5,773=00	Good
Info panel wall type	31/03/2001	6,611=00	Good
Kitchen mixture	31/03/2002	1,995=00	Good

Kitchen pressure cooker	31/03/2002	2,200=00	Good
Cupboard & stand	31/03/2003	9,975=00	Good
Xerox machine (Canon-7160)	30/03/2004	79,800=00	Good
Rotavator (rotary)	31/12/2004	49,000=00	Good
Office Table	30/09/2005	33,500=00	Poor condition
Office chair	30/09/2005	9,600=00	Good
File rake	30/09/2005	6,400=00	Good
Computer with Accessories (Compaq)	14/02/2006	64,500=00	Good
Steel cupboard	26/02/2006	10,440=00	Good
Plastic chair	26/02/2006	4,560=00	Good
Pneumatic cotton planter	28/03/2006	47,400=00	Under TMC-MM-II Grant
Power weeder	28/03/2006	33,500=00	Under TMC-MM-II Grant
Computer table	31/03/2006	3,165=00	Good
Office table	31/03/2006	3,165=00	Good
Computer chair	31/03/2006	4,310=00	Good
Plastic chair	31/03/2006	8,125=00	Good
Rake	31/03/2006	16,235=00	Poor condition
Storage cupboard	31/03/2006	25,250=00	Under STL grant
Storage cupboard	31/03/2006	5,150=00	"
Cupboard	31/03/2006	4,500=00	"
Angel rake	31/03/2006	7,100=00	"
Store well	31/03/2006	12,300=00	"
Office table	31/03/2006	7,500=00	"
Stand frame rake	31/03/2006	6,200=00	"
Revolving chair	31/03/2006	43,10=00	"
Revolving stool	31/03/2006	2,700=00	"
Plastic stool	31/03/2006	755=00	"
Store well cupboard	31/03/2006	15,000=00	"
Fixed wall steel cupboard	31/03/2006	85,021=00	"
Hot Plate Rectangular (Nova-NV-8535)	28/02/2006	7,500=00	Poor condition due to fault
Rotary shaker (Nova-NV-853)	28/02/2006	25,250=00	Good
Voltage stabilizer (Nova-NV/14)	28/02/2006	16,000=00	"
"EL" Microprocessor Flame Photometer (Model-CL-387)	28/02/2006	35,250=00	Under STL grant
"EI" Microprocessor based pH meter (Model-1012)	28/02/2006	15,275=00	Poor condition due to fault
"EI" Microprocessor based Conductivity/TDS meter (Model-1601)	28/02/2006	17,450=00	Poor condition due to fault
Single pan balance 'K-Roy' (Model: K-14 Deluxe)	28/02/2006	11,950=00	Good



Electronic Balance: Multi-function series (Model: Swis-310)	28/02/2006	14,900=00	Good
Visible Spectrophotometer (FGSL-177 Scanning)	02/03/2006	55,944=00	Good
Electronic Automatic Kel Plus Micro-processor based Twelve Place macro block Digestion System (Model: KES 12 L)	16/03/2006	96,020=00	Poor condition due to fault
Electronic Kel Plus Micro- processor based Automatic Distillation System (Model: DISTY-EM)	16/03/2006	1,25,350=00	Poor condition due to fault
Sampling Augers (Hand size 3")	25/03/2006	1,200=00	Good
Sampling Augers (Hand size 6")	25/03/2006	2,150=00	Good
Extension Rod - Size: 3"	25/03/2006	800=00	Under STL grant
Size: 6"	25/03/2006	1,050=00	Good
Refrigerator 330 Lit (Ken star-SR)	27/03/2006	15,000=00	Good
Stabilizer	27/03/2006	500=00	Poor condition due to fault
'Nova' Willey mill stainless steel body	06/03/2006	21,550=00	Poor condition due to fault
'Nova' Horizontal shaker-Kahn-Platform	06/03/2006	24,975=00	Poor condition due to fault
"Mac" Electrically Heated all glass Distillation apparatus (Model: MSW-193)	06/03/2006	16,350=00	Poor condition due to fault
Test Sieves Size: 3.35mm	25/03/2006	475=00	Good
Size: 2.00 mm	25/03/2006	475=00	"
Soil Hydrometer Range: 58-92%	25/03/2006	700=00	"
High speed stirrer: IS: 2720IV)	25/03/2006	11,400=00	"
Hand/Sugar Refractometer	25/03/2006	2,500=00	"
Hanna Pocket pH Meter	25/03/2006	2,600=00	"
Hanna Pocket TDS Meter	25/03/2006	2,450=00	"
Aero Blast Sprayer (Aspee-Mod.No.ATB/6HDP)	06/02/2007	86080=00	Under TMC-MM-II
LCD Projector (Panasonic-Model. No.-PT-PISD1500luens.	16/03/07	73010=00	Poor condition
DVD Handy Cam (Sony.Model:608E	20/03/07	20500=00	Poor condition
Digital Camera (Orite Mod.No.-C8000	20/03/07	9200=00	
Trolley With Cabinet	16/03/07	10688=00	
Projector Screen with Stand (Size:52"70)	16/03/07	11560=00	
Seed cum fertilizer drill	28/11/10	30000=00	Under ICAR grant

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

Sl.No.	Date	Name and Designation of Participants	Salient Recommendations
1.	08-01-16	<ol style="list-style-type: none"> <li>1. <b>Sh.Maheshbhai C. Shah.</b> Administrative Officer, Mangalbharti Vidyapith.</li> <li>2. <b>Dr.P.P.Rohila,</b> I/c. Director, ATARI-ICAR-Jodhpur.</li> <li>3. <b>Dr.P.P. Patel,</b> Director of Extension Education, AAU, Anand.</li> <li>4. <b>Dr. P.R.Bhatnagar,</b> Head IISWC (CSWCRTI)-ICAR, Vasad.</li> <li>5. <b>Dr. K.N.Wadhvani,</b> Head, LMP Dept, GVC, AAU, Anand.</li> <li>6. <b>Dr.N.I.Shah,</b> Professor &amp; Head, Dept. of Horti., BACA,AAU,Anand.</li> <li>7. <b>Dr. S. J. Patel,</b> Res.Sci. (Pulse Res.Statation),AAU, Model farm, Vadodara.</li> <li>8. <b>Sh.P.M.Acharya,</b> District Agril. Officer, Chhotaudepur.</li> <li>9. <b>Sh.J.H.Suthar,</b> District Agril. Officer, Vadodara.</li> <li>10. <b>Sh.P.B.Parmar,</b> Project Director, ATMA, Vadodara &amp; Chhotaudepur.</li> <li>11. <b>Dr.V.A.Pathan,</b> Veterinary Officer, Dept.of AH, Bodeli.</li> <li>12. <b>Sh. Y.B.Parmar,</b> District Industrial Centre, Baroda.</li> <li>13. <b>Sh. B.D.Rathava,</b> Horticulture Officer, Dept. of Horti., Baroda.</li> <li>14. <b>Sh. D.K.Tank,</b> Dist. Coordinator, Forest dept. Chhotaudepur.</li> <li>15. <b>Sh. R.N.Lad,</b> Agrocel Ind.Ltd., Dabhoi ( Agri. entrepreneur).</li> <li>16. <b>Sh. P.R. Rajput,</b> Progressive farmer.</li> <li>17. <b>Ms. Arunaben N.Rathva,</b> Progressive Women farmer.</li> <li>18. <b>Ms. Champaben V.Bariya,</b> President SHG,</li> <li>19. <b>Sh. N.S.Gehlot,</b> AAO, ATARI, Jodhpur.</li> <li>20. <b>Sh. Pramod Sharma,</b></li> </ol>	<ul style="list-style-type: none"> <li>• Develop time line for model village development and prepare annual action plan according to different activities</li> <li>• For FLD and OFT, seed procurement should be plan well in advance with Anand Agricultural University.</li> <li>• More emphasis should be given on Skill Development/ enhancement training programme in AAP</li> <li>• Increase the number of animal health camps in collaboration with Baroda dairy and other sponsor agency. Change name of animal health camp to Animal Health Check up Camp.</li> <li>• Survey will be done on housing index of animals.</li> <li>• Recommended area specific mineral mixture after consulting AAU scientists and soil testing base.</li> <li>• Develop Vermi compost unit to increase revolving fund.</li> <li>• In OFT of Drip irrigation include the cost of Drip in C:B ratio.</li> <li>• Training and demonstrations on rain water harvesting should be done in collaboration with CSWCRTI-ICAR, Vasad.</li> <li>• Target soil health card 3000 soil samples in the year.</li> <li>• Model Village and MGMG programme are different so do not merge it.</li> <li>• Differentiate the training discipline and day wise for better and quick reporting.</li> <li>• MGMG village beneficiaries link with ATMA activities</li> <li>• The year 2016 is celebrating as an International Year of Pulses, so weightage should be given for increasing area under Pulse production and productivity.</li> <li>• More numbers of FLD should be laid down on Pulses with the help of line department / under NFSM.</li> <li>• More awareness and focus on use of certified seed.</li> </ul>

	<p>JAO,ATARI,Jodhpur.</p> <p><b>21. Dr. B.M.Mehta,</b> Senior Scientist cum Head, KVK- Vadodara.</p> <p><b>22. Ms. K.J.Soni,</b> SMS (Home Science), KVK- Vadodara</p> <p><b>23. Sh. C.R.Patel</b> SMS ( Agronomy), KVK- Vadodara</p> <p><b>24. Sh. J.P.Meena,</b> SMS (Animal Science), KVK- Vadodara</p> <p><b>25. Sh. M.C.Bhrambhatt,</b> SMS (Horticulture), KVK- Vadodara</p> <p><b>26. Sh. B.L.Dhayal,</b> SMS ( Agril. Extension), KVK- Vadodara</p> <p><b>27. Sh. Hari Om Sharma,</b> PA, KVK- Vadodara</p>	<ul style="list-style-type: none"> <li>• After bifurcation of the district major thrust area should be revised according to the local situation.</li> <li>• No activities reported in the area of fruit crops, KVK should given more emphasis on Fruit crop in tribal area.</li> <li>• Studies the differences between models of Kitchen Gardening developed by KVKMangalbharti and Ganga Ma Vartul. Demonstrate both in KVK Farm.</li> <li>• Aware how to improve infertility and balanced feeding in animals.</li> <li>• Identify one major area of activities of the KVK for specialization and it should be included in each presentation of KVK.</li> <li>• Study on Poultry breed which is suitable in local tribal area and accordingly finalize the OFT / FLD. Proper weight of Chicks should be measure at timely intervals.</li> <li>• Calf rearing and milk competition is necessary for more awareness and motivation for farmers.</li> <li>• KVK participate more in training programme on Value Addition in Tomato and Custard apple with line departments.</li> <li>• KVK contact CIPHET-Ludhiana for small scale machinery for Custard apple pulp and try to develop value addition unit with help of line department.</li> <li>• Last year excessive expenses as against sanctioned in contingency head has been book in Revolving Fund account.</li> </ul>
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## **2. DETAILS OF DISTRICT (2015-16)**

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

S. No	Farming system/enterprise	
1	Crop	<p><b>Kharif</b> : Cotton, Pigeon pea, Castor, Paddy, Soya bean, Maize, Chilli, Tomato, Banana</p> <p><b>Rabi</b> : Sorghum, Wheat, Gram, Maize</p> <p><b>Summer:</b> Groundnut, Green gram, Sesamum, Okra, Watermelon, Muskmelon</p>
2	Enterprise	Agriculture and Animal Husbandry

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

### a) Soil type

Sl. No.	Agro-climatic Zone	Characteristics
1	Middle Gujarat zone III	Average rain fall is 800-1000 mm. Geographically Vadodara district is located between 21 <sup>0</sup> 49' to 22 <sup>0</sup> 49' north latitude and 72 <sup>0</sup> 51' to 74 <sup>0</sup> 17' east longitude

### b) Topography

S. No.	Agro ecological situation	Characteristics
1	Sandy loam soil with high rain fall	Altitude (in meter above MSL): 25-75 Taluka : Vadodara, Padara, Savli, Dabhoi, Waghodia
2	Medium black soil with high rain fall	Altitude (in meter above MSL): 75-150 Taluka :Pavijetpur, Chhotaudaipur, Naswadi, Karjan
3	Deep black soil with high rain fall	Altitude (in meter above MSL): 25-75 Taluka: Dabhoi, Sankheda, Shinor, Karjan
4	Light soil with high rain fall	Altitude (in meter above MSL): 150-300 Taluka: Chhotaudaipur (tribal base)

## 2.3 Soil Types

S. No	Soil type	Characteristics	Area in ha
1	Black soil	Moderate to severe erosive Poor soil Fertility Poor Irrigation facility	88864
2	Medium black	Water logging Very Poor Permeability Poor Soil Physical condition Low to medium in N & P Content	208646
3	Sandy loam	Highly erosive Shallow to medium in depth Poor permeability Low to medium N & P content	174021
4	Sandy	Sand soils are often dry, nutrient deficient and fast-draining. They have little (or no) ability to transport water from deeper layers through capillary transport.	36305
5	Salt affected	saline soils are those which have an electrical conductivity of the saturation soil extract of more than 4 dS/m at 25°C , Sodium and chloride are by far the most dominant ions	4888

#### 2.4. Area, Production and Productivity of major crops cultivated in the district (2014-15)

Sr. No.	Crop	Area (ha)	Production (MT.)	Productivity (kg/ha)
<b>A</b>	<b><i>Kharif</i></b>			
1	Cotton Irrigated	132400	317760	2400
	Un irrigated	42700	51240	1200
2	Paddy Irrigated	17800	85440	4800
	Un irrigated	39790	99475	2500
3	Castor	31740	63480	2000
4	Maize	31247	62494	2000
5	Pigeon Pea	43518	52222	1200
6	Green gram	276	276	1000
7	Groundnut	430	645	1500
8	Black gram	3400	2720	800
9	Tobacco	5415	8664	1600
10	Soybean	3035	4553	1500
<b>B</b>	<b><i>Rabi</i></b>			
1	Wheat	42820	119896	2800
2	Gram	2030	2436	1200
3	Maize	40325	221788	5500
<b>C</b>	<b><i>Summer</i></b>			
1	Groundnut	10367	22807	2200
2	Bajara	6735	23573	3500
3	Sesamum	50	20	400
4	Green gram	1549	1704	1100
5	Fruits	27885	1001072	35900
6	Vegetables	37446	695372	18570

Source: District agriculture department. Report (2014-15)

#### 2.5. Weather data (2015-16)

Month	Rainfall (mm)	Temperature 0 C		Relative Humidity (%)	
		Maximum	Minimum	Maximum	Minimum
April'15	6	40.83	24.06	81.64	20.96
May'15	3	41.60	27.95	74.90	18.09
June'15	60	35.05	25.94	84.42	42.73
July'15	264.75	34.30	25.59	86.66	45.53
Aug'15	7.25	34.10	25.37	90.33	58.60
Sept'15	71.25	34.65	23.95	73.62	70.50
Oct'15	0	36.84	21.23	84.38	26.45
Nov.'15	0	32.94	18.73	77.33	28.76
Dec'15	0	27.86	13.24	72.54	27.03
Jan'16	0	28.64	13.20	80.35	29.96
Feb-16	0	31.14	15.57	71.62	26.17
March'16	0	32.65	23.30	52.53	26.71
Total	412.25				

## 2.6. Production and productivity of livestock, Poultry, Fisheries etc. in the district (2014-15)

Category	Population(00 No)	Production( mt)	Productivity(kg/day)
<b>Cattle</b>			
Crossbred	4860	33.71	11.85
Indigenous	2694	102	5.53
Buffalo	5878	253	6.24
Sheep	132	4.12	932
Goats	2916	13.45	0.66
<b>Pigs</b>			
Crossbred	-	-	-
Indigenous	-	-	-
<b>Rabbits</b>			
-	-	-	-
<b>Poultry</b>			
Hens	3323	160.55	125
Desi	-	-	-
<b>Category</b>		<b>Production (Q.)</b>	<b>Productivity</b>
Fish (Reservoir)	-	-	-

\*Statcal report (2014-15)

## 2.7 Details of Operational area / Villages

Sl No	Tehsil	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Sankheda	Sankheda	Saradiya, Raipur, Sundarpura Kathmandva, Targod, Navapura, Ambapura Vagetha Deroli Amalpur Kapdiya Fajalpura Bamroli	<b>Kharif</b> Cotton Pigeonpea Castor Banana Vegetables  <b>Rabi</b> Maize  <b>Summer</b> Greengram Groundnut	<b>Cotton :</b> 1. Higher application of nitrogenous fertilizers 2. Improper water management 3. No use of micronutrients 4. Problem of pest & diseases 5. Depends only on manual weeding  <b>Pigeon pea</b> 1. Improper spacing 2. Use of higher seed rate 3. Improper pest and disease management 4. Improper water management 5. Depends only on manual weeding  <b>Castor</b> 1. Use of higher seed rate 2. Improper spacing 3. Indiscriminate use of fertilizer 4. Improper water management	INM IWM IPM Water Mgt.  ICM INM IPM IWM  ICM INM IWM IPM

				<p>5. Problems of wilt, rootrot and semi looper</p> <p><b>Banana</b></p> <ol style="list-style-type: none"> <li>1.No use of tissue culture plants</li> <li>2. Not follow seed treatment to rhizome</li> <li>3. Excess use of fertilizer</li> <li>4. Excess use of water</li> <li>5. Improper disease management</li> </ol> <p><b>Maize</b></p> <ol style="list-style-type: none"> <li>1. Use of higher seed rate</li> <li>2. Improper spacing</li> <li>3. Higher application of nitrogenous fertilizer</li> <li>4. Improper water management</li> </ol> <p><b>Greengram</b></p> <ol style="list-style-type: none"> <li>1. Use of local seeds</li> <li>2. Use of higher seed rate</li> <li>3. Improper water management</li> <li>4. Improper pest and disease management</li> </ol> <p><b>Groundnut</b></p> <ol style="list-style-type: none"> <li>1.Use of local seeds</li> <li>2.No use of micronutrients</li> <li>3. Improper weed management</li> </ol>	<p>ICM IPM IDM IWM</p> <p>ICM INM IWM</p> <p>ICM IPM`</p>
2.	Naswadi	Naswadi	<p>Dhamasiya Pochamba Payakui Kolamba Akona</p> <p><b>Kharif</b> Cotton Paddy Castor</p> <p><b>Rabi</b> Wheat Gram</p> <p><b>Summer</b> Greengram Groundnut</p>	<p><b>Paddy</b></p> <ol style="list-style-type: none"> <li>1.Use of local seeds</li> <li>2.Application of higher dose nitrogenous fertilizer</li> <li>3.No use of micronutrients</li> <li>4. T.P. at random method</li> <li>5.In adequate and delayed plant protection</li> <li>6.Use more seed rate</li> <li>7.Problem of BLB, Hopper and stem borer</li> </ol> <p><b>Wheat</b></p> <ol style="list-style-type: none"> <li>1. Use of local seeds</li> <li>2. Delayed sowing</li> <li>3. Use of higher rate of seed</li> <li>4. Improper water management</li> <li>5. Improper nutrient management</li> <li>6. No use of micronutrients and Bio-fertilizers</li> </ol> <p><b>Greengram</b></p> <ol style="list-style-type: none"> <li>1. Use of local seeds</li> <li>2. Use of higher seed rate</li> <li>3. Improper water management</li> </ol>	<p>ICM SRI INM IPM</p> <p>INM IWM ICM</p> <p>ICM INM IPM</p>

					4. Improper pest and disease management <b>Groundnut</b> 1. Use of local seeds 2. No use of micronutrients 3. Improper weed management	
3.	Waghodiya	Waghodiya	Goraj, Rojayapura Nurpuri Dolapura	<b>Kharif</b> Cotton, Pigeonpea, Castor Vegetables  <b>Rabi</b> Maize Gram <b>Summer</b> Greengram	<b>Cotton :</b> 1. Higher application of nitrogenous fertilizers 2. Improper water management 3. No use of micronutrients 4. Problem of pest & diseases 5. Depends only on manual weeding <b>Pigeonpea</b> 1. Improper spacing 2. Use of higher seed rate 3. Improper pest and disease management 4. Improper water management 5. Depends only on manual weeding <b>Castor</b> 1. Use of higher seed rate 2. Improper spacing 3. Indiscriminate use of fertilizer 4. Improper water management 5. Problems of wilt, rootrot and semi looper <b>Maize</b> 1. Use of higher seed rate 2. Improper spacing 3. Higher application of nitrogenous fertilizer 4. Improper water management <b>Greengram</b> 1. Use of local seeds 2. Use of higher seed rate 3. Improper water management 4. Improper pest and disease Management	INM IWM IPM Water Mgt.  ICM INM IPM IWM  ICM INM IWM IPM  ICM INM IWM
4.	Kawant	Kawant	Khatiyawat Baladgam Mudamore Kherka Karajwant	<b>Kharif</b> Cotton, Pigeonpea, Castor Vegetables	<b>Cotton :</b> 1. Higher application of nitrogenous fertilizers 2. Improper water management 3. No use of micronutrients 4. Problem of pest & diseases	INM IWM IPM Water Mgt.



			Raypur Piplada	<b>Rabi</b> Maize Gram <b>Summer</b> Greengram	5. Depends only on manual weeding <b>Pigeonpea</b> 1. Improper spacing 2. Use of higher seed rate 3. No use of micronutrients 4. Improper pest and disease management 5. Improper water management 6. Depends only on manual weeding <b>Maize</b> 1. Use of higher seed rate 2. Improper spacing 3. No use of micronutrients 4. Higher application of nitrogenous fertilizer 5. Improper water management	ICM INM IPM IWM ICM INM IWM IPM  ICM INM IWM
5.	Pavijetpur	Pavijetpur	Ranbhunghati Butiyapura Kallarani Haripura	<b>Kharif</b> Cotton, Pigeonpea, Castor Vegetables <b>Rabi</b> Maize Gram <b>Summer</b> Greengram	<b>Paddy</b> 1. Use of local seeds 2. Application of higher dose nitrogenous fertilizer 3. No use of micronutrients 4. T.P. at random method 5. Inadequate and delayed plant protection 6. Use more seed rate 7. Problem of BLB, Hopper and stem borer <b>Cotton :</b> 1. Higher application of nitrogenous fertilizers 2. Improper water management 3. No use of micronutrients 4. Problem of pest & diseases 5. Depends only on manual weeding <b>Maize</b> 1. Use of higher seed rate 2. Improper spacing 3. No use of micronutrients 4. Higher application of nitrogenous fertilizer 5. Improper water management	INM IWM IPM Water Mgt.  ICM INM IPM IWM  ICM INM IWM

6	Bodeli	Bodeli	Kapdiya Nana Butiyapura Ranbunghati Mota Butiyapura Navapura Kathmandva	<p><b>Kharif</b> Cotton Pigeonpea Castor Banana Vegetables</p> <p><b>Rabi</b> Maize</p> <p><b>Summer</b> Greengram Groundnut</p>	<p><b>Cotton :</b> 6. Higher application of nitrogenous fertilizers 7. Improper water management 3. No use of micronutrients 9. Problem of pest &amp; diseases 10. Depends only on manual weeding</p> <p><b>Pigeon pea</b> 1. Improper spacing 2. Use of higher seed rate 3. Improper pest and disease management 4. Improper water management 5. Depends only on manual weeding</p> <p><b>Castor</b> 6. Use of higher seed rate 7. Improper spacing 8. Indiscriminate use of fertilizer 9. Improper water management 10. Problems of wilt, rootrot and semi looper</p> <p><b>Banana</b> 1.No use of tissue culture plants 2. Not follow seed treatment to rhizome 3. Excess use of fertilizer 4. Excess use of water 5. Improper disease management</p> <p><b>Maize</b> 1. Use of higher seed rate 2. Improper spacing 3. Higher application of nitrogenous fertilizer 4. Improper water management</p> <p><b>Greengram</b> 1. Use of local seeds 2. Use of higher seed rate 3. Improper water management 4. Improper pest and disease management</p> <p><b>Groundnut</b> 1.Use of local seeds 2.No use of micronutrients 3. Improper weed management</p>	<p>INM IWM IPM Water Mgt.</p> <p>ICM INM IPM IWM</p> <p>ICM INM IWM IPM</p> <p>ICM IPM IDM IWM</p> <p>ICM INM IWM</p> <p>ICM IPM`</p>
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7.	Chhotaudepur	Chhotaudepur	Dhandoda Raipur Nani Dumali Moti Dumali Rojkuva	<b>Kharif</b> Cotton, Pigeonpea, Castor Vegetables <b>Rabi</b> Maize Gram <b>Summer</b> Greengram	<b>Cotton :</b> 1. Higher application of nitrogenous fertilizers 2. Improper water management 3. No use of micronutrients 4. Problem of pest & diseases 5. Depends only on manual weeding <b>Pigeonpea</b> 1. Improper spacing 2. Use of higher seed rate 3. No use of micronutrients 4. Improper pest and disease management 5. Improper water management 6. Depends only on manual weeding <b>Maize</b> 1. Use of higher seed rate 2. Improper spacing 3. No use of micronutrients 4. Higher application of nitrogenous fertilizer 5. Improper water management	INM IWM IPM Water Mgt.  ICM INM IPM IWM ICM INM IWM IPM  ICM INM IWM
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## 2.8 Priority thrust areas

Crop/Enterprise	Thrust area
Cotton	Integrated Nutrient Management Integrated Pest Management Integrated Weed management Varietal evaluation
Rice	Varietal evaluation Water Management Integrated Weed Management Integrated Nutrient management Integrated pest Management
Pigeonpea	Varietal evaluation Production and use of organic inputs Integrated pest Management
Gram	Varietal evaluation Production and use of organic inputs Integrated pest Management
Wheat	Integrated crop management Varietal evaluation Integrated weed management Integrated Nutrient management

Maize	Varietal evaluation Integrated Nutrient Management Integrated weed management
Castor	Integrated Pest & Disease Management Varietal evaluation Integrated Nutrient Management Water Management
Green gram	Varietal evaluation Integrated Pest & Disease Management
Cucurbits	Integrated Pest & Disease Management Integrated Nutrient management
Banana	Integrated Nutrient Management Integrated Weed management Water Management
Animal husbandry	Management of Dairy animal for maximize the milk production Clean milk production Animal Health management
Home science	Nutritional security for women and child popularize the drudgery reduction technology Value addition Income generation activity

### 3. TECHNICAL ACHIEVEMENTS

#### 3.A. Details of target and achievements of mandatory activities by KVK during 2015-16

OFT (Technology Assessment and Refinement)				FLD (Oilseeds, Pulses, Cotton, Other Crops/Enterprises)			
1				2			
Number of OFTs		Total no. of Trials		Area in ha		Number of Farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
10	09	55	52	20	11	545	283

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	110	82	2590	2189	622	777	35586	48325
Extn. Functionaries	9	1	270	18				
	119	83	2860	2207				

Seed Production (Qtl.)			Planting material (Nos.)		
5			6		
Target	Achievement	Distributed to no. of farmers	Target	Achievement	Distributed to no. of farmers
Green Gram - 20 qtl	35 qtl	326	Vegetable Seedling- 1.0 Lac	0.80 Lac	214

### I.A TECHNOLOGY ASSESSMENT

#### Summary of technologies assessed under various crops by KVKs

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of farmers
Integrated Nutrient Management	Tomato	Effect of combination of macro and micro nutrients to acquire higher yield in tomato	03	03
Varietal Evaluation	Gram	Assessment of performance of different varieties of gram under un irrigated / rain fed condition	03	06
Integrated Crop Management	Chilli	Effect of method of planting on yield of chilli	03	03
Others (Pl. specify) Nutrition Mang.		Food supplement efficiency to increase hemoglobin content	03	03
Nutrition Mang		Feeding of protein and energy rich diet to children to cure protein energy malnutrition in rural area ( Age Group 3 to 5 yrs)	03	03

#### Summary of technologies assessed under livestock by KVKs

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Feed and Fodder management	Crossbred cow	Reduction of calving interval in crossbred cow.	03	10
Production and Management	Buffalo	Increase of Milk production and reduction anoestrous problem in buffaloes by supplementing of bypass protein	03	10

### I.B. TECHNOLOGY REFINEMENT

#### Summary of technologies refined under various crops by KVKs

Thematic areas	Crop	Name of the technology refined	No. of trials	No. of farmers
Integrated Crop Management	Cotton	Refinement of Inter cropping in BT cotton	03	03
	Chilli	Effect of Plant geometry in Chilli	03	03

## I.C. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

### Varietal Assessment

**Problem definition:** Low Production of Gram due to non use of improved varieties.

**Technology Assessed or refined (as the case may be):** Assessment of different varieties of gram under un irrigated/rainfed condition of Vadodara district.

KVK-Vadodara conducted on-farm trial to find out appropriate variety to enhance the Gram (Chickpea) production. In this trial Chickpea GG-2 & GJG-3 variety found higher yield over Market available seed.

Technology Option	No. of trials	Yield (qt/ha)	Increase in Yield (%)	Net Return (Rs./ha)	B:C Ratio
Farmers practices (Market available seed)	06	8.40	---	20925	2.24
To be assessed : GG-2		9.90	17.8	27270	2.57
To be assessed : GJG-3		9.45	12.5	25575	2.50

*Average Price of Gram 4500/-Rs./quintal*

### Intercropping Refinement

**Problem definition:** Cotton crop yield was reducing due to unviable cropping system/Uneven intercropping system.

**Technology Assessed or refined (as the case may be):** Assessment of Cotton: Pigeon pea inter cropping system under irrigated/rainfed condition of Vadodara district.

KVK-Vadodara conducted on-farm trial to find out appropriate inters cropping system. In this trial Cotton + Pigeon pea (4:2) (Recommended) & cotton + Pigeon pea (4:1) (Suggested 4:1) found higher LER yield over Farmers practices.

Technology Option	No. of trials	LER	Increase in Yield (%)	Net Return (Rs./ha)	B:C Ratio
Farmers practices ( Uneven Row)	03	1.15	---	21600	1.71
Cotton + Pigion pea ( 4:2) (Recommended )		1.30	13	35500	2.17
Cotton + Pigeon pea (Suggested 4:1)		1.26	9	25500	1.98

*Average Price of Cotton 4200/-Rs./quintal and Average Price of Pigeon pea 8000/-Rs./quintal*

## LIVE STOCK ENTERPRISES

**Problem definition:** Low milk production and low calving interval due to malnutrition problem, imbalanced use of feed and fodder, No use of mineral mixture in feed, No Deworming .

**Technology Assessed or Refined (as the case may be) :** Increase of Milk production and reduction anoestrous problem in buffalo by supplementing Bypass protein.

**Table Effect of Bypass protein and Mineral Mixture on Milk Production and Calving interval in Buffalo**

<b>Technology Option</b>	<b>No.of trials</b>	<b>Yield(Lit./ Day)</b>	<b>Increase %</b>	<b>Net Returns (Rs/day/Animal.)</b>	<b>B:C Ratio</b>
Farmers Practice (no use of Bypass protein)	15	5.35	14.95	99	1.86
Bypass Protein@ 1 kg/ Day		6.15		116	1.89
Bypass protein @ 1 kg day + Mineral mixture @ 50 gm / head/ day + deworming ( on the basis of Analysis)		6.69		132.6	1.98

**Service period:-** 100% Buffalo were conceived and service period is 95 days as compare to check (150 days)



## LIVE STOCK ENTERPRISES

**Problem definition:** Anoestrous problem and long calving interval in crossbred cow. Due to imbalanced feeding, poor management of Dairy Animals due to lack of awareness.

**Technology Assessed or Refined:-** Reduction of Calving interval in crossbred cow.

KVK Vadodara took up on farm trial on anoestrous problem in crossbred cow. The results indicated that the use of mineral mixture@50 g/head/day for 60 days, Deworming and hydrogenic fat (Vegetable ghee) @200 gm/day for 30 days, Improvement in health condition and heat induced in 7 animals out of 10(70%)

**Table Effect of Mineral Mixture and hydrogenic fat (Vegetable Ghee) on Anoestrous and Calving interval in Cross bred Cow.**

<b>Technology Option</b>	<b>No.of trials</b>	<b>Data on Parameters</b>	<b>Increase in Heat Induction</b>	<b>Remarks</b>
Farmers Practice (no use of Mineral Mixture)	15	out of 5 Animals one showed poor estrous	Improvement in health condition and heat induced in 7 animals out of 10 (70%)	Satisfied and understand the importance of Feed supplement and deworming change in feed and fodder management
Mineral Mixture @50 gm / head/ day for 60 days + deworming		out of 5 Animals 3 showed estrous cycle and two of them conceived.		
Mineral Mixture @ 50 gm/ head/ day/ + deworming + hydrogenic fat ( <b>Vegetable Ghee</b> ) @ 200 gm / day for 30 days		out of 5 Animals 4 showed estrous cycle and three animals conceived		

## Method of Planting

**Problem definition:** No use of raised bed, Heavy mortality, Black cotton Soil, Difficulties in inter culturing operation due to lodging

**Technology Assessed or refined (as the case may be):** Effect of method of planting on yield of chilli

Chilli is an important commercial crop of middle Gujarat. However, there is very high yield loss due to improper methods of planting and heavy mortality in field after transplanting. The black cotton soil and lodging of plants produces difficulties in interculturing operations. Therefore, KVK Vadodara conducted on-farm trial to assess methods of planting in chilli. The technology of paired row on raised bed with drip irrigation was found better with highest increase in yield percentage (13.33) and benefit cost ratio i.e. 5.10.

Technology Option	No. of trials	Yield (qt/ha)	Increase in Yield (%)	Net Return (Rs./ha)	B:C Ratio
Flat bed (Farmer practice)	03	210	---	462100	4.67
Ridges and furrow method ( Flood irrigation)		223	06.19	491450	4.69
Paired row on raised bed with drip irrigation		238	13.33	535900	5.10

## Plant Geometry

**Problem definition:** Low yield due to less numbers of plants per unit area and no adoption of recommended spacing

**Technology Assessed or refined (as the case may be):** Effect of plant geometry

Chilli is an important commercial crop of middle Gujarat. However, there is very high yield loss due to no adoption of proper planting distance. Therefore KVK vadodara conducted on –farm trial to refine the effect of plant geometry on yield of chilli. The refined technology of planting at suggested spacing of 90x60 cm had given the highest yield 235 qt/ha as well as higher benefit-cost ratio 4.96.

Technology Option	No. of trials	Yield (qt/ha)	Increase in Yield (%)	Net Return (Rs./ha)	B:C Ratio
Farmer Practice- 120x 60 cm	03	208	---	449700	4.38
Recommended - 60x60 cm		227	09.13	500100	4.69
Suggested - 90x60 cm		235	12.98	525600	4.96

## Nutrient Management

**Problem definition:** Yield loss due to improper nutrient management in tomato

**Technology Assessed or refined (as the case may be):** Effect of combination of macro and micro nutrients to acquire higher yield in tomato

Tomato is one of the important vegetable crops of middle Gujarat and the growers facing problems of lower yield due to improper and unjudicious use of fertilisers with higher production cost. Therefore KVK vadodara laid out on-farm trial on combination of macro and micro nutrients to acquire higher yield. The refined technology of applying 125:75:75 NPK with 2% foliar spray of urea and spray of micro nutrients (Grade-4) 1% (soil analysis based) at 45,60 and 75 DATP has given better results with B:C ratio of 3.62 and increased the yield by 6.11 percent.

Technology Option	No. of trials	Yield (qt/ha)	Increase in Yield (%)	Net Return (Rs./ha)	B:C Ratio
Imbalance use of fertilizers	03	278	---	346500	3.47
Recco. Dose of fertilizers (150:75:75)		282	1.43	354900	3.56
125:75:75 + 2% foliar spray of urea and micronutrients (grade-4) 1% (soil analysis based) at 45,60 and 75 DATP.		295	6.11	373950	3.62

## Home Science

**Problem definition: Low level of hemoglobin (Anemia) in adolescent girls.**

**Major causes of anemia are Physical conditions of girls through their life span, Lack of knowledge about anemia and iron rich foods, Pure vegetarian diet, Illiteracy and ignorance, Traditional myths about girls.**

**Technology Refined: Food supplement efficacy to increase hemoglobin content**

KVK, Mangalbharti, Chhotaudepur took up on farm trial on food supplement efficacy to increase hemoglobin content in adolescent girls. The results indicate that the use of food supplements (sprouted moong, bengal gram and dates) in regular diet with use of iron folic acid tablets was found to more increase (+16.49%) in hemoglobin content than other treatment (T2: +8.58%).

### **Results of On Farm Trials (2015-16)**

<b>Problem Diagnosed</b>	<b>Title of OFT</b>	<b>No. of Adolescent girls</b>	<b>Technology Assessed</b>	<b>Parameters of assessment</b>	<b>Average increase in hemoglobin as compared to before treatment (gm/dl)</b>	<b>Results of assessment (%)</b>	<b>Feedback from the farmer</b>
The adolescent girls living in this area are anemic or with low hemoglobin level (Age group 13-19 yrs)	Food supplement efficacy to increase hemoglobin content in adolescent girls	3	T1- Control	Hemoglobin content	-0.03	-0.27	-
		3	T2- Iron – folic acid tablets		0.86	+8.58	
		3	T3 - Iron – folic acid tablets + food supplements		1.6	+16.49	
		Total=9			-		

### **Conclusion of OFT:**

Collected data of three years of OFT indicated that the average increase in hemoglobin content is +18.11% in T3 group in which food supplements with iron folic acid tablets were given. Average increase in hemoglobin content in T2 group is +10.27% which is lower than T3 group.

Technology Assessed	Parameters of assessment	Year	Average increase in hemoglobin as compared to before treatment (gm/dl)	Results of assessment (%)	Average increase d hemoglobin content of 3 yrs.	Feedback from the farmer
T1- Control	Hemoglobin content	2012-13	-1.3	-12.29*	-3.62%	-
		2013-14	0.16	+ 1.68		
		2015-16	-0.03	-0.27		
T2- Iron – folic acid tablets		2012-13	1	+9.65**	+10.27%	Increase in hemoglobin content
		2013-14	1.16	+ 12.6 **		
		2015-16	0.86	+8.58		
T3 - Iron – folic acid tablets + food supplements		2012-13	1.7	+16.94**	+18.11%	Increase in hemoglobin content
		2013-14	2.06	+ 20.9 **		
		2015-16	1.6	+16.49		

## Home Science

**Problem definition: Malnutrition in rural tribal children.**

**Prevalence of malnutrition is about 20-30% due to traditional myths and superstitions, illiteracy, lack of care during pregnancy and lack of hygiene and sanitation.**

**Technology Assess : Feeding of protein and energy rich diet to children to cure protein energy malnutrition in rural area.**

KVK, Mangalharti, Chhotaudepur assess the technology for reduce the malnutrition problem in children. The results indicate that the use of cereal - pulse mixture along with jaggery and ghee was found superior to increase in weight (7.41%) and MUAC (7.85%) as compare to T2 treatment result of 4.42% and 6.16% respectively.

### Results of On Farm Trials

Crop/enterprise	Problem Diagnosed	Title of OFT	No. of Children	Technology Assessed	Parameters of assessment	Average Gain in Body weight and muac as compared to before treatment (kg & cm)	Results of assessment	Feedback from the farmer
Home Science	The children living in this area are malnourished which increases their vulnerability to various diseases (Age group 5-10 yrs.)	Evaluation of Low cost high calorie diets made from locally available food materials for Pre-school children	10	T1- Control	Weight gain	0.34	2.13%	Increase in body weight
					MUAC	0.46	4.0%	
				T2- Cereal Pulses mixture	Weight gain	0.69	4.42%	
					MUAC	0.83	6.16%	
				T3- Cereal Pulses mixture + jaggery + ghee	Weight gain	1.14	7.41%	
					MUAC	1.16	7.85%	

## II. FRONTLINE DEMONSTRATION

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

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

Sr. No	Crop/ Enterprise	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area in ha
1	Paddy	Varietal evaluation	New variety Paddy cv.GAR-13	Organized Field day, through training programme	35	520	930
2	Wheat	INM	GW-496	Organized field day, through training programme	15	122	210
3	Greengram	Varietal evaluation	New variety greengram cv. Meha	Organized Field day, through training programme Providing the seed of the variety.	21	205	108
4	Pigeon pea	ICM	New variety Pigeonpea cv.Vaishali	Organized Field day, through training programme	12	220	480
5	Chickpea	ICM	New variety Chickpea cv.GG-2	Organized Field day, through training programme	15	125	95
6	Groundnut	IWM	Weed Management through chemical herbicide	Organized Field day, through training programme	14	250	25
7	Chilli	INM	Bio-fertilizer and micro-nutrient	Organized Field day, through training programme	5	25	36
8	Tomato	INM	Bio-fertilizer and micro-nutrient	Organized Field day, through training programme	15	90	45
9	Watermelon	INM	Bio-fertilizer and micro-nutrient	Organized Field day, through training programme	3	30	15
10	Fodder Crop	Fodder Production	Lucerne	Organized Field day, through training programme	24	35	65
11	Feed mangement	Feed mangement	Bypass fat	Organized Field day, through training programme	10	50	50
12	Nutritional gardening	Recommended Seeds	monthly Savings	Organized Field day, through training programme	9	78	8

- b. Details of FLDs implemented during 2015-16 (Information is to be furnished in the following **three tables** for **each category** i.e. **cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.**)

**1. FLD – Cereals**

**a. Details of Implementation**

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	
1	Paddy	ICM	Varietal Demonstration (GAR-13)	<i>Kharif-15</i>	8	8	20	0	20	
2	Maize	INM	Pvt. Hyb	<i>Rabi-15</i>	8	8	20	0	20	

**b. 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					
Paddy	<i>Kharif.15</i>	Irrigated	Medium Black	L	M	H	Groundnut & Fodder Crops	15-6-15	10-11-15	412	-
Maize	<i>Rabi-15</i>	Irrigated	Medium Black	L	M	H	Maize	1-11-15	10-4-16	-	-

**c. Technical Feedback on the demonstrated technologies**

S. No	Feed Back
1	Farmers were convinced to adopt paddy cultivar GAR-13



## Farmers' reactions on specific technologies

S. No	Feed Back
1	This variety gave higher yield as compare to other variety Lodging problem was minimum in this variety as compared to other variety Market value is less as compare to GR-11 Production is also high in water stress condition.
2	Farmers were convinced to use recommended dose of micronutrient Balance use of Micronutrient also increases the yield

## Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organised	Date	Number of participants	Remarks
1	Field days	2	3-11-15 29-2-16	55	
2	Farmers Training	3	3&4/8/16 26-27/10/15	68 26	

## FLD – Pulses

## a. Details of Implementation

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ Demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/S T	Others	Total	
1	Greengram	ICM	Varietal Demo(MEHA)	Summer-2015	6	6	15	0	15	---
2	Greengram	ICM	Varietal Demo(GAM-5)	Summer-2015	2	2	0	8	8	---
3	Chickpea	ICM	Varietal Demo(GG-2)	Rabi-2015	6	6	30	-	30	-

### b. 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					
Greengram	Summer-2015	Irrigated	Medium Black	L	M	H	Wheat & Paddy	15-2-2015	30-5-2015	--	--
Greengram	Summer-2015	Irrigated	Medium Black	L	M	H	Wheat & Paddy	15-2-2015	30-5-2015	--	--
Chickpea	Rabi-2015	Irrigated	Medium Black	L	M	H	paddy	10-11-2015	15-3-2015	--	--

### c. Technical Feedback on the demonstrated technologies

S. No	Feed Back
1	Farmers are convinced to adopt cv.Meha of Greengram
2	Farmers are convinced to adopt cv. GAM-5, Grain shining is less as compare to Meha
3	In Gram crop production is affected by higher temperature (Weather change)

#### Farmers' reactions on specific technologies

S. No	Feed Back
1	Greengram cv. Meha performed better and showed resistant to yellow Vein Mosaic Virus, hence the production of seed was higher than other variety. Seed size is small & get lower market price.
2	Greengram cv. GAM-5 performed better and showing resistant to yellow vein mosaic virus, Production is also more Grain size is bold as compare to cv.Meha so market price is more.
3	In GG-2 Variety if give irrigation at critical stage give higher yield.

\*\* During the Summer -2015 total 18.75 mm rainfall was received.

\*\*\* No. of rainy days - 2

Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organised	Date	Number of participants	Remarks
1	Field days	2	20-5-14	30	
2	Farmers Training	2	30-1-15	19	

## FLD – Horticulture crops

### a. Details of Implementation

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	
1	Chilli	INM	INM	<i>Kharif-15</i>	5	5	-	23	23	-
2	Tomato	INM	INM	<i>Kharif-15</i>	5	5	20	2	22	

### b. 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					
Chilli	Kharif-15	Irrigated	Medium Black	L	M	H	Chilli	12-9-15	30-3-15	412	
Tomato	Kharif-15	Irrigated	Medium Black	L	M	H	Tomato	13-8-15	28-3-15	412	

### c. Technical Feedback on the demonstrated technologies

S. No	Feed Back
1	Farmers were convinced to use bio fertilizers for seedling treatment and use of micro nutrients for improving production and quality of fruits.

### Farmers' reactions on specific technologies

S. No	Feed Back
1	<ul style="list-style-type: none"> <li>➤ Seedling treatment with Azotobactor and PSB gives good plant stand.</li> <li>➤ Gap filling after transplanting is minimized.</li> <li>➤ Application of micro nutrients improves quality of fruits and also increases the no. of picking.</li> </ul>

## Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organised	Date	Number of participants	Remarks
1	Field days	2	23-2-16	43	
2	Farmers Training	2	11&12-8-15 11&12-9-15	43	

## 3. Other crops

## a.Details of Implementation

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	
1	Lucerne	Fodder Production	Varietal (Anand Lucerne-2)	Rabi-14	5	5	-	25	25	--

## b. 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					
Lucerne	Rabi-14	Irrigated	Medium Black	L	M	H	Paddy	November-2014	April-2015	39.2	3

## c. Technical Feedback on the demonstrated technologies

S. No	Feed Back
1	Farmers were convinced to adopt Anand Lucerne-2 cultivar.

## Farmers' reactions on specific technologies

S. No	Feed Back
1	This variety gave higher yield as compare to other local variety. Leaf size of Anand Lucerne-2 big as compared to local variety. Milk production has increase due to introduction of green fodder as lucerne. Unavailability of Seed

## Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organised	Date	Number of participants	Remarks
1	Field days	1	13-2-15	21	
2	Farmers Training	1	7/8-11-14	25	

## Performance of Frontline demonstrations

### Frontline demonstrations on oilseed crops

Crop	Thematic Area	technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
						Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						High	Low	Average										

### Frontline demonstration on pulse crops

Crop	Thematic Area	technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
						Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						High	Low	Average										
Greengram	ICM	Varietal	Meha	15	6.0	12.5	7.0	10.0	7.5	33	18200	65000	46800	3.57	16900	48750	31850	2.88
Greengram	ICM	Varietal	GAM-5	8	2.0	9.90	8.00	9.80	7.50	30	18200	68500	50400	3.76	16900	48750	35600	2.88
Chickpea	ICM	Varietal	GG-2	30	6.0	10.7	8.2	9.6	8.5	12.94	16470	43200	26730	2.62	15895	38250	22355	2.40

\* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

\*\* BCR= GROSS RETURN/GROSS COST

## FLD on Other crops

Category & Crop	Thematic Area	Name of the technology	No. of Farmers	Area (ha)	Yield (q/ha)			Check	% Change in Yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demo					Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
					High	Low	Average										
<b>Cereals</b>																	
<b>Paddy</b>	ICM	Varietal (GAR-13)	20	4	50.5	40.5	45.95	41.5	10.5	23360	62032	38672	2.65	23660	56025	32365	2.36
<b>Maize</b>	INM	INM	20	8	61.5	50.2	53.0	48.0	10	24850	74200	54350	2.98	24050	67200	48150	2.79
<b>Vegetables</b>																	
Tomato	INM	INM	22	5	323	246	292	255	14.50	148810	511000	362190	3.43	143500	446250	302750	3.10
Chilli	INM	INM	23	5	262	235	249	230	8.26	122380	697200	574820	5.69	130510	644000	513490	4.93
<b>Fodder Crops</b>																	
<b>Lucern</b>	Fodder Prod.	Varietal	25	5	770	620	725	670	8.30	24250	72500	48250	2.98	24150	67000	42850	2.77

\* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

\*\* BCR= GROSS RETURN/GROSS COST

## FLD on Livestock

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of Units (Animal/Poultry/Birds, etc)	Major parameters (Milk/Day/Animal)		% change in Milk Production	Other parameter		Economics of demonstration (Rs./Animal)				Economics of check (Rs.)			
					Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Buffalo	Feed Mng.	Mineral Mixture	20	20	6.05	5.35	13.05	-	-	120	242	122	2.02	115	214	99	1.86

\* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

\*\* BCR= GROSS RETURN/GROSS COST

## FLD on Farm Implements and Machinery

Name of the implement	Crop	Technology demonstrated	No. of Farmer	Area (ha)	Major parameters (Manpower/ha)	Filed observation (Manpower/ha)		% change in Manpower	Labor reduction (man days)				Cost reduction (Rs./ha or Rs./Unit etc.)				
						Demo	Check		Land preparation	Sowing	Weeding	Total	Land preparation	Labor	Irrigation	Total	
Sickle	Paddy	Improved serrated sickle	40	0.4	(Manpower / ha)	28.02	34.49	18.76	-	-	-	-	-	-	-	-	-

# With the use of improved serrated sickle there was 18.76% decreased in manpower for harvesting of 1 ha paddy as compare to conventional sickle



## FLD on Other Enterprise: Kitchen Gardening

Category and Crop	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of Units	Yield (Kg)		% change in yield	Other parameters (Veg.cost/season/family)		Economics of demonstration (Rs./unit/ 50 sq.m)				Economics of check (Rs./ha)			
					Demonstration	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Kitchen Gardening	Nutritional Gardening	Nutritional Gardening	64	64	-	-	-	1465	2127.3	234	662.3	428.3	2.83	-	-	-	-

### III. Training Programme

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

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
<b>(A) Farmers &amp; Farm Women</b>										
<b>I Crop Production</b>										
Weed Management	1	20	0	20	0	0	0	20	0	20
Cropping Systems	4	47	35	82	27	2	29	74	37	111
Integrated Crop Management	6	53	0	53	114	0	114	167	0	167
Integrated nutrient management	3	1	0	1	98	0	98	99	0	99
Production of organic inputs	2	38	0	38	19	0	19	57	0	57
<b>Total</b>	<b>16</b>	<b>159</b>	<b>35</b>	<b>194</b>	<b>258</b>	<b>2</b>	<b>260</b>	<b>417</b>	<b>37</b>	<b>454</b>
<b>II Horticulture</b>										
<b>a) Vegetable Crops</b>										
Production of low value and high volume crops	2	22	0	22	30	0	30	52	0	52
INM	3	3	0	3	60	0	60	63	0	63
<b>Total (a)</b>	<b>5</b>	<b>25</b>	<b>0</b>	<b>25</b>	<b>90</b>	<b>0</b>	<b>90</b>	<b>115</b>	<b>0</b>	<b>115</b>
<b>b) Fruits</b>										
Layout and Management of Orchards	1	0	0	0	25	0	25	25	0	25
Cultivation of Fruit	1	20	0	20	1	0	1	21	0	21
<b>Total (b)</b>	<b>2</b>	<b>20</b>	<b>0</b>	<b>20</b>	<b>26</b>	<b>0</b>	<b>26</b>	<b>46</b>	<b>0</b>	<b>46</b>
<b>c) Ornamental Plants</b>										
<b>Total (c)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>d) Plantation crops</b>										
<b>Total (d)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>e) Tuber crops</b>										
<b>Total (e)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>f) Spices</b>										
<b>Total (f)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>g) Medicinal and Aromatic Plants</b>										
<b>Total (g)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>GT (a-g)</b>	<b>7</b>	<b>45</b>	<b>0</b>	<b>45</b>	<b>116</b>	<b>0</b>	<b>116</b>	<b>161</b>	<b>0</b>	<b>161</b>
<b>IV Livestock Production and Management</b>										
Dairy Management	2	0	0	0	26	14	40	26	14	40
Poultry Management	1	13	3	16	13	0	13	26	3	29
Animal Nutrition	1	29	0	29			0	29	0	29

Management										
Disease Management	1	0	0	0	21	0	21	21	0	21
Feed & fodder technology	2	22	0	22	35	0	35	57	0	57
Production of quality animal products	1	0	30	30			0	0	30	30
<b>Total</b>	<b>8</b>	<b>64</b>	<b>33</b>	<b>97</b>	<b>95</b>	<b>14</b>	<b>109</b>	<b>159</b>	<b>47</b>	<b>206</b>
<b>V Home Science/Women empowerment</b>										
Household food security by kitchen gardening and nutrition gardening	3	0	44	44	4	49	53	4	93	97
Value addition	1	0	8	8	0	20	20	0	28	28
Women empowerment				0			0	0	0	0
Location specific drudgery reduction technologies	2	0	0	0	0	44	44	0	44	44
<b>Total</b>	<b>6</b>	<b>0</b>	<b>52</b>	<b>52</b>	<b>4</b>	<b>113</b>	<b>117</b>	<b>4</b>	<b>165</b>	<b>169</b>
<b>VI Agril. Engineering</b>										
<b>X Capacity Building and Group Dynamics</b>										
Leadership development	5	34	0	34	91	0	91	125	0	125
Entrepreneurial development of farmers/youths	1	0	0	0	43	0	43	43	0	43
Climate change	1	9	0	9	11	0	11	20	0	20
<b>Total</b>	<b>7</b>	<b>43</b>	<b>0</b>	<b>43</b>	<b>145</b>	<b>0</b>	<b>145</b>	<b>188</b>	<b>0</b>	<b>188</b>
<b>GRAND TOTAL</b>	<b>44</b>	<b>311</b>	<b>120</b>	<b>431</b>	<b>618</b>	<b>129</b>	<b>747</b>	<b>929</b>	<b>249</b>	<b>1178</b>

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

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
<b>(A) Farmers &amp; Farm Women</b>										
<b>I Crop Production</b>										
Micro Irrigation/irrigation	3	41	0	41	24	0	24	65	0	65
Integrated Crop Management	1	20	0	20	8	0	8	28	0	28
Soil & water conservation	1	0	0	0	14	3	17	14	3	17
Integrated nutrient management	1	20	0	20	0	0	0	20	0	20
Production of organic inputs	2	0	0	0	34	6	40	34	6	40
<b>Total</b>	<b>8</b>	<b>81</b>	<b>0</b>	<b>81</b>	<b>80</b>	<b>9</b>	<b>89</b>	<b>161</b>	<b>9</b>	<b>170</b>
<b>II Horticulture</b>										
<b>a) Vegetable Crops</b>										
Off-season vegetables	1	14	0	14	0	0	0	14	0	14
Nursery raising	2	19	0	19	30	0	30	49	0	49

Organic Vegetable cultivation and INM	3	45	0	45	27	0	27	72	0	72
<b>Total (a)</b>	<b>6</b>	<b>78</b>	<b>0</b>	<b>78</b>	<b>57</b>	<b>0</b>	<b>57</b>	<b>135</b>	<b>0</b>	<b>135</b>
<b>b) Fruits</b>										
Cultivation of Fruit	1	0	0	0	26	0	26	26	0	26
Management of young plants/orchards	1	0	0	0	22	8	30	22	8	30
<b>Total (b)</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>48</b>	<b>8</b>	<b>56</b>	<b>48</b>	<b>8</b>	<b>56</b>
<b>c) Ornamental Plants</b>										
<b>Total (c)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>d) Plantation crops</b>										
<b>Total (d)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>e) Tuber crops</b>										
<b>Total (e)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>f) Spices</b>										
<b>Total (f)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>g) Medicinal and Aromatic Plants</b>										
<b>Total (g)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>GT (a-g)</b>	<b>8</b>	<b>78</b>	<b>0</b>	<b>78</b>	<b>105</b>	<b>8</b>	<b>113</b>	<b>183</b>	<b>8</b>	<b>191</b>
<b>III Soil Health and Fertility Management</b>										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>IV Livestock Production and Management</b>										
Dairy Management	5	0	30	30	74	20	94	74	50	124
Animal Nutrition Management	1	0	0	0	22	0	22	22	0	22
Disease Management	3	2	17	19	48	2	50	50	19	69
Feed & fodder technology	1	0	0	0	16	6	22	16	6	22
<b>Total</b>	<b>10</b>	<b>2</b>	<b>47</b>	<b>49</b>	<b>160</b>	<b>28</b>	<b>188</b>	<b>162</b>	<b>75</b>	<b>237</b>
<b>V Home Science/Women empowerment</b>										
Design and development of low/minimum cost diet	1	0	0	0	0	24	24	0	24	24
Minimization of nutrient loss in processing	1	0	31	31	0	0	0	0	31	31
Gender mainstreaming through SHGs	1	0	0	0	0	21	21	0	21	21
Women empowerment	1	0	0	0	9	22	31	9	22	31
<b>Total</b>	<b>4</b>	<b>0</b>	<b>31</b>	<b>31</b>	<b>9</b>	<b>67</b>	<b>76</b>	<b>9</b>	<b>98</b>	<b>107</b>
<b>X Capacity Building and Group Dynamics</b>										
Leadership development	1	11	10	21	7	0	7	18	10	28
Group dynamics	1	0	0	0	30	0	30	30	0	30
Formation and Management of SHGs	1	16	34	50	3	3	6	19	37	56
Mobilization of social capital	1	5	25	30	4	1	5	9	26	35
Entrepreneurial	2	17	0	17	68	0	68	85	0	85

development of farmers/youths										
<b>Total</b>	<b>6</b>	<b>49</b>	<b>69</b>	<b>118</b>	<b>112</b>	<b>4</b>	<b>116</b>	<b>161</b>	<b>73</b>	<b>234</b>
<b>XI Agro-forestry</b>										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>GRAND TOTAL</b>	<b>36</b>	<b>210</b>	<b>147</b>	<b>357</b>	<b>466</b>	<b>116</b>	<b>582</b>	<b>676</b>	<b>263</b>	<b>939</b>
<b>Grand Total</b>	<b>36</b>	<b>210</b>	<b>147</b>	<b>357</b>	<b>466</b>	<b>116</b>	<b>582</b>	<b>676</b>	<b>263</b>	<b>939</b>

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

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
<b>(A) Farmers &amp; Farm Women</b>										
<b>I Crop Production</b>										
Weed Management	1	20	0	20	0	0	0	20	0	20
Resource Conservation Technologies	0	0	0	0	0	0	0	0	0	0
Cropping Systems	4	47	35	82	27	2	29	74	37	111
Micro Irrigation/irrigation	3	41	0	41	24	0	24	65	0	65
Integrated Crop Management	7	73	0	73	122	0	122	195	0	195
Soil & water conservatioin	1	0	0	0	14	3	17	14	3	17
Integrated nutrient management	4	21	0	21	98	0	98	119	0	119
Production of organic inputs	4	38	0	38	53	6	59	91	6	97
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>24</b>	<b>240</b>	<b>35</b>	<b>275</b>	<b>338</b>	<b>11</b>	<b>349</b>	<b>578</b>	<b>46</b>	<b>624</b>
<b>II Horticulture</b>										
<b>a) Vegetable Crops</b>										
Production of low value and high valume crops	2	22	0	22	30	0	30	52	0	52
Off-season vegetables	1	14	0	14	0	0	0	14	0	14
Nursery raising	2	19	0	19	30	0	30	49	0	49
Others (pl specify)	6	48	0	48	87	0	87	135	0	135
<b>Total (a)</b>	<b>11</b>	<b>103</b>	<b>0</b>	<b>103</b>	<b>147</b>	<b>0</b>	<b>147</b>	<b>250</b>	<b>0</b>	<b>250</b>
<b>b) Fruits</b>										
Cultivation of Fruit	2	20	0	20	27	0	27	47	0	47
Management of young lants/orchards	1	0	0	0	22	8	30	22	8	30
<b>Total (b)</b>	<b>4</b>	<b>20</b>	<b>0</b>	<b>20</b>	<b>74</b>	<b>8</b>	<b>82</b>	<b>94</b>	<b>8</b>	<b>102</b>
<b>GT (a-g)</b>	<b>15</b>	<b>123</b>	<b>0</b>	<b>123</b>	<b>221</b>	<b>8</b>	<b>229</b>	<b>344</b>	<b>8</b>	<b>352</b>
<b>IV Livestock Production and Management</b>										
Dairy Management	7	0	30	30	100	34	134	100	64	164
Poultry Management	1	13	3	16	13	0	13	26	3	29

Animal Nutrition Management	2	29	0	29	22	0	22	51	0	51
Disease Management	4	2	17	19	69	2	71	71	19	90
Feed & fodder technology	3	22	0	22	51	6	57	73	6	79
Production of quality animal products	1	0	30	30	0	0	0	0	30	30
<b>Total</b>	<b>18</b>	<b>66</b>	<b>80</b>	<b>146</b>	<b>255</b>	<b>42</b>	<b>297</b>	<b>321</b>	<b>122</b>	<b>443</b>
<b>V Home Science/Women empowerment</b>										
Household food security by kitchen gardening and nutrition gardening	3	0	44	44	4	49	53	4	93	97
Design and development of low/minimum cost diet	1	0	0	0	0	24	24	0	24	24
Minimization of nutrient loss in processing	1	0	31	31	0	0	0	0	31	31
Gender mainstreaming through SHGs	1	0	0	0	0	21	21	0	21	21
Value addition	1	0	8	8	0	20	20	0	28	28
Women empowerment	1	0	0	0	9	22	31	9	22	31
Location specific drudgery reduction technologies	2	0	0	0	0	44	44	0	44	44
<b>Total</b>	<b>10</b>	<b>0</b>	<b>83</b>	<b>83</b>	<b>13</b>	<b>180</b>	<b>193</b>	<b>13</b>	<b>263</b>	<b>276</b>
<b>VI Agril. Engineering</b>										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>X Capacity Building and Group Dynamics</b>										
Leadership development	6	45	10	55	98	0	98	143	10	153
Group dynamics	1	0	0	0	30	0	30	30	0	30
Formation and Management of SHGs	1	16	34	50	3	3	6	19	37	56
Mobilization of social capital	1	5	25	30	4	1	5	9	26	35
Entrepreneurial development of farmers/youths	3	17	0	17	111	0	111	128	0	128
WTO and IPR issues	0	0	0	0	0	0	0	0	0	0
Others (pl specify)	1	9	0	9	11	0	11	20	0	20
<b>Total</b>	<b>13</b>	<b>92</b>	<b>69</b>	<b>161</b>	<b>257</b>	<b>4</b>	<b>261</b>	<b>349</b>	<b>73</b>	<b>422</b>
<b>XI Agro-forestry</b>										
<b>GRAND TOTAL</b>	<b>80</b>	<b>521</b>	<b>267</b>	<b>788</b>	<b>1084</b>	<b>245</b>	<b>1329</b>	<b>1605</b>	<b>512</b>	<b>2117</b>
<b>Grand Total</b>	<b>80</b>	<b>521</b>	<b>267</b>	<b>788</b>	<b>1084</b>	<b>245</b>	<b>1329</b>	<b>1605</b>	<b>512</b>	<b>2117</b>



Capacity Building and Group Dynamics	3	20	0	20	65	0	65	85	0	85
<b>Total</b>	<b>3</b>	<b>20</b>	<b>0</b>	<b>20</b>	<b>65</b>	<b>0</b>	<b>65</b>	<b>85</b>	<b>0</b>	<b>85</b>
<b>GRAND TOTAL</b>	<b>13</b>	<b>139</b>	<b>98</b>	<b>237</b>	<b>138</b>	<b>2</b>	<b>140</b>	<b>277</b>	<b>100</b>	<b>377</b>

Name of sponsoring agencies involved

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
<b>Post harvest technology and value addition</b>										
Value addition	02	0	72	72	0	0	0	0	72	72
<b>Grand Total</b>	<b>02</b>	<b>0</b>	<b>72</b>	<b>72</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>72</b>	<b>72</b>

#### IV. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	2	5361	15	5376
Diagnostic visits	33	61	5	66
Field Day	11	213	7	220
Group discussions	81	2253	62	2315
Kisan Ghosthi	2	254	6	260
Film Show	33	900	30	930
Self -help groups	6	160	2	162
Kisan Mela	1	878	14	892
Exhibition	7	6806	30	6836
Scientists' visit to farmers field	16	69	2	71
Plant/animal health camps	2	62	8	70
Farmers' seminar/workshop	6	594	10	604
Method Demonstrations	6	89	10	99
Celebration of important days	6	311	5	316
Special day celebration	1	878	15	893
Exposure visits	1	29	4	33
Lecture Delivered	49	6651	30	6681
<b>Total</b>	<b>263</b>	<b>25569</b>	<b>255</b>	<b>25824</b>

Details of other extension programmes

Particulars	Number	No. of Farmers
Extension Literature	15	22000
News paper coverage	13	0
Popular articles	17	0
Animal health camps (Number of animals treated)	239	0
FARMERS VISIT TO KVK	230	501
<b>Total</b>	<b>514</b>	<b>22501</b>
<b>Grand Total</b>	<b>777</b>	<b>48325</b>



Name of KVK	Message Type	Type of Messages						Total
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	
Vadodara	Text only	18	12	07	0	06	0	43
	<b>Total farmers Benefitted</b>	<b>5253</b>	<b>5253</b>	<b>5253</b>	<b>5253</b>	<b>5253</b>	<b>0</b>	<b>5253</b>

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

### Production of seeds by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers
Cereals	Paddy	GAR-13	-	133.70	176600	04
Oilseeds	SESAMUM	GT-2	-	0.46	3680	01
Pulses	Greengram	Meha,/ GAM-5	-	25.03	324900	449
	Greengram	Meha,/ GAM-5	-	9.91	124740	

### Production of planting materials by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Number	Value (Rs.)	Number of farmers
Vegetable seedlings	Chilli	Pvt.Hyb	-	20000	20000	214
	Gualiflower Brinjal Cabbage Toamato Onion	Pvt.Hyb	-	60000	35000	

## VII. DETAILS OF SOIL, WATER AND PLANT ANALYSIS

Samples	No. of Samples	No. of Farmers	No. of Villages	Amount realized (Rs.)
Soil	<b>636</b>	<b>565</b>	<b>44</b>	<b>55930</b>
Water	<b>21</b>	<b>12</b>	<b>9</b>	<b>490</b>
<b>Total</b>	<b>657</b>	<b>577</b>	<b>53</b>	<b>56420</b>

## VIII. SCIENTIFIC ADVISORY COMMITTEE

Name of KVK	Number of SACs conducted
Vadodara	01

**IX. NEWSLETTER/MAGAZINE**

Name of News letter/Magazine	No. of Copies printed for distribution
KVK News Letter Vol-6	200
KVK News Letter Vol-7	200

**X. PUBLICATIONS**

Category	Number
Research Paper	17
Technical bulletins	00
Technical reports	04
Others (pl. specify)	00
Different Crop Leaflets	15

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

Activities conducted				
No. of Training programmes	No. of Demonstrations	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)
04	MIS- 17 ha through KVK	-	143	-

**XIII. DETAILS ON HRD ACTIVITIES****A. HRD activities organized in identified areas for KVK staff by the Directorate of Extension**

Name of the SAU	Title of the training programmes	No of programmes	No. of Participants	No. of KVKs involved
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**B. HRD activities organized in identified areas for KVK staff by ATARI**

Title of the training programmes	No of programmes	No. of Participants	No. of KVKs involved
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**XIV. CASE STUDIES**

Name of the KVK - Vadodara

***(1) KVK initiatives for Increasing the area and productivity of Greengram***

**Brief Introduction:** - The productivity and area under Greengram has been decreasing at faster rate. Farmers avoid green gram cultivation due to problems of Yellow Vein Mosaic Virus (YVMV). During the year 2011-12 numbers of farmer visited KVK to know about YVMV resistant Variety of Greengram. It has motivated SMS of KVK to carry out survey to know the problem faced by the Greengram growers.

**Interventions:** - In order to address the problems of the Greengram growers a strategy was developed by the KVK. Four prominent HYVs of Greengram were collected based on the feedback of the scientists. The

trial was carried at on KVK farm. A field day was organized to collect feedback from farmers. One of the variety namely "Meha" was identified for Seed production as it has given good yield and shown resistant to YVMV.

**Output:** - After that SMS started intensive training programmes and demonstration on important aspects of production technologies of Greengram crop. Demonstrations were laid out on farmer's field to make them aware about production potentials of the "Meha" variety and get feedback. Farmers were highly satisfied with the performance of the "Meha" variety.

**Outcomes:** - For providing quality seeds at appropriate time to the farmers, a unit of about 2.5 ha land for producing seeds of "Meha" variety was developed on instructional farm. Result of that during last five year KVK produce more than 10000 kg (Table-1) of seed and distributed among the farmers. The coverage of area is approximately 500 ha. under YVMV resistance variety "Meha".

**Table:-1 Seed production and distribution of Greengram through KVK.**

Sr	Particulate	2011-12 2012-13	2013-14	2014-15	2015-16
1	Total Seed Production (kg)	1950	1478	1490	5122
2	Total Beneficiaries	86	57	77	326
3	Area Covered (ha.)	97.5	82.11	82.78	284
4	No. of Village Covered	26	24	25	33

**Impact:** - Increase in the net income of the Greengram growers as a result of adoption of improved variety resistant to YVMV along with adoption of the recommended technology. Change in the cropping pattern Paddy-Wheat, Cotton alone to Paddy-Greengram and Cotton-Greengram and it will help in maintaining the health status of soil. Greengram proved to be the best short duration cash crop.

Horizontal spread of the technology is about 1000 ha. of land have been covered under "Meha" variety of Greengram during last five year (2011-12 to 2015-16).

## (2) Cultivation of papaya crops with MIS, fertigation and use of bio fertilizers

### Introduction

Gujarat is one of the important states in papaya cultivation in the country. Farmers in this state mainly cultivate "Taiwan Red Lady -786" variety. It gives higher yield and bears more fruits. The success story of a progressive farmer cultivating papaya finds a place herein. Tarbada Narendrabhai Ambalalbai is a farmer of Ambapura village of sankheda taluka in Chhotaudepur district. Chhotaudepur is dominated by rainfed areas. Cotton, Maize and Pigeon pea are main crops in Kharif while Maize, Wheat, Gram is the main crop in Rabi.

### KVK Intervention:

Tarbada Narendrabhai Ambalalbai earlier used to grow the traditional crops of the district. On the advise of KVK he has started papaya cultivation. The KVK provided him the technological packages of papaya cultivation. Within a year (from planting seedlings to harvesting) he obtained a yield of 60.00 tonnes / ha and made a profit of Rs.233830.00/ha.(Table-1).

1. Land preparation in February 2014.
2. Planting of seedlings March, 2014 at spacing of 7ft x 5ft.
3. Seedling of variety Taiwan Red Lady 786 from a reliable nursery
4. Use of balance bio fertilizer as per recommendation through drip irrigation. In addition to this he has also used organic fertilizer like Neem cake and castor cake.

After three months support was provided to each plant to prevent the falling of plant due to high yield. Rainfall received during 2015 was less. Therefore, after planting in February 2014, up to March once in 4 days for 2 hours, in April once in two days for 3 hrs and in May every day 2 hrs irrigation through drip. Pest and disease problems were not serious.

**Cultivation of papaya and banana crops with MIS, fertigation and use of bio fertilizers**

year	Crop	No. of plants	Cultivation cost	Production (t/ha)	Income	Net Profit
2015	Papaya	2500	96170	60	330000	233830

**Rate of Papaya: 550 Rs./qtl**

**Output**

Increased area under both fruit crops by him and other farmers initiated for cultivation of papaya in his village and surrounding villages after his success and the approximately area increase 12 to 15 ha. .

**Outcome**

Initially with cultivation of cotton and vegetables he was earning 70-80 thousands rupees net profit from 1.75 ha land, but after adopting fruit crops like banana and papaya since last two years he is receiving profit of 2 lakhs rupees from the same piece of land.

**Achievements:**

Known as progressive farmer of his area and winner best farmer award at *Central Soil and Water Conservation* Research and Training Institute · Research Centre, *Vasad* in the year 2016.

**Impact:**

The farmers of this area through traditional farming used to get very little profit. After adoption of fruit crops cultivation with MIS the profit margin per unit area is increased which uplifted of their standard of living.